

Lafayette Radio

COMPLETE LISTING OF GERMANIUM TRANSISTORS
SILICON TRANSISTORS AND DIODES



BK-1300
SECOND EDITION

Lafayette
Radio
INDUSTRIAL DIVISIONS

- ALL TYPES
- ALL BRANDS
- NUMERICAL LISTING
- SPECS • LATE PRICES

KEY TO SYMBOLS IN MANUFACTURERS COLUMN

ADV	ADVANCE RESEARCH	MH	MINNEAPOLIS HONEYWELL
AM	AMPEREX	MO	MOTOROLA
BE	BENDIX	NA	NATIONAL AIRCRAFT
BO	BOGUE	PAC	PACIFIC SEMICONDUCTOR
CBS	CBS-HYTRON	PH	PHILCO
CL	CLEVITE	RAY	RAYTHEON
DE	DELCO	RCA	RADIO CORPORATION OF AMERICA
FSC	FAIRCHILD SEMICONDUCTOR	SPR	SPRAGUE ELECTRIC
GE	GENERAL ELECTRIC	SSD	SPERRY SEMICONDUCTOR
GT	GENERAL TRANSISTOR	SYL	SYLVANIA
HA	HUGHES AIRCRAFT	TI	TEXAS INSTRUMENTS
HOF	HOFFMAN	TR	TRANSITRON
IND	INDUSTRO TRANSISTOR	TS	TUNGSOIL
MAL	MALLORY	WE	WESTERN ELECTRIC
		WH	WESTINGHOUSE

KEY TO SYMBOLS IN DESCRIPTION COLUMN

PT CONT	GERMANIUM POINT CONTACT	SB	SURFACE BARRIER
GPNP	GERMANIUM PNP	GSPNP	GERMANIUM, SILICON PNP
GPNP	GERMANIUM NPN	GSNPN	GERMANIUM, SILICON NPN
SPNP	SILICON PNP	GSPNN	GERMANIUM, SILICON PNN
SNPN	SILICON NPN	GSNPP	GERMANIUM, SILICON NPP

KEY TO ABBREVIATIONS IN APPLICATIONS COLUMN

AF	AUDIO FREQUENCY	MP	MATCHED PAIR
AMP	AMPLIFIER	MF	MEDIUM FREQUENCY
COMP	COMPUTER	M PWR	MEDIUM POWER
COMP SYM	COMPLIMENTARY SYMMETRY	MIL	MILITARY
CONV	CONVERTER	MIX	MIXER
GP	GENERAL PURPOSE	OSC	OSCILLATOR
HA	HEARING AID	PT CONT	POINT CONTACT
HF	HIGH FREQUENCY	PWR	POWER
HT	HIGH TEMPERATURE	RF	RADIO FREQUENCY
IF	INTERMEDIATE FREQUENCY	SUBMIN	SUBMINIATURE
LF	LOW FREQUENCY	SW	SWITCHING
LN	LOW NOISE	UNIJ	UNIUNCTION

Lafayette Radio

**Stocks and has available ALL
major brands of Transistors and Diodes
SHIPMENT OF STOCK ITEMS IS IMMEDIATE
OEM PRICE AVAILABLE**

TRANSISTORS

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N21	WE	PT Cont	Sw	2N80	CBS	GPNP	GP, LF, Audio	2N139	RCA, SYL	GPNP	HF, IF Amp
2N21	WE	PT Cont	AF, Amp	2N81	GE	GPNP	GP, LF, Audio	2N140	RCA, SYL	GPNP	HF, Conv
2N22	WE	PT Cont	Sw	2N82	CBS	GPNP	GP, AF, Amp	2N141	SYL	GPNP	GP, AF, Pwr Amp
2N23	WE	PT Cont	Sw	2N83	TR	GPNP	GP, AF, Pwr Amp	2N142	SYL	GNPN	GP, AF, Pwr Amp
2N24	WE	PT Cont	LF, Amp					2N143	SYL	GPNP	GP, AF, Pwr Amp
2N25	WE	PT Cont	MF, Amp	2N83A	TR	GPNP	GP, AF, Pwr Amp	2N144	SYL	GNPN	GP, LF, Audio
2N26	WE	PT Cont	Sw	2N84	TR	GPNP	GP, AF, Pwr Amp				Pwr Amp
2N27	WE	GNPN	AF, Amp	2N84A	TR	GPNP	GP, AF, Pwr Amp	2N145	TI	GNPN	HF, IF Amp
2N28	WE	GNPN	AF, Amp	2N85	TR	GPNP	GP, AF, Amp	2N146	TI	GNPN	HF, IF Amp
2N29	WE	GNPN	AF, Sw	2N86	TR	GPNP	GP, AF, Amp	2N147	TI	GNPN	HF, IF Amp
2N30	GE	PT Cont	AF, Amp	2N87	TR	GPNP	GP, AF, Amp	2N148	TI	GNPN	HF, IF Amp
2N31	GE	PT Cont	LF, Osc	2N88	TR	GPNP	GP, AF, LN Amp	2N148A	TI	GNPN	HF, IF Amp
2N32	RCA	PT Cont	LF, Sw	2N89	TR	GPNP	GP, AF, LN Amp	2N149	TI	GNPN	HF, IF Amp
2N33	RCA	PT Cont	LF, Osc	2N90	TR	GPNP	GP, AF, LN Amp	2N149A	TI	GNPN	HF, IF Amp
2N34	SYL, RCA	GNPN	GP, AF, Amp	2N91	TR	GPNP	GP, AF, LN Amp	2N150	TI	GNPN	HF, IF Amp
2N34A	RCA	GNPN	GP, AF, Amp	2N92	TR	GPNP	GP, AF, HA	2N150A	TI	GNPN	HF, IF Amp
2N35	SYL	GNPN	GP, AF, Amp	2N94	SYL	GNPN	HF, RF Amp	2N151	MAL	GPNP	GP, AF, Pwr Amp
2N36	GT, CBS	GNPN	GP, AF, Amp	2N94A	SYL	GNPN	HF, RF Amp	2N152	MAL	GPNP	GP, AF, Pwr Amp
2N37	GT, CBS	GNPN	GP, AF, Amp	2N95	SYL	GNPN	GP, AF, Pwr Amp	2N153	MAL	GPNP	GP, AF, Pwr Amp
2N38	GT, CBS	GNPN	GP, AF, Amp	2N96	RCA	GPNP	GP, AF, Amp	2N154	MAL	GPNP	GP, AF, Pwr Amp
2N38A	CBS	GNPN	GP, AF, Amp	2N97	BO	GNPN	GP, AF, Amp	2N155	CBS, BE, CL, SYL	GNPN	GP, AF, Pwr Amp
2N39	GT	GNPN	GP, AF, Amp	2N97A	BO	GNPN	GP, HF, Sw	2N156	CBS, SYL	GNPN	GP, AF, Pwr Amp
2N40	GT	GNPN	GP, AF, Amp	2N98	BO	GNPN	GP, Frequency, Audio	2N157	CBS	GNPN	GP, AF, Pwr Amp
2N41	RCA	GNPN	GP, AF, Amp	2N98A	BO	GNPN	GP, Frequency, Audio	2N157A	CBS	GNPN	AF, Pwr
2N42	GT	GNPN	GP, AF, Amp	2N99	BO	GNPN	GP, HF, Sw	2N158	CBS	GNPN	GP, AF, Pwr Amp
2N43	GE, GT	GNPN	GP, AF, Amp					2N158A	CBS	GNPN	GP, AF, Pwr Amp
2N43A	GE, GT	GNPN	GP, AF, Amp	2N101	SYL	GNPN	GP, AF, Pwr Amp	2N159	SPR	GNPN	PT Cont, Sw
2N44	GE, GT	GNPN	GP, AF, Amp	2N102	SYL	GNPN	GP, AF, Pwr Amp	2N159A	SPR	GNPN	PT Cont, Sw
2N44A	GE	GNPN	GP, AF, Amp	2N103	BO	GNPN	GP, AF, Amp	2N160	BO	SNPN	HF, RF Amp
2N45	GE, GT	GNPN	GP, AF, Amp	2N104	RCA	GNPN	GP, AF, Amp	2N160A	BO	SNPN	HF, RF Amp
2N46	RCA	GNPN	GP, AF, Amp	2N105	RCA	GNPN	GP, AF, Amp	2N161	BO	SNPN	HF, RF Amp
2N47	PH	GNPN	GP, Audio, HA	2N106	RAY	GNPN	GP, AF, Amp	2N161A	BO	SNPN	HF, RF Amp
2N48	PH	GNPN	GP, Audio, HA	2N107	GE	GNPN	GP, AF, Amp	2N162	BO	SNPN	HF, RF Amp
2N49	PH	GNPN	GP, Audio, HA	2N108	CBS	GNPN	GP, AF, Amp	2N162A	BO	SNPN	HF, RF Amp
2N50	CL	GNPN	PT Cont, Sw	2N109	RCA, SYL	GNPN	GP, AF, Amp	2N163	BO	SNPN	HF, RF Amp
2N51	CL	GNPN	PT Cont, Sw	2N110	WE	GNPN	HF, PT Cont, Sw	2N163A	BO	SNPN	HF, RF Amp
2N52	CL	GNPN	PT Cont, Sw	2N111	RAY	GNPN	HF, RF-IF Amp	2N164A	GE	GNPN	HF, Mix, OSC, IF
2N53	CL	GNPN	PT Cont, Sw	2N111A	RAY	GNPN	HF, RF-IF Amp	2N165	GE	GNPN	HF, IF Amp
2N54	WH	GNPN	GP, AF, Amp	2N112	RAY	GNPN	HF, RF-IF Amp	2N166	GE	GNPN	HF, IF Amp
2N55	WH	GNPN	GP, AF, Amp	2N112A	RAY	GNPN	HF, RF-IF Amp	2N167	GE	GNPN	HF, Sw
2N56	WH	GNPN	GP, AF, Amp	2N113	RAY	GNPN	HF, RF-IF Amp	2N168	GE	GNPN	HF, IF Amp
2N57	MH, WH	GNPN	GP, AF, Pwr Amp	2N114	RAY	GNPN	HF, Conv	2N168A	GE, SYL	GNPN	HF, Conv
2N59	WH	GNPN	GP, AF, Amp	2N115	AM	GNPN	GP, AF, Amp	2N169	GE	GNPN	HF, IF Amp
2N59A	WH	GNPN	AF	2N116	CBS	GNPN	GP, AF, Amp	2N169A	GE, SYL	GNPN	HF, IF Amp
2N59B	WH	GNPN	AF	2N117	TI, TR	SNPN	HT, Audio	2N170	GE	GNPN	HF, RF Amp
2N59C	WH	GNPN	AF	2N118	TI, TR	SNPN	HT, Audio	2N172	TI	GNPN	HF, Conv
2N60	WH	GNPN	GP, AF, Amp	2N118A	TI	SNPN	HT, Audio	2N173	DE, TS	GNPN	GP, AF, Pwr Amp
2N60A	WH	GNPN	AF	2N119	TI, TR	SNPN	HT, Audio	2N174	DE, TS	GNPN	GP, AF, Pwr Amp
2N60B	WH	GNPN	AF	2N120	TI, TR	SNPN	HT, Audio	2N174A	DE, TS	GNPN	GP, AF, Pwr Amp
2N60C	WH	GNPN	AF	2N122	TI	SNPN	AF, Pwr	2N175	RCA	GNPN	GP, AF, LN Amp
2N61	WH	GNPN	GP, AF, Amp	2N123	GE, SYL	GNPN	HF, LN, Sw	2N176	MO, SYL, BE, RCA	GNPN	GP, AF, Pwr Amp
2N61A	WH	GNPN	AF					2N178	MO	GNPN	GP, AF, Pwr Amp
2N61B	WH	GNPN	AF	2N124	TI	GNPN	HF, Sw	2N179	MO	GNPN	GP, AF, Pwr Amp
2N61C	WH	GNPN	AF	2N125	TI	GNPN	HF, Sw	2N180	CBS	GNPN	GP, AF, Amp
2N62	PH	GNPN	GP, AF, Amp	2N126	TI	GNPN	HF, Sw	2N181	CBS	GNPN	GP, AF, Amp
2N63	TS, RAY	GNPN	GP, AF, Amp	2N127	TI	GNPN	HF, Sw	2N182	CBS	GNPN	HF, Sw
2N64	RAY	GNPN	GP, AF, Amp	2N128	PH, SPR	GNPN-SB	HF, RF Video	2N183	CBS	GNPN	HF, Sw
2N65	RAY	GNPN	GP, AF, Amp	2N129	PH	GNPN	HF, RF-IF Amp	2N184	CBS	GNPN	HF, Sw
2N66	WE	GNPN	GP, AF, Pwr Amp	2N130	RAY	GNPN	GP, AF, Amp	2N185	TI	GNPN	GP, AF, Amp
2N67	WE	GNPN	PT, Cont, Sw	2N130A	RAY	GNPN	GP, AF, Amp	2N186	GE	GNPN	GP, AF, Amp
2N68	SYL	GNPN	GP, AF, Pwr Amp	2N131	RAY	GNPN	GP, AF, Amp	2N186A	GE	GNPN	GP, AF, Amp
2N69	WE	GNPN	GP, AF, Pwr Amp	2N131A	RAY	GNPN	GP, AF, Amp	2N187	GE	GNPN	GP, AF, Amp
2N71	WH	GNPN	GP, AF, Pwr Amp	2N132	RAY	GNPN	GP, AF, Amp	2N187A	GE	GNPN	GP, AF, Amp
2N72	RCA	GNPN	PT Cont, Sw	2N132A	RAY	GNPN	GP, AF, Amp	2N188	GE	GNPN	GP, AF, Amp
2N73	WH	GNPN	GP, LF, Sw	2N133	RAY	GNPN	GP, AF, LN Amp	2N188A	GE	GNPN	GP, AF, Amp
2N74	WH	GNPN	GP, LF, Sw	2N133A	RAY	GNPN	GP, AF, LN Amp	2N189	GE	GNPN	GP, AF, Amp
2N75	WH	GNPN	GP, LF, Sw	2N135	GE	GNPN	HF, RF-IF Amp	2N190	GE	GNPN	GP, AF, Amp
2N76	GE	GNPN	GP, AF, Amp	2N136	GE	GNPN	HF, RF-IF Amp	2N191	GE	GNPN	GP, AF, Amp
2N77	RCA	GNPN	GP, AF, Amp	2N137	GE	GNPN	HF, RF-IF Amp	2N192	GE	GNPN	GP, AF, Amp
2N78	GE	GNPN	HF, RF-IF Amp	2N138	RAY	GNPN	GP, AF, Amp	2N193	SYL	GNPN	HF, Osc
2N79	RCA	GNPN	GP, AF, Amp	2N138A	RAY	GNPN	GP, AF, Amp	2N194	SYL	GNPN	HF, Conv
				2N138B	RAY	GNPN	AF				

TRANSISTORS CONT'D

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N194A	SYL	GNPN	HF, Conv	2N256	CBS, BE,	GNPN	GP, AF, Pwr Amp	2N317	GT, IND	GNPN	HF, Sw, Comp
2N195	TR	GNPN	GP, AF, Amp		CL,			2N317A	GT, IND	GNPN	HF, Sw
2N196	TR	GNPN	GP, AF, Amp		SYL			2N318	GT	GNPN	HF, Photo
2N197	TR	GNPN	GP, AF, Amp	2N257	CL, BE,	GNPN	GP, AF, Pwr Amp				Transistor
2N198	TR	GNPN	GP, AF, Amp		SYL			2N319	GE	GNPN	GP, AF, Amp
2N199	TR	GNPN	GP, AF, Amp	2N260	CL	SPNP	GP, HF	2N320	GE	GNPN	GP, AF, Amp
2N200	TR	GNPN	GP, AF, Amp	2N260A	CL	SPNP	GP, HF	2N321	GE, SYL	GNPN	GP, AF, Amp
2N204	TR	GNPN	GP, AF, Amp	2N261	CL	SPNP	GP, HF	2N322	GE	GNPN	GP, AF, Amp
2N205	TR	GNPN	GP, AF, Amp	2N262	CL	SPNP	GP, HF	2N323	GE	GNPN	GP, AF, Amp
2N206	RCA	GNPN	GP, AF, Amp	2N262A	CL	SPNP	GP, HF	2N324	GE	GNPN	GP, AF, Amp
2N207	PH	GNPN	GP, AF, Amp	2N263	TI	SNPN	HF, Sw	2N325	SYL	GNPN	GP, AF, Pwr Amp
2N207A	PH	GNPN	GP, AF, Amp	2N265	GE	GNPN	GP, AF, Amp	2N326	SYL, CBS	GNPN	GP, AF, Pwr Amp
2N207B	PH	GNPN	GP, AF, Amp	2N266	GE	GNPN	GP, AF, Amp	2N327	RAY	GNPN	GP, Audio, Sw
2N211	SYL	GNPN	HF, Osc	2N267	RCA	GNPN	HF, RF Amp	2N327A	RAY	SPNP	GP, Audio, Sw
2N212	SYL	GNPN	HF, Conv	2N268	CL, BE,	GNPN	GP, AF, Pwr Amp	2N328	RAY	SPNP	GP, Audio, Sw
2N213	SYL	GNPN	GP, AF, Amp		SYL			2N328A	RAY	SPNP	GP, Audio, Sw
2N213A	SYL	GNPN	AF	2N268A	CL, BE	GNPN	GP, AF, Pwr Amp	2N329	RAY	SPNP	GP, Audio, Sw
2N214	SYL	GNPN	GP, AF, Amp	2N269	RCA	GNPN	HF, Lo-Level Sw	2N329A	RAY	SPNP	GP, Audio, Sw
2N215	RCA	GNPN	GP, AF, Amp	2N270	RCA, SYL	GNPN	GP, AF, Amp	2N330	RAY	SPNP	GP, LN
2N216	SYL	GNPN	HF, IF Amp	2N271	RAY	GNPN	HF, Conv	2N330A	RAY	SPNP	GP, Audio, Sw
2N217	RCA, CBS, SYL	GNPN	GP, AF, Amp	2N271A	RAY	GNPN	HF, IF Amp	2N331	RCA, BE, GNPN	IND	GP, AF, Amp
2N218	RCA	GNPN	HF, IF Amp	2N272	RAY	GNPN	GP, RF, Sw				
2N219	RCA	GNPN	HF, Conv	2N273	RAY	GNPN	GP, IF Amp	2N332	TI, GE,	SNPN	HF, GP
2N220	RCA	GNPN	GP, AF, LN Amp	2N274	RCA	TPNP	Drift, HF, RF Amp		BE, TR		
2N222	GT	GNPN	GP, AF, Amp	2N277	DE, TS	GNPN	GP, AF, Pwr Amp	2N333	TI, GE,	SNPN	HF, GP
2N223	PH	GNPN	GP, AF, Amp	2N278	DE, TS	GNPN	GP, AF, Pwr Amp		BE, TR		
2N224	PH	GNPN	GP, AF, Amp	2N279	AM	GNPN	GP, AF, Amp	2N334	TI, GE,	SNPN	HF, GP
2N225	PH	GNPN	GP, AF, Amp	2N280	AM	GNPN	GP, AF, Amp		BE, TR		
2N226	PH	GNPN	GP, AF, Amp	2N281	AM	GNPN	GP, AF, Amp	2N335	TI, GE,	SNPN	HF, GP
2N227	PH	GNPN	GP, AF, Amp	2N282	AM	GNPN	GP, AF, Amp		BE, TR		
2N228	SYL	GNPN	GP, AF, Amp	2N283	AM	GNPN	GP, AF, Amp	2N336	TI, GE,	SNPN	HF, GP
2N229	SYL	GNPN	GP, AF, Amp	2N284	AM	GNPN	GP, AF, Amp		BE, TR		
2N230	MAL	GNPN	GP, AF, Pwr Amp	2N284A	AM	GNPN	GP, AF, Amp	2N337	TI, GE	SNPN	HF, Sw
2N231	PH	GNPN	HF, IF Amp	2N285	BE	GNPN	GP, AF, Pwr Amp	2N338	TI, GE	SNPN	HF, Sw
2N232	PH	GNPN	HF, IF Amp	2N285A	BE, SYL	GNPN	GP, AF, Pwr Amp	2N339	TI, TR	SNPN	GP, AF, Amp
2N233	SYL	GNPN	HF, RF Amp	2N290	DE	GNPN	GP, AF, Pwr Amp	2N340	TI, TR	SNPN	GP, AF, Amp
2N233A	SYL	GNPN	HF, RF Amp	2N291	TI	GNPN	GP, IF AF, Amp	2N341	TI, TR	SNPN	GP, AF, Amp
2N234	BE	GNPN	GP, AF, Pwr Amp	2N292	GE, SYL	GNPN	HF, IF Amp	2N342	TI, TR	SNPN	GP, AF, Amp
2N234A	BE	GNPN	GP, AF, Pwr Amp	2N292A	GE	GNPN	HF, IF Amp		TI	SNPN	AF
2N235	BE	GNPN	GP, AF, Pwr Amp	2N293	GE	GNPN	HF, IF Amp	2N343	TI, TR	SNPN	GP, AF, Amp
2N235A	BE, CL, SYL	GNPN	GP, AF, Pwr Amp	2N296	SYL	GNPN	GP, AF, Pwr Amp	2N344	PH, SPR	GNPN	SBHF, RF-IF Amp
2N235B	BE, CL, SYL	GNPN	AF, Pwr	2N297	CL, BE	GNPN	GP, AF, Pwr Amp	2N345	PH, SPR	GNPN	SBHF, RF-IF Amp
2N236	BE	GNPN	GP, AF, Pwr Amp	2N297A	MO, DEL, BE	GNPN	AF, Pwr	2N346	PH, SPR	GNPN	SBHF, RF-IF Amp
2N236A	BE	GNPN	GP, AF, Pwr Amp	Sig C. MO	GNPN	AF, Pwr		2N347	BO	SNPN	GP, AF, Amp
2N236B	BE, SYL	GNPN	GP, AF, Pwr Amp	2N299	PH, SPR	GNPN	SBHF, RF Amp	2N348	BO	SNPN	GP, AF, Amp
2N237	NA	GNPN	GP, AF, Pwr Amp	2N300	PH, SPR	GNPN	SBHF, Video Amp	2N349	BO	SNPN	GP, AF, Amp
2N238	TI	GNPN	GP, AF, Amp	2N301	RCA, BE,	GNPN	GP, AF, Pwr Amp	2N350	MO, SYL	GNPN	GP, AF, Pwr Amp
2N239	BE	GNPN	GP, AF, Pwr Amp		CBS, SYL			2N350A	MO	GNPN	AF, Pwr, Sw
2N240	PH, SPR	GNPN	HF, Sw	2N301A	RCA, BE,	GNPN	GP, AF, Pwr Amp	2N351	MO, RCA	GNPN	GP, AF, Pwr Amp
2N241	GE	GNPN	GP, AF, Amp		CBS, SYL				SYL		
2N241A	GE, SYL	GNPN	GP, AF, Amp	2N302	RAY	GNPN	HF, Sw	2N351A	GT	GNPN	HF, Sw
2N242	SYL, TS,	GNPN	GP, AF, Pwr Amp	2N303	RAY	GNPN	HF, Sw	2N352	PH	GNPN	GP, AF, Pwr Amp
	BE			2N306	SYL, CBS	GNPN	GP, AF, Amp, Sw	2N353	PH	GNPN	GP, AF, Pwr Amp
2N243	TI, TR	SNPN		2N307	SYL, BE,	GNPN	GP, AF, Pwr Amp	2N354	PH	SPNP	HF, Amp
2N244	TI, TR	SNPN			TS			2N355	PH	SPNP	HF, Sw
2N245	TI	SNPN		2N307A	SYL, BE,	GNPN	GP, AF, Pwr Amp	2N356	GT, CBS,	GNPN	HF, Comp, Sw
2N246	TI	SNPN			TS				RCA, SYL		
2N247	RCA, SYL	GNPN	Drift, HF, RF Amp	2N308	TI	GNPN	GP, AF, Pwr Amp	2N356A	GT	GNPN	HF, Sw
2N248	TI	GNPN	GP, HF, RF, Amp	2N309	TI	GNPN	HF, IF Amp	2N357	GT, CBS,	GNPN	HF, Comp, Sw
2N249	TI	GNPN	GP, AF, Amp	2N310	TI	GNPN	HF, IF Amp		RCA, SYL		
2N250	TI, SYL, CL	GNPN	GP, AF, Pwr Amp	2N311	GT, IND	GNPN	HF, Lo Speed, Comp	2N357A	GT	GNPN	HF, Sw
2N251	TI	GNPN	GP, AF, Pwr Amp	2N312	GT, CBS,	GNPN	HF, Sw, Comp	2N358	GT, CBS,	GNPN	HF, Comp, Sw
2N252	TI	GNPN	HF, Conv		SYL				RAY, IND	GNPN	GP, AF, Amp
2N253	TI	GNPN	HF, 455KC IF Amp	2N313	GE	GNPN	HF, IF Amp	2N358A	GT	GNPN	HF, Sw
2N254	TI	GNPN	HF, 455KC IF Amp	2N314	GE	GNPN	HF, IF Amp	2N359	RAY, IND	GNPN	GP, AF, Amp
2N255	CBS, BE, CL, SYL	GNPN	GP, AF, Pwr Amp	2N315	GT, IND	GNPN	HF, Sw, Comp	2N360	RAY, IND	GNPN	GP, AF, Amp
				2N315A	GT, IND	GNPN	HF, Sw	2N361	RAY, IND	GNPN	GP, AF, Amp
				2N316	GT, IND	GNPN	HF, Sw, Comp	2N362	RAY, IND	GNPN	GP, AF, Amp
				2N316A	GT, IND	GNPN	HF, Sw	2N363	RAY, IND	GNPN	GP, AF, Amp

TRANSISTORS CONT'D

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N366	TI	GNPN	GP, HF, Amp	2N421	BE	GNPN	GP, AF, Pwr Amp	2N468	CBS	GNPN	AF, Pwr Amp
2N367	TI	GNPN	GP, AF, Amp	2N422	RAY	INDGNPN	GP, AF, Amp, LN	2N469	GT	GNPN	Photo Transistor
2N368	TI	GNPN	GP, AF, Amp	2N424	TI, TR	SNPN	GP, AF, Pwr Amp	2N470	TR	SNPN	HF, Sw
2N369	TI	GNPN	GP, AF, Amp	2N425	RAY, MO,	GNPN	HF, Sw	2N471	TR	SNPN	HF, Sw
2N370	RCA, SYL	GNPN	HF, Drift, RF Amp		SYL			2N471A	TR	SNPN	HF, Sw
				Sig.							
2N371	RCA, SYL	GNPN	HF, Drift, RF Amp	C2N425	RAY	GNPN	HF, Sw	2N472	TR	SNPN	HF, Sw
2N372	RCA, SYL	GNPN	HF, Drift, RF Amp	2N426	RAY, MO,	GNPN	HF, Sw	2N473	TR	SNPN	HF, Sw
2N373	RCA, SYL	GNPN	HF, Drift, IF Amp		SYL			2N474	TR	SNPN	HF, Sw
2N374	RCA, SYL	GNPN	HF, Drift, Conv	2N427	RAY, MO,	GNPN	HF, Sw	2N474A	TR	SNPN	HF, Sw
2N375	MO, CL	GNPN	GP, AF, Pwr Amp		SYL			2N475	TR	SNPN	HF, Sw
				Sig.							
2N376	MO, RCAG	GNPN	GP, AF, Pwr Amp	C2N427	RAY	GNPN	HF, Sw	2N475A	TR	SNPN	HF, Sw
2N376A	MO	GNPN	AF, Pwr, Sw	2N428	RAY, MO,	GNPN	HF, Sw	2N476	TR	SNPN	HF, Sw
2N377	SYL, CBS	GNPN	HF, Comp, Sw		SYL			2N476A	TR	SNPN	HF, Sw
2N378	TS	GNPN	GP, AF, Pwr, Sw	Sig.				2N477	TR	SNPN	HF, Sw
2N379	TS	GNPN	GP, AF, Pwr, Sw	C2N428	RAY	GNPN	HF, Sw	2N477A	TR	SNPN	HF, Sw
2N380	TS	GNPN	GP, AF, Pwr, Sw	2N430	GE	SNPN	HF, Sw	2N478	TR	SNPN	HF, Sw
2N381	TS, SYL	GNPN	GP, AF, Amp	2N431	GE	SNPN	HF, Sw	2N478A	TR	SNPN	HF, Sw
2N382	TS, SYL	GNPN	GP, AF, Amp	2N432	GE	SNPN	HF, Sw	2N479	TR	SNPN	HF, Sw
2N383	TS, SYL	GNPN	GP, AF, Amp	2N433	GE	SNPN	HF, Sw	2N479A	TR	SNPN	HF, Sw
2N384	RCA	GNPN	HF, Drift, VHF Amp	2N434	GE	SNPN	HF, Sw	2N480	TR	SNPN	HF, Sw
2N385	SYL, CBS	GNPN	HF, Comp, Sw	2N438	CBS	GNPN	HF, Sw	2N480A	TR	SNPN	HF, Sw
2N386	PH	GNPN	GP, AF, Pwr Amp	2N438A	CBS	GNPN	HF, Sw	2N481	RAY, IND	GNPN	HF, Osc
2N387	PH	GNPN	GP, AF, Pwr Amp	2N439	CBS, GT,	GNPN	HF, Sw	2N482	RAY, IND	GNPN	HF, IF Amp
2N388	SYL, CBS	GNPN	HF, Comp, Sw		SYL			2N483	RAY, IND	GNPN	HF, IF Amp
2N389	TI, TR	SNPN	GP, AF, Pwr Amp	2N439A	CBS	GNPN	HF, Sw	2N484	RAY	GNPN	HF, IF Amp
				2N440	CBS, GT	GNPN	HF, Sw				
								2N485	RAY, IND	GNPN	HF, Conv
2N392	DE	GNPN	AF Pwr	2N440A	CBS	GNPN	HF, Sw	2N486	RAY, IND	GNPN	HF, Conv
2N393	PH, SPR	GNPN	HF, RF Amp	2N441	DE, TS	GNPN	GP, AF, Pwr Amp	2N487	RAY	GNPN	HF, IF Amp
2N394	GE	GNPN	HF, RF Amp	2N442	DE, TS	GNPN	GP, AF, Pwr Amp	2N488	GE	SNPN	Unij. Pwr Sw, Osc
2N395	GE	GNPN	HF, RF Amp	2N443	DE, TS	GNPN	GP, AF, Pwr Amp	2N489	GE	SNPN	Unij. Pwr Sw, Osc
2N396	GE	GNPN	HF, RF Amp	2N444	GT, CBS	GNPN	HF, Sw				
								2N490	GE	SNPN	Unij. Pwr Sw, Osc
2N397	GE	GNPN	HF, RF Amp	2N444A	GT	GNPN	HF, Sw	2N491	GE	SNPN	Unij. Pwr Sw, Osc
2N398	RCA	GNPN	GP, High Voltage, Sw	2N445	GT, CBS	GNPN	HF, Sw	2N492	GE	SNPN	Unij. Pwr Sw, Osc
2N399	BE, SYL	GNPN	GP, AF, Pwr Amp	2N445A	GT	GNPN	HF, Sw	2N493	GE	SNPN	Unij. Pwr Sw, Osc
2N400	BE	GNPN	GP, AF, Pwr Amp	2N446	GT, CBS	GNPN	HF, Sw	2N494	GE	SNPN	Unij. Pwr Sw, Osc
2N401	BE	GNPN	GP, AF, Pwr Amp	2N446A	GT	GNPN	HF, Sw				
								2N495	PH	SPNP	Mil Type, HF, Amp
2N402	WH	GNPN	GP, AF, Amp	2N447	GT, CBS	GNPN	HF, Sw	2N496	PH	SPNP	Mil Type, HF, Amp
2N403	WH	GNPN	GP, AF, Amp	2N447A	GT	GNPN	HF, Sw	2N497	TI, TR	SNPN	GP, AF, Amp
2N404	RCA, RAY, GE SYL	GNPN	HF, Sw	2N448	GE	GNPN	HF, RF Amp	2N498	TI, TR	SNPN	GP, AF, Amp
				2N449	GE	GNPN	HF, RF Amp	2N499	PH	GNPN	HF, VHF-UHF Amp
2N404- USAF	RAY	GNPN	HF, Sw	2N450	GE	GNPN	HF, RF Amp				
2N405	RCA, SYL	GNPN	GP, AF, Amp					2N500	PH	GNPN	HF, VHF-UHF Amp
2N406	RCA, SYL	GNPN	GP, AF, Amp	2N451	GE	SNPN	AF, Pwr Amp	2N501	PH, SPR	GNPN	HF, VHF-UHF Amp
2N407	RCA, SYL	GNPN	GP, AF, Amp	2N452	GE	SNPN	HF, Sw				
2N408	RCA, SYL	GNPN	GP, AF, Amp	2N453	GE	SNPN	Pwr, Sw, Amp	2N501A	PH, SPR	GNPN	VHF-UHF Amp
2N409	RCA, SYL	GNPN	HF, IF Amp	2N454	GE	SNPN	Pwr, Sw, Amp	2N502	PH	GNPN	HF, VHF-UHF Amp
2N410	RCA, SYL	GNPN	HF, IF Amp	2N456	TI, RCA	TPNP	GP, AF, Pwr Amp	2N502A	PH	GNPN	VHF-UHF Amp
2N411	RCA, SYL	GNPN	HF, Conv								
2N412	RCA, SYL	GNPN	HF, Conv	2N457	TI, RCA	GNPN	GP, AF, Pwr Amp	2N503	PH	GNPN	HF, VHF-UHF Amp
2N413	RAY, TS,	GNPN	HF, IF Amp	2N458	TI	GNPN	GP, LF, Pwr Amp	2N504	PH	GNPN	HF, VHF-UHF Amp
	IND			2N459	TS	GNPN	GP, AF, Pwr Amp				
2N414	RAY, TS,	GNPN	HF, IF Amp	2N460	TS	GNPN	GP, HF, Sw	2N505	MO, IND	GNPN	Pwr
	IND			2N461	TS	GNPN	GP, HF, Sw	2N506	SYL	GNPN	GP, AF, AMP(MP)
2N414A	RAY,	GNPN	HF, IF	2N462	PH	GNPN	Bilateral Sw, Comp	2N507	SYL	GNPN	GP, AF, AMP(MP)
	SYL, IND										
2N415	RAY	GNPN	HF, IF Amp	2N463	WE	GNPN	GP, AF, Pwr Amp				
2N415A	RAY	GNPN	HF, IF Amp	2N464	RAY, MO,	GNPN	GP, AF, Amp				
2N416	RAY, IND	GNPN	HF, RF Amp		IND						
	TS			Sig.				2N508	GE	GNPN	GP, AF, Amp
Sig.				C2N464	RAY	GNPN	AF	2N509	WE	GNPN	HF, RF Amp
C2N416	RAY	GNPN	G, RF	2N465	RAY, MO,	GNPN	GP, AF, Amp	2N511	TI	GNPN	AF, Pwr, Sw
2N417	RAY, IND	GNPN	HF, RF Amp		IND			2N511A	TI	GNPN	AF, Pwr, Sw
	TS							2N511B	TI	GNPN	AF, Pwr, Sw
				Sig.							
Sig.				C2N465	RAY	GNPN	AF	2N512	TI	GNPN	AF, Pwr, Sw
C2N417	RAY	GNPN	HF, RF	2N466	RAY, MO,	GNPN	GP, AF, Amp	2N512A	TI	GNPN	AF, Pwr, Sw
2N418	BE	GNPN	GP, AF, Pwr Amp		IND			2N512B	TI	GNPN	AF, Pwr, Sw
2N419	BE, SYL	GNPN	GP, AF, Pwr Amp					2N513	TI	GNPN	Pwr Conv, Sw, AF
2N420	BE, SYL	GNPN	GP, AF, Pwr Amp					2N513A	TI	GNPN	Pwr Conv, Sw, AF
2N420A	BE	GNPN	AF, Pwr	Sig.							
				C2N466	RAY	GNPN	AF	2N513B	TI	GNPN	Pwr Conv, Sw, AF
				2N467	RAY, MO,	GNPN	GP, AF, Amp	2N514	TI	GNPN	Pwr Conv, Sw, AF
					IND			2N514A	TI	GNPN	Pwr Conv, Sw, AF
				Sig.				2N514B	TI	GNPN	Pwr Conv, Sw, AF
				C2N467	RAY	GNPN	AF	2N515	SYL	GNPN	HF, RF-IF Amp

TRANSISTORS CONT'D

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N516	SYL	GNPN	HF, RF-IF Amp	2N576	SYL	GNPN	HF, Sw	2N638B	BE, CL	GNPN	GP, AF, Pwr Amp
2N517	SYL	GNPN	HF, RF-IF Amp	2N576A	SYL	GNPN	HF, Sw	2N639	BE, CL	GNPN	GP, AF, Pwr Sw
2N518	GE	GNPN	HF, Comp, Sw	2N578	RCA, TS, GPNP		High Current, Sw	2N639A	BE, CL	GNPN	GP, AF, Pwr Sw
2N519	GT, IND	GNPN	HF, Comp, Sw		IND			2N639B	BE, CL	GNPN	GP, AF, Pwr Sw
2N519A	GT, IND	GNPN	HF, Sw	2N579	RCA, TS, GPNP		High Current, Sw	2N640	RCA	GNPN	AF-RF
					IND						
2N520	GT, IND	GNPN	HF, Comp, Sw	2N580	RCA, TS, GPNP		High Current, Sw	2N641	RCA	GNPN	AF-IF
2N520A	GT, IND	GNPN	HF, Sw		IND			2N642	RCA	GNPN	AF-Conv
2N521	GT, IND	GNPN	HF, Comp, Sw					2N643	RCA	GNPN	HF-Sw
2N521A	GT, IND	GNPN	HF, Sw	2N581	RCA, TS, GPNP		HF, Sw	2N644	RCA	GNPN	HF, Sw
2N522	GT, IND	GNPN	HF, Comp, Sw	2N582	RCA, TS, GPNP		HF, Sw	2N645	RCA	GNPN	HF, Sw
				2N583	RCA	GNPN	HF, Sw				
2N522A	GT, IND	GNPN	HF, Sw	2N584	RCA	GNPN	HF, Sw	2N647	RCA	GNPN	AF
2N523	GT, IND	GNPN	HF, Comp, Sw	2N585	RCA, IND	GNPN	HF, Sw	2N649	RCA	GNPN	AF
2N523A	GT, IND	GNPN	HF, Sw					2N650	MO, IND	GNPN	GP, AF, Amp
2N524	GE	GNPN	M Pwr, AF, Amp	2N586	RCA	GNPN	AF, Sw	2N651	MO, IND	GNPN	GP, AF, Amp
2N525	GE, SYL	GNPN	M Pwr, AF, Amp	2N587	SYL	GNPN	HF, Sw	2N652	MO, IND	GNPN	GP, AF, Amp
				2N588	PH	GNPN	HF, Osc				
2N526	GE	GNPN	M Pwr, AF, Amp	2N589	PH	GNPN	GP, AF, Pwr Amp	2N653	MO, IND	GNPN	GP, AF, Amp
2N527	GE	GNPN	M Pwr, AF, Amp	2N591	RCA, SYL	GNPN	M Pwr, Audio Amp	2N654	MO, IND	GNPN	GP, AF, Amp
2N529	GT	GNPN	MP, Comp Sym					2N655	MO, IND	GNPN	GP, AF, Amp
2N530	GT	GNPN	MP, Comp Sym					2N656	TI	SNPN	GP, Pwr, Sw
2N531	GT	GNPN	MP, Comp Sym					2N657	TI, TR	SNPN	GP, Pwr, Sw
				2N592	GT	GNPN	HF, Sw				
2N532	GT	GNPN	MP, Comp Sym	2N593	GT	GNPN	HF, Sw	2N658	RAY	GNPN	HF, Sw
2N533	GT	GNPN	MP, Comp Sym	2N594	GT	GNPN	HF, Sw	2N659	RAY	GNPN	HF, Sw
2N534	PH	GNPN	GP, AF, Amp	2N595	GT	GNPN	HF, Sw	2N660	RAY	GNPN	HF, Sw
2N535	PH	GNPN	GP, AF, Amp	2N596	GT	GNPN	HF, Sw	2N661	RAY	GNPN	HF, Sw
2N535A	PH	GNPN	AF					2N662	RAY	GNPN	HF, Sw
				2N597	PH	GNPN	HF, Comp, Sw				
2N536	PH	GNPN	HF, Comp, Sw	2N598	PH	GNPN	HF, Comp, Sw	2N669	MO	GNPN	GP, Pwr
2N538	MH	GNPN	GP, AF, Pwr Amp	2N599	PH	GNPN	HF, Comp, Sw	2N670	PH	GNPN	Pulse Amp
2N538A	MH	GNPN	GP, AF, Pwr Amp	2N600	PH	GNPN	HF, Comp, Sw	2N671	PH	GNPN	Pulse Amp
2N539	MH	GNPN	GP, AF, Pwr Amp	2N601	PH	GNPN	HF, Comp, Sw	2N672	PH	GNPN	Pulse Amp
2N539A	MH	GNPN	GP, AF, Pwr Amp					2N673	PH	GNPN	Pulse Amp
				2N602	GT	GNPN	HF, Comp, Sw				
2N540	MH	GNPN	GP, AF, Pwr Amp	2N603	GT	GNPN	HF, Comp, Sw	2N677	BE	GNPN	Pwr, Sw
2N540A	MH	GNPN	GP, AF, Pwr Amp	2N604	GT	GNPN	HF, Comp, Sw	2N677A	BE	GNPN	Pwr, Sw
2N541	TR	SNPN	HF, Sw	2N605	GT	GNPN	HF, RF-IF Amp	2N677B	BE	GNPN	Pwr, Sw
2N541A	TR	SNPN	HF, Sw	2N606	GT	GNPN	HF, RF-IF Amp	2N677C	BE	GNPN	Pwr, Sw
2N542	TR	SNPN	HF, Sw					2N678	BE	GNPN	Pwr, Sw
				2N607	GT	GNPN	HF, RF-IF Amp				
2N542A	TR	SNPN	HF, Sw	2N608	GT	GNPN	HF, RF-IF Amp	2N678A	BE	GNPN	Pwr, Sw
2N543	TR	SNPN	GP, HF, Amp	2N609	WH	GNPN	M. Pwr, AF, Amp	2N678B	BE	GNPN	Pwr, Sw
2N543A	TR	SNPN	HF	2N610	WH	GNPN	M. Pwr, AF, Amp	2N678C	BE	GNPN	Pwr, Sw
2N544,	RCA	GNPN	HF, Drift, RF Amp	2N611	WH	GNPN	M. Pwr, AF, Amp	2N679	SYL	GNPN	HF, Sw
2N545	TR	SNPN	GP, AF, Amp, Sw					2N680	TI	GNPN	GP, AF, Amp
				2N612	WH	GNPN	M. Pwr, AF, Amp				
2N546	TR	SNPN	GP, AF, Amp, Sw	2N613	WH	GNPN	M. Pwr, AF, Amp	2N695	MO	GNPN	HF, Mesa
2N547	TR	SNPN	GP, AF, Amp	2N614	WH	GNPN	HF, IF Amp	2N696	FSC	SNPN	HF, Sw
2N548	TR	SNPN	GP, Pwr, Sw	2N615	WH	GNPN	HF, IF Amp	2N697	FSC	SNPN	HF, Sw
2N549	TR	SNPN	HF, Sw	2N616	WH	GNPN	HF, IF Amp	2N700	MO	GNPN	HF, Sw Mesa
2N550	TR	SNPN	GP, Pwr, Sw					2N701	MO	GNPN	HF, Sw Mesa
				2N617	WH	GNPN	HF, RF-IF Amp				
2N551	TR	SNPN	GP, AF, Amp	2N618	MO, CL	GNPN	GP, AF, Pwr Amp	2N702	TI	SNPN	HF, Sw, Mesa
2N552	TR	SNPN	GP, Pwr, Sw	2N619	RAY	SNPN	GP, AF, Pwr Amp	2N705	TI	SNPN	Sw, Mesa
2N553	DE	GNPN	GP, AF, Pwr Amp	2N620	RAY	SNPN	GP, AF, Pwr Amp	2N1000	GT	GNPN	AF, RF, Sw
2N554	MO	GNPN	GP, AF, Pwr Amp	2N621	RAY	SNPN	GP, AF, Pwr Amp	2N1005	TI	S	Sw
2N555	MO	GNPN	GP, AF, Pwr Amp					3N1006	TI	S	Sw
				2N622	RAY	SNPN	GP, AF, Pwr Amp				
2N556	SYL, CBS	GNPN	HF, Comp, Sw	2N623	TI	GNPN	HF, RF-IF Amp	2N1008	BE	GNPN	AF
2N557	SYL	GNPN	HF, Comp, Sw	2N624	SYL	GNPN	HF, Drift, RF Amp	2N1008A	BE	GNPN	AF
2N558	SYL, CBS	GNPN	HF, Comp, Sw					2N1008B	BE	GNPN	AF
2N559	WE, TI	GNPN	HF, Sw	2N625	SYL	GNPN	HF, Sw	2N1010	RCA	GNPN	AF
2N560	WE	SNPN	HF, Sw	2N626	ADV	GSPNP	Composite Pwr	2N1012	GT	GNPN	AF, Sw
2N561	RCA	GNPN	Pwr	2N627	MO	GNPN	GP, AF, Pwr Amp	2N1013	MH	GNPN	AF, Pwr
2N563	GT	GNPN	M Pwr, AF, Amp	2N628	MO	TPNP	GP, AF, Pwr Amp	2N1014	RCA	GNPN	Pwr
2N564	GT, IND	GNPN	M Pwr, AF, Amp	2N629	MO	GNPN	GP, AF, Pwr Amp	2N1017	RAY, ADV	GNPN	HF, Sw
2N565	GT	GNPN	M Pwr, AF, Amp	2N630	MO	GNPN	GP, AF, Pwr Amp	2N1021	TI	GNPN	Audio, Pwr, Amp
2N566	GT, IND	GNPN	M Pwr, AF, Amp	2N631	RAY, IND	GNPN	GP, AF, Amp	2N1022	TI	GNPN	Audio, Pwr, Amp
2N567	GT	GNPN	M Pwr, AF, Amp	2N632	RAY, IND	GNPN	GP, AF, Amp	2N1024	SSD	SPNP	AF
2N568	GT, IND	GNPN	M Pwr, AF, Amp	2N633	RAY, IND	GNPN	GP, AF, Amp	2N1025	SSD	SPNP	AF
2N569	GT, IND	GNPN	M Pwr, AF, Amp	2N634	GE	GNPN	HF, Amp, Sw	2N1026	SSD	SPNP	AF
2N570	GT, IND	GNPN	M Pwr, AF, Amp	2N635	GE	GNPN	HF, Amp, Sw	2N1026A	SSD	SPNP	AF
2N571	GT	GNPN	M Pwr, AF, Amp	2N636	GE	GNPN	HF, Amp, Sw	2N1027	SSD	SPNP	AF
2N572	GT, IND	GNPN	M Pwr, AF, Amp	2N637	BE, CL	GNPN	GP, AF, Pwr Sw	2N1028	SSD	SPNP	AF
2N574	MH	GNPN	GP, AF, Pwr Sw	2N637A	BE, CL	GNPN	GP, AF, Pwr Sw	2N1029	BE	GNPN	Pwr Sw
2N574A	MH	GNPN	GP, AF, Pwr Sw	2N637B	BE, CL	GNPN	GP, AF, Pwr Sw	2N1029A	BE	GNPN	Pwr Sw
2N575	MH	GNPN	GP, AF, Pwr Sw	2N638	BE, CL	GNPN	GP, AF, Pwr Amp	2N1029B	BE	GNPN	Pwr Sw
2N575A	MH	GNPN	GP, AF, Pwr Sw	2N638A	BE, CL	GNPN	GP, AF, Pwr Amp	2N1029C	BE	GNPN	Pwr Sw

TRANSISTORS CONT'D

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N1030	BE	GNPN	Pwr Sw	2N1124	PH	GNPN	GP, Audio, Amp	CK17	RAY	GNPN	Submin RF
2N1030A	BE	GNPN	Pwr Sw	2N1125	PH	GNPN	HF, Sw	CK22	RAY	GNPN	Submin AF
2N1030B	BE	GNPN	Pwr Sw	2N1126	PH	GNPN	MP, Amp, Sw	CK25	RAY	GNPN	Submin HF, Sw
2N1030C	BE	GNPN	Pwr Sw	2N1127	PH	GNPN	MP, Amp, Sw	CK26	RAY	GNPN	Submin HF, Sw
2N1031	BE	GNPN	Pwr Sw	2N1128	PH	GNPN	GP, Audio, Amp	CK27	RAY	GNPN	Submin HF, Sw
2N1031A	BE	GNPN	Pwr Sw	2N1129	PH	GNPN	GP, Audio, Sw	CK28	RAY	GNPN	Submin HF, Sw
2N1031B	BE	GNPN	Pwr Sw	2N1130	PH	GNPN	GP, Audio, Sw	CK64	RAY	GNPN	Submin AF
2N1031C	BE	GNPN	Pwr Sw	2N1131	FSC	SPNP	Sw	CK65	RAY	GNPN	Submin AF
2N1032	BE	GNPN	Pwr Sw	2N1132	FSC	SPNP	Sw	CK66	RAY	GNPN	Submin AF
2N1032A	BE	GNPN	Pwr Sw	2N1136	BE	GNPN	Pwr, Sw	CK67	RAY	GNPN	Submin AF
2N1032B	BE	GNPN	Pwr Sw	2N1136A	BE	GNPN	Pwr	CK721	RAY	GNPN	AF, RF
2N1032C	BE	GNPN	Pwr Sw	2N1136B	BE	GNPN	Pwr	CK722	RAY	GNPN	AF
2N1034	RAY	SPNP	AF	2N1137	BE	GNPN	Pwr, Sw	CK754	RAY	GNPN	AF
2N1035	RAY	SPNP	AF	2N1137A	BE	GNPN	Pwr	CK768	RAY	GNPN	RF, AF
2N1036	RAY	SPNP	AF	2N1137B	BE	GNPN	Pwr	CK870	RAY	GNPN	AF
2N1037	RAY	SPNP	AF	2N1138	BE	GNPN	Pwr, Sw	CK871	RAY	GNPN	AF
2N1038	TI	GNPN	Audio, M Pwr	2N1138A	BE	GNPN	Pwr	CTP1104	CL	GNPN	Pwr
2N1039	TI	GNPN	Audio, M Pwr	2N1138B	BE	GNPN	Pwr	CTP1109	CL	GNPN	Pwr
2N1040	TI	GNPN	Audio, M Pwr	2N1141	TI	GNPN	Sw	CTP1111	CL	GNPN	Pwr
2N1041	TI	GNPN	Audio, M Pwr	2N1142	TI	GNPN	Sw	CTP1112	CL	GNPN	Pwr
2N1042	TI	GNPN	Audio, Pwr	2N1143	TI	GNPN	Sw	CTP1117	CL	GNPN	Pwr
2N1043	TI	GNPN	Audio, Pwr	2N1146	CL	GNPN	Pwr	CTP1127	CL	GNPN	Pwr
2N1044	TI	GNPN	Audio, Pwr	2N1146A	CL	GNPN	Pwr	CTP1133	CL	GNPN	Pwr
2N1045	TI	GNPN	Audio, Pwr	2N1146B	CL	GNPN	Pwr	CTP1137	CL	GNPN	Pwr
2N1046	TI	GNPN	Pwr, Sw	2N1146C	CL	GNPN	Pwr	CTP1500	CL	GNPN	Pwr
2N1047	TI	SNPN	Pwr	2N1147	CL	GNPN	Pwr	CTP1503	CL	GNPN	Pwr
2N1048	TI	SNPN	Pwr	2N1147A	CL	GNPN	Pwr	CTP1504	CL	GNPN	Pwr
2N1049	TI	SNPN	Pwr	2N1147B	CL	GNPN	Pwr	CTP1505	CL	GNPN	Pwr
2N1050	TI	SNPN	Pwr	2N1147C	CL	GNPN	Pwr	CTP1506	CL	GNPN	Pwr
2N1056	GE	GNPN	Sw	2N1162	MO	GNPN	Pwr, Sw	CTP1507	CL	GNPN	Pwr
2N1057	GE	GNPN	Sw	2N1163	MO	GNPN	Pwr, Sw	CTP1508	CL	GNPN	Pwr
2N1058	SYL	GNPN	HF, Mix	2N1164	MO	GNPN	Pwr, Sw	CTP1509	CL	GNPN	Pwr
2N1059	SYL	GNPN	GP, AF	2N1165	MO	GNPN	Pwr, Sw	CTP1511	CL	GNPN	Pwr
2N1060	WE	SNPN	HF, Sw	2N1166	MO	GNPN	Pwr, Sw	CTP1512	CL	GNPN	Pwr
2N1065	GT	GNPN	HF, Mix	2N1167	MO	GNPN	Pwr, Sw	CTP1513	CL	GNPN	Pwr
2N1067	RCA	GNPN	Pwr	2N1191	MO	GNPN	AF	CTP1514	CL	GNPN	Pwr
2N1068	RCA	SNPN	Pwr	2N1192	MO	GNPN	AF	GA52829	WE	GNPN	GP, HF
2N1069	RCA	SNPN	Pwr	2N1193	MO	GNPN	AF	GA52830	WE	GNPN	Core, HF
2N1070	RCA	SNPN	Pwr	2N1198	GE	GNPN	Sw	GA53080	WE	GNPN	PT Cont, Sw
2N1072	WE	SNPN	AF, Pwr	3N25	TI	GNPN	VHF	GA53104	WE	GNPN	RF, AF
2N1073	BE	GNPN	Pwr Sw	3N34	TI	SNPN	HF Osc, RF, IF, Video	GA53149	WE	GNPN	GP, HF
2N1073A	BE	GNPN	AF, Pwr	3N35	TI	SNPN	HF Osc, RF, IF, Video	GA53194	WE	GNPN	HF, Sw
2N1073B	BE	GNPN	AF, Pwr	3N36	GE	GNPN	HF Tetrode	GA53213	WE	GNPN	AF
2N1074	RAY	SNPN	AF	3N37	GE	GNPN	HF Tetrode	GA53242	WE	GNPN	HF, Sw
2N1075	RAY	SNPN	AF	204A	TI	GNPN	AF, IF	GA53270	WE	GNPN	GP, HF
2N1076	RAY	SNPN	AF	800	TI	GNPN	Photo	GF45017	WE	GNPN	Pwr
2N1077	RAY	SNPN	AF	903	TI	SNPN	RF, IF, AF	GT14	GT	GNPN	GP, AF
2N1090	RCA	GNPN	Sw	904	TI	SNPN	RF, IF, AF	GT20	GT	GNPN	GP, AF
2N1091	RCA	GNPN	Sw	904A	TI	SNPN	RF, Conv, IF, AF	GT34	GT	GNPN	GP, AF
2N1092	RCA	SNPN	Pwr	905	TI	SNPN	RF, Conv, AF	GT34HV	GT	GNPN	HF, Hi Volt
2N1095	BO	SNPN	AF	910	TI	SNPN	RF, Conv, IF, AF	GT34N	GT	GNPN	HF, Neon Sw
2N1096	BO	SNPN	AF	951	TI	SNPN	AF, Pwr	GT34S	GT	GNPN	HF, Bi directional
2N1099	DE	GNPN	Pwr	952	TI	SNPN	AF, Pwr	GT35	GT	GNPN	GP, AF
2N1100	DE	GNPN	Pwr	953	TI	SNPN	AF, Pwr	GT74	GT	GNPN	GP, AF
2N1101	SYL	GNPN	GP, AF, Amp	AR4	PH	GNPN	AF, Pwr	GT75	GT	APNP	GP, AF
2N1102	SYL	GNPN	GP, AF, Amp	AR5	PH	GNPN	AF, Pwr	GT81	GT	GNPN	GP, AF
2N1107	TI	GNPN	HF, Mix	AR6	PH	GNPN	AF, Pwr	GT81HS	GT	GNPN	GP, AF
2N1108	TI	GNPN	HF, Mix	AR7	PH	GNPN	AF, Pwr	GT82	GT	GNPN	GP, AF
2N1109	TI	GNPN	HF, Mix	AR8	PH	GNPN	AF, Pwr	GT83	GT	GNPN	HF, Comp
2N1110	TI	GNPN	HF, Mix	AR9	PH	GNPN	AF, Pwr	GE87	GT	GNPN	HF, Comp
2N1111	TI	GNPN	HF, Mix	AR10	PH	GNPN	AF, Pwr	GT88	GT	GNPN	HF, Comp
2N1111A	TI	GNPN	HF, Mix	AR11	PH	GNPN	AF, Pwr	GT109	GT	GNPN	GP, AF
2N1111B	TI	GNPN	HF, Mix	B-113	BE	GNPN	Pwr	GT122	GT	GNPN	HF
2N1114	SYL	GNPN	HF, Sw	B-177	BE	GNPN	Pwr	GT123	GT	GNPN	HF, Comp
2N1116	TR	SNPN	AF	B-178	BE	GNPN	Pwr	GT153	GT	GNPN	HF, Comp
2N1117	TR	SNPN	AF	B-179	BE	GNPN	Pwr	GT167	GT	GNPN	HF, RF-IF
2N1119	PH	GNPN	HF	CK13	RAY	GNPN	Submin RF	GE222	GT	GNPN	HF, Comp
2N1122	PH, SPR	GNPN	HF	CK14	RAY	GNPN	Submin RF	GT229	GT	GNPN	HF, RF-IF
2N1122A	PH, SPR	GNPN	HF	CK16	RAY	GNPN	Submin RF	GT758	GT	GNPN	HF, Comp
2N1123	PH	GNPN	Sw					GT759	GT	GNPN	HF, RF-IF

TRANSISTORS CONT'D

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
GT759R	GT	GNPN	HF, RF-IF	HA7536	HA	SPNP	AF	TR123	IND	GNPN	RF-IF, Sw
GT760	GT	GNPN	HF, Comp	HA7537	HA	SPNP	AF	TR269	IND	GNPN	HF, RF-IF, Sw
GT760R	GT	GNPN	HF, RF-IF	HA7538	HA	SPNP	AF	TR320	IND	GNPN	RF-IF, AF
GT761	GT	GNPN	HF, Comp	LT11	CBS	GNPN	Pwr	TR321	IND	GNPN	RF-IF, AF
GT761R	GT	GNPN	HF, RF-IF	LT12	CBS	GNPN	Pwr	TR381	IND	GNPN	AF
GT762	GT	GNPN	HF, Comp	LT13	CBS	GNPN	Pwr	TR382	IND	GNPN	AF
GT762R	GT	GNPN	HF, RF-IF	LT14	CBS	GNPN	Pwr	TR383	IND	GNPN	AF
GT763	GT	GNPN	HF, Comp	LT51	CBS	GNPN	Pwr	TR396	IND	GNPN	HF, Sw, RF-IF
GT792	GT	GNPN	HF, Sw, Comp	LT55	CBS	GNPN	Pwr	TR460	IND	GNPN	IF-AF
GT792R	GT	GNPN	HF, Sw	LT5021	CBS	GNPN	Pwr	TR461	IND	GNPN	IF-AF
GT903	GT	GNPN	HF, Sw, Comp	thru							
GT904	GT	GNPN	HF, Sw, Comp	LT5123	CBS	GNPN	Pwr	TR526	IND	GNPN	RF-IF, Sw
GT905	GT	GNPN	HF, Sw, Comp	LT5152	CBS	GNPN	Pwr	TR527	IND	GNPN	RF-IF, Sw
GT947	GT	GNPN	HF, Sw, Comp	LT5153	CBS	GNPN	Pwr	TR721	IND	GNPN	RF-IF
GT948	GT	GNPN	HF, Sw, Comp	LT5157	CBS	GNPN	Pwr	TR722	IND	GNPN	AF
GT948R	GT	GNPN	HF, RF-IF	LT5158	CBS	GNPN	Pwr	TR-C44	IND	GNPN	AF, IF, Sw
GT949	GT	GNPN	HF, Sw, Comp	LT5159	CBS	GNPN	Pwr	TR-C45	IND	GNPN	RF-IF, Sw
GT1079	GT	GNPN	HF, Sw	LT5160	CBS	GNPN	Pwr	TR-C70	IND	GNPN	AF
GT1200	GT	GNPN	AF	LT5161	CBS	GNPN	Pwr	TR-C71	IND	GNPN	AF
GT1201	GT	GNPN	RF-IF	LT5162	CBS	GNPN	Pwr	TR-C72	IND	GNPN	AF
GT1202	GT	GNPN	HF, RF-IF	LT5164	CBS	GNPN	Pwr	WX1015	WH	SNPN	Pwr
H3A	MH	GNPN	Pwr	LT5165	CBS	GNPN	Pwr	WX1015A	WH	SNPN	Pwr
H4A	MH	GNPN	Pwr	LT5515	CBS	GNPN	Pwr	WX1015B	WH	SNPN	Pwr
H12	MH	GNPN	Pwr	OC65	AM	GNPN	AF, GP	WX1015C	WH	SNPN	Pwr
H12A	MH	GNPN	Pwr	OC66	AM	GNPN	AF, GP	WX1015D	WH	SNPN	Pwr
H45	MH	GNPN	Pwr	SB100	PH	GNPN	HF, RF-IF, SB	WX1015E	WH	SNPN	Pwr
H200E	MH	GNPN	Pwr	ST10	TR	SNPN	HF, RF-IF	WX1015F	WH	SNPN	Pwr
HA7520	HA	SPNP	AF, Pwr	ST30	TR	SNPN	HF, RF-IF	WX1016	WH	SNPN	Pwr
HA7521	HA	SPNP	AF, Pwr	ST40	TR	SNPN	HF, RF-IF	WX1016A	WH	SNPN	Pwr
HA7522	HA	SPNP	AF, Pwr	ST400	TR	SNPN	Pwr	WX1016B	WH	SNPN	Pwr
HA7523	HA	SPNP	AF, Pwr	ST401	TR	SNPN	Pwr	WX1016C	WH	SNPN	Pwr
HA7524	HA	SPNP	AF, Pwr	ST402	TR	SNPN	Pwr	WX1016D	WH	SNPN	Pwr
HA7526	HA	SPNP	AF, Pwr	ST403	TR	SNPN	Pwr	WX1016E	WH	SNPN	Pwr
HA7527	HA	SPNP	AF, Pwr	ST903	TR	SNPN	AF	WX1016F	WH	SNPN	Pwr
HA7528	HA	SPNP	AF, Pwr	ST904	TR	SNPN	AF	X30	BO	SNPN	Pwr
HA7530	HA	SPNP	AF	ST904A	TR	SNPN	AF	X31	BO	SNPN	Pwr
HA7531	HA	SPNP	AF	ST905	TR	SNPN	AF	X32	BO	SNPN	Pwr
HA7532	HA	SPNP	AF	ST910	TR	SNPN	AF	XT515	PAC	SNPN	Pwr
HA7533	HA	SPNP	AF	ST1026	TR	SNPN	RF-IF	2N676	ADV	GSPNP	Composite Pwr
HA7534	HA	SPNP	AF	ST1050	TR	SNPN	RF-IF	2N1019	ADV	GSPNN	Composite Pwr
				TR34	IND	GNPN	AF	2N1020	ADV	GSNPP	Composite Pwr
				TR81	IND	GNPN	AF				

DIODES AND RECTIFIERS

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N21	SYL	1N23DM	SYL	1N34A	SYL	1N54A	AM	1N68A	RAY
1N21A	SYL	1N23DMR	SYL	1N34A	RAY	1N54A	CBS	1N69A	SYL
1N21B	SYL	1N23DR	SYL	1N34A	AM	1N54A	SYL	1N70	CBS
1N21BM	SYL	1N23E	SYL	1N35	SYL	1N55A	SYL	1N70	SYL
1N21BMR	SYL	1N23EM	SYL	1N38A	SYL	1N55B	HA	1N70A	CBS
1N21BR	SYL	1N23EMR	SYL	1N38B	SYL	1N55B	PAC	1N70A	SYL
1N21C	SYL	1N23ER	SYL	1N39A	SYL	1N55B	RAY	1N71	SYL
1N21CM	SYL	1N23WE	SYL	1N39B	SYL	1N56A	SYL	1N72	SYL
1N21CMR	SYL	1N23WEM	SYL	1N40	SYL	1N58A	SYL	1N75	CBS
1N21CR	SYL	1N25	SYL	1N41	SYL	1N59A	SYL	1N76	SYL
1N21D	SYL	1N25A	SYL	1N42	SYL	1N60	RAY	1N76A	SYL
1N21DM	SYL	1N25AR	SYL	1N42	SYL	1N60	SYL	1N76R	SYL
1N21DMR	SYL	1N25R	SYL	1N48	SYL	1N63	RAY	1N77A	SYL
1N21DR	SYL	1N26	SYL	1N51	CBS	1N63	SYL	1N77B	SYL
1N21E	SYL	1N26M	SYL	1N52	CBS	1N64	SYL	1N78	SYL
1N21ER	SYL	1N26MR	SYL	1N52A	SYL	1N65	SYL	1N78M	SYL
1N23A	SYL	1N26R	SYL	1N53	SYL	1N66	RAY	1N78MR	SYL
1N23B	SYL	1N26A	SYL	1N53M	SYL	1N66A	RAY	1N78R	SYL
1N23BM	SYL	1N26AM	SYL	1N53MR	SYL	1N67	RAY	1N78A	SYL
1N23BMR	SYL	1N26AMR	SYL	1N53R	SYL	1N67A	HA	1N78AM	SYL
1N23BR	SYL	1N26AR	SYL	1N53B	SYL	1N67A	PAC	1N78AMR	SYL
1N23C	SYL	1N31	SYL	1N53BM	SYL	1N67A	RAY	1N78AR	SYL
1N23CM	SYL	1N32	SYL	1N53BMR	SYL	1N67A	SYL	1N78B	SYL
1N23CR	SYL	1N34	RAY	1N53BR	SYL	1N68	RAY	1N78BM	SYL
1N23D	SYL	1N34A	PAC	1N54	CBS	1N68A	HA	1N78BMR	SYL

DIODES AND RECTIFIERS CONT'D

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N78BR	SYL	1N192	CBS	1N256	HU	1N415	SYL	1N459-JAN	HA
1N79	SYL	1N192	HA	1N256	MO	1N415B	SYL	1N459A	HA
1N81	CBS	1N192	RAY	1N256	RAY	1N415C	SYL	1N460	RAY
1N81	SYL	1N193	SYL	1N256	SYL	1N415D	SYL	1N460A	RAY
1N81A	CBS	1N194	SYL	1N256-JAN	RAY	1N415E	SYL	1N460B	RAY
1N81A	SYL	1N195	SYL	1N263	PH	1N415EM	SYL	1N461	HOF
1N82	SYL	1N196	SYL	1N273	CBS	1N415EMR	SYL	1N461	HA, CBS
1N82A	RAY	1N198	CBS	1N276	CBS	1N416B	SYL	1N461	PAC
1N82A	SYL	1N198	HA	1N277	CBS	1N416C	SYL	1N461	SYL
1N87	AM	1N198	RAY	1N278	CBS	1N416D	SYL	1N461A	HA
1N89	HA	1N198	SYL	1N279	SYL	1N416E	SYL	1N462	HOF
1N89	RAY	1N198-JAN	HA	1N281	CBS	1N417	SYL	1N462	HA, CBS
1N90	HA	1N198-JAN	PAC	1N283	SYL	1N418	SYL	1N462	PAC
1N90	PAC	1N198A	SYL	1N286	SYL	1N419	SYL	1N462	SYL
1N90	RAY	1N200	HOF	1N287	CBS	1N429	HOF	1N462A	HA
1N90	SYL	1N201	HOF	1N288	CBS	1N430	HOF	1N463	HOF
1N91	GE	1N202	HOF	1N289	CBS	1N430A	HOF	1N463	HA, CBS
1N91	SYL	1N203	HOF	1N290	CBS	1N430B	HOF	1N463	PAC
1N92	GE	1N204	HOF	1N290	CBS	1N431	HOF	1N463	SYL
1N92	SYL	1N205	HOF	1N294	RAY	1N432	RAY	1N463A	HA
1N93	GE	1N206	HOF	1N294A	RAY	1N432A	RAY	1N464	HOF
1N93	SYL	1N207	HOF	1N295	RAY	1N432B	RAY	1N464	HA, CBS
USN-1N93	GE	1N208	HOF	1N295	SYL	1N433	RAY	1N464	PAC
1N95	HA	1N209	HOF	1N297	RAY	1N433A	RAY	1N464A	HA
1N95	RAY	1N210	HOF	1N297A	RAY	1N433B	RAY	1N465	HOF
1N96	HA	1N211	HOF	1N298	CBS	1N434	RAY	1N466	HOF
1N97	HA	1N212	HOF	1N298	RAY	1N434A	RAY	1N467	HOF
1N97	RAY	1N213	HOF	1N298	SYL	1N434B	RAY	1N468	HOF
1N98	HA	1N214	HOF	1N298A	RAY	1N440	GE	1N469	HOF
1N98	SYL	1N215	HOF	1N300	RAY	1N440B	GE	1N470	HOF
1N99	HA	1N216	HOF	1N300A	RAY	1N441	GE	1N471	HOF
1N99	PAC	1N217	HOF	1N300B	RAY	1N441B	GE	1N472	HOF
1N99	RAY	1N218	HOF	1N301	RAY	1N442	GE	1N473	HOF
1N100	HA	1N219	HOF	1N301A	RAY	1N442B	GE	1N474	HOF
1N100	SYL	1N220	HOF	1N301B	RAY	1N443	GE	1N475	HOF
1N116	HA	1N221	HOF	1N302	RAY	1N443B	GE	1N482	HA
1N116	PAC	1N222	HOF	1N302A	RAY	1N444	GE	1N482	PAC
1N117	CBS	1N225	HOF	1N302B	RAY	1N444B	GE	1N482	TI
1N117	HA	1N226	HOF	1N303	RAY	1N444	GE	1N482A	HA
1N117	RAY	1N227	HOF	1N303A	RAY	1N444B	GE	1N482A	PAC
1N118	HA	1N228	HOF	1N303B	RAY	1N445	GE	1N482A	SYL
1N118	PAC	1N229	HOF	1N305	RAY	1N445B	GE	1N482A	TI
1N118	SYL	1N230	HOF	1N306	RAY	1N446	SYL	1N482B	HA
1N119	SYL	1N231	HOF	1N307	RAY	1N446R	SYL	1N483	HA
1N126	PAC	1N232	HOF	1N315	GE	1N447	CBS	1N483	TI
1N126	SYL	1N233	HOF	USAF 1N315	GE	1N448	SYL	1N483A	HA
1N126 JAN	HA	1N252	SYL	1N332	GE	1N449	CBS	1N483A	TI
1N126A	HA	1N253	GE	1N334	GE	1N450	SYL	1N483B	HA
1N126A	RAY	1N253	HOF	1N335	GE	1N452	CBS	1N483B	SYL
1N126A	SYL	1N253	HA	1N336	GE	1N453	CBS	1N484	HA
1N126A-JAN	HA	1N253	MO	1N337	GE	1N454	CBS	1N484	PAC
1N127	SYL	1N253	RAY	1N339	GE	1N456	HOF	1N484	TI
1N127-JAN	HA	1N253	SYL	1N340	GE	1N456	HA	1N484A	HA
1N127A	HA	1N253-JAN	RAY	1N341	GE	1N456	PAC	1N484A	PAC
1N127A	RAY	1N254	GE	1N341	HA	1N456A	HA	1N484A	TI
1N127A	SYL	1N254	HOF	1N342	GE	1N457	HOF	1N484B	HA
1N128	HA	1N254	HA	1N343	GE	1N457	HA	1N485	HA
1N128	RAY	1N254	MO	1N344	GE	1N457	SYL	1N485	PAC
1N128	SYL	1N254	RAY	1N345	GE	1N457-JAN	PAC	1N485	TI
1N137A	HOF	1N254	SYL	1N346	GE	1N457-JAN	HA	1N485A	HA
1N138A	HOF	1N254-JAN	RAY	1N348	GE	1N457A	HA	1N485A	PAC
1N147A	PH	1N255	GE	1N349	GE	1N458	HOF	1N485A	TI
1N149	SYL	1N255	HOF	1N358	SYL	1N458	HA	1N485B	HA
1N151	GE	1N255	HA	1N358A	SYL	1N458	PAC	1N486	HA
1N152	GE	1N255	MO	1N358AR	SYL	1N458-JAN	HA	1N486	PAC
1N153	GE	1N255	RAY	1N358R	SYL	1N458A	HA	1N486	TI
1N158	GE	1N255	SYL	1N368	GE	1N459	HOF	1N486A	HA
1N191	HA	1N255-JAN	GE	1N369	SYL	1N459	HA	1N486A	PAC
1N191	RAY	1N255-JAN	RAY	1N369A	SYL	1N459	PAC	1N486A	SYL
1N191	SYL	1N256	GE	1N369AR	SYL	1N459	SYL	1N486A	TI

DIODES AND RECTIFIERS CONT'D

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N487	HA	1N605	GE	1N710	HOF	1N1016	GE	1N1322	HOF
1N487	TI	1N605A	GE	1N711	HOF	1N1024	GE	1N1323	HOF
1N487A	HA	1N606	GE	1N712	HOF	1N1093	SYL	1N1324	HOF
1N487A	PAC	1N606A	GE	1N713	HOF	1N1095	GE	1N1325	HOF
1N487A	TI	1N607	GE	1N714	HOF	1N1095	HOF	1N1326	HOF
1N488	HA	1N607A	GE	1N705	HOF	1N1095	MO	1N1327	HOF
1N488	PAC	1N608	GE	1N716	HOF	1N1095	RAY	1N1329	TI
1N488	TI	1N608A	GE	1N717	HOF	1N1095	TI	1N1351	HOF
1N488A	HA	1N609	GE	1N718	HOF	1N1096	MO	1N1351	MO
1N488A	PAC	1N609A	GE	1N719	HOF	1N1096	RAY	1N1315A	MO
1N488A	TI	1N610	GE	1N720	HOF	1N1096	TI	1N1352	HOF
1N497	CBS	1N610A	GE	1N721	HOF	1N1100	GE	1N1352	MO
1N498	CBS	1N611	GE	1N722	HOF	1N1101	GE	1N1352A	MO
1N499	CBS	1N611A	GE	1N723	HOF	1N1102	GE	1N1353	HOF
1N500	CBS	1N612	GE	1N724	HOF	1N1103	GE	1N1353	MO
1N536	GE	1N612A	GE	1N725	HOF	1N1115	GE	1N1353A	MO
1N536	HOF	1N613	GE	1N726	HOF	1N1115	HOF	1N1354	HOF
1N536	MO	1N613A	GE	1N727	HOF	1N1115	MO	1N1354	MO
1N536	RAY	1N614	GE	1N728	HOF	1N1116	GE	1N1354A	MO
1N537	GE	1N614A	GE	1N729	HOF	1N1116	HOF	1N1355	HOF
1N537	HOF	1N625	HOF	1N730	HOF	1N1116	MO	1N1355	MO
1N537	MO	1N625	HA, CBS	1N731	HOF	1N1117	GE	1N1355A	MO
1N537	RAY	1N625	PAC	1N732	HOF	1N1117	HOF	1N1356	HOF
1N538	GE	1N626	HOF	1N733	HOF	1N1117	MO	1N1356	MO
1N538	HOF	1N626	HA, CBS	1N734	HOF	1N1118	GE	1N1356A	MO
1N538	MO	1N626	PAC	1N735	HOF	1N1118	HOF	1N1357	HOF
1N538	RAY	1N627	HOF	1N736	HOF	1N1118	MO	1N1357	MO
1N538	TI	1N627	HA, CBS	1N737	HOF	1N1119	GE	1N1357A	MO
1N538-JAN	RAY	1N627	PAC	1N738	HOF	1N1119	MO	1N1358	HOF
USAF 1N538	GE	1N628	HOF	1N739	HOF	1N1120	GE	1N1358	MO
1N539	GE	1N628	HA, CBS	1N740	HOF	1N1120	MO	1N1358A	MO
1N539	HOF	1N628	PAC	1N741	HOF	1N1124	TI	1N1359	HOF
1N539	MO	1N629	HOF	1N742	HOF	1N1124R	TI	1N1359	MO
1N539	RAY	1N629	HA, CBS	1N743	HOF	1N1125	TI	1N1359A	MO
1N539	TI	1N629	PAC	1N744	HOF	1N1125R	TI	1N1360	HOF
1N540	GE	1N630	SYL	1N745	HOF	1N1126	TI	1N1360	MO
1N540	HOF	1N630R	SYL	1N746	TI	1N1126R	TI	1N1360A	MO
1N540	MO	1N631	CBS	1N746A	TI	1N1127	TI	1N1361	HOF
1N540	RAY	1N632	CBS	1N747	TI	1N1127R	TI	1N1361	MO
1N540	TI	1N633	CBS	1N747A	TI	1N1128	TI	1N1361A	MO
1N540-JAN	RAY	1N634	CBS	1N748	TI	1N1128R	TI	1N1362	HOF
USAF 1N540	GE	1N634	SYL	1N748A	TI	1N1130	TI	1N1362	MO
1N547	MO	1N636	SYL	1N749	TI	1N1131	TI	1N1362A	MO
1N547	RAY	1N643	PAC	1N749A	TI	1N1132	SYL	1N1363	HOF
1N547-JAN	RAY	1N645	PAC	1N750	TI	1N1132R	SYL	1N1363	MO
1N550	GE	1N645	RAY	1N750A	TI	1N1251	HOF	1N1363A	MO
1N551	GE	1N645	TI	1N751	TI	1N1252	HOF	1N1364	HOF
1N552	GE	1N646	PAC	1N751A	TI	1N1253	HOF	1N1364	MO
1N553	GE	1N646	RAY	1N752	TI	1N1254	HOF	1N1364A	MO
1N554	GE	1N646	TI	1N752A	TI	1N1255	HOF	1N1365	HOF
1N555	GE	1N647	PAC	1N753	TI	1N1255A	HOF	1N1365	MO
1N576A	GE	1N647	RAY	1N753A	TI	1N1256	HOF	1N1365A	MO
1N584	GE	1N647	TI	1N754	TI	1N1257	HOF	1N1366	HOF
1N584	SYL	1N648	PAC	1N754A	TI	1N1258	HOF	1N1366	MO
1N588	TI	1N648	RAY	1N755	TI	1N1259	HOF	1N1366A	MO
1N589	TI	1N648	TI	1N755A	TI	1N1260	HOF	1N1367	HOF
1N590	TI	1N649	PAC	1N756	TI	1N1261	HOF	1N1367	MO
1N591	TI	1N659	TI	1N756A	TI	1N1301	GE	1N1367A	MO
1N599	GE	1N660	TI	1N757	TI	1N1302	GE	1N136	HOF
1N599A	GE	1N661	TI	1N757A	TI	1N1304	GE	1N1368	MO
1N600	GE	1N633	PAC	1N758	TI	1N1306	GE	1N1368A	MO
1N600A	GE	1N699	CBS	1N758A	TI	1N1313	HOF	1N1369	HOF
1N601	GE	1N702	HOF	1N759	TI	1N1314	HOF	1N1369	MO
1N601A	GE	1N703	HOF	1N759A	TI	1N1315	HOF	1N1369A	MO
1N602	GE	1N704	HOF	1N770	CBS	1N1316	HOF	1N1370	HOF
1N602A	GE	1N705	HOF	1N830	SYL	1N1317	HOF	1N1370	MO
1N603	GE	1N706	HOF	1N831	SYL	1N1318	HOF	1N1370A	MO
1N603A	GE	1N707	HOF	1N832	SYL	1N1319	HOF	1N1371	HOF
1N604	GE	1N708	HOF	1N833	SYL	1N1320	HOF	1N1371	MO
1N604A	GE	1N709	HOF	1N1008	GE	1N1321	HOF	1N1371A	MO

DIODES AND RECTIFIERS CONT'D

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N1372	HOF	1N1791	HOF	1N1824RA	TI	1N2156R	GE	653C0	TI
1N1372	MO	1N1792	HOF	1N1825	TI	1N2157	GE	653C1	TI
1N1372A	MO	1N1793	HOF	1N1825A	TI	1N2157R	GE	653C2	TI
1N1373	HOF	1N1794	HOF	1N1825C	TI	1N2158	GE	653C3	TI
1N1373	MO	1N1795	HOF	1N1825R	TI	1N2158R	GE	653C4	TI
1N1373A	MO	1N1796	HOF	1N1825RA	TI	1N2159	GE	653C5	TI
1N1374	HOF	1N1797	HOF	1N1826	TI	1N2159R	GE	653C6	TI
1N1374	MO	1N1798	HOF	1N1826A	TI	1N2160	GE	653C7	TI
1N1374A	MO	1N1799	HOF	1N1826C	TI	1N2160R	GE	653C8	TI
1N1375	HOF	1N1800	HOF	1N1826R	TI	1N2175	TI	653C9	TI
1N1375	MO	1N1801	HOF	1N1826RA	TI	600C	TI	654C9	TI
1N1375A	MO	1N1802	HOF	1N1827	TI	601C	TI	655C9	TI
1N1487A	GE	1N1809	MO	1N1827A	TI	604C	TI	C35A	GE
1N1488	GE	1N1809A	MO	1N1827C	TI	606C	TI	C35B	GE
1N1489	GE	1N1810	MO	1N1827R	TI	608C	TI	C35C	GE
1N1490	GE	1N1810A	MO	1N1827RA	TI	610C	TI	C35F	GE
1N1491	GE	1N1811	MO	1N1828	TI	612C	TI	C35G	GE
1N1492	GE	1N1811A	MO	1N1828A	TI	614C	TI	C35H	GE
1N1530	HOF	1N1812	MO	1N1828C	TI	616C	TI	C35U	GE
1N1530A	HOF	1N1812A	MO	1N1828R	TI	618C	TI	CK776	RAY
1N1563	MO	1N1813	MO	1N1828RA	TI	620C	TI	D4	IRC
1N1563A	MO	1N1813A	MO	1N1829	TI	622C	TI	D5	IRC
1N1564	MO	1N1814	MO	1N1829A	TI	624C	TI	HB-1	HOF
1N1564A	MO	1N1814A	MO	1N1829C	TI	650C	TI	HB-2	HOF
1N1565	MO	1N1815	MO	1N1829R	TI	650C0	TI	HB-3	HOF
1N1565A	MO	1N1815A	MO	1N1829RA	TI	650C1	TI	HB-4	HOF
1N1566	MO	1N1816	TI	1N1830	TI	650C2	TI	HB-5	HOF
1N1566A	MO	1N1816A	TI	1N1830A	TI	650C3	TI	HB-6	HOF
1N1610	SYL	1N1816C	TI	1N1830C	TI	650C4	TI	HD2051	HA
1N1611	SYL	1N1816R	TI	1N1830R	TI	650C5	TI	HD2120	HA
1N1611R	SYL	1N1816RA	TI	1N1830RA	TI	650C6	TI	HD2125	HA
1N1692	GE	1N1817	TI	1N1831	TI	650C7	TI	HD2135	HA
1N1693	GE	1N1817A	TI	1N1831A	TI	651C	TI	HD2150	HA
1N1694	GE	1N1817C	TI	1N1831C	TI	651C0	TI	HD2155	HA
1N1695	GE	1N1817R	TI	1N1831R	TI	651C1	TI	HD6751	HA
1N1730	PAC	1N1817RA	TI	1N1831RA	TI	651C2	TI	HD6752	HA
1N1731	PAC	1N1818	TI	1N1832	TI	651C3	TI	HD6753	HA
1N1732	PAC	1N1818A	TI	1N1832A	TI	651C4	TI	HD6754	HA
1N1733	PAC	1N1818C	TI	1N1832C	TI	651C5	TI	HD6755	HA
1N1734	PAC	1N1818R	TI	1N1832R	TI	651C6	TI	HR10251	HA
1N1763	RAY	1N1818RA	TI	1N1832RA	TI	651C7	TI	HR10252	HA
1N1763	RCA	1N1819	TI	1N1833	TI	651C8	TI	HR10253	HA
1N1764	RAY	1N1819A	TI	1N1833A	TI	651C9	TI	HR10254	HA
1N1764	RCA	1N1819C	TI	1N1833C	TI	652C	TI	HR10255	HA
1N1765	HOF	1N1819R	TI	1N1833R	TI	652C0	TI	HR10311	HA
1N1766	HOF	1N1819RA	TI	1N1833RA	TI	652C1	TI	HR10312	HA
1N1767	HOF	1N1820	TI	1N1834	TI	652C2	TI	HR10313	HA
1N1768	HOF	1N1820A	TI	1N1834A	TI	652C3	TI	HR10314	HA
1N1769	HOF	1N1820C	TI	1N1834C	TI	652C4	TI	HR10315	HA
1N1770	HOF	1N1820R	TI	1N1834R	TI	652C5	TI	HR10316	HA
1N1771	HOF	1N1820RA	TI	1N1834RA	TI	652C6	TI	HR10669	HA
1N1772	HOF	1N1821	TI	1N1835	TI	652C7	TI	HR10671	HA
1N1773	HOF	1N1821A	TI	1N1835A	TI	652C8	TI	HR10673	HA
1N1774	HOF	1N1821C	TI	1N1835C	TI	652C9	TI	HR10675	HA
1N1775	HOF	1N1821R	TI	1N1835R	TI	653C	TI	HR10677	HA
1N1776	HOF	1N1821RA	TI	1N1835RA	TI			HR10679	HA
1N1777	HOF	1N1822	TI	1N1836	TI			HR10681	HA
1N1778	HOF	1N1822A	TI	1N1836A	TI			SR200	SYL
1N1779	HOF	1N1822C	TI	1N1836C	TI			SR500	SYL
1N1780	HOF	1N1822R	TI	1N1836R	TI				
1N1781	HOF	1N1822RA	TI	1N1836RA	TI				
1N1782	HOF	1N1823	TI	1N2069	TI				
1N1783	HOF	1N1823A	TI	1N2070	TI				
1N1784	HOF	1N1823C	TI	1N2071	TI				
1N1785	HOF	1N1823R	TI	1N2127	*SYL				
1N1786	HOF	1N1823RA	TI	1N2154	GE				
1N1787	HOF	1N1824	TI	1N2154R	GE				
1N1788	HOF	1N1824A	TI	1N2155	GE				
1N1789	HOF	1N1824C	TI	1N2155R	GE				
1N1790	HOF	1N1824R	TI	1N2156	GE				

MOTOROLA-ZENER DIODES Listed at 20% tolerance. For 10% or 5% tolerance add 10 or 5 after "Z," i.e., 1M200Z5; For reversed polarity add R after Z, i.e., 1.5M22ZR10.

TYPE NO.	MFR.	TYPE NO.	MFR.
1M10Z	MO	1M20Z	MO
1M11Z	MO	1M22Z	MO
1M12Z	MO	1M24Z	MO
1M13Z	MO	1M25Z	MO
1M14Z	MO	1M27Z	MO
1M15Z	MO	1M30Z	MO
1M16Z	MO	1M33Z	MO
1M17Z	MO	1M36Z	MO
1M18Z	MO	1M39Z	MO
1M19Z	MO	1M43Z	MO

DIODES AND RECTIFIERS CONT'D

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1M45Z	MO	1.5M18Z	MO	1.5M140Z	MO	10M52Z	MO	50M22Z	MO
1M47Z	MO	1.5M19Z	MO	1.5M150Z	MO	10M56Z	MO	50M24Z	MO
1M50Z	MO	1.5M20Z	MO	1.5M175Z	MO	10M62Z	MO	50M25Z	MO
1M52Z	MO	1.5M22Z	MO	1.5M200Z	MO	10M68Z	MO	50M27Z	MO
1M56Z	MO	1.5M24Z	MO	10M10Z	MO	10M75Z	MO	50M30Z	MO
1M62Z	MO	1.5M25Z	MO	10M11Z	MO	10M82Z	MO	50M33Z	MO
1M68Z	MO	1.5M27Z	MO	10M12Z	MO	10M91Z	MO	50M36Z	MO
1M75Z	MO	1.5M30Z	MO	10M13Z	MO	10M100Z	MO	50M39Z	MO
1M82Z	MO	1.5M33Z	MO	10M14Z	MO	10M105Z	MO	50M43Z	MO
1M91Z	MO	1.5M36Z	MO	10M15Z	MO	10M110Z	MO	50M45Z	MO
1M100Z	MO	1.5M39Z	MO	10M16Z	MO	10M120Z	MO	50M47Z	MO
1M105Z	MO	1.5M43Z	MO	10M17Z	MO	10M130Z	MO	50M50Z	MO
1M110Z	MO	1.5M45Z	MO	10M18Z	MO	10M140Z	MO	50M52Z	MO
1M120Z	MO	1.5M47Z	MO	10M19Z	MO	10M150Z	MO	50M56Z	MO
1M130Z	MO	1.5M50Z	MO	10M20Z	MO	10M175Z	MO	50M62Z	MO
1M410Z	MO	1.5M52Z	MO	10M22Z	MO	10M200Z	MO	50M68Z	MO
1M150Z	MO	1.5M56Z	MO	10M24Z	MO	50M10Z	MO	50M75Z	MO
1M175Z	MO	1.5M62Z	MO	10M25Z	MO	50M11Z	MO	50M82Z	MO
1M200Z	MO	1.5M68Z	MO	10M27Z	MO	50M12Z	MO	50M91Z	MO
1.5M10Z	MO	1.5M75Z	MO	10M30Z	MO	50M13Z	MO	50M100Z	MO
1.5M11Z	MO	1.5M82Z	MO	10M33Z	MO	50M14Z	MO	50M105B	MO
1.5M12Z	MO	1.5M91Z	MO	10M36Z	MO	50M15Z	MO	50M110Z	MO
1.5M13Z	MO	1.5M100Z	MO	10M39Z	MO	50M16Z	MO	50M120Z	MO
1.5M14Z	MO	1.5M105Z	MO	10M43Z	MO	50M17Z	MO	50M130Z	MO
1.5M15Z	MO	1.5M110Z	MO	10M45Z	MO	50M18Z	MO	40M140Z	MO
1.5M16Z	MO	1.5M120Z	MO	10M47Z	MO	50M19Z	MO	50M150Z	MO
1.5M17Z	MO	1.5M130Z	MO	10M50Z	MO	50M20Z	MO	50M175Z	MO
								50M200Z	MO

MOTOROLA-ZENER DIODES Listed at 20% tolerance. For 10% or 5% tolerance add 10 or 5 after "Z," i.e., 1M200Z5; For reversed polarity add R after Z, i.e., 1.5M22ZR10.

ADDITIONAL MANUFACTURERS FOR DIODES LISTED ON PREVIOUS PAGES:

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N26	PH	1N126A	CBS, SYL	1N226	USS	1N445B	RCA	1N483B	TI	1N702	HA
1N34A	CBS, ERI	1N127	CBS, RAY	1N227	USS	1N448	CBS	1N484	SYL	1N703	HA
1N35	CBS	1N127A	CBS	1N228	USS	1N450	CBS	1N484A	SYL	1N704	HA
1N38A	CBS, ERI	1N128	CBS, ERI	1N229	USS	1N456	TI, SYL	1N484B	TI, SYL	1N705	HA
1N38B	CBS	1N137A	USS	1N230	USS	1N456A	SYL	1N485	SYL	1N706	HA
1N39A	CBS	1N138A	USS	1N231	USS	1N457	TI	1N485A	SYL	1N707	HA
1N48	CBS	1N191	CBS, ERI	1N232	USS	1N457A	SYL	1N485B	TI, SYL	1N708	HA
1N51	ERI	1N192	ERI, SYL	1N233	USS	1N458	TI, SYL	1N486	SYL	1N709	HA
1N55A	CBS	1N198	ERI	1N276	SYL, HA	1N458A	SYL	1N486B	TI	1N710	HA
1N55B	CBS	JAN 1N198	SYL	1N277	SYL, HA	1N459	TI	1N487	SYL	1N711	HA
1N56A	CBS	1N200	USS	1N278	HA	1N459A	SYL	1N487A	SYL	1N712	HA
1N58A	CBS	1N201	USS	1N279	CBS, HA	1N461	TI	1N488	SYL	1N713	HA
1N60	CBS, ERI	1N202	USS	1N281	SYL, HA	1N461A	SYL	1N488A	SYL	1N714	HA
1N63	CBS	1N203	USS	1N283	CBS, HA	1N462	TI	1N536	RCA, HA	1N716	HA
1N64	CBS, ERI	1N204	USS	1N294	CBS	1N462A	SYL	1N537	RCA, HA	1N717	HA
1N65	CBS	1N205	USS	1N295	CBS	1N463	TI	1N538	RCA, HA	1N722	HA
1N67A	CBS, ERI	1N206	USS	1N297	SYL	1N463A	SYL	JAN 1N538	GE	1N723	HA
1N68A	CBS, SYL	1N207	USS	1N332	HA	1N464	TI, SYL	1N539	RCA, HA	1N724	HA
1N69A	CBS	1N208	USS	1N335	HA	1N464A	SYL	1N540	RCA, HA	1N1095	RCA, HA
1N82	CBS	1N209	USS	1N336	HA	1N465	RAY, USS	JAN 1N540	GE	1N1096	GE, HA
1N90	CBS, ERI	1N210	USS	1N342	HA	1N466	USS	1N547	GE, RCA	1N1115	HA
1N91	SYL	1N211	USS	1N343	HA	1N467	USS	JAN 1N547	GE	1N1116	HA
1N95	CBS	1N212	USS	1N344	HA	1N468	USS	1N553	HA	1N1117	HA
1N96	CBS, ERI	1N213	USS	1N345	HA	1N469	USS	1N625	SYL	1N1118	HA
1N97	CBS	1N214	USS	1N346	HA	1N470	USS	1N626	SYL	1N1119	HA
1N98	CBS	1N215	USS	1N347	HA	1N471	USS	1N627	SYL	1N1120	HA
1N99	CBS	1N216	USS	1N348	HA	1N472	USS	1N628	SYL	1N1124	HA
1N100	CBS	1N217	USS	1N349	HA	1N473	USS	1N629	SYL	1N1125	HA
1N107	CBS	1N218	USS	1N440	HA	1N474	USS	1N632	SYL	1N1126	HA
1N108	CBS	1N219	USS	1N440B	RCA	1N475	USS	1N633	SYL	1N1127	HA
1N116	CBS, ERI, RAY	1N220	USS	1N441B	RCA	1N482	SYL	1N636	CBS	1N1128	HA
1N117	CBS	1N221	USS	1N442B	RCA	1N482B	TI, SYL	1N649	TI		
1N118	CBS	1N222	USS	1N443B	RCA	1N483	SYL				
1N126	CBS, RAY	1N225	USS	1N444B	RCA	1N483A	SYL				

ADDITIONAL MANUFACTURERS FOR TRANSISTORS LISTED ON PREVIOUS PAGES

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
2N101	CBS	2N307	RCA	2N388	GE	2N461	IND	2N635	CBS
2N102	CBS	2N323	SYL	2N395	TI	2N494	HA	2N636	CBS
2N104	SYL	2N324	SYL	2N396	TI, GT	2N495	GT, HA	2N677	SYL
2N143	CBS	2N331	MO	2N397	TI	2N496	GT, HA	2N677A	SYL
2N144	CBS	2N332	CYL	2N398	SYL	2N497	HA	2N677B	SYL
2N175	SYL	2N333	SYL	2N401	SYL	2N519	SYL	2N677C	SYL
2N218	SYL	2N334	SYL	2N404	MO	2N524	SYL	2N678	SYL
2N219	SYL	2N335	SYL	2N404	USAF, RCA	2N526	SYL	2N678A	SYL
2N235A	CBS	2N336	SYL	2N414A	SYL	2N527	SYL	2N696	TI
2N235B	CBS	2N337	SYL, TR	2N415A	SYL	2N544	SYL	2N697	TI
2N236A	CBS	2N338	SYL, TR	2N438	RAY, SYL	2N554	SYL	2N1000	CBS
2N236B	CBS	2N342A	TR	2N438A	SYL	2N581	IND	2N1008	SYL
2N242	CBS	2N351A	MO	2N439	RAY	2N582	SYL	2N1008A	SYL
2N257	CBS	2N379	CL	2N439A	SYL	2N584	IND	2N1012	CBS
2N285A	CBS	2N381	IND	2N440	RAY, SYL	2N585	SYL	2N1136	CL
2N297	CBS	2N383	IND	2N440A	SYL	2N634	CBS	2N1137	CL
2N297A	CBS	2N384	SYL	2N460	IND				

LATE SEMICONDUCTOR RELEASES TRANSISTORS

TYPE	MFR	DES.	APPL	TYPE	MFR	DES.	APPL	TYPE	MFR	DES.	APPL
USAF 2N43A	GE	GNPN	AF	2N1140	TR	SNPN	HF, Pwr, Sw	2N1249	TR	SNPN	Conv, Osc
USAF 2N44A	GE	GNPN	AF	2N1144	GE	GNPN	AF	2N1251	SYL	GNPN	IF
USN 2N117	TI	SNPN	AF	2N1145	GE	GNPN	AF	2N1252	FSC	SNPN	Low Storage
JAN 2N118	TI	SNPN	AF	2N1149/903	TI	See 903		2N1253	FSC	SNPN	Low Storage
USN 2N118	TI	SNPN	AF	2N1150/904	TI	See 904		2N1254	HA	SNPN	RF, HF
USN 2N119	TI	SNPN	HT, AF	2N1151/904A	TI	See 904A		2N1255	HA	SNPN	RF, HF
2N123A	GE	GNPN	HF, LN, SW	2N1152/905	TI	See 905		2N1256	HA	SNPN	RF, HF
USAF 2N167	GE	GNPN	Sw	2N1153/910	TI	See 910		2N1257	HA	SNPN	RF, HF
2N214MP	SYL	GNPN	AF, Amp	2N1154/951	TI	See 951		2N1258	HA	SNPN	RF, HF
2N255A	CBS	GNPN	AF, Pwr	2N1155/952	TI	See 952		2N1259	HA	SNPN	RF, HF
2N256A	CBS	GNPN	AF, Pwr	2N1156/953	TI	See 953		2N1261	MH	GNPN	Pwr
2N331 (MIL)	BE	GNPN	AF, Pwr	2N1159	DE	GNPN	Pwr	2N1262	MH	GNPN	Pwr
USN 2N332	TI	SNPN	HF	2N1160	DE	GNPN	Pwr	2N1263	MH	GNPN	Pwr
USN 2N333	TI	SNPN	HF	2N1168	DE	GNPN	Pwr	2N1264	SYL	GNPN	RF, Conv
2N333A	GE	SNPN	HF	2N1172	DE	GNPN	Pwr	2N1265	SYL	GNPN	AF
USN 2N334	TI	SNPN	HF	2N1176	BE	GNPN	Pwr	2N1266	SYL	GNPN	AF
2N334A	GE	SNPN	AF, IF, Sw	2N1176A	BE	GNPN	Pwr	2N1267	PH	SNPN	HF, Sw
USN 2N335	TI	SNPN	HF	2N1176B	BE	GNPN	Pwr	2N1268	PH	SNPN	HF, Sw
2N335A	GE	SNPN	AF, IF, Sw	2N1195	TI	GNPN	Mesa HF	2N1269	PH	SNPN	HF, Sw
2N336A	GE	SNPN	AF, IF, Sw	2N1199	PH	SNPN	HF, Sw	2N1270	PH	SNPN	HF, Sw
2N343A	TI	SNPN	AF, Amp	2N1206	TR	SNPN	AF, Pwr	2N1271	PH	SNPN	HF, Sw
2N388 Buships	SYL	GNPN	Comp, Sw	2N1207	TR	SNPN	AF, Pwr	2N1272	PH	SNPN	HF, Sw
2N396A	GE	GNPN	Sw	2N1208	TR	SNPN	Pwr	2N1273	TI	GNPN	IF, AF
2N413A	SYL	GNPN	HF, IF	2N1209	TR	SNPN	Pwr	2N1274	TI	GNPN	IF, AF
SIG C 2N426	RAY	GNPN	HF, Sw	2N1212	TR	SNPN	Pwr	2N1275	RAY	SNPN	HV, Amp
2N535B	PH	GNPN	AF	2N1219	GT	SNPN	RF Conv	2N1276	GE	SNPN	HT Osc, Conv
2N665	DE	GNPN	AF, Pwr	2N1220	GT	SNPN	IF, AF	2N1277	GE	SNPN	HT Osc, Conv
2N674	PH	GNPN	Pulse Amp	2N1221	GT	SNPN	Conv	2N1278	GE	SNPN	HT Osc, Conv
2N675	PH	GNPN	Pulse Amp	2N1223	GT	SNPN	IF, AF	2N1279	GE	SNPN	HT Osc, Conv
2N676	ADV	GSPNP	AF, Pwr	2N1224	RCA	GNPN	HF, RF	2N1280	IND	GNPN	RF, IF
2N698	FSC	SNPN	Hi Volt	2N1225	RCA	GNPN	HF, RF	2N1281	IND	GNPN	RF, IF
2N699	FSC	SNPN	Hi Volt	2N1226	RCA	GNPN	HF, RF	2N1282	IND	GNPN	RF, IF
2N706	FSC	SNPN	HF	2N1228	HA	SNPN	AF	2N1284	IND	GNPN	RF, IF
2N710	TI	GNPN	HF	2N1229	HA	SNPN	AF	2N1291	CBS	GNPN	AF, Pwr
2N1011	MO, DE, CL	GNPN	Pwr	2N1230	HA	SNPN	AF	2N1292	CBS	GNPN	AF, Pwr
SIG C 2N1011	MO	GNPN	Pwr	2N1231	HA	SNPN	AF	2N1293	CBS	GNPN	AF, Pwr
2N1019	ADV	GSPNP	AF, Pwr	2N1232	HA	SNPN	AF	2N1294	CBS	GNPN	AF, Pwr
2N1020	ADV	GSPNP	AF, Pwr	2N1233	HA	SNPN	AF	2N1295	CBS	GNPN	AF, Pwr
2N1086	GE	GNPN	Osc	2N1234	HA	SNPN	AF	2N1296	CBS	GNPN	AF, Pwr
2N1086A	GE	GNPN	Osc	2N1238	HA	SNPN	AF	2N1297	CBS	GNPN	AF, Pwr
2N1087	GE	GNPN	Osc	2N1239	HA	SNPN	AF	2N1298	CBS	GNPN	AF, Pwr
2N1093	TI	GNPN	Comp	2N1240	HA	SNPN	AF	2N1299	SYL	GNPN	IF, AF
2N1097	GE	GNPN	AF	2N1241	HA	SNPN	AF	2N1300	RCA	GNPN	Mesa, Sw
2N1098	GE	GNPN	AF	2N1242	HA	SNPN	AF	2N1301	RCA	GNPN	Mesa, Sw
2N1115	GE	GNPN	HF, RF	2N1243	HA	SNPN	AF	2N1302	TI	GNPN	Comp
2N1118	PH	SNPN	HF, Sw	2N1244	HA	SNPN	AF				
2N1120	MO, BE, CL	GNPN	Pwr	2N1245	CBS	GNPN	Pwr				
SIG C 2N1120	MO	GNPN	Pwr	2N1246	CBS	GNPN	Pwr				
2N1121	GE	GNPN	IF	2N1247	TR	SNPN	Conv, Osc				
2N1139	TR	SNPN	HF, Pwr, Sw	2N1248	TR	SNPN	Conv, Osc				

LATE SEMICONDUCTOR RELEASES

TRANSISTORS (Cont'd)

TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.	TYPE	MFR.	DES.	APPL.
2N1303	TI	GNPN	Comp	2N1352	IND	GNPN	IF, AF	2N1386	RAY	SNPN	HF, Sw
2N1304	TI	GNPN	Comp	2N1353	IND	GNPN	IF, AF	2N1387	RAY	SNPN	HF, Sw
2N1305	TI	GNPN	Comp	2N1354	IND	GNPN	IF, AF	2N1388	RAY	SNPN	HF, Amp
2N1306	TI	GNPN	Comp	2N1355	IND	GNPN	Conv, IF	2N1389	RAY	SNPN	HF, Amp
2N1307	TI	GNPN	Comp	2N1356	IND	GNPN	Conv, IF	2N1390	RAY	SNPN	HF, Amp
2N1308	TI	GNPN	Comp	2N1357	IND	GNPN	Conv, Osc	2N1408	GT	GNPN	AF, IF
2N1309	TI	GNPN	Comp	2N1358	DE	GNPN	Pwr	2N1409	PAC	SNPN	HF, Sw, Mesa
2N1310	GT	GNPN	IF, AF	2N1359	MO	GNPN	Pwr	2N1410	PAC	SNPN	HF, Sw, Mesa
2N1311	GT	GNPN	IF, AF	2N1360	MO	GNPN	Pwr	2N1412	DE	GNPN	Pwr
2N1312	GT	GNPN	IF, AF	2N1362	MO	GNPN	Pwr	2N1413	GE	GNPN	AF, Sw
2N1313	TS	GNPN	Conv, Osc	2N1363	MO	GNPN	Pwr	2N1414	GE	GNPN	AF, Sw
2N1316	IND	GNPN	Conv, Osc	2N1364	MO	GNPN	Pwr	2N1415	GE	GNPN	AF, Sw
2N1317	IND	GNPN	Conv, Osc	2N1365	MO	GNPN	Pwr	2N1416	PH	Pair of 2N223	
2N1318	IND	GNPN	Conv, Osc	2N1366	RAY	GNPN	Conv	3N45	MH	GNPN	Pwr
2N1335	PAC	SNPN	VHF, Pwr, Mesa	2N1367	RAY	GNPN	IF	3N46	MH	GNPN	Pwr
2N1336	PAC	SNPN	VHF, Pwr, Mesa	2N1370	TI	GNPN	IF, AF	LT-15	CBS	GNPN	Pwr
2N1337	PAC	SNPN	VHF, Pwr, Mesa	2N1371	TI	GNPN	IF, AF	LT-5125	CBS	GNPN	Pwr
2N1339	PAC	SNPN	VHF, Pwr, Mesa	2N1372	TI	GNPN	IF, AF	LT-5126	CBS	GNPN	Pwr
2N1340	PAC	SNPN	VHF, Pwr, Mesa	2N1373	TI	GNPN	IF, AF	LT-5130	CBS	GNPN	Pwr
2N1341	PAC	SNPN	VHF, Pwr, Mesa	2N1374	TI	GNPN	IF, AF	LT-5131	CBS	GNPN	Pwr
2N1343	IND	GNPN	Osc, IF	2N1375	TI	GNPN	IF, AF	LT-5132	CBS	GNPN	Pwr
2N1344	IND	GNPN	Conv, Osc	2N1376	TI	GNPN	IF, AF	LT-5132A	CBS	GNPN	Pwr
2N1345	IND	GNPN	Conv, Osc	2N1377	TI	GNPN	IF, AF	LT-5133	CBS	GNPN	Pwr
2N1346	IND	GNPN	Conv, Osc	2N1378	TI	GNPN	IF, AF	LT-5134	CBS	GNPN	Pwr
2N1347	IND	GNPN	Conv, Osc	2N1379	TI	GNPN	IF, AF	LT-5135	CBS	GNPN	Pwr
2N1348	IND	GNPN	RF, IF	2N1380	TI	GNPN	IF, AF	LT-5135A	CBS	GNPN	Pwr
2N1349	IND	GNPN	Conv, Osc	2N1381	TI	GNPN	IF, AF	LT-5136	CBS	GNPN	Pwr
2N1350	IND	GNPN	Conv, IF	2N1382	TI	GNPN	IF, AF	LT-5136A	CBS	GNPN	Pwr
2N1351	IND	GNPN	Conv, IF	2N1383	TI	GNPN	IF, AF	N-400	FSC	SNPN	HiB

DIODES AND RECTIFIERS

TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.	TYPE NO.	MFR.
1N21EM	SYL	1N415BM	SYL	1N720A	HA	1N2620B	MO	3/4 M14Z	MO
1N21EMR	SYL	1N415CM	SYL	1N721A	HA	1N2621	MO	3/4 M15Z	MO
1N21WE	SYL	1N415DM	SYL	1N722A	HA	1N2621A	MO	3/4 M16Z	MO
1N21WEM	SYL	1N416BM	SYL	1N723A	HA	1N2621B	MO	3/4 M17Z	MO
1N23CMR	SYL	1N416CM	SYL	1N724A	HA	1N2622	MO	3/4 M18Z	MO
1N26A	PH	1N416DM	SYL	1N805	SYL	1N2622A	MO	3/4 M19Z	MO
1N34AS	SYL	1N416EM	SYL	1N830A	SYL	1N2622B	MO	3/4 M20Z	MO
1N35AS	SYL	1N435	SYL	1N831A	SYL	1N2623	MO	3/4 M22Z	MO
1N38AS	SYL	1N486B	HA	1N831M	SYL	1N2623A	MO	3/4 M24Z	MO
1N38BS	SYL	USAF 1N547	GE	1N832M	SYL	1N2623B	MO	3/4 M25Z	MO
1N48A	ERI	1N560	GE	1N1487	GE	1N2624	MO	3/4 M27Z	MO
1N53A	SYL	1N561	GE	1N1806	MO	1N2624B	MO	3/4 M30Z	MO
1N53AM	SYL	1N562	GE	1N1806A	MO	1M6.8Z *	MO	3/4 M33Z	MO
1N53AR	SYL	1N563	GE	1N1807	MO	1M7.5Z	MO	3/4 M36Z	MO
1N53AMR	SYL	1N571	HA, SYL	1N1807A	MO	1M8.2Z	MO	3/4 M39Z	MO
1N54AS	SYL	1N695	SYL	1N1808	MO	1M9.1Z	MO	3/4 M43Z	MO
1N55	ERI	1N701	HA	1N1808A	MO	1.5M6.8Z	MO	3/4 M45Z	MO
1N55A Buships	SYL	1N701A	HA	1N1905	USS	1.5M7.5Z	MO	3/4 M47Z	MO
1N56A Buships	SYL	1N702A	HA	1N1906	USS	1.5M8.2Z	MO	3/4 M50Z	MO
1N63A	RAY	1N703A	HA	1N1925	USS	1.5M9.1Z	MO	3/4 M52Z	MO
1N63S	SYL	1N704A	HA	1N1926	USS	10M6.8Z	MO	3/4 M56Z	MO
1N65S	SYL	1N705A	HA	1N1998	USS	10M7.5Z	MO	3/4 M62Z	MO
JAN 1N69A	SYL	1N706A	HA	1N1999	USS	10M8.2Z	MO	3/4 M68Z	MO
JAN 1N70A	SYL	1N707A	HA	1N2000	USS	10M9.1Z	MO	3/4 M75Z	MO
JAN 1N81A	SYL	1N708A	HA	1N2001	USS	50M6.8Z	MO	3/4 M82Z	MO
1N100A	HA	1N709A	HA	1N2002	USS	50M7.5Z	MO	3/4 M91Z	MO
1N115	SYL	1N710A	HA	1N2003	USS	50M8.2Z	MO	3/4 M100Z	MO
1N117	SYL	1N711A	HA	1N2004	USS	50M9.1Z	MO	3/4 M105Z	MO
1N118A	HA	1N712A	HA	1N2005	USS	3/4 M6.8Z	MO	3/4 M110Z	MO
1N120	SYL	1N713A	HA	1N2006	USS	3/4 M7.5Z	MO	3/4 M120Z	MO
JAN 1N127A	SYL, HA	1N714A	HA	1N2007	USS	3/4 M8.2Z	MO	3/4 M130Z	MO
JAN 1N128	SYL	1N715	HA	1N2510	SYL	3/4 M9.1Z	MO	3/4 M140Z	MO
1N128A	RAY	1N715A	HA	1N2510R	SYL	3/4 M10Z	MO	3/4 M150Z	MO
1N198A	HA	1N716A	HA	1N2510M	SYL	3/4 M11Z	MO	3/4 M175Z	MO
1N270	CBS, HA, SYL	1N717A	HA	1N2510MR	SYL	3/4 M12Z	MO	3/4 M200Z	MO
1N285	GE	1N718A	HA	1N2620	MO	3/4 M13Z	MO		
1N333	GE	1N719A	HA	1N2620A	MO				

* See note on Page 11 for Zener Diode tolerance and polarity.

LAFAYETTE - SEMI CONDUCTOR HEADQUARTERS

• Complete Current Stock • OEM Prices • IMMEDIATE shipment



TEXAS INSTRUMENTS

COLUMN HEADINGS: PC=Collector Dissipation in watts at 25°C ambient temperature; hfe=AC current transfer ratio, minimum except †=typical, Ic=maximum collector current; 8VCBO=Collector breakdown voltage; fab=alpha cutoff frequency, typical except †=minimum. *See case outlines at top of page. Average shpg. wt., 2 oz.

SILICON TRANSISTORS (NPN)

SMALL SIGNAL

Type	Case Type*	Pc w	hfe min	Ic ma	8V fab CBO mc	1-99	100-999
2N117	G	0.150	9	25	45 4	9.75	6.50
US2N117	G	0.150	9	25	45 1††	10.00	6.85
2N118	G	0.150	18	25	45 5	16.75	11.15
US2N118	G	0.150	18	25	45 2††	16.95	11.30
JAN2N118	G	0.150	9	18	45 4	18.60	12.40
2N119	G	0.150	36	25	45 6	21.85	14.55
US2N119	G	0.150	36	25	45 2††	22.05	14.70
2N120	G	0.150	76	25	45 7	21.85	14.55
2N332	I	0.150	9	25	45 4	9.25	6.15
US2N332	I	0.150	9	25	45 4	9.45	6.30
2N333	I	0.150	18	25	45 5	16.00	10.67
US2N333	I	0.150	18	25	45 5	16.20	10.85
2N334	I	0.150	18	25	45 8††	16.00	10.65
US2N334	I	0.150	18	25	45 8††	16.20	10.85
2N335	I	0.150	36	25	45 6	21.40	14.25
US2N335	I	0.150	36	25	45 6	21.60	14.40
2N336	I	0.150	76	25	45 7	23.40	15.50
2N149/903	A	0.150	9	25	45 4	10.00	6.65
2N150/904	A	0.150	18	25	45 5	16.95	11.30
2N151/904A	A	0.150	36	25	45 8††	16.95	11.30
2N152/905	A	0.150	36	25	45 6	23.10	15.40
2N153/910	A	0.150	76	25	45 7	23.10	15.40

SWITCHING

Type	Case Type*	††	0.125	19	20	45	10††	18.90	12.60
2N337	I	††	0.125	39	20	45	10††	18.90	12.60
2N338	I	††	0.125	39	20	45	20††	25.60	17.05
2N702	U		0.500	1 at 50mc	20	20	100	38.25	25.50

HIGH FREQUENCY

Type	Case Type*	H	0.125	1 at 30mc	30	150	24.65	16.45
3N34	H		0.125	1 at 30mc	30	150	24.65	16.45
3N35	H		0.125	1 at 70mc	30	150	31.50	21.00

MEDIUM POWER

Type	Case Type*	A	0.750	9	60	60	7	19.80	13.85
2N243	A		0.750	9	60	60	7	19.80	13.85
2N244	A		0.750	28	60	60	8	30.40	20.60
2N339	J		0.750	60	60	55	6	18.00	12.00
2N340	J		1	9	60	85	6	18.25	12.15
2N341	J		1	9	60	125	6	23.85	15.90
2N342	J		1	9	60	60	6	18.55	12.35
2N342A	J		1	9	60	85	6	19.50	13.00
2N343	J		1	9	60	60	6	30.40	20.25
2N343A	J		1	28	60	60	6	30.75	20.50
2N497	I	4	30†	30†	60	60	9	23.70	15.80
2N498	I	4	30†	30†	100	9	30.45	20.30	
2N656	I	4	60†	60†	60	8	26.65	17.75	
2N657	I	4	60†	60†	100	8	34.20	22.80	
2N154/951	A		0.750	9	60	50	8	19.05	12.70
2N155/952	A		0.750	9	50	80	7	19.30	12.85
2N156/953	A		0.750	9	40	120	3	22.95	15.30

INTERMEDIATE POWER

Type	Case Type*	L	8.75	140	120	1	60.00	40.00
2N122	L		8.75	140	120	1	60.00	40.00
2N1047	F		40	20†	120	8	31.50	21.00
2N1048	F		40	40†	120	8	42.00	28.00
2N1049	F		40	40†	80	7	38.25	25.50
2N1050	F		40	40†	120	7	51.00	34.00

POWER

Type	Case Type*	D	85 at 25°C	30†	60	7	67.50	45.00
2N389	D		85 at 25°C	30†	60	7	67.50	45.00
2N424	D		45 at 100°C	30†	80	6	53.70	35.80

MOUNTING CLAMPS

70318-1								.15
354001-99								.15
354001-100								.15

HIGH CONDUCTANCE SILICON DIODES

Type	Case*	PIV v†	Rect Fwd ma††	Net	1-99	100-999
IN482	N	30	125	1.68	1.19	
IN482A	N	30	200	2.40	1.70	
IN482B	N	30	200	3.48	2.60	
IN483	N	60	125	2.40	1.70	
IN483A	N	60	200	2.95	2.08	
IN483B	N	60	200	3.80	2.85	
IN484	N	125	125	2.80	1.98	
IN484A	N	125	200	3.25	2.30	
IN484B	N	125	200	4.20	3.15	
IN485	N	115	125	2.92	2.07	
IN485	N	175	125	2.92	2.07	
IN485A	N	175	200	3.60	2.54	
IN485B	N	175	200	4.48	3.35	
IN486	N	225	125	3.15	2.23	
IN486A	N	225	200	4.30	3.20	
IN486B	N	225	200	5.40	4.04	
IN487	N	300	125	4.03	2.85	
IN487A	N	300	200	6.60	4.67	
IN488	N	380	125	5.05	3.57	
IN488A	N	380	200	8.30	5.86	

†=at 25°C, ††=Average; All 500 mw
*See case type above

SILICON DIODES AND RECTIFIERS

GENERAL PURPOSE DIODES

Type	Case Type*	PIV	min Fwd ma, IV†	Max Lib ua†	Net	1-99	100-999
IN456	N	25	40	.025	3.09	2.20	
IN457	N	60	20	.025	3.50	2.70	
IN458	N	125	7	.025	3.90	3.00	
IN459	N	175	3	.025	4.15	3.20	
IN461	N	25	15	0.5	1.24	.95	
IN462	N	60	5	0.5	1.82	1.40	
IN463	N	175	1	0.5	2.21	1.70	
IN464	N	125	3	0.5	2.08	1.60	
IN645	N	225	400	0.2	3.20	2.12	
IN646	N	300	400	0.2	4.08	2.72	
IN647	N	400	400	0.2	5.10	3.40	
IN648	N	500	400	0.2	6.19	4.12	
IN649	M	600	400	0.2	7.20	4.80	
600C	M	27	3	1 @ -10v	1.94	1.58	
601C	M	45	10	0.025 @ -10v	3.60	2.94	
604C	M	4.7	60	0.1	3.25	2.66	
606C	M	6.8	35	0.1	3.25	2.66	
608C	M	10	25	0.1	3.25	2.66	
610C	M	15	20	0.1	3.30	2.70	
612C	M	22	20	0.1	3.40	2.78	
614C	M	33	20	0.1	3.50	2.86	
616C	M	47	10	0.2	3.60	2.94	
618C	M	68	10	0.2	3.60	2.94	
620C	M	100	10	0.2	3.65	2.99	
622C	M	150	7	0.2	3.70	3.03	
624C	M	220	3	0.2	3.75	3.07	

*See case outline drawings. †at 25°C.

VOLTAGE REGULATOR DIODES

Type	Case Type*	Zener V†	Total Max. Mwt†	Net	1-99	100-999
IN746	N	3.3	400	4.35	3.65	
IN747	N	3.6	400	4.35	3.65	
IN748	N	3.9	400	4.35	3.65	
IN749	N	4.3	400	4.35	3.65	
IN750	N	4.7	400	4.35	3.65	
IN751	N	5.1	400	4.35	3.65	
IN752	N	5.6	400	4.35	3.65	
IN753	N	6.2	400	4.35	3.65	
IN754	N	6.8	400	4.35	3.65	
IN755	N	7.5	400	4.35	3.65	
IN756	N	8.2	400	4.35	3.65	
IN757	N	9.1	400	4.35	3.65	
IN758	N	10	400	4.35	3.65	
IN759	N	12	400	4.35	3.65	
IN746A thru IN759A		Same as IN746 Series except 5% tolerance		4.85	4.15	
650C	M	3.7-4.5	150	4.35	3.65	
651C	M	4.3-5.4	150	4.35	3.65	
652C	M	5.2-6.4	150	4.35	3.65	
653C9	M	6.2-8.0	150	4.85	4.15	
654C9	M	8.5-9.5	150	4.85	4.15	
655C9	M	9.5-10.5	150	4.85	4.15	

*See case type

SILICON COMPUTER DIODES

Type	Case Type*	PIV	Max Lib ua	Io ma	Net	1-99	100-999
IN659	N	50	5	100	2.53	2.06	
IN660	N	100	5	100	2.63	2.22	
IN661	N	200	10	100	3.16	2.57	

PHOTO DEVICE

Type	Bias V Max.	Dark Cur. ua†	Typ. Light ua††	Net	1-24	25-99	100-999
IN2175	50	0.5	200	20.00	15.00	12.50	

†at 25°C, ††at 100°C

SILICON RECTIFIERS-ECONOMY

Type	Case Type*	PIV	Io ma†	Rev††	Net	1-49	50-99	100-999
IN2069	w	200	750	0.2@200	1.10	.95	.75	
IN2070	w	400	750	0.2@400	1.35	1.15	.90	
IN2071	w	600	750	0.2@600	1.70	1.45	1.10	

†at 25°C, ††at 100°C
*See Case types above

GERMANIUM TRANSISTORS

COMPUTER

Type	Case Type*	Pc w	8V CBO	Ic	hfe	fab mc	NET	1-99	100-999
2N395	X	.150	-30	-250	20†	4.5	3.10	1.95	
2N396	X	.150	-30	-250	30†	8.0	4.75	2.95	
2N397	X	.150	-30	-250	40†	12.0	8.10	5.05	
2N705	U	.150	-15	-50	25†	25.0	28.00	17.50	
2N1046	K	.15w	-80	-3a	70†	12	22.20	13.90	
2N1093	X	.150	-30	-250	50†	8.0	4.80	3.00	
2N1302**	S	.300	-25	-300	20	4.5	3.50	2.20	
2N1303									

TEXAS - TRANSISTORS-DIODES - PHILCO-RCA

TEXAS SILICON RECTIFIERS

Type	Case*	PIV V†	I _o mA†	Lib uA†	Net 1-99	100-999
TI/680	A	1250	37.5	100	32.20	24.60
IN588	O	1500	25	50	8.10	5.40
IN589	O	1500	50	50	11.20	7.60
IN1130	P	1500	300	50	11.20	7.60
IN1131	P	1500	300	50	11.20	7.60
IN588	Q	200	750	10	1.60	1.05
IN589	Q	300	750	10	2.05	1.35
IN540	Q	400	750	10	3.00	2.00
IN1095	Q	500	750	10	5.25	3.50
IN1096	Q	600	750	10	7.05	4.70
IN1124	R	200	3 a	10	2.70	2.21
IN1125	R	300	3 a	10	3.38	2.76
IN1126	R	400	3 a	10	4.73	3.87
IN1127	R	500	3 a	10	6.76	5.56
IN1128	R	600	3 a	10	8.32	6.80
IN1124R	R	200	3 a	10	2.70	2.21
IN1125R	R	300	3 a	10	3.38	2.76
IN1126R	R	400	3 a	10	4.73	3.87
IN1127R	R	500	3 a	10	6.76	5.56
IN1128R	R	600	3 a	10	8.32	6.80

*Refer to previous page for case types.
†At 25°C.

TEXAS SILICON POWER REGULATORS

Type	Case ‡	Zener V	I _z ma	max Z _z ohms	Net 1-99	100-999
IN1816	R	13	500	2	8.45	6.50
IN1817	R	15	500	2	8.45	6.50
IN1818	R	16	500	3	8.45	6.50
IN1819	R	18	500	3	8.45	6.50
IN1820	R	20	250	3	8.45	6.50
IN1821	R	22	250	3	8.45	6.50
IN1822	R	24	250	3	8.45	6.50
IN1823	R	27	250	3	8.45	6.50
IN1824	R	30	250	4	8.45	6.50
IN1825	R	33	150	4	8.45	6.50
IN1826	R	26	150	5	8.45	6.50
IN1827	R	39	150	5	8.45	6.50
IN1828	R	43	150	6	8.45	6.50
IN1829	R	47	150	7	8.45	6.50
IN1830	R	51	150	8	8.45	6.50
IN1831	R	56	150	9	8.45	6.50
IN1832	R	62	50	12	8.45	6.50
IN1833	R	68	50	14	8.45	6.50
IN1834	R	75	50	20	8.45	6.50
IN1835	R	82	50	22	8.45	6.50
IN1836	R	91	50	35	8.45	6.50
IN1816R thru IN1836R*	R				8.45	6.50
IN1816A thru IN1836A†	R				11.00	8.50
IN1816RA thru IN1836RA†	R				11.00	8.50
IN1816C** thru IN1836C	R				13.00	10.00

*=Cathode to stud; without R or C suffix is anode to stud.
†=5% tolerance; all others ±10%.
**=Designed to clip, has double anode characteristic. All have 10 microamperes reverse current and 10 watts power dissipation. ‡ Refer to previous page for case types.

TEXAS SILICON SENSOR

SOLID STATE TEMPERATURE SENSING RESISTORS
Temperature Compensating—Temperature Sensing

Type No.	Watts W	Body L x Diam.	Net 1-49	50-499
TM 1/4	1/4	0.585" x 0.2"	4.00	3.50
TM 1/2	1/2	0.406" x 0.140"	5.00	4.50
TC 1/8	1/8	TO-5 Trans. Package	5.00	4.50

Temperature coefficient of 0.7%/°C.
Available in following standard resistances. ± 10% Tol-erance.

68 ohms	180 ohms	470 ohms	1000 ohms
82 ohms	220 ohms	500 ohms	1200 ohms
100 ohms	270 ohms	560 ohms	1500 ohms
120 ohms	330 ohms	680 ohms	1800 ohms
150 ohms	390 ohms	820 ohms	

PHILCO TYPE AO-1 TRANSISTOR

30 Mc.
SURFACE BARRIER TRANSISTOR
RF - OSCILLATOR - IF
AO-1 1.65



PHILCO TRANSISTORS (PNP)



Type	Max Dis Mw	Max Col V	Max Col Ma	Min Cur Gain	Min Cut-Off Mc	Use	Net Each
58-100	10	-4.5	5	20	45	HF*	3.90
58-200	20	-4.5	5	7	15	HF*	1.50
2N128	25	-10	5	66†	45	HF*	6.30
2N207	50	-12	20	35	2	LL	1.95
2N207A	50	-12	20	35	2	LL	2.10
2N207B	50	-12	20	35	2	LL	2.25
2N223	200	-18	150	120†	.6	AF	1.08
2N224	250	-25	150	65	.5	AF	1.10
2N225	Matched Pair of 2N224's					AF	2.55
2N226	250	-30	150	35	.4	AF	1.02
2N227	Matched Pair of 2N226's					AF	2.28
2N240	30	-6	15	16	25	OSC*	5.93
2N299	20	-5	5	11	90	HF*	14.00
2N300	20	-5	5	11	85	HF*	15.00
2N344/5B101	20	-5	5	33†	30	OSC*	3.45
2N345/5B102	20	-5	5	110†	30	OSC*	4.35
2N346/5B103	20	-5	5	10	60	OSC*	5.85
2N386	12W	-60	3A		.007	Pwr	6.75
2N387	12W	-80	3A		.007	Pwr	9.75
2N393	25	-6	50	40	40	HF††	7.13
2N462	150	-40	200	45	.5	BiI, Sw	4.88
2N495	150	-25	50	19	8	HF**	19.95
2N496	150	-10	50	18	7	HF**	25.20
2N499	75	-30	50	50	250	UHFS, VHF§	5.25
2N501	50	-15	50	75		UHFS, VHF§	11.48
2N501A	25	15	50	75		UHFS, VHF§	14.25
2N502	60	-20	50			UHFS, VHF§	8.63
2N502A	30	20	50			UHFS, VHF§	13.80
2N503	60	-20	50			UHFS, VHF§	7.88
2N504	50	-35	50	16	50	UHFS, VHF§	4.35
2N534	25	-50	25	35		LL	2.78
2N535	50	-20	20	200†	2	LL	2.78
2N535A	50	-20	20	35	2	LL	3.00
2N535B	50	-20	20	35	2	LL	3.38
2N536	50	-20	30	3	1	LL	3.38
2N588	80	-18	50	200		UHFS, VHF§	2.85
2N597	250	30	400	3	Sw		3.45
2N598	250	30	400	5	Sw		3.45
2N599	250	30	400	9.6	Sw		6.30
2N600	750	-30	400	70 (DC)	5	Sw	3.90
2N601	750	-30	400	40 (DC)	1.2	Sw	7.05
2N670	300	40	2A		.5	PA	3.38
2N671	1W	40	2A		.5	PA	4.13
2N672	300	25	2A			PA	3.38
2N673	1W	25	2A			PA	4.13
2N674	300	75	2A	40 (DC)	.400	AF	4.88
2N675	1W	75	2A	40 (DC)	.400	AF	5.78
2N1118	150	-25	50	9	8	HF**	19.95
2N1119	150	-10	50	18	7	HF**	25.20
2N1122	25	-10	50	35	40	Sw	8.40
2N1122A	25	-14	50	35	40	Sw	11.18
2N1123	750	-45	400	40 (DC)	3	Sw	3.75
2N1124	300	-40	150	40	0.4	Pwr	1.95
2N1125	300	-40	150	50 (DC)	1	Pwr	2.85
2N1126	1W	-40	150	40	0.4	Pwr	2.70
2N1127	1W	-40	150	50 (DC)	1	Pwr	3.60
2N1128	150	-25	150	70	1	Pwr	1.43
2N1129	150	-25	150	100 (DC)	.75	Pwr	1.65
2N1130	150	-30	150	50 (DC)	.75	Pwr	1.43
2N1199	100	20	100	12 (DC)		Sw	25.80
2N1267	100	20	100	6		HF-RF	13.73
2N1268	100	20	100	11		AF-RF	15.23
2N1269	100	20	100	28		AF-RF	16.65
2N1270	100	20	100	6		HF-OSC	19.05
2N1271	100	20	100	11		HF-OSC	21.30
2N1272	100	20	100	28		HF-OSC	23.40
T-1282	100	-6	50	25		HF-OSC	22.58

*=Surface Barrier Type. †=Max Rating
**=Silicon Alloy Type. ††=Micro Alloy Type.
§=Micro Alloy Diffused Base Type.
Col=Collector. Cur=Current. HF=High Frequency.
LL=Miniature Low Level. PA=Pulse Amplifier.

POPULAR LOW-COST AUDIO POWER TRANSISTOR 2N307 \$1.50

with valuable RCA "PRACTICAL TRANSISTOR CIRCUITS" booklet containing 9 circuits utilizing 2N307 in 12 Watt Power Amplifier, Light Flasher, Regulated Power Supply, Intercom System, Converters, Inverter, etc. Average shpg. wt., 8 oz.
2N307 plus BK-6 (RCA 2N307 Booklet)Net 1.50

RCA GERMANIUM TRANSISTORS - PNP

Type	Max Col Mw*	Max Col Volts	Max Col Ma	Cur* Gain	Cut-Off Mc	Applica-tion	Net Each
2N104	150	-30	-50	44	.7	AF	2.25
2N105	35†	-25	-15	55	.75	AF	2.90
2N109	150	-25†	-70	75**		LN AF	1.51
2N139	80	-16	-15	48	6.8	IF	1.70
2N140	80	-16	-15	75	10	Conv	1.77
2N175	50	-10	-2	65	.85	LN AF	2.42
2N176	10W	-30	-3A	30		Pwr	2.97
2N215	Like 2N104					but has flexible leads	2.09
2N217	Like 2N109					but has flexible leads	1.51
2N218	Like 2N139					but has flexible leads	1.70
2N219	Like 2N140					but has flexible leads	1.77
2N220	Like 2N175					but has flexible leads	2.25
2N247	80	-35	-10	60	30	RF§	3.06
2N269	120	-20	-100		12	SW	2.58
2N270	250	-25†	-150	70**		LS AF	1.58
2N274	80	-35	-10	60	30	RF§	3.06
2N301	12W†	-40†	-2A	70**		LS AF	2.93
2N301A	12W†	-60†	-2A	70**		LS AF	4.83
2N307	10W	-35	-1A	30 (DC)		Pwr	1.50
2N331	200	-30	200	50	1.16	AF	2.02
2N351		-40	-3A	90	.4	Pwr	3.22
2N356	100	20	200	30	3	NPN, SW	5.08
2N357	100	20	200	30	6	NPN, SW	6.38
2N358	100	20	200	30	9	NPN, SW	8.69
2N370	80	-20	-10	60	30	RF§	2.81
2N371	80	-20	-10	60	30	OSC, §	2.97
2N372	80	-20	-10	60	30	Mix§	2.74
2N373	80	-25	-10	60	30	IF§	1.74
2N374	80	-25	-10	60	30	Conv§	1.81
2N376	10W	-40	-3A	60		Pwr	3.38
2N384	120	-30	-10	60	100	VHF§	6.44
2N398	50	-105	-100	60**		SW	2.25
2N404	120	-25	-100		12	LL SW	2.58
2N404 USAF							
2N404	120	-25	-100	40 (DC)	12	SW	2.81
2N405	150	-12	-70	35		AF DR	1.03
2N406	Like 2N405					but has flexible leads	1.03
2N407	150	-20	-70	65**		LS AF	1.17
2N408	Like 2N407					but has flexible leads	1.17
2N409	80	-12	-15	48	6.8	IF	1.42
2N410	Like 2N409					but has flexible leads	1.42
2N411	80	-12	-10	75	10	Conv	1.45
2N412	Like 2N411					but has flexible leads	1.45
2N456	50W	-40	-5A	30		Pwr	3.54
2N457	50W	-60	-5A	30		Pwr	5.30
2N544	80	-18	-10	60	30	Drift, RF	1.90
2N561	13.3W	-80	-10	75 (DC)		Pwr	6.40
2N578	120	-20	-400	15††	5	SW	3



MOTOROLA - TRANSISTORS • DIODES



GERMANIUM POWER TRANSISTORS—PNP

COLUMN HEADINGS: BVcbo—Collector to Base Voltage; Tj—Junction temperature in degrees °C Centigrade; Ic—Collector Current; hFE—DC current gain; hfe—AC current gain; Pc—Collector power dissipation; fab—frequency cutoff. Average shpg. wt., 2 oz.

Type	Fig.	BVcbo Volts	Tj °C	Ic amps	hFE**	Use	Net 1-99
2N176	A	40	90	3.0	45	2 W	2.80
2N178	A	40	90	3.0	25	2 W	2.65
2N297A	A	60	80	—	40	10 W	6.00
2N297A-(Sig C)	A	60	80	—	40	10 W	9.40
2N350	A	40	90	3.0	30	4 W	2.85
2N350A	A	50	100	3.0	30	4 W Sw	2.85
2N351	A	40	90	3.0	45	4 W	3.00
2N351A	A	50	100	4.0	45	4 W Sw	3.00
2N375	A	80	95	3.0	22	HV	5.55
2N376	A	40	90	3.0	60	4 W	3.15
2N376A	A	50	100	5.0	60	4 W Sw	3.15
2N554	A	30	—	3.0	—	2 W	1.35
2N555	A	40	—	3.0	65	2 W	1.95
2N618	A	80	95	3.0	35	HV	6.00
2N627	G	40	90	10.0	18	HV	4.50
2N628	G	60	90	10.0	18	HV	5.25
2N629	G	80	90	10.0	18	HV	8.55
2N630	G	100	90	10.0	18	HV	14.25
2N669	A	40	90	3.0	100	2 W	2.95
2N1011	A	70	95	5.0	55	Pwr	6.75
2N1011-(Sig C)	A	70	95	5.0	55	Pwr	10.50
2N1120	G	80	90	10.0	—	4 W	11.25
2N1120-(Sig. C)	G	80	90	10.0	—	4 W	18.75
2N1162	A	50	90	25.0	25	HV	9.00
2N1163	G	50	90	25.0	25	HV	9.00
2N1164	A	80	90	25.0	25	HV	14.25
2N1165	G	80	90	25.0	25	HV	14.25
2N1166	G	100	90	25.0	25	HV	22.50
2N1167	G	100	90	25.0	25	HV	22.50
2N1359	A	50	95	3.0	22	HV	3.90
2N1360	A	50	95	3.0	35	HV	4.15
2N1362	A	100	95	3.0	22	HV	9.00
2N1363	A	100	95	3.0	35	HV	9.75
2N1364	A	120	95	3.0	22	HV	20.25
2N1365	A	120	95	3.0	35	HV	24.00

** = Typical; all other ratings max.; W = output wattage; Sw = Switch; HV = High Voltage.

GERMANIUM MESA TRANSISTORS—PNP

Type	Fig.	BVcbo Volts	Tj °C	Pc mw	hfe**	Use	Net 1-99
2N695	B	18	100	75	30	Sw	25.30
2N700	B	30	100	75	8	UHF	22.00
2N701	B	30	100	75	25	Wide Band	47.50

GERMANIUM GENERAL PURPOSE AUDIO TRANSISTORS—PNP

Type	Fig.	BVcbo Volts	Pc mw	hfe**	Use	Net 1-99	
2N331	C	30	85	200	50	AF	1.87
2N464	C	45	85	150	26	AF	2.25
2N465	C	45	85	150	45	AF	1.73
2N466	C	35	85	150	90	AF	1.80
2N467	C	35	85	150	180	AF	2.25
2N650	C	45	100	200	40	AF	1.87
2N651	C	45	100	200	75	AF	2.10
2N652	C	45	100	200	160	AF	2.40
2N653	C	30	100	200	40	AF	1.65
2N654	C	30	100	200	75	AF	1.80
2N655	C	30	100	200	160	AF	1.95
2N1191	C	40	85	175	40	AF	1.43
2N4192	C	40	85	175	75	AF	1.50
2N1193	C	40	85	175	150	AF	1.65

** = Typical; all other ratings are max.

GERMANIUM GENERAL PURPOSE SWITCHING TRANSISTORS

Type	Fig.	BVcbo Volts	Pc mw	hfe**	fab mc	Use	Net 1-99
2N425	C	30	150	30	4	Sw	3.15
2N426	C	30	150	40	6	Sw	3.25
2N427	C	30	150	55	11	Sw	4.90
2N428	C	30	150	80	17	Sw	6.30
MN-19	C	40	125	40	8	Sw	6.00

** = Typical; all other ratings are max.

ZENER DIODES

1 WATT SILICON ZENER DIODES (Figure E)

Type	Nominal Zener Voltage at Izt (Vz) Volts	Test Current (Izt) Ma	Max. Zener Impedance Zzt at Izt ohms	Net 1-24	Net 25-99
1M6.8Z	6.8	37	3.5	4.50	3.75
1M7.5Z	7.5	34	4.0	4.35	3.65
1M8.2Z	8.2	31	4.5	4.35	3.65
1M9.1Z	9.1	28	5.0	4.35	3.65
1M10Z	10	25	7	4.35	3.65
1M11Z	11	23	8	4.35	3.65
1M12Z	12	21	9	4.35	3.65
1M13Z	13	19	10	4.35	3.65
1M14Z	14	18	12	4.35	3.65
1M15Z	15	17	14	4.35	3.65
1M16Z	16	15.5	16	4.35	3.65
1M17Z	17	14.5	18	4.35	3.65
1M18Z	18	14	20	4.35	3.65
1M19Z	19	13	21	4.35	3.65
1M20Z	20	12.5	22	4.35	3.65
1M22Z	22	11.5	23	4.35	3.65
1M24Z	24	10.5	25	4.35	3.65
1M25Z	25	10	30	4.35	3.65
1M27Z	27	9.5	35	4.35	3.65
1M30Z	30	8.5	40	4.35	3.65
1M33Z	33	7.5	45	4.35	3.65
1M36Z	36	7.0	50	4.35	3.65
1M39Z	39	6.5	60	4.35	3.65
1M43Z	43	6.0	70	4.35	3.65
1M45Z	45	5.5	75	4.35	3.65
1M47Z	47	5.5	80	4.35	3.65
1M50Z	50	5.0	90	4.35	3.65
1M52Z	52	5.0	100	4.35	3.65
1M56Z	56	4.5	110	4.35	3.65
1M62Z	62	4.0	125	4.65	3.90
1M68Z	68	3.7	150	4.65	3.90
1M75Z	75	3.3	175	4.65	3.90
1M82Z	82	3.0	200	4.65	3.90
1M91Z	91	2.8	250	4.65	3.90
1M100Z	100	2.5	350	4.65	3.90
1M105Z	105	2.5	400	5.40	4.50
1M110Z	110	2.3	450	5.40	4.50
1M120Z	120	2.0	550	5.40	4.50
1M130Z	130	1.9	700	5.40	4.50
1M140Z	140	1.8	900	5.40	4.50
1M150Z	150	1.7	1,000	5.40	4.50
1M175Z	175	1.4	1,200	5.40	4.50
1M200Z	200	1.2	1,500	5.40	4.50
1M6.8Z10*				5.10	4.80
1M7.5Z10 thru 1M27Z10*				4.80	4.00
1M30Z10 thru 1M56Z10*				6.60	5.50
1M62Z10 thru 1M100Z10*				7.30	6.05
1M105Z10 thru 1M200Z10*				7.95	6.65
1M6.8Z5†				7.65	6.40
1M7.5Z5 thru 1M27Z5†				7.20	6.00
1M30Z5 thru 1M56Z5†				8.40	7.00
1M62Z5 thru 1M100Z5				9.45	7.90
1M105Z5 thru 1M200Z5†				11.85	9.90

* = ± 10% tolerance; † = 5% tolerance
For cathode to base polarity add R after Z, i.e., 1M6.8ZR5

10 WATT SILICON ZENER DIODES (Figure F)

Type	Nominal Zener Voltage at Izt (Vz) Volts	Test Current (Izt) Ma	Max. Zener Impedance Zzt at Izt ohms	Net 1-24	Net 25-99
10M6.8Z	6.8	1.2	7.95	6.65	6.00
10M7.5Z	7.5	1.3	7.20	6.00	6.00
10M8.2Z	8.2	1.5	7.20	6.00	6.00
10M9.1Z	9.1	2.0	7.20	6.00	6.00
10M10Z	10	3	7.29	6.00	6.00
10M11Z	11	3	7.20	6.00	6.00
10M12Z	12	3	7.20	6.00	6.00
10M13Z	13	3	7.20	6.00	6.00
10M14Z	14	3	7.20	6.00	6.00
10M15Z	15	3	7.20	6.00	6.00
10M16Z	16	4	7.20	6.00	6.00
10M17Z	17	4	7.20	6.00	6.00
10M18Z	18	4	7.20	6.00	6.00
10M19Z	19	4	7.20	6.00	6.00
10M20Z	20	4	7.20	6.00	6.00
10M22Z	22	5	7.20	6.00	6.00
10M24Z	24	5	7.20	6.00	6.00
10M25Z	25	6	7.20	6.00	6.00
10M27Z	27	7	7.20	6.00	6.00
10M30Z	30	8	7.20	6.00	6.00
10M33Z	33	9	7.20	6.00	6.00
10M36Z	36	10	7.20	6.00	6.00
10M39Z	39	65	11	7.20	6.00
10M43Z	43	60	12	7.20	6.00
10M45Z	45	55	13	7.20	6.00
10M47Z	47	55	14	7.20	6.00

NOTE: Standard tolerance on nominal zener voltage is ± 20%. Tolerances of ± 10% and ± 5% available as noted. For these tolerances suffix "10" or "5" to part no. Standard units have anode connected to base; for cathode to base units have "R" suffixed to standard part number. Average shpg. wt., 2 oz.

1.5 WATT SILICON ZENER DIODES (Figure D)

Type	Nominal Zener Voltage at Izt (Vz) Volts	Test Current (Izt) ma	Max. Zener Impedance Zzt at Izt ohms	Net 1-24	Net 25-99
1.5M6.8Z	6.8	55	2.7	5.40	4.50
1.5M7.5Z	7.5	50	3.0	4.80	4.00
1.5M8.2Z	8.2	46	3.5	4.80	4.00
1.5M9.1Z	9.1	41	4.0	4.80	4.00
1.5M10Z	10	37	5	4.80	4.00
1.5M11Z	11	34	6	4.80	4.00
1.5M12Z	12	31	7	4.80	4.00
1.5M13Z	13	29	8	4.80	4.00
1.5M14Z	14	26	9	4.80	4.00
1.5M15Z	15	25	10	4.80	4.00
1.5M16Z	16	23	11	4.80	4.00
1.5M17Z	17	22	12	4.80	4.00
1.5M18Z	18	21	13	4.80	4.00
1.5M19Z	19	20	14	4.80	4.00
1.5M20Z	20	19	15	4.80	4.00
1.5M22Z	22	17	16	4.80	4.00
1.5M24Z	24	16	17	4.80	4.00
1.5M25Z	25	15	18	4.80	4.00
1.5M27Z	27	14	20	4.80	4.00
1.5M30Z	30	12	25	4.80	4.00
1.5M33Z	33	11	30	4.80	4.00
1.5M36Z	36	10	35	4.80	4.00
1.5M39Z	39	10	40	4.80	4.00
1.5M43Z	43	9.0	45	4.80	4.00
1.5M45Z	45	8.5	50	4.80	4.00
1.5M47Z	47	8.0	55	4.80	4.00
1.5M50Z	50	7.5	60	4.80	4.00
1.5M52Z	52	7.2	65	4.80	4.00
1.5M56Z	56	6.7	75	4.80	4.00
1.5M62Z	62	6.0	85	4.80	4.00
1.5M68Z	68	5.5	95	4.80	4.00
1.5M75Z	75	5.0	110	4.80	4.00
1.5M82Z	82	4.5	130	4.80	4.00
1.5M91Z	91	4.1	150	4.80	4.00
1.5M100Z	100	3.7	200	4.80	4.00
1.5M105Z	105	3.5	250	6.10	5.05
1.5M110Z	110	3.4	300	6.10	5.05
1.5M120Z	120	3.1	350	6.10	5.05
1.5M130Z	130	2.9	400	6.10	5.05
1.5M140Z	140	2.7	600	6.10	5.

MOTOROLA~TRANSISTORS~DIODES~BENDIX

MOTOROLA 50 WATT SILICON ZENER DIODES



Av. Shpg. wt., 2 oz.

Type	Nominal Zener Voltage @ Izt (Vz) Volts	Test Current (Izt) ma	Max. Zener Impedance Zzt @ Izt ohms	Net 1-24	Net 25-99
50M6.8Z	6.8	1850	0.4	12.00	10.00
50M7.5Z	7.5	1700	0.5	11.25	9.40
50M8.2Z	8.2	1500	0.6	11.25	9.40
50M9.1Z	9.1	1370	0.7	11.25	9.40
50M10Z	10	1200	0.8	11.25	9.40
50M11Z	11	1100	0.9	11.25	9.40
50M12Z	12	1000	1.0	11.25	9.40
50M13Z	13	960	1.1	11.25	9.40
50M14Z	14	890	1.2	11.25	9.40
50M15Z	15	830	1.4	11.25	9.40
50M16Z	16	780	1.6	11.25	9.40
50M17Z	17	740	1.8	11.25	9.40
50M18Z	18	700	2.0	11.25	9.40
50M19Z	19	660	2.2	11.25	9.40
50M20Z	20	630	2.4	11.25	9.40
50M22Z	22	570	2.5	11.25	9.40
50M24Z	24	520	2.6	11.25	9.40
50M25Z	25	500	2.7	11.25	9.40
50M27Z	27	460	2.8	11.25	9.40
50M30Z	30	420	3.0	11.25	9.40
50M33Z	33	380	3.2	11.25	9.40
50M36Z	36	350	3.5	11.25	9.40
50M39Z	39	320	4.0	11.25	9.40
50M43Z	43	290	4.5	11.25	9.40
50M45Z	45	280	4.5	11.25	9.40
50M47Z	47	270	5.0	11.25	9.40
50M50Z	50	250	5.0	11.25	9.40
50M52Z	52	240	5.5	11.25	9.40
50M56Z	56	220	6	11.25	9.40
50M62Z	62	200	7	11.25	9.40
50M68Z	68	180	8	11.25	9.40
50M75Z	75	170	9	11.25	9.40
50M82Z	82	150	11	11.25	9.40
50M91Z	91	140	15	11.25	9.40
50M100Z	100	120	20	11.25	9.40
50M105Z	105	120	25	12.75	10.65
50M110Z	110	110	30	12.75	10.65
50M120Z	120	100	40	12.75	10.65
50M130Z	130	95	50	12.75	10.65
50M140Z	140	90	60	12.75	10.65
50M150Z	150	85	75	12.75	10.65
50M175Z	175	70	85	12.75	10.65
50M200Z	200	65	100	12.75	10.65
50M6.8Z10*				16.20	13.50
50M7.5Z10 thru 50M27Z10*				14.85	12.40
50M30Z10 thru 50M56Z10*				16.20	13.50
50M62Z10 thru 50M100Z10*				19.35	16.15
50M105Z10 thru 50M200Z10*				22.45	18.70
50M6.8Z5†				20.10	16.80
50M7.5Z5 thru 50M27Z5†				18.60	15.50
50M30Z5 thru 50M56Z5†				20.10	16.80
50M62Z5 thru 50M100Z5†				23.15	19.30
50M105Z5 thru 50M200Z5†				35.40	29.50

* = ±10%, † = ±5%. For cathode to base Connection add R after Z. i.e., 50M200ZR5.

MOTOROLA SILICON RECTIFIERS SINGLE ENDED



1 Amp. Shpg. wt., 2 oz.

Type Number	PIV volts (dc)	I _o amps @ 150°C	I surge 1/2 cycle (60 cps) amps	Net 1-99	
1N1563	100	0.5	100	70	1.00
1N1564	200	0.5	100	70	1.10
1N1565	300	0.5	100	70	1.20
1N1566	400	0.5	100	70	1.27
1N1563A	100	0.25	150	70	1.72
1N1564A	200	0.25	150	70	2.10
1N1565A	300	0.25	150	70	2.25
1N1566A	400	0.25	150	70	2.80

I_o = Rectified dc av. half wave. All ratings max.

AXIAL LEAD



1 Amp. Shpg. wt., 2 oz.

Type Number	PIV volts (dc)	I _o ma @ 150°C	I surge 1/2 cycle (60 cps) amps	Net 1-99	
1N536	50	750	250	30	1.05
1N537	100	750	250	30	1.20
1N538	200	750	250	30	1.60
1N539	300	750	250	30	2.00
1N540	400	750	250	30	3.00
1N547	600	750	250	30	7.50
1N1095	500	750	250	30	4.55
1N1096	600	750	250	30	6.50

I_o = Rectified dc av. half wave. All ratings max.

MOTOROLA JEDEC-TYPE 10 WATT SILICON ZENER DIODES



Shpg. wt., 2 oz.

JEDEC Type	Nominal Zener Volts	Test ma	Dynamic Impedance (Max) ohms	Net 1-99
1N1351	10	500	2	10.00
1N1352	11	500	2	10.00
1N1353	12	500	2	10.00
1N1354	13	500	2	10.00
1N1355	15	500	2	10.00
1N1356	16	500	3	10.00
1N1357	18	150	3	10.00
1N1358	20	150	3	10.00
1N1359	22	150	3	10.00
1N1360	24	150	3	11.00
1N1361	27	150	3	11.00
1N1362	30	150	4	11.00
1N1363	33	150	4	11.00
1N1364	36	150	5	11.00
1N1365	39	150	5	11.00
1N1366	43	150	6	11.00
1N1367	47	150	7	11.00
1N1368	51	150	8	11.00
1N1369	56	150	9	11.00
1N1370	62	50	12	13.00
1N1371	68	50	14	13.00
1N1372	75	50	20	13.00
1N1373	82	50	22	13.00
1N1374	91	50	35	13.00
1N1375	100	50	40	13.00
1N1809	110	50	47	13.00
1N1810	120	50	56	13.00
1N1811	130	50	65	13.00
1N1812	150	50	82	13.00
1N1813	160	50	93	13.00
1N1814	180	50	115	13.00
1N1815	200	50	140	13.00
1N1351A thru 1N1359A*				12.50
1N1360A thru 1N1369A*				13.75
1N1370A thru 1N1375A*				16.25
1N1809A thru 1N1815A*				26.00

* = ±5% tolerance; regular units are ±10%. All above units have anode connected to base. For cathode to base add R to type no.

MOTOROLA TEMPERATURE COMPENSATED ZENER DIODES

Max dissipation 750 mw; 8.9-9.7 Volts at 10.0 ma; Max dynamic impedance 15 ohms shpg. wt., 2-oz.

Type	Volt-Temp Coeff %/°C	Temp Range °C	Net 1-24	Net 25-99
1N2620	.01	0 to +75	6.00	5.00
1N2620A	.01	-55 to +100	7.50	6.25
1N2620B	.01	-55 to +150	8.55	7.15
1N2621	.005	0 to +75	7.50	6.25
1N2621A	.005	-55 to +100	9.00	7.50
1N2621B	.005	-55 to +150	11.25	9.35
1N2622	.002	0 to +75	14.25	12.85
1N2622A	.002	-55 to +100	16.50	13.75
1N2622B	.002	-55 to +150	22.50	18.75
1N2623	.001	0 to +75	22.50	18.75
1N2623A	.001	-55 to +100	26.25	21.85
1N2623B	.001	-55 to +150	36.00	30.00
1N2624	.0005	0 to +75	40.50	33.75
1N2624A	.0005	-55 to +100	48.00	40.00
1N2624B	.0005	-55 to +150	66.00	55.00

MOTOROLA SILICON RECTIFIERS



Stud Mounted 3.5 Amp. Shpg. wt., 2 oz.

Type Number	PIV volts (dc)	I _o Amps @ 150°C	I surge 1/2 cycle (60 cps) amps	Net 1-99
1N253	100	1.0*	30	2.20
1N254	200	0.4*	30	2.55
1N255	400	0.4*	30	5.10
1N256	600	0.2*	30	10.35
1N1115	100	0.6	30	2.20
1N1116	200	0.6	30	2.55
1N1117	300	0.6	30	3.15
1N1118	400	0.6	30	5.10
1N1119	500	0.6	30	7.35
1N1120	600	0.6	30	10.35

I_o = Rectified dc av. half wave. * = 135°C base temp.

BENDIX GERMANIUM TRANSISTORS



PNP Audio, Switching and Power Transistors - Individually boxed.

Average shpg. wt., 2 oz.

Type	Vce Volts	Ic Amp	hFE	Pwr Out Watt	Use	Net
2N234A	30	3	25†	2	Audio	1.60
2N235A	40	3	40†	2	Audio	2.90
2N235B	40	3	60†	2	Audio	3.07
2N236A	40	3	40†	4	Audio	3.57
2N236B	40	3	60†	4	AF, Pwr	4.23
2N255	15*	3	40	1	AF P-P	1.45
2N256	30*	3	40	2	AF P-P	1.60
2N285A	40	3	150†	2	AF, Pwr	4.14
2N297A	50	5	70	35‡	Sw, Pwr	5.88
2N297A (M)	50	5	70	35‡	Sw, Pwr	11.65
2N307	35*	1	80	—	Audio	1.60
2N307A	35*	2	80	—	Audio	2.16
2N331	30*	0.2	50†	0.4‡	AF, Sw	4.23
2N331 (M)	30*	0.2	50†	0.4‡	AF, Sw	5.71
2N399	40	3	40†	8‡	AF PP	3.55
2N400	40	3	50†	6‡	AF, Pwr	4.97
2N401	40	3	40†	5‡	AF P-P	3.32
2N418	80	5	50	100**	Sw, Pwr	6.87
2N419	45	3	60†	5	Pwr	3.73
2N420	40	5	50	—	Sw, Pwr	2.90
2N420A	70	5	50	—	Sw, Pwr	5.38
2N637	40	5	45	35**	Sw, Pwr	3.73
2N637A	70	5	45	70**	Sw, Pwr	5.05
2N637B	80	5	45	70**	Sw, Pwr	6.70
2N638	40	5	30	35**	Sw, Pwr	3.51
2N638A	70	5	30	70**	Sw, Pwr	4.51
2N638B	80	5	30	70**	Sw, Pwr	6.15
2N639	40	5	23	35**	Sw, Pwr	3.07
2N639A	70	5	23	70**	Sw, Pwr	3.96
2N639B	80	5	23	70**	Sw, Pwr	5.61
2N677	30	15	40	75**	Sw, Pwr	3.81
2N677A	40	15	40	125**	Sw, Pwr	5.05
2N677B	70	15	40	250**	Sw, Pwr	9.59
2N677C	80	15	40	250**	Sw, Pwr	14.53
2N678	30	15	75	75**	Sw, Pwr	5.05
2N678A	40	15	75	125**	Sw, Pwr	6.17
2N678B	70	15	75	250**	Sw, Pwr	13.30
2N678C	80	15	75	250**	Sw, Pwr	19.90
2N1011	70	5	55	70**	Sw, Pwr	6.70
2N1011 (M)	70	5	55	70**	Sw, Pwr	11.65
2N1029	Same as 2N1031,				with flying leads	3.81
2N1029A	Same as 2N1031A,				with flying leads	5.05
2N1029B	Same as 2N1031B,				with flying leads	9.59
2N1029C	Same as 2N1031C,				with flying leads	14.54
2N1030	Same as 2N1032,				with flying leads	5.05
2N1030A	Same as 2N1032A,				with flying leads	6.17
2N1030B	Same as 2N1032B,				with flying leads	13.30
2N1030C	Same as 2N1032C,				with flying leads	19.90
2N1031	30	15	40	75**	Sw, Pwr	3.81
2N1031A	40	15	40	125**	Sw, Pwr	5.05
2N1031B						

Lafayette - Famous For SEMICONDUCTORS SYLVANIA TRANSISTORS AND DIODES

Extensive assortment of precision semiconductor products produced by one of the leaders in the industry. Average shpg. wt., per unit 2 oz.



TRANSISTORS

Type	Max Dis Mw	Max Ic Ma	Max VCB	AC Cur Gain	Cut off Mc	Net Each	Type	Max Dis Mw	Max Ic Ma	Max VCB	AC Cur Gain	Cut off Mc	Net Each	
2N34	50	40	50	19	4	3.20	2N292	65	20	35	6.0	1F*	1.72	
2N35	1.5W	30	40	100	75	4.76	2N296	12V	40	2A	30†	PWR†	5.95	
2N36	1.5W	30	40	100	40	5.16	2N301	12V	60	1A	—	PWR†	2.89	
2N38	50	20	20	7.5	3	1.36	2N301A	60	1A	—	—	PWR†	4.77	
2N94A	50	20	20	7.5	3	5.60	2N306	50	20	—	75	-6	AF*	1.80
							2N307	10W	35	—	30†	PWR†	2.15	
							2N307A	10W	35	—	30†	PWR†	2.15	
2N95	1.5W	30	30	1.5A	40†	5.16	2N312	240	200	48	3.0	AF†	1.93	
2N101	1W	30	30	40†	4	4.76	2N321	140	16	100	80	3.0	AF†	1.93
2N104	1.5W	30	30	800	40†	4.76	2N323	140	16	100	80	3.0	AF†	1.93
2N109	1.5W	30	30	44	0.7	2.23	2N324	140	16	100	80	3.0	AF†	1.93
2N123	100	25	25	70†	40†	1.59	2N326	7W	35	2A	35†	1.5	PWR*	9.45
2N139	100	25	25	70†	40†	1.68	2N332	150	45	25	15	10	AF*	16.20
2N140	35	16	15	45	8	1.76	2N334	150	45	25	38	13	AF*	16.20
2N141	1.5W	60	800	40†	4	9.92	2N335	150	45	25	60	15	AF*	21.60
2N142	1.5W	60	800	40†	4	9.92	2N336	150	45	25	60	15	AF*	21.60
2N143	1W	30	30	800	40†	9.52	2N338	125	45	20	89	45	AF*	3.44
2N145	8.5W	30	30	60	0.06	2.82	2N339	10W	40	3A	40	—	PWR†	16.20
2N169A	65	15	20	72	9.0	1.97	2N356	100	20	500	30†	3	SW*	5.05
2N175	10W	30	3A	65	0.85	2.40	2N357	100	20	500	30†	9	SW*	6.35
2N183	50	18	50	8	3	1.32	2N358	100	20	500	30†	9	SW*	6.35
2N194A	50	208	50	8	3	1.44	2N370	80	20	10	105	—	20MC	2.80
2N211	50	128	50	10	3	1.91	2N371	80	20	10	90	—	20MC	2.95
2N212	50	128	50	10	3	1.49	2N372	80	20	10	90	—	20MC	2.95
2N213A	50	400	100	300	—	1.12	2N373	80	25	10	60	30	MIX†	1.73
2N214	180	40	100	75†	—	1.17	2N374	80	25	10	60	30	CONV†	1.81
2N215	180	40	100	75†	—	1.36	2N375	150	25	200	40	6	SW*	3.20
2N216	50	168	10	7.5	3	2.64	2N381	200	200	78	—	DR†	1.98	
2N219	35	25	70	70†	4	1.60	2N382	200	200	80†	—	AF†	2.01	
2N228	50	40	100	60	8	1.77	2N383	200	306	200	80†	—	AF†	2.01
2N229	50	40	100	60	8	1.60	2N384	120	30	10	60	100	VHF†	6.44
2N233	50	6	40	15	3	1.65	2N385	150	25	200	70†	4	SW*	3.70
2N233A	50	188	40	4.5	3	1.65	2N388	150	25	200	70†	4	SW*	3.70
2N235A	25W	40	3A	60	—	2.69	2N389	10W	40	3A	40	—	PWR†	1.94
2N235B	25W	40	3A	60	—	3.25	2N399	10W	40	3A	40	—	PWR†	1.94
2N236B	45W	40	3A	60	—	2.89	2N401	10W	40	3A	40	—	PWR†	1.94
2N241A	200	25	200	73	1.3	3.97	2N404	120	24	100	—	CONV†	1.36	
2N242	8W	35	2A	60	30	1.82	2N405	150	12	70	35	—	DR†	1.96
2N247	6W	15	3A	40†	2	1.98	2N406	150	12	70	35	—	DR†	1.96
2N255	6W	15	3A	40†	2	1.35	2N408	150	12	70	35	—	DR†	1.96
2N256	6W	30	3A	40†	2	1.57	2N410	80	12	15	48	6	IF†	1.44
2N257	25W	40	2A	60	—	2.94	2N411	80	12	15	48	6	IF†	1.44
2N270	150	25	75	75†	—	3.79	2N412	80	12	15	48	6	IF†	1.44
2N285A	23W	40	3A	150	—	3.89	2N419	12W	50	3A	45†	10	CONV†	1.44

GERMANIUM AND SILICON DIODES AND RECTIFIERS

ABBREVIATIONS: MP—Matched pair; Mix—Mixer; GP—Reverse Polarity; L—Low Noise; DE—Double Ended; Vid—Video Detector; GP—General Purpose; Var—Varistor; Res—Resistance; Cond—Condenser.

MICROWAVE DIODES, CRYSTAL DIODES AND RECTIFIERS

Type	Description	Net	Type	Description	Net	Type	Description	Net
1N21A	300 mc Mix	1.10	1N21	25 V, Var Can	12.00	1N208	80 V, High Back Res	1.95
1N21B	MP IN21B Mix	1.10	1N22	100 V, Var Plug In	8.25	1N100	80 V, Comp	1.35
1N21B†	MP IN21B RP	1.65	1N23	85 V, GP	7.70	1N117	80 V, Comp	.67
1N21C	MP IN21C	3.15	1N24	34,000 mc Mix	31.70	1N118	80 V, Comp	1.00
1N21C†	MP IN21C RP	4.95	1N25	35,000 mc Mix	47.25	1N120	80 V, Comp	1.00
1N21D	MP IN21D	2.75	1N26	MP ON33 Mix	95.05	1N122A	80 V, GP-Min	.45
1N21E	MP IN21E	4.75	1N27	MP ON33B Mix	95.05	1N122B	80 V, GP-Min	.45
1N21F	MP IN21F	11.65	1N28	35,000 mc Mix	42.90	1N124	100 V, GP-Min	.68
1N21G	MP IN21G	14.75	1N29	MP IN29B	107.10	1N128	40 V, GP-Min	.89
1N21H	MP IN21H	16.15	1N30	MP IN30B	128.55	1N132	40 V, GP-Min	.89
1N21I	MP IN21I	15.30	1N31	MP IN31B	128.55	1N140	80 V, GP-Min	1.00
1N21J	MP IN21J	18.50	1N32	100 V, High Back Res	1.83	1N149	80 V, GP-Min	.575
1N21K	MP IN21K	37.45	1N33	100 V, GP Det	1.85	1N192	40 V, HT S	1.00
1N21L	MP IN21L	1.10	1N34	100 V, GP Det	.85	1N193	40 V, HT S	1.00
1N21M	MP IN21M	1.10	1N35	100 V, Vid Det	1.43	1N196	40 V, HT S	1.00
1N21N	MP IN21N	3.25	1N36	100 V, Vid Det	1.20	1N199	40 V, HT S	1.00
1N21P	MP IN21P	4.55	1N37	100 V, Vid Det	1.43	1N199A	40 V, HT S	1.00
1N21Q	MP IN21Q	4.55	1N38	100 V, Vid Det	1.43	1N199B	40 V, HT S	1.00
1N21R	MP IN21R	4.55	1N39	100 V, Vid Det	1.43	1N199C	40 V, HT S	1.00
1N21S	MP IN21S	4.55	1N40	100 V, Vid Det	1.43	1N199D	40 V, HT S	1.00
1N21T	MP IN21T	4.55	1N41	100 V, Vid Det	1.43	1N199E	40 V, HT S	1.00
1N21U	MP IN21U	4.55	1N42	100 V, Vid Det	1.43	1N199F	40 V, HT S	1.00
1N21V	MP IN21V	4.55	1N43	100 V, Vid Det	1.43	1N199G	40 V, HT S	1.00
1N21W	MP IN21W	4.55	1N44	100 V, Vid Det	1.43	1N199H	40 V, HT S	1.00
1N21X	MP IN21X	4.55	1N45	100 V, Vid Det	1.43	1N199I	40 V, HT S	1.00
1N21Y	MP IN21Y	4.55	1N46	100 V, Vid Det	1.43	1N199J	40 V, HT S	1.00
1N21Z	MP IN21Z	4.55	1N47	100 V, Vid Det	1.43	1N199K	40 V, HT S	1.00
1N22A	MP IN22A	4.55	1N48	100 V, Vid Det	1.43	1N199L	40 V, HT S	1.00
1N22B	MP IN22B	4.55	1N49	100 V, Vid Det	1.43	1N199M	40 V, HT S	1.00
1N22C	MP IN22C	4.55	1N50	100 V, Vid Det	1.43	1N199N	40 V, HT S	1.00
1N22D	MP IN22D	4.55	1N51	100 V, Vid Det	1.43	1N199O	40 V, HT S	1.00
1N22E	MP IN22E	4.55	1N52	100 V, Vid Det	1.43	1N199P	40 V, HT S	1.00
1N22F	MP IN22F	4.55	1N53	100 V, Vid Det	1.43	1N199Q	40 V, HT S	1.00
1N22G	MP IN22G	4.55	1N54	100 V, Vid Det	1.43	1N199R	40 V, HT S	1.00
1N22H	MP IN22H	4.55	1N55	100 V, Vid Det	1.43	1N199S	40 V, HT S	1.00
1N22I	MP IN22I	4.55	1N56	100 V, Vid Det	1.43	1N199T	40 V, HT S	1.00
1N22J	MP IN22J	4.55	1N57	100 V, Vid Det	1.43	1N199U	40 V, HT S	1.00
1N22K	MP IN22K	4.55	1N58	100 V, Vid Det	1.43	1N199V	40 V, HT S	1.00
1N22L	MP IN22L	4.55	1N59	100 V, Vid Det	1.43	1N199W	40 V, HT S	1.00
1N22M	MP IN22M	4.55	1N60	100 V, Vid Det	1.43	1N199X	40 V, HT S	1.00
1N22N	MP IN22N	4.55	1N61	100 V, Vid Det	1.43	1N199Y	40 V, HT S	1.00
1N22P	MP IN22P	4.55	1N62	100 V, Vid Det	1.43	1N199Z	40 V, HT S	1.00
1N22Q	MP IN22Q	4.55	1N63	100 V, Vid Det	1.43	1N200	40 V, HT S	1.00
1N22R	MP IN22R	4.55	1N64	100 V, Vid Det	1.43	1N201	40 V, HT S	1.00
1N22S	MP IN22S	4.55	1N65	100 V, Vid Det	1.43	1N202	40 V, HT S	1.00
1N22T	MP IN22T	4.55	1N66	100 V, Vid Det	1.43	1N203	40 V, HT S	1.00
1N22U	MP IN22U	4.55	1N67	100 V, Vid Det	1.43	1N204	40 V, HT S	1.00
1N22V	MP IN22V	4.55	1N68	100 V, Vid Det	1.43	1N205	40 V, HT S	1.00
1N22W	MP IN22W	4.55	1N69	100 V, Vid Det	1.43	1N206	40 V, HT S	1.00
1N22X	MP IN22X	4.55	1N70	100 V, Vid Det	1.43	1N207	40 V, HT S	1.00
1N22Y	MP IN22Y	4.55	1N71	100 V, Vid Det	1.43	1N208	40 V, HT S	1.00
1N22Z	MP IN22Z	4.55	1N72	100 V, Vid Det	1.43	1N209	40 V, HT S	1.00
1N23A	MP IN23A	4.55	1N73	100 V, Vid Det	1.43	1N210	40 V, HT S	1.00
1N23B	MP IN23B	4.55	1N74	100 V, Vid Det	1.43	1N211	40 V, HT S	1.00
1N23C	MP IN23C	4.55	1N75	100 V, Vid Det	1.43	1N212	40 V, HT S	1.00
1N23D	MP IN23D	4.55	1N76	100 V, Vid Det	1.43	1N213	40 V, HT S	1.00
1N23E	MP IN23E	4.55	1N77	100 V, Vid Det	1.43	1N214	40 V, HT S	1.00
1N23F	MP IN23F	4.55	1N78	100 V, Vid Det	1.43	1N215	40 V, HT S	1.00
1N23G	MP IN23G	4.55	1N79	100 V, Vid Det	1.43	1N216	40 V, HT S	1.00
1N23H	MP IN23H	4.55	1N80	100 V, Vid Det	1.43	1N217	40 V, HT S	1.00
1N23I	MP IN23I	4.55	1N81	100 V, Vid Det	1.43	1N218	40 V, HT S	1.00
1N23J	MP IN23J	4.55	1N82	100 V, Vid Det	1.43	1N219	40 V, HT S	1.00
1N23K	MP IN23K	4.55	1N83	100 V, Vid Det	1.43	1N220	40 V, HT S	1.00
1N23L	MP IN23L	4.55	1N84	100 V, Vid Det	1.43	1N221		

CBS TRANSISTORS AND DIODES

General Purpose DIODES

Avg. shpg. wt., 2 oz.

	Min. Fwd. PIV MA@1V		Max. INV ua	Uses	Net	
	1.99	100 UP				
IN34A	75	5	50	G P	.45	.30
IN35	75	7.5	10	M P	1.80	1.20
IN38/A/B	120	4.25	6	High Rev V	.90	.60
IN39A(P)	225	5	65	High Rev V	3.75	2.50
IN48	85	4	833	G P Det	.33	.22
IN51	50	2.5	1660	G P	.33	.22
IN52	85	4.0	150	G P	.90	.60
IN54/A	75	5	7	G P	.90	.60
IN55/A	170	4	300	High Rev V	1.87	1.25
IN56/A	59	15	300	High Cand	.98	.66
IN58/A	120	5	600	High Rev V	.90	.60
IN60	30	3	67	Vid Det	.50	.33
IN63	125	4	50	G P	1.27	.85
IN64	20	—	200	Vid Det	.50	.33
IN65	85	2.5	200	G P	.53	.35
IN67/A(G)	100	4	5	High Rev R	1.07	.71
IN68/A(G)	130	3	625	High Rev V	1.20	.80
IN69/A(P)	75	5-25	30	G P	.48	.32
IN70/A(P)	125	3-25	25	G P	.71	.47
IN75(G)	125	2.5	50	G P	.90	.60
IN81/A(P)	50	3.25	10	G P	.87	.57
IN82A	5 LN	Mix	470-890	MCS:IVHFMix	.98	.66
IN90(G)	75	5	800	G P	.45	.30
IN116(G)	75	5	—	High R	.75	.50
IN126/A(G)	75	5-25	50	G P-JAN	.51	.34
IN127/A(G)	125	3-25	25	G P-JAN	1.05	.70
IN128(G)	50	3	10	G P-JAN	.80	.53
IN191(G)	105	5	25	Comp	1.13	.75
IN192(G)	80	5	50	Comp	.90	.60
IN198(G)	100	5	10	Hi Temp-JAN	1.28	.85
IN290(G)	120	5	100	G P	1.65	1.10
IN294(G)	70	5	10	G P	.60	.40
IN295(G)	50	—	200	Vid Det	.40	.27
IN636(G)	60	2.5	10	High R	.53	.35
IN541(G)	45	1.5	18	G P	.53	.35
LD-47(G)	—	—	—	Det FM, AM	.40	.27
LD-145(G)	60	5	—	Vid Det	.40	.27

Suffix P—Plastic Case; G—Glass Case; GP—General Purpose; MP—Matched Pair; Rev—Reverse; V—Volts; Det—Detector; Cond—Conduction; Vid—Video; R—Resistance; LN—Low Noise; Sil—Silicon; Mix—Mixer; Comp—Computer.

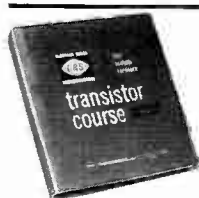
NPN HIGH FREQUENCY TRANSISTORS



Avg. shpg. wt., 2 oz.

	VCB	Ic	P	F _{ab}	Net	
					1-99	100-up
2N312	15	—	100	—	6.75	4.50
2N356	20	200	100	3	4.73	3.15
2N357	20	200	100	6	5.93	3.95
2N358	20	200	100	9	8.10	5.40
2N377	25	100	150	5	3.00	2.00
2N385	25	200	150	6	3.75	2.50
2N388	25	200	150	8	5.25	3.50
2N438	30	—	100	3.75	3.75	2.50
2N438A	30	—	150	3.75	4.13	2.75
2N439	30	—	100	7.5	5.25	3.50
2N439A	30	—	150	7.5	5.78	3.85
2N440	30	—	100	15	7.50	5.00
2N440A	30	—	150	15	8.25	5.00
2N444	15	100	100	0.5	2.25	1.50
2N445	15	100	100	2	3.00	2.00
2N446	15	100	100	5	4.05	2.70
2N447	15	100	100	9	5.40	3.60
2N556	25	—	100	—	5.40	3.60
2N558	15	—	100	—	5.25	3.50
2N634	20	300	150	8	6.60	4.40
2B635	20	300	150	12	9.00	6.00
2N636	20	300	150	17	10.50	7.00
2N1000	40	—	150	1 (6 VDC)	9.00	6.00
2N1012	40	—	150	1 (5 VDC)	7.20	4.80

Vcb—Collector to base Voltage; P—Dissipation
Ic—Collector Current; F_{ab}—Cutoff frequency



NEW! CBS TRANSISTOR COURSE

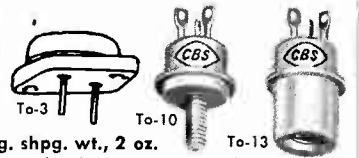
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PNP INDUSTRIAL POWER TRANSISTORS

All have Collector Current of 3 ADC Except * 4.5, † 6. Avg. shpg. wt., 2 oz.



	VCB	P	hFE	Mtg. Type	Net		VCB	P	hFE	Mtg. Type	Net		
					1-99	100 up					1-99	100 up	
2N155	30	3	—	—	2.78	1.85	LT-5069*	60	30	100	To-3	6.00	4.00
2N156	30	3	—	—	3.75	2.50	LT-5070*	80	30	30	To-13	6.00	4.00
2N157	60	20	20	To-3	5.25	3.50	LT-5071*	80	30	30	To-3	6.00	4.00
2N157A	100	20	20	To-3	9.00	6.00	LT-5072*	80	30	30	To-3	6.00	4.00
2N158	60	3	—	—	5.25	3.50	LT-5073	80	30	60	To-13	9.00	6.00
2N158A	80	3	—	—	6.75	4.50	LT-5074	80	30	60	To-10	9.00	6.00
2N235A	50	25	40	To-3	2.78	1.85	LT-5075	80	30	60	To-3	9.00	6.00
2N235B	50	25	40	To-3	3.08	2.05	LT-5076*	80	30	100	To-13	10.50	7.00
2N236A	50	25	30	To-3	3.15	2.10	LT-5077*	80	30	100	To-10	10.50	7.00
2N242	45	25	—	To-3	3.75	2.50	LT-5078*	80	30	100	To-3	10.50	7.00
2N257	40	25	30	To-3	2.78	1.85	LT-5079*	100	30	30	To-13	9.00	6.00
2N285A	40	25	38	To-3	2.95	1.95	LT-5080*	100	30	30	To-10	9.00	6.00
2N297	60	25	25-100	To-3	3.68	2.45	LT-5081*	100	30	30	To-3	9.00	6.00
2N297A	60	20	40-100	To-3	6.38	4.25	LT-5082*	100	30	60	To-13	12.75	8.50
2N301	40	25	40	To-3	4.65	3.10	LT-5083*	100	30	60	To-10	12.75	8.50
2N301A	60	25	60	To-3	2.73	1.82	LT-5084*	100	30	60	To-3	12.75	8.50
LT-11	60	3	—	—	4.83	3.00	LT-5085*	100	30	100	To-13	24.00	16.00
LT-12	60	3	—	—	9.00	6.00	LT-5086*	100	30	100	To-10	24.00	16.00
LT-13	60	3	—	—	12.00	8.00	LT-5087*	100	30	100	To-3	24.00	16.00
LT-14	60	3	—	—	18.00	12.00	LT-5088*	30	40	40	To-13	4.50	3.00
LT-15	60	3	—	—	22.50	15.00	LT-5089*	30	40	40	To-10	4.50	3.00
LT-5021	30	20	20	To-10	30.00	20.00	LT-5090*	30	40	40	To-3	4.50	3.00
LT-5022	30	20	20	To-3	3.75	2.50	LT-5091*	30	40	80	To-13	4.85	3.25
LT-5023	30	20	40	To-13	3.75	2.50	LT-5092*	30	40	80	To-10	4.85	3.25
LT-5024	30	20	40	To-10	4.15	2.75	LT-5093*	30	40	80	To-3	4.85	3.25
LT-5025	30	20	40	To-3	4.15	2.75	LT-5094*	30	40	160	To-13	5.40	3.60
LT-5026	30	20	60	To-13	4.15	2.75	LT-5095*	30	40	160	To-10	5.40	3.60
LT-5027	30	20	60	To-10	4.50	3.00	LT-5096*	30	40	160	To-3	5.40	3.60
LT-5028	30	20	60	To-3	4.50	3.00	LT-5097*	60	40	40	To-13	5.25	3.50
LT-55	60	20	20	To-10	4.50	3.00	LT-5098*	60	40	40	To-10	5.25	3.50
LT-5029	60	20	40	To-13	5.25	3.50	LT-5099*	60	40	40	To-3	5.25	3.50
LT-5030	60	20	40	To-10	6.75	4.50	LT-5100*	60	40	80	To-13	6.75	4.50
LT-5031	60	20	40	To-3	6.75	4.50	LT-5101*	60	40	80	To-10	6.75	4.50
LT-5032	60	20	60	To-13	6.75	4.50	LT-5102*	60	40	80	To-3	6.75	4.50
LT-5033	60	20	60	To-10	7.50	5.00	LT-5103*	60	40	160	To-13	7.50	5.00
LT-5034	60	20	60	To-3	7.50	5.00	LT-5104*	60	40	160	To-10	7.50	5.00
LT-5035	100	20	20	To-13	9.00	6.00	LT-5105*	60	40	160	To-3	7.50	5.00
LT-5036	100	20	20	To-10	9.00	6.00	LT-5106*	80	40	40	To-13	9.00	6.00
LT-5037	100	20	40	To-13	10.50	7.00	LT-5107*	80	40	40	To-3	9.00	6.00
LT-5038	100	20	40	To-10	10.50	7.00	LT-5108*	80	40	80	To-13	13.50	9.00
LT-5039	100	20	40	To-3	10.50	7.00	LT-5109*	80	40	80	To-10	13.50	9.00
LT-5040	100	20	60	To-13	12.75	8.50	LT-5110*	80	40	80	To-3	13.50	9.00
LT-5041	100	20	60	To-10	12.75	8.50	LT-5111*	80	40	80	To-13	12.75	8.50
LT-5042	100	20	60	To-3	12.75	8.50	LT-5112*	80	40	160	To-10	12.75	8.50
LT-5043	120	20	20	To-13	12.00	8.00	LT-5113*	80	40	160	To-3	12.75	8.50
LT-5044	120	20	20	To-10	12.00	8.00	LT-5114*	80	40	160	To-13	12.00	8.00
LT-5045	120	20	20	To-3	12.00	8.00	LT-5115*	100	40	40	To-10	12.00	8.00
LT-5046	120	20	40	To-13	16.50	11.00	LT-5116*	100	40	40	To-3	12.00	8.00
LT-5047	120	20	40	To-10	16.50	11.00	LT-5117*	100	40	40	To-13	16.50	11.00
LT-5048	120	20	40	To-3	16.50	11.00	LT-5118*	100	40	80	To-10	16.50	11.00
LT-5049	120	20	60	To-13	22.50	15.00	LT-5119*	100	40	80	To-3	16.50	11.00
LT-5050	120	20	60	To-10	22.50	15.00	LT-5120*	100	40	80	To-13	30.00	20.00
LT-5051	120	20	60	To-3	22.50	15.00	LT-5121*	100	40	160	To-10	30.00	20.00
LT-5052*	30	30	30	To-13	3.75	2.50	LT-5122*	100	40	160	To-3	30.00	20.00
LT-5053*	30	30	30	To-10	3.75	2.50	LT-5123*	80	30	30-75	To-10	12.38	8.25
LT-5054*	30	30	30	To-3	3.75	2.50	LT-5126	80	30	30-75	To-10	12.90	8.60
LT-5055*	30	30	60	To-13	5.55	3.70	LT-5130	80	30	20-50	To-10	11.50	7.70
LT-5056*	30	30	60	To-10	5.55	3.70	LT-5131	80	30	20-50	To-10	12.00	8.00
LT-5057*	30	30	60	To-3	5.55	3.70	LT-5132	80	30	20-50	To-10	11.55	7.70
LT-5058*	30	30	100	To-13	6.00	4.00	LT-5132A	28	30	20-50	To-10	12.00	8.00
LT-5059*	30												



GE AND HUGHES SEMICONDUCTORS

GERMANIUM TRANSISTORS

Type	Max Col Mw	Max Col V	Max Col Ma	DC* Cur Gain	Cut off Mc*	Use	NET 1-99
2N43	240	-30	-300	53	1.3	PNP-AF	4.15
2N43A	155	-25	-	53	1.3	PNP-AF	4.15
2N44	240	-30	-300	31	1.0	PNP-AF	2.90
2N78	65	16	20	70	9.0	NPN-Co	3.75
2N107	50	-6	-10	20	1.0	PNP-AF	1.00
2N123	150	-15	-125	30†	8.0	PNP-Co	5.40
2N135	100	-12	-50	20	4.5	PNP-IF	2.15
2N136	100	-12	-50	40	6.5	PNP-RF	2.55
2N137	100	-6	-20	60	10.0	PNP-RF	2.55
2N167	75	30	75	30	9.0	NPN-Co	6.45
2N168A	65	15	20	40	8.0	NPN	2.06
2N169	65	15	20	72	9.0	NPN-IF	2.06
2N169A	65	25	20	72	9.0	NPN-IF	2.50
2N170	55	6	20	20	4.0	NPN-RF	1.30
2N186	100	-25	-200	24	4.0	PNP-AF	1.80
2N186A	200	-25	-200	24	0.8	PNP-AF	1.95
2N187	100	-25	-200	36	1.0	PNP-AF	1.85
2N187A	200	-25	-200	36	1.0	NPN-AF	1.66
2N188	100	-25	-200	54	1.2	PNP-AF	1.90
2N188A	200	-25	-200	54	1.2	PNP-AF	1.82
2N189	75	-25	-50	24	0.8	PNP-AF	1.75
2N190	75	-25	-50	36	1.0	PNP-AF	1.57
2N191	75	-25	-50	54	1.2	PNP-AF	1.80
2N192	75	-25	-50	75	1.5	PNP-AF	1.96
2N241	100	-25	-200	73	1.3	PNP-AF	2.00
2N241A	200	-25	-200	73	1.3	PNP-AF	2.00
2N265	75	-25	-50	110	1.5	PNP-AF	2.06
2N292	65	15	20	25	6.0	NPN-IF	1.61
2N293	65	15	20	25	7.0	NPN-IF	2.06
2N319	240	-20	-200	33	2.0	PNP-AF	1.66
2N320	240	-20	-200	48	2.5	PNP-AF	1.89
2N321	240	-20	-200	48	3.0	PNP-AF	2.00
2N322	140	-16	-100	70	2.0	PNP-AF	1.57
2N323	140	-16	-100	90	2.5	PNP-AF	1.80
2N324	140	-16	-100	80	3.0	PNP-AF	1.96
2N394	150	-10	-200	20	5.5	PNP-AF	2.10
2N395	150	-15	-200	25†	7.0	PNP-Co	2.90
2N396	150	-20	-200	30†	7.0	PNP-Co	4.40
2N397	150	-10	-250	30†	10.0	PNP-Co	5.90
2N404	120	-24	-100	—	12.0	PNP-SW	2.90
2N450	150	-12	-125	30†	6.0	PNP-Co	2.75
2N508	140	-16	-100	125	3.5	PNP-AF	2.06
2N518	150	-12	-125	60	11.0	PNP-SW	6.65
2N524	225	-45	-500	35	2.0	PNP-SW	3.05
2N525	225	-45	-500	52	2.5	PNP-SW	3.25
2N526	225	-45	-500	73	3.0	PNP-SW	3.55
2N527	225	-45	-500	81	3.3	PNP-SW	4.15
2N634	150	20	300	15	8.0	NPN-SW	5.00
2N635	150	20	300	25	12.0	NPN-SW	6.65
2N636	150	20	300	35	17.0	NPN-SW	10.00
2N1056	240	-50	-100	32	1.0	PNP-Co	3.25
2N1057	240	-30	-300	58	1.3	PNP-Co	5.80
3N36	30	7	30	—	50.0	Tet Osc	8.35
3N37	30	7	20	—	90.0	Tet Osc	9.50

Av. shpg. wt. all items 2 oz. * = Typical Values, † = Minimum Values Collector dissipation at 25°C. Tet = NPN Tetra. ‡ = Write for quantity prices. (♦) MIL - type available Co = Computer.

SILICON TRANSISTORS (NPN)

Type	MAX COLL MW	MAX COLL V	MAX COLL MA	CUT OFF MC	USE	NET 1-99	100†
2N333	150	45	25	12	AF	16.00	10.65
2N334	150	45	25	13	AF	16.00	10.65
2N335	150	45	25	14	AF	21.40	14.25
2N336	150	45	25	15	AF	23.40	15.60
2N337	125	45	20†	30	AF	18.90	12.60
2N338	125	45	20†	54	AF	25.60	17.05
2N489	350†	45	50†	9	UN	11.20	7.50
2N490	350†	55	50†	7	UN	12.00	8.00
2N491	350†	45	50†	8	UN	11.75	7.75
2N492	350†	55	50†	7	UN	12.40	8.25

† = RMS Power dissipation - Stabilized
‡ = RMS Emitter current
UN = Unijunction AF = Audio Frequency
Av. shpg. wt. all items 2 oz.

SILICON CONTROLLED RECTIFIERS

TYPE	MAX AMP*	NET 1-99	PIV	TYPE	MAX AMP †	NET 1-99
C35A	16	53.00	100	C36A	10	42.00
C35B	16	80.00	200	C36B	10	64.00
C35C	16	160.00	300	C36C	10	128.00
C35D	16	228.00	400	C36D	10	—
C35F	16	41.00	50	C36F	10	33.00
C35G	16	66.00	150	C36G	10	53.00
C35H	16	120.00	250	C36H	10	95.00
C35U	16	38.00	25	C36U	10	30.00

C35 series, max. oper. temp. 125°C; C36 series 100°C.
Max. regulated signal 3v., 40 ma @ 25°C.
* @ 87° stud. † @ 57°C stud. Av. shpg. wt. 2 oz.

GERMANIUM TV RECTIFIERS

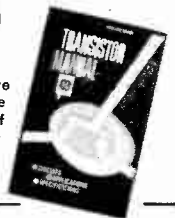
TYPE	AC INPUT	DC OUTPUT	PEAK INV V	NET 1-99	
IN576A	Halfwave	130	400 Ma	380	1.50
IN584	Double	130	400 Ma	380	3.00
IN1008	Halfwave	130	400 Ma	380	1.50
IN1016	Double	130	400 Ma	380	3.00
IN1024	Halfwave	130	400 Ma	380	1.50

GENERAL ELECTRIC TRANSISTOR MANUAL

More than 100,000 hams, hobbyists, technicians, universities and engineers now have used the second edition of this invaluable manual. This third edition is 50% larger and more useful. Discussions on: Basic semiconductor Theory, Transistor Applications, Specifications of G.E. Transistors, Listings of over 175 JETEC types, Circuit Diagrams, Transistor Construction Technique, Symbols, RETMA Transistor Types and Transistor Radio Cross Reference Chart. New plastic binding.

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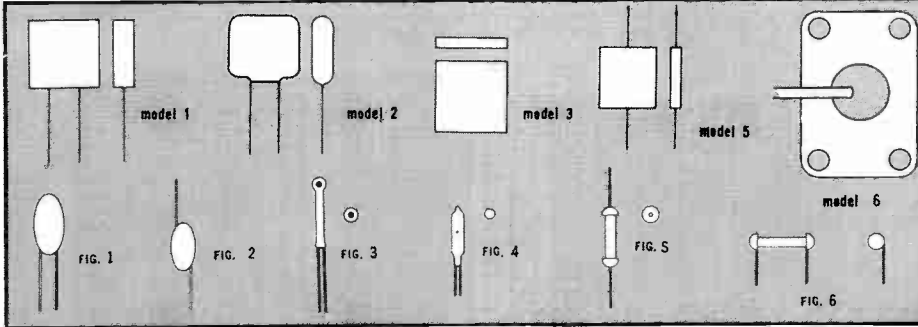


GE SILICON DIODES AND RECTIFIERS

TYPE	PIV	MAXIMUM MA @ °C	MAX 1 CYCLE SURGE*	NET 1-99	NET 100†	TYPE	PIV	MAXIMUM MA @ °C	SURGE*	Net 1-99	NET 100†		
IN253	95	1000	135	4A	2.20	1.45	IN609	150	800	135	15A	2.20	1.45
IN254	190	400	135	1.5A	2.55	1.70	IN609A	150	800	135	15A	2.30	1.55
IN255	380	400	135	1.5A	5.10	3.40	IN610	200	800	135	15A	2.40	1.60
IN256	370	200	135	1.5A	10.35	6.90	IN610A	200	800	135	15A	2.85	1.90
IN332†	400	400	150	10A	9.25	6.15	IN611	300	800	135	15A	2.85	1.90
IN333†	400	200	150	5A	9.25	6.15	IN611A	300	800	135	15A	3.60	2.40
IN334†	300	400	150	10A	6.95	4.65	IN612	400	800	135	15A	3.80	2.55
IN335†	300	200	150	5A	6.95	4.65	IN612A	400	800	135	15A	4.95	3.30
IN336†	200	400	150	10A	4.80	3.20	IN613	500	600	135	15A	6.30	4.20
IN337†	200	1.0A	150	20A	4.80	3.20	IN613A	500	600	135	15A	7.10	4.75
IN339†	100	1.0A	150	10A	3.50	2.35	IN614	600	600	135	15A	9.30	6.20
IN340†	100	200	150	5A	3.50	2.35	IN614A	600	600	135	15A	10.35	6.90
IN341†	400	400	150	10A	6.35	4.25	IN1095	500	425	100	15A	5.25	3.50
IN342†	400	200	150	5A	6.35	4.25	IN1096	600	350	100	15A	7.50	5.00
IN343†	300	400	150	10A	4.25	2.85	IN1100	100	500	100	15A	1.80	1.20
IN344†	300	200	150	5A	4.25	2.85	IN1101	200	500	100	15A	2.10	1.40
IN345†	200	400	150	10A	2.85	1.90	IN1102	300	500	100	15A	2.85	1.90
IN346†	200	200	150	5A	2.85	1.90	IN1103	400	500	100	15A	4.25	2.85
IN348†	100	400	150	10A	2.10	1.40	IN1115	100	1.5A	850	15A	2.20	1.45
IN349†	100	200	150	5A	2.10	1.40	IN1116	200	1.5A	850	15A	2.55	1.70
IN440B	100	500	100	15A	2.20	1.45	IN1117	300	1.5A	850	15A	3.15	2.10
IN441B	200	500	100	15A	2.55	1.70	IN1118	400	1.5A	850	15A	5.10	3.40
IN442B	300	500	100	15A	3.15	2.10	IN1119	500	1.5A	850	15A	7.35	4.90
IN443B	400	500	100	15A	4.45	2.95	IN1120	600	1.5A	85	15A	10.35	6.90
IN444B	500	425	100	15A	6.30	4.20	IN1487	100	250	125	15A	.75	.50
IN445B	600	350	100	15A	8.90	5.95	IN1488	200	250	125	15A	1.00	.65
IN536	50	500	100	15A	1.05	.70	IN1489	300	250	125	15A	1.30	.85
IN537	100	500	100	15A	1.20	.80	IN1490	400	250	125	15A	1.65	1.10
IN538♦	200	500	100	15A	1.60	1.05	IN1491	500	250	125	15A	2.20	1.45
IN539	300	500	100	15A	2.00	1.35	IN1492	600	250	95	15A	2.75	1.85
IN540♦	400	500	100	15A	3.00	2.00	IN1692	100	250	100	—	.70	.45
IN550	100	800	135	15A	3.20	2.15	IN1693	200	250	100	—	.90	.60
IN551	200	800	135	15A	3.50	2.35	IN1694	300	250	100	—	1.10	.75
IN552	300	800	135	15A	4.25	2.85	IN1695	400	250	100	—	1.30	.85
IN553	400	800	135	15A	5.70	3.80	IN2154	50	25A	145	300A	5.20	—
IN554	500	600	135	15A	7.90	5.25	IN2154R	50	25A	145	300A	5.20	—
IN555	600	600	135	15A	10.35	6.90	IN2155	100	25A	145	300A	6.80	—
IN560	800	250	100	15A	12.00	8.00	IN2155R	100	25A	145	300A	6.80	—
IN561	1000	250	100	15A	16.50	11.00	IN2156	200	25A	145	300A	9.60	—
IN562	800	400	100	15A	12.75	8.50	IN2156R	200	25A	145	300A	9.60	—
IN563	1000	400	100	15A	17.25	11.50	IN2157	300	25A	145	300A	13.60	—
IN599	50	400	100	10A	1.00	.65	IN2157R	300	25A	145	300A	13.60	—
IN599A	50	400	100	10A	1.50	1.00	IN2158	400	25A	145	300A	19.50	—
IN600	100	400	100	10A	1.20	.80	IN2158R	400	25A	145	300A	19.50	—
IN600A	100	400	100	10A	1.65	1.10	IN2159	500	25A	145	300A	26.10	

GLENNITE-VECO-THERMISTORS — Semiconductors

GLENNITE THERMISTORS A REMARKABLE ADDITION TO THE FIELD OF ELECTRONIC CIRCUITRY



GLENNITE THERMISTORS are ceramic temperature-sensitive resistors which exhibit high negative coefficients of resistance. These semi-conductors possess resistance values which vary by a ratio of 10 million to 1, from -100°C to 450°C . Available in resistance values from ohms to megohms. Excellent stability and high sensitivity in a small, rugged unit. APPLICATIONS: Temperature sensing, Temperature compensation, Amplitude control, Time delay, Measurements and analyses, Liquid level detection and many others. STYLES AVAILABLE: Wafer, Bead, Bead in probe, Bead in bulb, Rod. All resistances and temperature coefficients at 25°C . Dissipation measurements—suspended by leads in still air, except as noted.

WAFER—max. oper. temp. 150°C . Model Key (see illustration): (1) radial leads (2) radial leads; body coated with impregnated phenolic (3) without leads (5) axial leads (6) wafer on plate with lead. **requires close contact with good thermal sink. Avg. shpg. wt., 1 oz.

No.	Model	ohms	Resis. Coeff./ $^{\circ}\text{C}$	Dissip. K MW/ $^{\circ}\text{C}$	Net 10-24	25Sup
11TE1	1	$10 \pm 10\%$	-3.9%	7.9	1.40	1.20 .95
11TE2	2	$10 \pm 10\%$	-3.9%	7.9	1.75	1.45 1.15
11TE3	3	$10 \pm 10\%$	-3.9%	7.9	1.00	.85 .65
11TE5	5	$10 \pm 10\%$	-3.9%	7.9	1.70	1.40 1.10
12TE1	1	$20 \pm 10\%$	-3.9%	4.7	1.40	1.20 .95
12TE2	2	$20 \pm 10\%$	-3.9%	4.7	1.75	1.45 1.15
12TE3	3	$20 \pm 10\%$	-3.9%	4.7	1.00	.85 .65
12TE5	5	$20 \pm 10\%$	-3.9%	4.7	1.70	1.40 1.10
15TE1	1	$50 \pm 10\%$	-3.9%	3.2	1.40	1.20 .95
15TE2	2	$50 \pm 10\%$	-3.9%	3.2	1.70	1.40 1.10
15TE3	3	$50 \pm 10\%$	-3.9%	3.2	.90	.75 .60
15TE5	5	$50 \pm 10\%$	-3.9%	3.2	1.60	1.30 1.05
21TE1	1	$100 \pm 10\%$	-3.9%	2.5	1.30	1.05 .85
21TE2	2	$100 \pm 10\%$	-3.9%	2.5	1.65	1.35 1.10
21TE3	3	$100 \pm 10\%$	-3.9%	2.5	.85	.70 .55
21TE5	5	$100 \pm 10\%$	-3.9%	2.5	1.40	1.20 .95
21TD1	1	$100 \pm 10\%$	-4.4%	7.8	1.40	1.20 .95
21TD2	2	$100 \pm 10\%$	-4.4%	7.8	1.75	1.45 1.15
22TD3	3	$200 \pm 10\%$	-4.4%	4.0	1.00	.85 .65
21TD5	5	$100 \pm 10\%$	-4.4%	7.8	1.70	1.40 1.10
22TD1	1	$200 \pm 10\%$	-4.4%	4.0	1.40	1.20 .95
22TD2	2	$200 \pm 10\%$	-4.4%	4.0	1.75	1.45 1.15
22TD3	3	$200 \pm 10\%$	-4.4%	4.0	1.00	.85 .65
22TD5	5	$200 \pm 10\%$	-4.4%	4.0	1.70	1.40 1.10
25TD1	1	$500 \pm 10\%$	-4.4%	3.0	1.40	1.20 .95
25TD2	2	$500 \pm 10\%$	-4.4%	3.0	1.70	1.40 1.10
25TD3	3	$500 \pm 10\%$	-4.4%	3.0	.90	.75 .60
25TD5	5	$500 \pm 10\%$	-4.4%	3.0	1.60	1.30 1.05
31TD1	1	$1000 \pm 10\%$	-4.4%	2.6	1.30	1.05 .85
31TD2	2	$1000 \pm 10\%$	-4.4%	2.6	1.65	1.35 1.10
31TD3	3	$1000 \pm 10\%$	-4.4%	2.6	.85	.70 .55
31TD5	5	$1000 \pm 10\%$	-4.4%	2.6	1.40	1.20 .95
23TD11	1	$270 \pm 10\%$	-4.4%	3.8	1.40	1.20 .95
27MD1	6	$725 \pm 5\%$	-4.4%	150**	7.05	5.85 4.65
28MD1	6	$760 \pm 5\%$	-4.4%	150**	7.05	5.85 4.65
35TF1	1	$5000 \pm 10\%$	-4.9%	4.3	2.10	1.75 1.40
35TF2	2	$5000 \pm 10\%$	-4.9%	4.3	2.45	2.00 1.60
35TF3	3	$5000 \pm 10\%$	-4.9%	4.3	1.70	1.40 1.10
35TF5	5	$5000 \pm 10\%$	-4.9%	4.3	2.30	1.95 1.55
45TG1	1	$50K \pm 10\%$	-5.4%	4.6	2.10	1.75 1.40
45TG2	2	$50K \pm 10\%$	-5.4%	4.6	2.45	2.00 1.60
45TG3	3	$50K \pm 10\%$	-5.4%	4.6	1.70	1.40 1.10
45TG5	5	$50K \pm 10\%$	-5.4%	4.6	2.30	1.95 1.55
51TG1	1	$100K \pm 10\%$	-5.4%	4.2	2.00	1.65 1.35
51TG2	2	$100K \pm 10\%$	-5.4%	4.2	2.35	1.90 1.55
51TG3	3	$100K \pm 10\%$	-5.4%	4.2	1.60	1.30 1.05
51TG5	5	$100K \pm 10\%$	-5.4%	4.2	2.20	1.85 1.50
61TM1	1	$1\text{meg} \pm 10\%$	-6.8%	5.3	2.25	1.85 1.50
61TM2	2	$1\text{meg} \pm 10\%$	-6.8%	5.3	2.60	2.10 1.70
61TM3	3	$1\text{meg} \pm 10\%$	-6.8%	5.3	1.85	1.50 1.20
61TM5	5	$1\text{meg} \pm 10\%$	-6.8%	5.3	2.45	2.05 1.65

BEAD—Max. oper. temp. 300°C . * leads tabbed—DC test. † not glass coated. Figure Key (see illustration): (1) radial leads (2) offset axial leads (3) in glass bulb (4) in glass bulb (5) axial leads (6) adjacent axial leads. Av. shpg. wt., 1 oz.

No.	Fig.	ohms	Resis. Coeff./ $^{\circ}\text{C}$	Dissip. K MW/ $^{\circ}\text{C}$	Net 1-9	10-24	25Sup
31CH1	1	$1000 \pm 20\%$	-3.4%	0.5	3.70	3.05 2.45	
31CH2	2	$1000 \pm 20\%$	-3.4%	0.5	3.70	3.05 2.45	
31CB1	1	$1000 \pm 20\%$	-3.9%	0.7	3.00	2.50 2.00	
31CB2	2	$1000 \pm 20\%$	-3.9%	0.7	3.00	2.50 2.00	
32CH1	2	$2000 \pm 25\%$	-3.4%	0.1	4.00	3.35 2.65	
32CH3	2	$2000 \pm 25\%$	-3.4%	0.1	6.00	4.85 3.90	
32CB1	1	$2000 \pm 20\%$	-3.9%	0.7	2.75	2.30 1.85	
32CB2	2	$2000 \pm 20\%$	-3.9%	0.7	2.75	2.30 1.85	
35CB1	1	$5000 \pm 20\%$	-3.9%	0.7	3.25	2.70 2.15	
35CB2	2	$5000 \pm 20\%$	-3.9%	0.7	3.25	2.70 2.15	
36CB2	2	$5700 \pm 17\%$	-3.9%	0.3	4.85	4.05 3.20	
38CB2	2	$8000 \pm 20\%$	-3.9%	0.1	4.00	3.35 2.65	
38CX2	2	$8000 \pm 20\%$	-4.2%	0.4	4.00	3.35 2.65	
41CB1	1	$10,000 \pm 20\%$	-3.9%	0.7	3.45	2.85 2.30	
41CB2	2	$10,000 \pm 20\%$	-3.9%	0.7	3.45	2.85 2.30	
45CA1	1	$50,000 \pm 20\%$	-4.6%	0.7	3.50	2.90 2.35	
45CA2	2	$50,000 \pm 20\%$	-4.6%	0.7	3.50	2.90 2.35	
45CD3	2	$47,000 \pm 30\%$	-4.4%	0.1	7.40	6.10 4.90	
45CD5	2	$50,000 \pm 20\%$	-4.4%	0.1	5.20	4.30 3.45	
51CA1	1	$100,000 \pm 15\%$	-4.6%	0.7	2.75	2.30 1.85	
51CA2	2	$100,000 \pm 15\%$	-4.6%	0.7	2.75	2.30 1.85	
51CA3	2	$100,000 \pm 20\%$	-4.6%	0.1	6.00	4.85 3.90	
58CX2	2	$800,000 \pm 25\%$	-5.1%	0.7	4.85	4.05 3.20	
65CX2	2	$5.3\text{ meg} \pm 30\%$	-5.4%	0.1	6.00	4.85 3.90	

BEAD IN GLASS PROBE—* in bulb. ** in evacuated bulb. Av. shpg. wt. 1 oz.

No.	Fig.	ohms	Resis. Coeff./ $^{\circ}\text{C}$	Dissip. K MW/ $^{\circ}\text{C}$	Net 1-9	10-24	25Sup
32PB1	3	$2000 \pm 20\%$	-3.9%	1	3.00	2.50 2.00	
32PB2	3	$2000 \pm 20\%$	-3.9%	1	3.00	2.50 2.00	
51PA1	3	$100,000 \pm 15\%$	-4.6%	1	3.00	2.50 2.00	
51PA2	3	$100,000 \pm 15\%$	-4.6%	1	3.00	2.50 2.00	
36BS1*	4	$5700 \pm 17\%$	-3.9%	—	6.55	5.40 4.35	
65BS1*	4	$5.3\text{ meg} \pm 30\%$	-5.4%	—	7.20	6.00 4.75	

ROD—Max. oper. temp. 150°C . Lead length $1\frac{1}{4}''$. Av. shpg. wt. 1 oz.

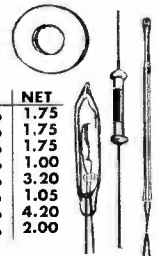
No.	Fig.	ohms	Resis. Coeff./ $^{\circ}\text{C}$	Dissip. K MW/ $^{\circ}\text{C}$	Net 1-9	10-24	25Sup
33RR1	5	$3.15K \pm 10\%$	-3.9%	4	2.10	1.75 1.40	
36RR1	5	$6.3K \pm 10\%$	-3.9%	4	2.20	1.80 1.45	
41RR1	5	$10K \pm 10\%$	-3.9%	6	2.25	1.85 1.50	
43RD1	5	$31.5K \pm 10\%$	-4.4%	4	2.00	1.65 1.35	
51RD1	5	$100K \pm 10\%$	-4.4%	6	2.10	1.75 1.40	
51RD2	6	$100K \pm 10\%$	-4.4%	2.5	2.00	1.65 1.35	

EXPERIMENTAL ASST. NO. 1—Contains 2 ea. of 11TE1, 11TE2, 12TE1, 21TE1, 21TE2, 21TD1, 31TD1, 31TD2, 35TF1, 45TG1, 51TG1, 61TM1. Shpg. wt., 10 oz. Net $\$33.70$

EXPERIMENTAL ASST. NO. 2—Contains 3 ea. of 11TE5, 12TE5, 21TE5, 21TD5; 2 ea. of 31TD5, 35TF5, 45TG5, 51TG5, 61TM5; 1 ea. of 27MD1, 28MD1. Shpg. wt., 10 oz. Net $\$45.90$

EXPERIMENTAL ASST. NO. 3—Contains 2 ea. of 31CH1, 31CH2, 31CB1, 31CB2, 32CH1, 32CB1, 45CA1, 45CA2, 45CD5, 51CA1, 51CA2, 51CA3. Shpg. wt., 10 oz. Net $\$72.60$

VECO THERMISTORS



NO.	TYPE	OHMS	NET
14X2	Washer	$38 \pm 10\%$	1.75
21W1	Washer	$100 \pm 10\%$	1.75
21W4	Washer	$130 \pm 10\%$	1.75
23E3	Disc	$310 \pm 10\%$	1.00
31A1	Bead	$1,250 \pm 30\%$	3.20
31D7	Disc	$1,200 \pm 10\%$	1.05
34A3	Bead	$3,500 \pm 30\%$	4.20
51R2	Rod	$100,000 \pm 10\%$	2.00

Av. shpg. wt., 2 oz.

VECO-TAP-A-THERMS

Versatile single thermistor unit with tapped resistance values. Av. shpg. wt., 7 oz.

NO.	OHMS	NET
T1001	200 to 1200	7.00
T3001	1,000 to 10,000	8.00
T3002	10,000 to 100,000	8.00

VECO EXPERIMENTER KITS

M-168 — Includes 14X2, 21W4, 23E3, 31A1, 31D7 and others. With specs and data Wt., 1 lb. Net $\$5.00$

M-168A — Advanced assortment including tabulated units above. With specs and data Wt., 1 lb. Net $\$10.00$

A-815 — Washer mounting kit Wt., 6 oz. Net $\$1.25$

NEW! MOTOROLA POPULAR LOW COST 2N554

AUDIO POWER TRANSISTOR

1.35



- 40 WATT COLLECTOR DISSIPATION*
- 2 WATT CLASS A OUTPUT*

FREE with each 2N554 New Motorola Circuit Applications folder on HOW TO BUILD A TRANSISTORIZED AUDIO POWER AMPLIFIER, Power Control, Battery Charger, Model Power Supply, Model Train Control, Toy Electronic Organ, Geiger Counter and DC to DC Converter.

* With Heat Sink

MOTOROLA POWER TRANSISTOR MOUNTING KITS

Neatly assembled power transistor mounting kits for popular diamond shaped power transistors. Shpg. wt., 4 oz.

MK-10 Kit with teflon coated fiberglass insulating washer.

MK-15 Same as above but with mica insulating washer.

MK-20 Same as above, but with anodized aluminum insulating washer.

Type	1-24	Net 25-99	100-249
MK-10	.25	.20	.18
MK-15	.25	.20	.18
MK-20	.45	.40	.35

SPECIAL SYLVANIA LOW COST TRANSISTORS

2N229 NPN AF	.65
2N233 NPN RF	.65
2N307 PNP 35V Power	1.35
2N1264 PNP RF-IF (drift)	1.30
2N1265 PNP IF-AF	.65
2N1266 PNP RF-IF	.65

SYLVANIA LOW COST KITS

UNIVERSAL DIODE KIT A Consists of one each 1N34A, 1N38A, 1N60, 1N64 and 1N82A, together with diode replacement guide. Shpg. wt., 4 oz. Net $\$2.95$

DETECTOR DIODE KIT B Consists of two each 1N60, 1N64 and one 1N295. Shpg. wt., 3 oz. Net $\$2.15$

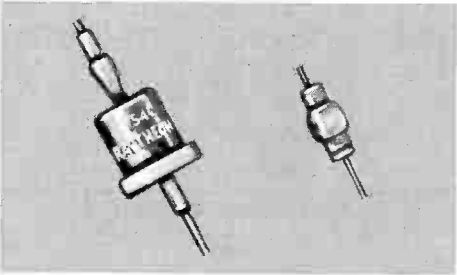
UNIVERSAL AUTO TRANSISTOR KIT Hanger of 5 each 2N242 transistors with replacement guide. Net $\$13.45$

UNIVERSAL AUTOMOBILE REPLACEMENT TRANSISTOR 2N242. Replaces all automobile diamond shaped PNP power transistors. Net $\$2.89$

CALL ON LAFAYETTE FOR YOUR INDUSTRIAL ELECTRONIC NEEDS

LAFAYETTE - HOME OF SEMICONDUCTORS

RAYTHEON DIODES AND RECTIFIERS GERMANIUM DIODES



Type	PIV	Fwd. Ma @ 1 V	Max. Inv. Ua	Net 1-99
IN34	60	5	800 @ -50V	.52
IN34A	75	5	500 @ -50V	.53
IN60	25	—	200 @ -10V	.35
IN63A	100	4	50 @ -50V	1.37
IN66	60	5	800 @ -50V	.52
IN66A	60	5	500 @ -50V	.53
IN67	80	4	50 @ -50V	1.00
IN67A	80	4	50 @ -50V	.92
IN68	100	3	625 @ -100V	.99
IN68A	100	3	625 @ -100V	1.29
IN82A	5	50	Noise 14db	1.05
IN89	80	3.5	100 @ -50V	1.04
IN90	60	5	800 @ -50V	.52
IN95	60	10	800 @ -50V	.68
IN97	80	10	100 @ -50V	1.09
IN99	80	10	50 @ -50V	1.48
IN116	60	5	100 @ -50V	.83
IN117	60	10	100 @ -50V	.83
IN126	60	5	50 @ -10V	.57
IN126A	75	5	25 @ -10V	1.16
IN127	100	3	300 @ -50V	1.16
IN127A	125	3	10 @ -50V	.87
IN128	40	3	25 @ -10V	.83
IN191	90	5	20 @ -10V	.79
IN192	70	5	75 @ -10V	.65
IN198	80	5	800 @ -50V	.65
IN294	60	3.5	100 @ -50V	.74
IN294A	80	3.5	200 @ -10V	.35
IN295	40	3.5 @ 2V	100 @ -50V	.91
IN297	80	3.5	100 @ -50V	1.49
IN297A	80	3.5	250 @ -40V	.91
IN298	70	3 @ 2V	250 @ -40V	1.07
IN305*	60	100 @ .8V	20 @ -10V	3.30
IN306*	15	100 @ .8V	2 @ -10V	3.30
IN307*	125	100 @ .8V	20 @ -100V	3.30
CK709+	60	Ma ± 2.5%	± 2.5% @ -10V	16.52
CK711+	80	—	30 @ -50V	16.52
CK715	40	—	each diode	.66
CK717+	60	Ma @ 1.5V	± 2.5% @ -10V	16.52
CK719+	80	-2.5%	30 @ -50V	16.52

CK772 Av. shpg. wt., 2 oz.
*GOLD BONDED + Four matched diodes M = MATCH
Fwd Ma is minimum.

SILICON DIODES AND RECTIFIERS

Type	PIV	Min. Fwd. Ma @ +1 V	Max. Inv. Ua	Max. Rect. Ma @ 25°C	Net 1-99
IN253*	95	1A @ 1.5V	10 @ 95V	1A @ 135	2.20
IN254*	190	.5A @ 1.5V	10 @ 190V	.4A @ 135	2.55
IN255*	380	.5A @ 1.5V	10 @ 380V	.4A @ 135	5.10
IN256*	570	.5A @ 2V	20 @ 570V	.2A @ 135	10.25
IN300	15	.001 @ 10V	.001 @ 10V	.001 @ 10V	5.78
IN300A	15	.001 @ 10V	.001 @ 10V	.001 @ 10V	6.61
IN300B	15	.001 @ 10V	.001 @ 10V	.001 @ 10V	6.94
IN301	70	.05 @ 50V	.05 @ 50V	.05 @ 50V	5.78
IN301A	70	.05 @ 50V	.05 @ 50V	.05 @ 50V	6.61
IN301B	70	.05 @ 50V	.05 @ 50V	.05 @ 50V	6.94
IN302	225	.01 @ 10V	.01 @ 10V	.01 @ 10V	8.25
IN302A	225	.01 @ 10V	.01 @ 10V	.01 @ 10V	8.60
IN302B	225	.01 @ 10V	.01 @ 10V	.01 @ 10V	8.94
IN303	125	.01 @ 10V	.01 @ 10V	.01 @ 10V	6.61
IN303A	125	.01 @ 10V	.01 @ 10V	.01 @ 10V	6.94
IN303B	125	.01 @ 10V	.01 @ 10V	.01 @ 10V	7.27
IN432	40	.005 @ 10V	.005 @ 10V	.005 @ 10V	6.61
IN432A	40	.005 @ 10V	.005 @ 10V	.005 @ 10V	6.94
IN432B	40	.005 @ 10V	.005 @ 10V	.005 @ 10V	7.27
IN433	145	.01 @ 125V	.01 @ 125V	.01 @ 125V	5.78
IN433A	145	.01 @ 125V	.01 @ 125V	.01 @ 125V	6.61
IN433B	145	.01 @ 125V	.01 @ 125V	.01 @ 125V	6.94
IN434	180	.01 @ 150V	.01 @ 150V	.01 @ 150V	7.27
IN434A	180	.01 @ 150V	.01 @ 150V	.01 @ 150V	7.61
IN434B	180	.01 @ 150V	.01 @ 150V	.01 @ 150V	7.94
IN460	90	.01 @ 75V	.01 @ 75V	.01 @ 75V	6.61
IN460A	90	.01 @ 75V	.01 @ 75V	.01 @ 75V	6.94
IN460B	90	.01 @ 75V	.01 @ 75V	.01 @ 75V	7.27
IN536	50	.25A @ .5V	2 @ 100V	.75A @ 165	1.15
IN537	100	.25A @ .5V	2 @ 200V	.75A @ 165	1.32
IN538*	200	.25A @ .5V	2 @ 400V	.75A @ 165	1.60
IN539	300	.25A @ .5V	2 @ 600V	.75A @ 165	2.24
IN540*	400	.25A @ .5V	2 @ 800V	.75A @ 165	3.00
IN547*	600	.750	2 @ 600V	.75A @ 165	7.50
IN645	225	400	2 @ 225V	400 @ 150	3.28
IN646	300	400	2 @ 300V	400 @ 150	4.44
IN647	400	400	2 @ 400V	400 @ 150	5.77
IN648	500	400	2 @ 500V	400 @ 150	7.10
IN1095	600	750	2 @ 500V	75A @ 165	5.31
IN1098	600	750	2 @ 600V	75A @ 165	8.30
IN1763	400	500	100 @ 400V	.5A @ 165	1.25
IN1764	500	500	100 @ 500V	.5A @ 165	1.63
CK845	100	300	2 @ 100V	3.5A @ 165	4.55
CK847	200	300	2 @ 200V	3.5A @ 165	6.61
CK848	300	300	2 @ 300V	3.5A @ 165	10.74
CK849	400	300	2 @ 400V	3.5A @ 165	13.22
CK850	500	300	2 @ 500V	3.5A @ 165	16.52
CK851	600	300	2 @ 600V	3.5A @ 165	39.65
CK852	300	300	2 @ 275	30	9.91
CK853A	300	300	3 @ 275	30	11.56

Av. shpg. wt., 3 oz.
*MIL type available.

RAYTHEON TRANSISTORS GERMANIUM TRANSISTORS PNP

Type	Max. Col. Mw	Max. V. Col.	Max. Col. Cur.	Gain Cur.	Mc. Cutoff	Use	Net 1-99
2N63	100	-22	-10	22	0.0	AF	3.72
2N64	100	-15	-10	45	0.8	AF	4.13
2N65	100	-12	-10	80	1.2	AF	4.55
2N130A	100	-40	-100	22	0.6	AF	2.83
2N131A	100	-30	-100	45	0.8	AF	2.83
2N132A	100	-20	-100	90	1.2	AF	2.83
2N133A	100	-15	-100	50	0.8	LN AF	2.97
2N138B	130	-30	-100	140	1	AF	2.90
2N155	6w	-30	-3A	32	.15	Pwr	2.83
2N362	168	-20	-400	100	1.2	AF Dr.	1.25
2N422	150	-20	-100	50	1.2	AF	1.08
2N404*	120	-24	-100	—	4	Comp	2.64
2N413	150	-18	-200	25	3	RF	1.73
2N414	150	-15	-200	60	5	RF	2.10
2N416*	150	-12	-200	80	10	RF	4.95
2N417*	150	-10	-200	140	20	RF	6.60
2N425*	150	-20	-400	30	0.8	LN AF	1.14
2N426*	150	-18	-400	40	6	Comp	3.47
2N427*	150	-15	-400	55	11	Comp	5.38
2N428*	150	-12	-400	80	17	Comp	6.93
2N464*	168	-40	-400	22	0.6	AF	1.82
2N465*	168	-30	-400	45	0.8	AF	1.90
2N466*	168	-20	-400	90	1.2	AF	1.99
2N467*	168	-15	-400	180	1.2	AF	2.48
2N481	50	-12	-20	50	4	Osc	1.48
2N482	50	-12	-20	50	3	IF	1.53
2N483	50	-10	-20	60	5	IF	1.57
2N484	50	-12	-20	90	9	IF	1.58
2N485	50	-10	-20	50	5	Conv	1.77
2N486	50	-10	-12	100	9	Conv	1.58
2N631	160	-25	-50	150	1.2	AF	1.49
2N632	160	-30	-50	100	1	AF	1.32
2N633	160	-35	-50	60	0.8	AF	1.24
2N658	175	-24	-1A	50	5	Comp	6.20
2N659	175	-20	-1A	70	10	Comp	9.09
2N680	175	-16	-1A	90	15	Comp	12.39
2N681	175	-12	-1A	120	20	Comp	16.11
2N682	175	-16	-1A	60	8	Comp	5.17
2N1017	170	-30	—	100	25	Comp	8.09
CK137	150	-18	-200	25	3	IF RF	4.13
CK147	150	-15	-200	60	5	IF RF	5.38
CK167	150	-12	-200	120	10	IF RF	7.27
CK177	150	-10	-200	140	20	IF RF	9.09
CK227	150	-20	-100	50	0.8	LN AF	3.72
CK257	150	-20	-400	30	4	Comp	5.29
CK267	150	-18	-400	40	6	Comp	5.45
CK277	150	-15	-400	55	11	Comp	8.01
CK287	150	-12	-400	80	17	Comp	11.16
CK647	168	-40	-400	22	0.8	AF	3.05
CK657	168	-30	-400	45	0.8	AF	3.22
CK667	168	-20	-400	90	1.2	AF	3.39
CK677	168	-15	-400	180	1.2	AF	3.72
CK721	180	-15	-10	22	0.8	AF	2.40
CK722	180	-22	-10	45	0.6	AF	.90
CK768	150	-15	-100	20	2.5	IF RF	1.50

Av. shpg. wt., 2 oz.
*MIL type available; †=Subminiature
AF=Audio Frequency; LN=Low Noise; Pwr=Power; Dr=Driver; Comp=Computer; RF=Radio Frequency; Osc=Oscillator; IF=Intermediate Frequency; Conv=Converter.

SILICON TRANSISTORS

Type	Max. Col. Mw	Max. V. Col.	Max. Col. Cur.	Gain Cur.	Mc. Cutoff	Use	Net 1-99
2N327A	337	-50	-100	15	0.2	PNP	14.97
2N328A	337	-50	-100	30	0.3	PNP	26.43
2N329A	337	-50	-100	60	0.4	PNP	39.65
2N619	337	40	100	15	0.2	NPN	14.87
2N620	337	30	100	30	0.35	NPN	26.43
2N621	337	20	100	60	0.5	NPN	39.65
2N1034	385	40	100	15	0.2	PNP	12.78
2N1035	385	35	—	30	0.3	PNP	23.25
2N1036	385	30	—	60	0.4	PNP	35.69
2N1037	385	35	—	30	0.25	PNP	26.77
2N1074	385	40	50	15	0.2	NPN	14.87
2N1075	385	35	50	30	0.35	NPN	26.43
2N1076	385	30	50	60	0.5	NPN	39.65
2N1077	385	30	50	25	0.3	NPN	29.74

Av. shpg. wt., 2 oz.

LATE RELEASES

PHILCO GERMANIUM PNP TRANSISTORS - SBT

Type	Max Dis Mw	Max Col V	Max Col Ma	Max Beta	Min Cut-off Mc	Use	NET
2N231	9	4.5	3.0	66	20	RF, IF	1.13
2N232	3	4.5	3.0	39	30	RF, IF	1.05

PHILCO DIODES

IN26	24,000 Mc Mixer, Silicon	11.55
IN26A	Low Noise IN26	14.03
IN147A	Low Noise X Band	.96
IN263	UHF Mixer, Germanium	12.50

LATE RELEASES

RAYTHEON GERMANIUM TRANSISTORS - PNP

Type	Max Col Mw	Max Col Volt	Max Col Ma	Beta	Cut-off Mc	Use	NET 1-99
USAF 2N404	120	-24	-100	—	4	Comp	2.97
Sig C 2N416	150	-12	-200	80	10	RF	6.20
Sig C 2N417	150	-10	-200	140	20	RF	8.25
Sig C 2N425	150	-20	-400	30	4	Comp	4.32
Sig C 2N426	150	-18	-400	40	6	Comp	4.44
Sig C 2N427	150	-15	-400	55	11	Comp	6.70
Sig C 2N428	150	-12	-400	80	17	Comp	8.66
Sig C 2N464	1						

LATE SEMICONDUCTOR RELEASES



TEXAS INSTRUMENTS TRANSISTORS

Type	Case Type	Pc W	BV CBO	Ic ma	hfe	fab mc	1-99	100-999
SILICON MESA NPN								
Switching								
2N696	I	2.0	60	150	20	—	28.50	19.00
2N697	I	2.0	60	150	40	—	28.50	19.00
2N703	I	0.6	25	50	40	70	39.75	26.50
GERMANIUM PNP								
Computer Mesa								
2N710	U	0.3	-15	-50	20	250	17.75	11.10
2N1385	S	0.75	-25	-100	8	700	26.40	16.50
Audio Output								
2N1273	Z	0.15	-15	-150	50	2	.91	.63
2N1274	Z	0.15	-25	-150	50	2	.98	.67
2N1370	Z	0.15	-25	-150	80	2	1.06	.73
2N1371	Z	0.15	-45	-150	80	2	1.44	.99
General Purpose								
2N1372	Z	0.25	-25	-200	45	2	.94	.65
2N1373	Z	0.25	-45	-200	45	2	1.60	1.10
2N1374	Z	0.25	-25	-200	70	2	1.20	.83
2N1375	Z	0.25	-45	-200	70	2	1.84	1.27
2N1376	Z	0.25	-25	-200	95	2	1.52	1.04
2N1377	Z	0.25	-45	-200	95	2	2.00	1.38
2N1378	Z	0.25	-12	-200	200	2	1.52	1.05
2N1379	Z	0.25	-25	-200	200	2	1.68	1.16
2N1380	Z	0.25	-12	-200	100	2	.80	.55
2N1381	Z	0.25	-25	-200	100	2	.85	.58
Audio Power								
2N1382	Z	0.20	-25	-200	80	2	1.14	.78
2N1383	Z	0.20	-25	-200	50	2	1.06	.73

* See Page 15

GENERAL ELECTRIC GERMANIUM TRANSISTORS

Type	Max Col Mw	Max Col V	Max Col Ma	DC Cur Gain	Cut-Off Mc	Use	Net
USAF 2N43A	155	-25	—	53	1.3	PNP AF	3.75
2N1324A	240	-30	-300	31	1.0	PNP AF	5.25
2N123A	150	-20	-125	30	8.0	PNP Sw	7.05
USAF 2N167	75	30	75	30	9.0	PNP Co	8.13
2N168	55	15	20	20	6.0	PNP IF	2.05
2N388	150	20	200	60	8.0	PNP Sw	5.80
2N396A	150	-20	-200	—	8.0	PNP Sw	5.00
2N448	65	15	20	8	5	PNP IF	1.37
2N449	65	15	20	34	8	PNP IF	1.90
2N1086	65	9	20	17	8	PNP Os	1.86
2N1086A	65	9	20	17	8	PNP Os	2.00
2N1087	65	9	20	17	8	PNP Os	2.06
2N1097	140	-16	-100	55	—	PNP AF	1.48
2N1098	140	-16	-100	45	—	PNP AF	1.32
2N1115	150	-15	-125	—	5	PNP Sw	14.80
2N1121	65	15	20	34	.008	PNP IF	2.10
2N1144	140	-16	-120	55	—	PNP AF	1.48
2N1145	140	-16	-100	45	—	PNP AF	1.32
2N1198	65	25	75	17	5	PNP Sw	5.80
2N1413	200	-35	-200 ma	42	2.0	PNP AF	2.06
2N1414	200	-35	-200 mc	65	2.5	PNP AF	2.30
2N1415	200	-35	-200 ma	90	2.8	PNP AF	2.65

GENERAL ELECTRIC SILICON TRANSISTORS - NPN

Type	Max Col Mw	Max Col V	Max Col Ma	Cut-Off Mc	Use	1-99	100 up
2N333A	500	45	25	2.5	Sw	17.60	11.75
2N334A	500	45	25	2.5	Hw	17.60	11.75
2N335A	500	45	25	2.5	Sw	23.55	1.70
2N336A	00	45	25	2.5	Sw	23.55	15.70
2N336A	500	45	25	2.5	Sw	25.75	17.20
2N493	450	—	—	.70	Uni	13.50	9.00
2N494	450	—	—	.65	Uni	13.90	9.25
2N1277	150	40	25	15	Sw	14.90	9.80
2N1278	150	40	25	15	Sw	20.60	13.40
2N1279	150	40	25	15	Sw	22.70	14.80

Uni: Unijunction; Sw: Switching

GE DIODES and RECTIFIERS

Type	PIV	MA	Max at °C	Max 1 Cycle Surge	1-99	100 up
USN1N93	300	75	55	25A	3.50	—
JAN1N255	380	400	135	1.5A	8.15	5.45
IN285	—	Max NF	12.5 db	—	1.20	—
USAF1N315	100	100	85	10A	3.90	—
JAN1N538	200	500	100	15A	4.05	2.70
JAN1N540	400	500	100	15A	7.15	4.75
IN547	600	250	150	15A	7.50	5.00
JAN1N547	600	250	150	15A	21.00	14.00
USAF1N547	600	250	150	15A	21.00	14.00

NF: Noise Factor



MOTOROLA ZENER DIODES (FIG. E)

Type	Nominal Zener Voltage at IzT (Vz) Volts	Test Current (IzT) Ma	Max Zener Impedance Zzt at Iz Ohms	1-24	25-99
3/4M6.8Z	6.8	37	3.5	4.50	3.75
3/4M7.5Z	7.5	34	4.0	4.35	3.65
3/4M8.2Z	8.2	31	4.5	4.35	3.65
3/4M9.1Z	9.1	28	5.0	4.35	3.65
3/4M10Z	10	25	7	4.35	3.65
3/4M11Z	11	23	8	4.35	3.65
3/4M12Z	12	21	9	4.35	3.65
3/4M13Z	13	19	10	4.35	3.65
3/4M14Z	14	18	12	4.35	3.65
3/4M15Z	15	17	14	4.35	3.65
3/4M16Z	16	15.5	16	4.35	3.65
3/4M17Z	17	14.5	18	4.35	3.65
3/4M18Z	18	14	20	4.35	3.65
3/4M19Z	19	13	21	4.35	3.65
3/4M20Z	20	12.5	22	4.35	3.65
3/4M22Z	22	11.5	23	4.35	3.65
3/4M24Z	24	10.5	25	4.35	3.65
3/4M25Z	25	10	30	4.35	3.65
3/4M27Z	27	9.5	35	4.35	3.65
3/4M30Z	30	8.5	40	4.35	3.65
3/4M33Z	33	7.5	45	4.35	3.65
3/4M36Z	36	7.0	50	4.35	3.65
3/4M39Z	39	6.5	60	4.35	3.65
3/4M43Z	43	6.0	70	4.35	3.65
3/4M45Z	45	5.5	75	4.35	3.65
3/4M47Z	47	5.5	80	4.35	3.65
3/4M50Z	50	5.0	90	4.35	3.65
3/4M52Z	52	5.0	100	4.35	3.65
3/4M56Z	56	4.5	110	4.35	3.65
3/4M62Z	62	4.0	125	4.65	3.90
3/4M68Z	68	3.7	150	4.65	3.90
3/4M75Z	75	3.3	175	4.65	3.90
3/4M82Z	82	3.0	200	4.65	3.90
3/4M91Z	91	2.8	250	4.65	3.90
3/4M100Z	100	2.5	350	4.65	3.90
3/4M105Z	105	2.5	400	5.40	4.50
3/4M110Z	110	2.3	450	5.40	4.50
3/4M120Z	120	2.0	550	5.40	4.50
3/4M130Z	130	1.9	700	5.40	4.50
3/4M150Z	150	1.7	1000	5.40	4.50
3/4M175Z	175	1.4	1200	5.40	4.50
3/4M200Z	200	1.2	1500	5.40	4.50
3/4M6.8Z10	—	—	—	5.10	4.25
3/4M7.5Z10 thru 3/4M27Z10	—	—	—	4.80	4.00
3/4M30Z10 thru 3/4M56Z10	—	—	—	6.60	5.50
3/4M62Z10 thru 3/4M100Z10	—	—	—	7.30	6.05
3/4M105Z10 thru 3/4M200Z10	—	—	—	7.95	6.65
3/4M6.8Z5	—	—	—	7.65	6.40
3/4M7.5Z5 thru 3/4M27Z5	—	—	—	7.20	6.00
3/4M30Z5 thru 3/4M56Z5	—	—	—	8.40	7.00
3/4M62Z5 thru 3/4M100Z5	—	—	—	9.45	7.90
3/4M105Z5 thru 3/4M200Z5	—	—	—	11.85	9.90

MOTOROLA GERMANIUM TRANSISTORS PNP

Type	Fig.	B Vebo Volts	Pc mw	hfe	fab mc	Use	Net 1-99
2N404	G	-25	120	40	12	Sw	2.40

MOTOROLA SILICON ZENER DIODE HANDBOOK 1.00

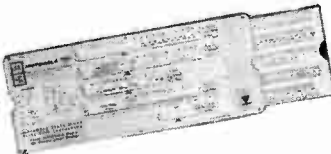
Theory, Design Characteristics and Applications of Zener Diodes



Excellent book that deals with the basic theory, design and applications of Zener diodes. Illustrates interesting characteristics of Zener diodes mathematically and graphically, and reveals great potential of the Zener diode in circuit applications. A must for the electronic engineer

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MOTOROLA ZENER DIODE SLIDE RULE CALCULATOR 1.00



This calculator will handle most of the design problems associated with Zener diode circuit applications. A considerable amount of useful design information has been included as part of the calculator, such as a basic regulator circuit, relations, and tabular design data.

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SYLVANIA TRANSISTORS

Type	Mix Dis Mw	Max Veb	Max Ic Ma	hfe	Cut-Off mc	Use	Net
2N388 Buships	150	25	200	110	8	Comp*	6.40
2N526	225	-45	-500	73	3	AF†	3.55
2N527	225	-45	-500	91	3.3	AF†	4.15
2N582	120	-25	-100	60	18	Comp†	5.60
2N587	150	40	200	30	.002	Sw*	5.20
2N1251	150	20	100	150	0.6	AF*	1.96
2N1299	150	40	—	110	5	Comp*	5.20

*PNP; †PNP; Comp—Computer; AF—Audio Frequency

SYLVANIA DIODES

Type	Description	Net
IN34AS	Miniature IN34A	.43
IN35AS	Miniature IN35	1.68
IN38BS	Miniature IN38B	.80
IN54AS	Miniature IN54A	.80
IN55A Buships	150 V Gen Purpose	1.75
IN59A	250 V Gen Purpose	4.95
IN63S	Miniature IN63	1.20
IN65S	Miniature IN65	.53
IN276	High Conduction Comp	1.65
IN456A	Silicon Hi Cond, Hi Temp	4.06
IN457A	Silicon Hi Cond, Hi Temp	4.35
IN459A	Silicon Hi Cond, Hi Temp	4.94
IN461A	Silicon Hi Cond, Hi Temp	2.28
IN463A	Silicon Hi Cond, Hi Temp	3.35
IN464A	Silicon Hi Cond, Hi Temp	3.22
IN482B	Silicon Hi Temp, Very Low Leak	3.40
IN483	Silicon Hi Temp, Hi Cond	2.40
IN483A	Silicon Hi Temp, Hi Cond	2.95
IN830A	Micro-Mir, UHF Detector	4.30
IN831	Micro-Min Mixer	9.50
IN832	Micro-Min Mixer	10.00
IN833	Micro-Min Detector	6.40
IN1611R	Video Detector, Rev Polarity	16.20



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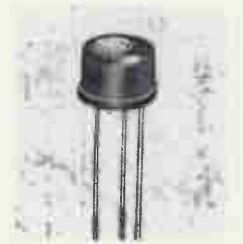
Lafayette Radio



TEXAS INSTRUMENTS TYPE 2N696 N-P-N DOUBLE-DIFFUSED SILICON MESA TRANSISTOR

High-Speed Medium Power Transistor

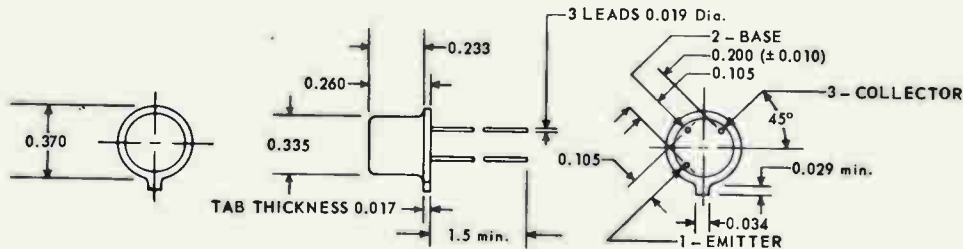
- 2 Watts at 25°C case temperature
- Beta 20 to 60
- 10-ohm saturation resistance (max)



mechanical data

The transistor is in a JEDEC TO-5 hermetically sealed, welded package with glass-to-metal hermetic seal between case and leads. Approximate weight is 1.0 gram. The case is black enameled.

THE COLLECTOR IS IN ELECTRICAL CONTACT WITH THE CASE



DIMENSIONS ARE MAXIMUM IN INCHES UNLESS OTHERWISE SPECIFIED

maximum ratings at 25°C ambient (unless otherwise noted)

Collector - Base Voltage	60 v
Collector - Emitter Voltage ($R_{BE} = 10$ ohms. See note 1)	40 v
Emitter - Base Voltage	5 v
Total Device Dissipation (See note 2)	0.6 w
Total Device Dissipation at case temperature 25°C (See note 3)	2 w
Storage Temperature Range	-65°C to +175°C

electrical characteristics at 25°C ambient (unless otherwise noted)

PARAMETERS		TEST CONDITIONS		min.	max.	unit
I_{CBO}	Collector Reverse Current	$V_{CB} = 30$ v	$I_E = 0$	—	1.0	μ a
I_{CBO}	Collector Reverse Current at 150°C	$V_{CB} = 30$ v	$I_E = 0$	—	100	μ a
BV_{CBO}	Collector-Base Breakdown Voltage	$I_{CBO} = 100$ μ a	$I_E = 0$	60	—	v
BV_{CER}^*	Collector-Emitter Breakdown Voltage	$I_{CER} = 100$ ma	$R_{BE} = 10$ ohms	40	—	v
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_{EBO} = 100$ μ a	$I_C = 0$	5	—	v
h_{FE}^*	D-C Forward Current Transfer Ratio	$I_C = 150$ ma	$V_{CE} = 10$ v	20	60	—
V_{BE}^*	Base-Emitter Voltage	$I_C = 150$ ma	$I_B = 15$ ma	—	1.3	v
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 150$ ma	$I_B = 15$ ma	—	1.5	v
$ h_{fe} $	A-C Common-Emitter Forward Current Transfer Ratio	$I_C = 50$ ma	$V_{CE} = 10$ v $f = 20$ mc	2.5	—	—
C_{ob}	Collector Capacitance	$I_E = 0$	$V_{CB} = 10$ v $f = 1$ mc	—	35	μ mf

* Pulse conditions: length = 300 μ s; duty cycle < 2%.

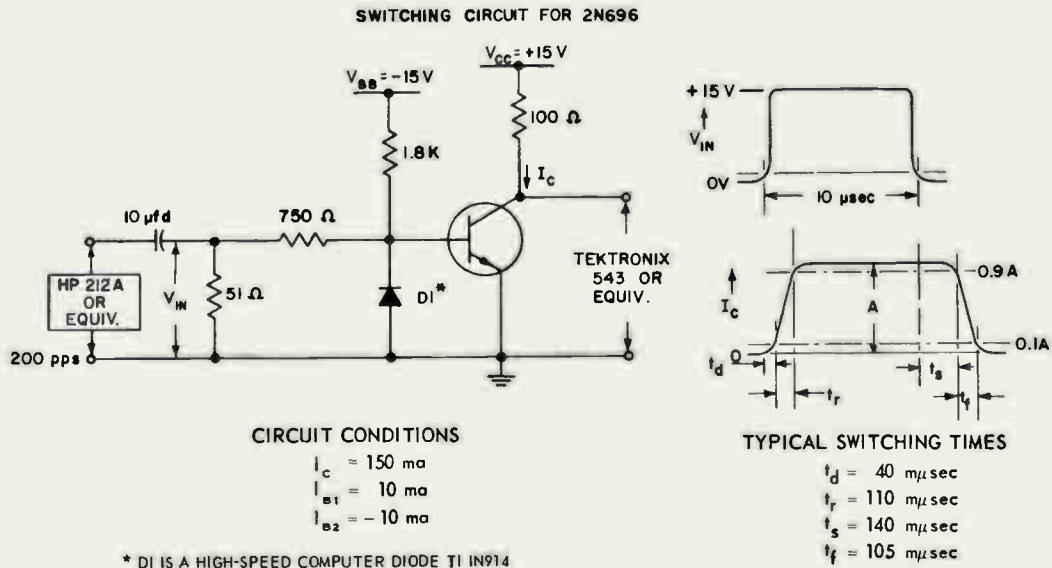
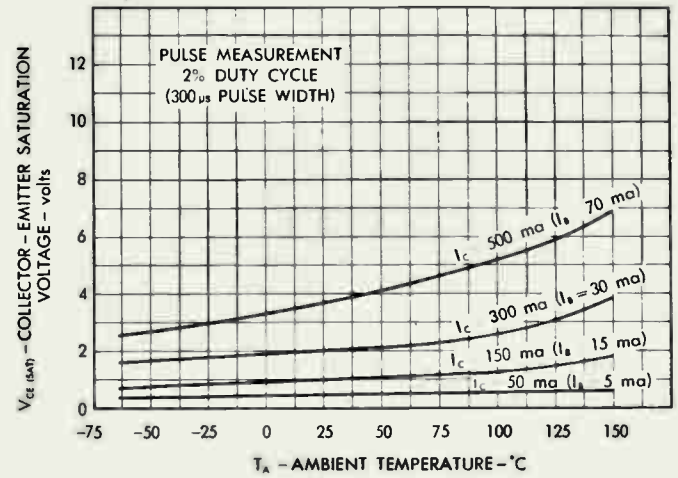
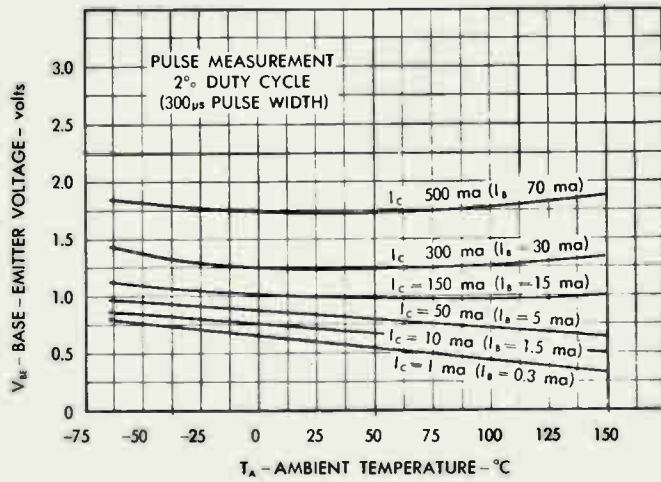
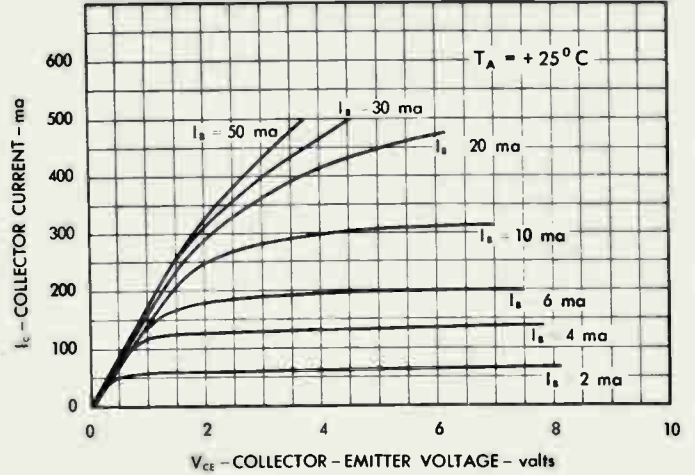
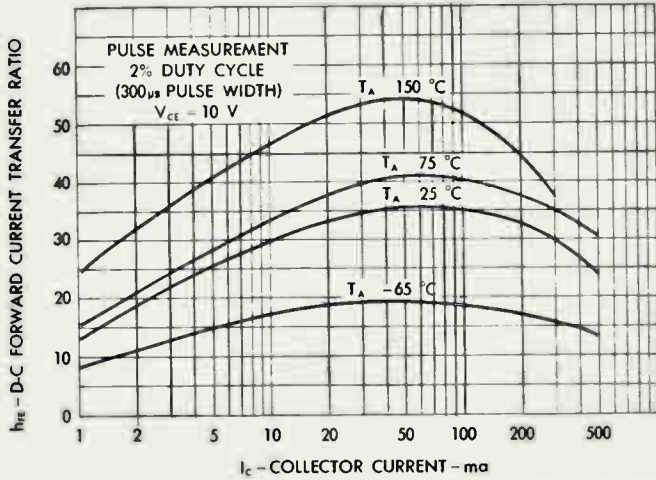
Note 1 — This is the voltage at which h_{FE} approaches one when $R_{BE} = 10$ ohms. When the emitter-base diode has a reverse voltage applied, peak collector-emitter voltage equal to BV_{CBO} minus V_{EB} may be allowed. Such conditions may be encountered in class B or C amplifiers and oscillators.

Note 2 — Derate linearly to +175°C ambient at the rate of 4mw/C°

Note 3 — Derate linearly to +175°C case at the rate of 13½ mw/C°

GET OFF-THE-SHELF DELIVERY AT FACTORY PRICES IN 1-999 QUANTITIES

TYPICAL CHARACTERISTICS



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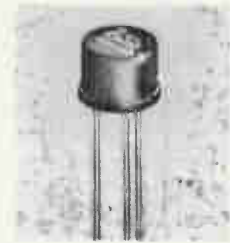
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N-P-N DOUBLE-DIFFUSED SILICON MESA TRANSISTOR

High-Speed Medium Power Transistor

- 2 Watts at 25°C case temperature
- Beta 40 to 120
- 10-ohm saturation resistance (max)



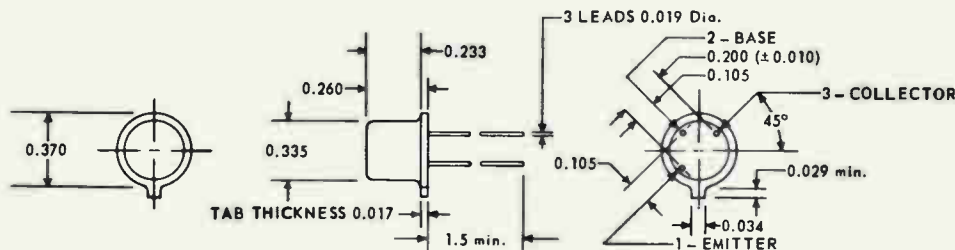
environmental tests

Each unit is heat cycled from -65°C to +175°C for ten cycles. A rigorous tumbling test subjects each unit to 12 mechanical shocks of up to 500 G's to ensure mechanical reliability. Each unit is thoroughly tested to determine the electrical characteristics. Production samples are life tested at regularly scheduled periods to ensure maximum reliability under extreme operating conditions.

mechanical data

The transistor is in a JEDEC TO-5 hermetically sealed, welded package with glass-to-metal hermetic seal between case and leads. Approximate weight is 1.0 gram. The case is black enameled.

THE COLLECTOR IS IN ELECTRICAL CONTACT WITH THE CASE



DIMENSIONS ARE MAXIMUM IN INCHES UNLESS OTHERWISE SPECIFIED

maximum ratings at 25°C ambient (unless otherwise noted)

Collector - Base Voltage	60 v
Collector - Emitter Voltage ($R_{BE} = 10$ ohms. See note 1)	40 v
Emitter - Base Voltage	5 v
Total Device Dissipation (See note 2)	0.6 w
Total Device Dissipation at case temperature 25°C (See note 3)	2 w
Storage Temperature Range	-65°C to +175°C

electrical characteristics at 25°C ambient (unless otherwise noted)

PARAMETERS		TEST CONDITIONS		min.	max.	unit
I_{CBO}	Collector Reverse Current	$V_{CB} = 30$ v	$I_E = 0$	—	1.0	μ a
I_{CBO}	Collector Reverse Current at 150°C	$V_{CB} = 30$ v	$I_E = 0$	—	100	μ a
BV_{CBO}	Collector-Base Breakdown Voltage	$I_{CBO} = 100$ μ a	$I_E = 0$	60	—	v
BV_{CER}^*	Collector-Emitter Breakdown Voltage	$I_{CER} = 100$ ma	$R_{BE} = 10$ ohms	40	—	v
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_{EBO} = 100$ μ a	$I_C = 0$	5	—	v
h_{FE}^*	D-C Forward Current Transfer Ratio	$I_C = 150$ ma	$V_{CE} = 10$ v	40	120	—
V_{BE}^*	Base-Emitter Voltage	$I_C = 150$ ma	$I_E = 15$ ma	—	1.3	v
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 150$ ma	$I_E = 15$ ma	—	1.5	v
h_{fe}	A-C Common-Emitter Forward Current Transfer Ratio	$I_C = 50$ ma	$V_{CE} = 10$ v $f = 20$ mc	2.0	—	—
C_{ob}	Collector Capacitance	$I_E = 0$	$V_{CB} = 10$ v $f = 1$ mc	—	35	μ f

* Pulse conditions: length = 300 μ s; duty cycle < 2%.

Note 1 — This is the voltage at which h_{FE} approaches one when $R_{BE} = 10$ ohms. When the emitter-base diode has a reverse voltage applied, peak collector-emitter voltage equal to BV_{CBO} minus V_{EB} may be allowed. Such conditions may be encountered in class B or C amplifiers and oscillators.

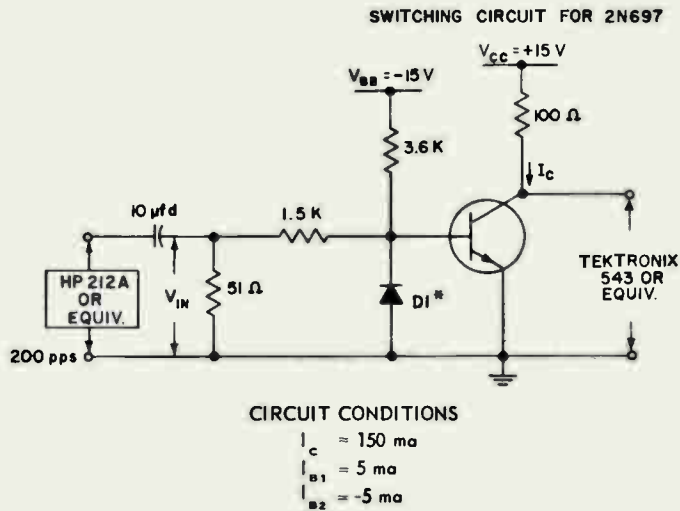
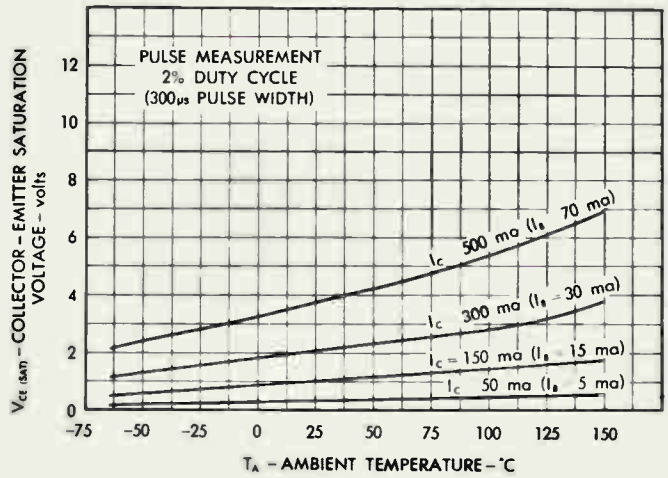
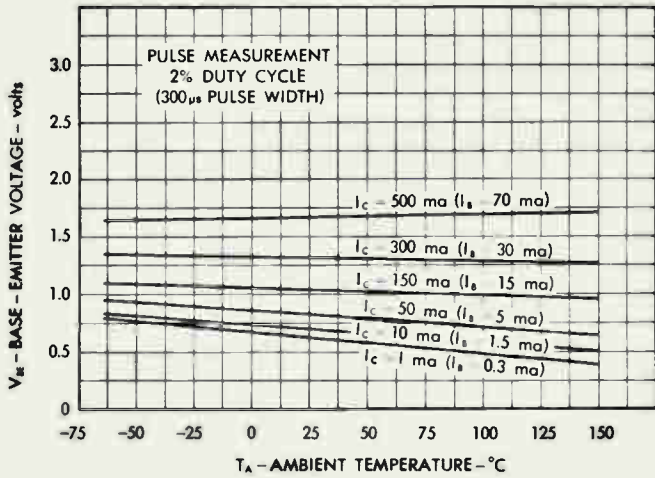
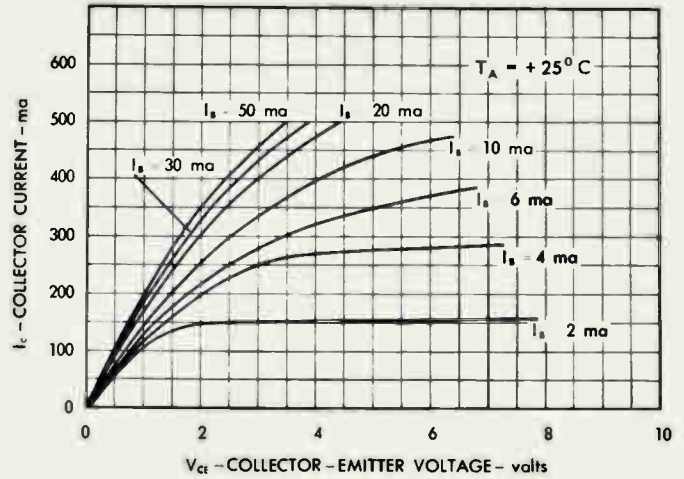
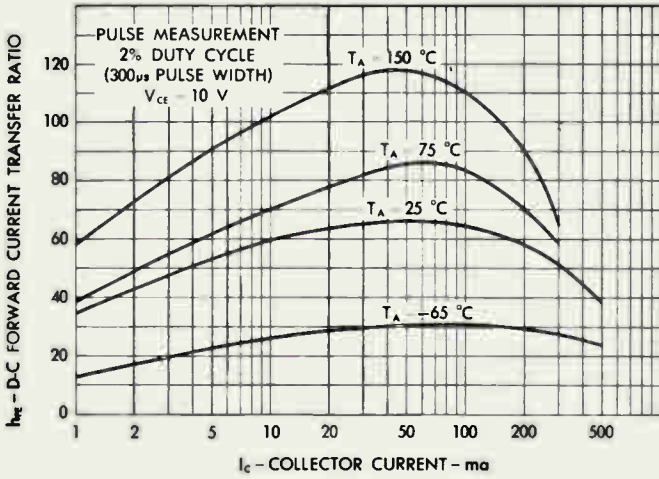
Note 2 — Derate linearly to +175°C ambient at the rate of 4mw/C°

Note 3 — Derate linearly to +175°C case at the rate of 13 1/3mw/C°

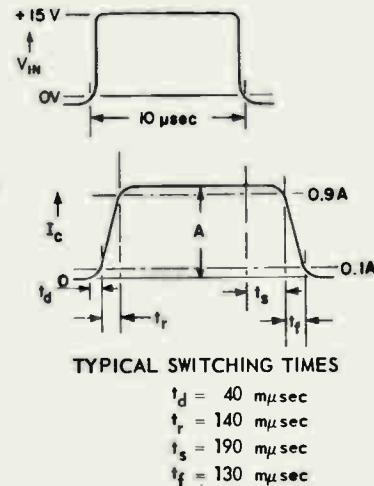
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TYPICAL CHARACTERISTICS



* DI IS A HIGH-SPEED COMPUTER DIODE TI IN914



FLASH! SEMICONDUCTOR DIRECTORY DEADLINE RELEASE!

NEW! RCA TUNNEL DIODES

A tiny device, no bigger than the head of a match, that promises to expand greatly the electronic horizons of the space age, the tunnel diodes can accomplish many tasks not possible with any other present day electronic device.

"As a result of incredible operating speed, small size and ability to withstand cosmic and atomic radiation, the tunnel diode holds tremendous promise for use in many Space Age applications such as missiles, satellites, and ultra-high-speed data-processing systems."

space vehicle through dramatic increases in the amount of circuitry possible in a small space.

- Withstands cosmic and atomic radiation in vehicles travelling in outer space.
- Greatly increases the number of "decisions" made by an electronic computer — up to a billion a second.
- Operates on extremely low power; actually, hundreds of these tunnel diodes can be operated from a 1½ volt flashlight cell.
- Operates over an extremely wide range of temperatures — from 450 degrees below zero Fahrenheit to 212 degrees above.
- Withstands shock and vibration — very simple, rugged construction.

ADVANTAGES OF TUNNEL DIODE

1. Expands the number of electronic functions that can be performed within a



TENTATIVE DATA - TUNNEL DIODE TYPES DEVELOPMENTAL TYPE NOS.

TD100
TD106

TD101
TD107

TD102
TD108

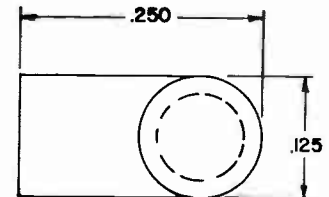
TD103
TD109

TD104
TD110

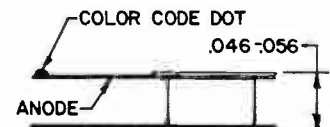
TD105
TD111

Description:

The RCA Developmental types TD100 thru TD111 are germanium Tunnel Diodes designed for use in digital pulse circuits, memory matrices, and as negative resistance amplifiers, in applications which require millimicrosecond access time or millimicrosecond cascade time.



GENERAL DATA



Maximum Ratings:

I _{forward}	I _{reverse}	T _{OPR.}	T _{storage}	P _T 25°C ^①
100 ma.	200 ma.	-55°C to 100°C	-55°C to 100°C	25 mw.

Note: When soldering to ribbon leads heat sink must be used.

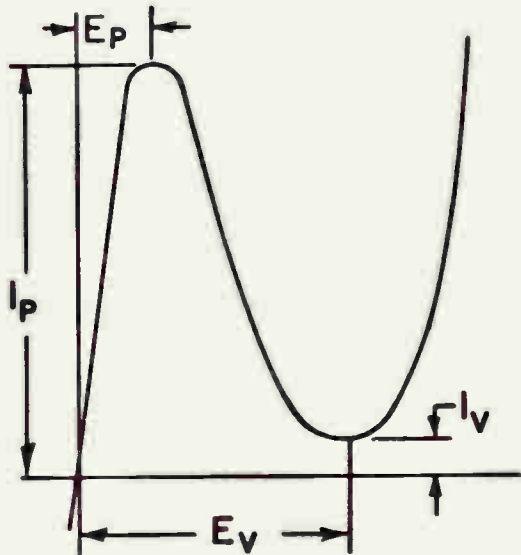
Type	Nom. Peak Current I _p in ma. ②	Range of Peak Current I _p in ma.	Max. Voltage at I _p E _p in mv. ③	Min. Voltage at I _v E _v in mv. ⑤	Min. Ratio I _p /I _v	Color Code ⑥	Avg. Oper. Pwr. Dissipation in mw. ⑪	Net
TD100	-----	1.5-7.6	65	280	4.5	⑦	-----	50.00
TD101	-----	1.5-3.1	65	280	4.5	⑧	-----	75.00
TD102	-----	2.9-5.2	65	280	4.5	⑨	-----	75.00
TD103	-----	4.2-7.6	65	280	4.5	⑩	-----	75.00
TD104	1.8	1.5-2.1	65	280	4.5	Black	0.75	140.00
TD105	2.2	1.9-2.5	65	280	4.5	Brown	0.95	140.00
TD106	2.7	2.3-3.1	65	280	4.5	Red	1.2	140.00
TD107	3.3	2.9-3.7	65	280	4.5	Orange	1.5	140.00
TD108	3.9	3.5-4.4	65	280	4.5	Yellow	1.8	140.00
TD109	4.7	4.2-5.2	65	280	4.5	Green	2.1	140.00
TD110	5.6	5.0-6.3	65	280	4.5	Blue	2.5	140.00
TD111	6.8	6.1-7.6	65	280	4.5	Violet	3.0	140.00

- Derate linearly to 0 mw. @ 100°C.
- I_p is the maximum value of current between 45 and 65 millivolts.
- E_p is the voltage at the point where I_p occurs.
- I_v is the minimum value of current at a voltage greater than E_p.
- E_v is the voltage at I_v.
- Each Tunnel Diode is marked on anode with a colored dot to indicate its nominal value of I_p.
- TD100 consists of a random grouping of types TD104 thru TD111.
- TD101 consists of a random grouping of types TD104, TD105, TD106.
- TD102 consists of a random grouping of types TD107, TD108, TD109.
- TD103 consists of a random grouping of types TD109, TD110, TD111.
- Diode in high voltage - high current state.



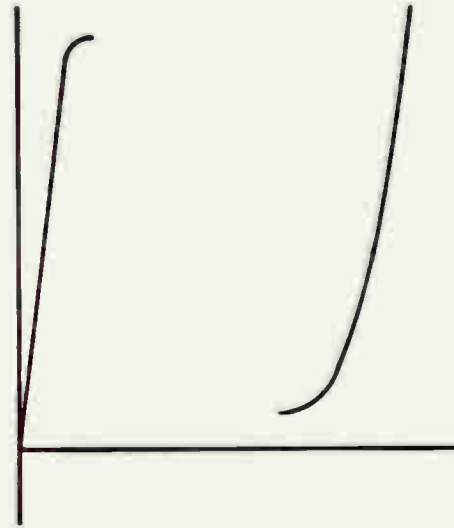
RCA TUNNEL DIODES (Cont'd)

Tentative Data - TD100 thru TD111



Tunnel Diode V-I Characteristic

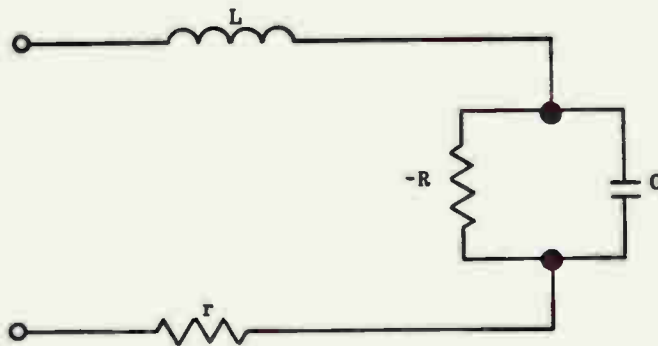
The peak current, I_p , is a function of the TD type. E_p , the voltage across the diode at the peak current, is a fixed characteristic of germanium. E_v , the voltage of the minimum valley current, I_v , also is a function of germanium.



Tunnel Diode V-I characteristic obtained on standard types of curve tracers. To obtain the negative resistance portion of the curve it is necessary to have a voltage source whose D.C. resistance is less than the steepest slope of the negative region. The D.C. impedance of the power supply, at the diode terminals, must be such that $L_{p.s.} + L < rRC$ where $L_{p.s.}$ is the power supply inductance including lead length. The other parameters are as defined below.

SMALL SIGNAL TUNNEL DIODE EQUIVALENT CIRCUIT

IN NEGATIVE RESISTANCE REGION



Typical values:

- $L \approx 0.4 \mu\text{H}$ L is due primarily to package inductance.
- $C \approx 60 \mu\text{f}$ C is the p-n junction capacitance.
- $-R \approx 30 \Omega$ $-R$ is defined as the reciprocal of the slope, of the V-I characteristic in the negative resistance region.
- $r \approx 0.4 \Omega$ r is defined as the dissipative resistance and is measured as the slope of the V-I characteristic in the reverse current direction at -150 ma. or more where the slope becomes a constant.

References:

H.S. Sommers, JR. "TUNNEL DIODES AS HIGH FREQUENCY DEVICES", Proceedings of the IRE, Vol. 47, No. 7, pp. 1201-1206; July 1959.

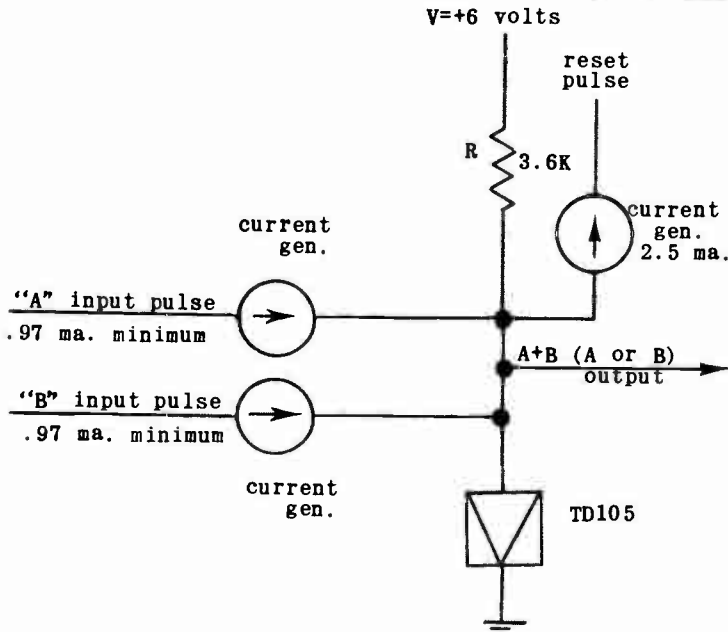
K.K.N. Chang "LOW-NOISE TUNNEL-DIODE AMPLIFIER", Proceedings of the IRE, Vol. 47, No. 7, pp. 1268-1269, July 1959.



RCA TUNNEL DIODES (Cont'd)

Tentative Data - TD100 thru TD111

"OR" GATE



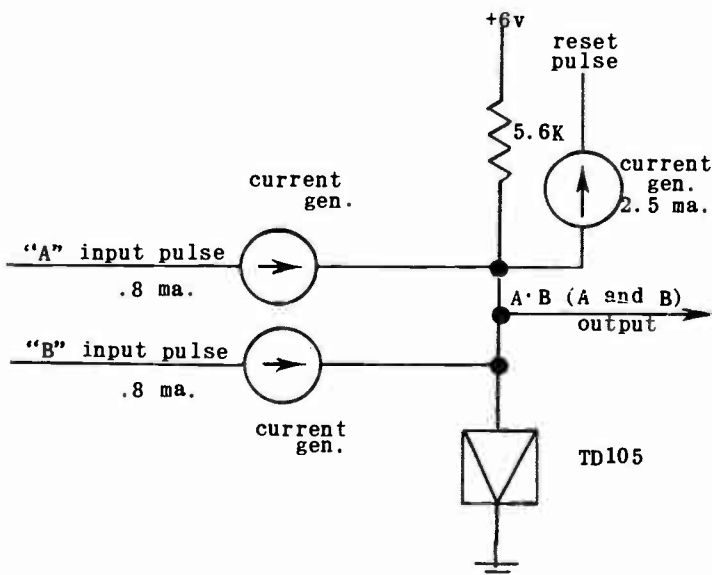
Design Criteria

The Tunnel Diode, TD105, is D.C. biased by a $3.6K\Omega$ resistor at a point below I_p . (I_p is 2.2 ma. nominal value but may be as low as 1.9 ma. Therefore using a $\pm 5\%$ resistor and a $\pm 2\%$ power supply, the worst case design occurs under the conditions of $V=6.12$ volts, $R=3.42K\Omega$, and E_p of diode .045v. The maximum bias current is 1.77 ma. This is less than I_p and insures that any TD105 diode will be stable in the "o" state*) The gate is switched to the "1" state** by application of enough current from input "A" or input "B" so that the sum of the D.C. bias current plus the "A" current and/or the "B" current exceeds I_p of the diode. This requires that the "A" current be at least 0.97 ma. to insure that all diodes will switch. (With the worst case design $V=5.88$ volts, $R=3.78K\Omega$, E_p of diode .065 volts, and $I_p=2.5$ ma. Therefore the D.C. bias current may be as low as 1.53 ma. needing 0.97 ma. of "A" input to give a total of 2.5 ma. required to insure switching.)

The reset current must be large enough to reduce the current through the diode to less than I_v . Any excess reset current will reverse bias the diode and guarantee closing of the gate yet will not damage the diode.

- *The diode is considered to be in the "o" state when the voltage across its terminals is less than E_p .
- **The diode is considered to be in the "1" state when the voltage across its terminals is greater than E_v .

"AND" GATE



Design Considerations

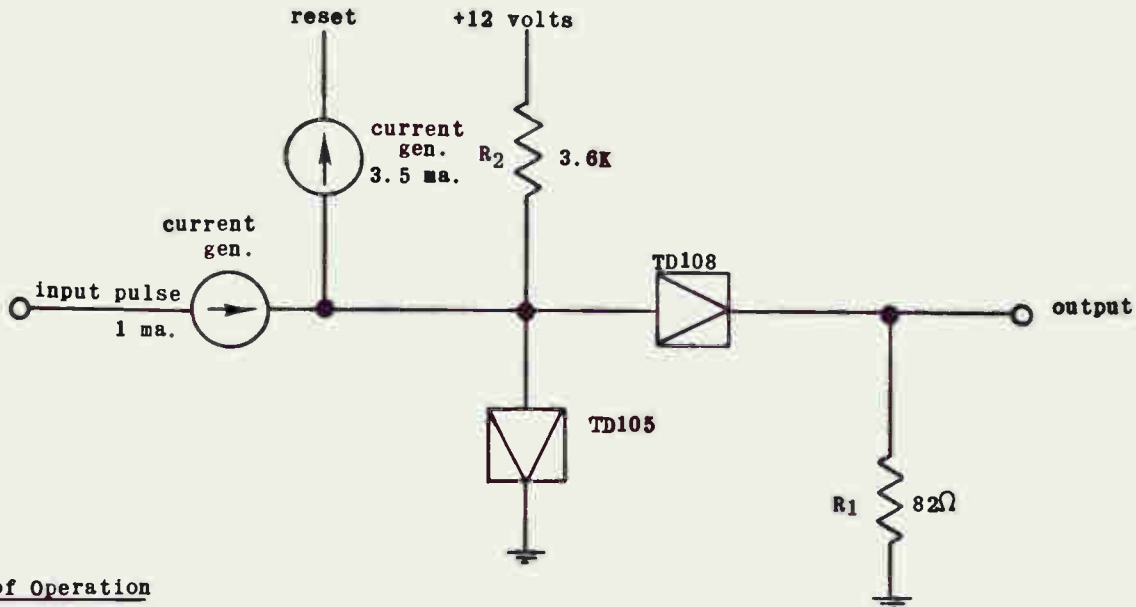
The Tunnel Diode is biased at approximately $I_p/2$ (I_p is assumed to be 2.2 ma.) The input current at "A", or at "B" must be less than $I_p - I_{bias}$ and more than $1/2(I_p - I_{bias})$. $3/4(I_p - I_{bias})$ is used as the value of the input current pulse of "A" or of "B". With only the "A" input current plus the bias current the value of I_p is not reached and no switching occurs. With the sum of the "A" input current plus the "B" input current plus the bias current the value of I_p is exceeded and TD105 switches to a "1" state. The reset pulse closes the gate.



RCA TUNNEL DIODES (Cont'd)

Tentative Data - TD100 thru TD111

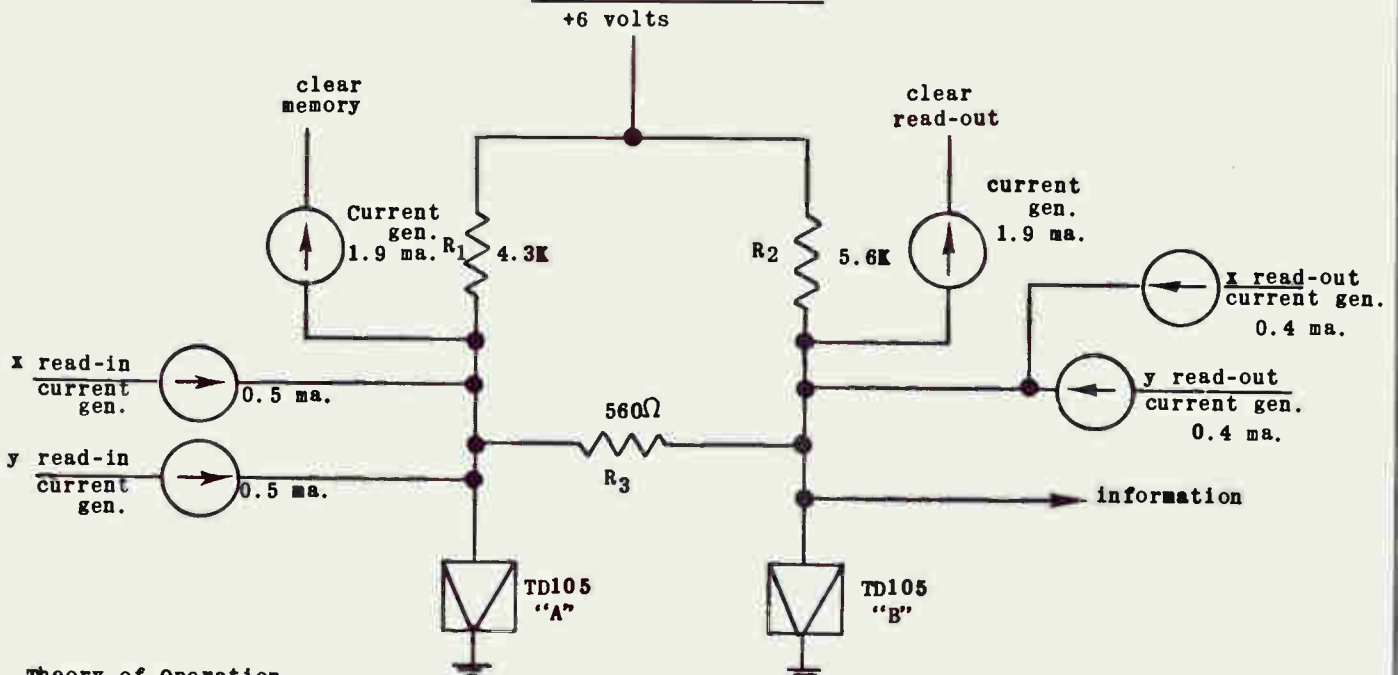
INVERTER



Theory of Operation

Tunnel Diode, TD108, is D.C. biased near I_p with a constant voltage source provided by TD105 and the load line of the 82 ohm resistor. The combination TD105 - TD108 is current limited by R_2 in such a manner that the load line of R_1 intersects TD108's V-I characteristic at two points in the positive resistance region a little below I_p and a little above I_v . With a "0" input, TD108 is in the high conduction-low voltage state causing a high voltage ("1" output) at the output terminals. TD105 is in a high voltage-low conduction state (near the point I_v , E_v , in the positive resistance region). With an input of 1 ma. ("1" input) the I_p of TD108 is exceeded and it switches to the high voltage-low conduction state causing a low voltage ("0" output) at the output terminals. TD105 takes the excess current from the constant current supply during a "0" output. The reset is used after each input signal to ensure that the TD108 is in a high conduction state, a "1" output, until triggered by the input.

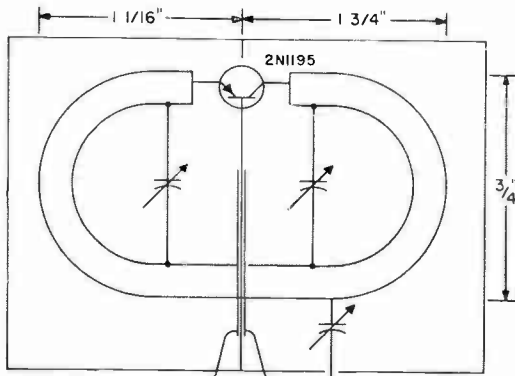
NON-DESTRUCTIVE MEMORY



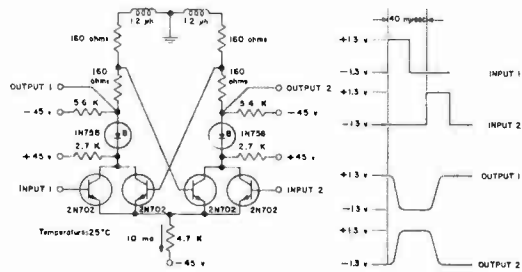
Theory of Operation

Tunnel Diode "A" is the memory element. An input signal on both x and y read-in lines switches "A" to the "1" state. To read-out, a signal on both x and y read-out lines will cause "B" to switch to the "1" state, if "A" is in the "1" state. (With "A" in the "1" state the current thru R_2 biases "B" to a point that the read-out signals will cause "B" to switch). If "A" is in the "0" state no current flows thru R_3 and "B" cannot switch.

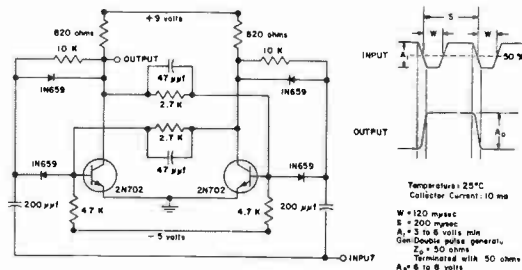
SEMICONDUCTOR INDUSTRIAL CIRCUIT APPLICATIONS



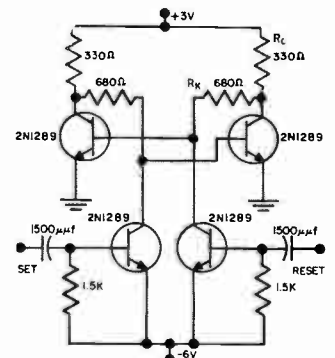
TYPICAL POWER OUTPUT
 @ 400 mc
 2N1195
 20 mw
 400-MC OSCILLATOR
 TO 50-OHM LOAD
 2N1141
 24 mw



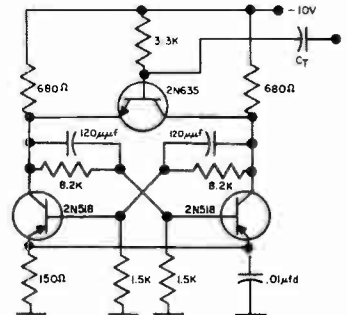
25-MC NON-SATURATED FLIP-FLOP



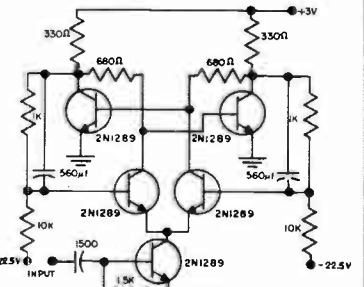
5-MC SATURATED FLIP-FLOP



TRIGGER TRANSISTORS SIMULTANEOUSLY SUPPLY CURRENT TO TURN OFF ONE SIDE OF FLIP-FLOP AND TO DEVELOP A VOLTAGE ACROSS THE COLLECTOR LOAD ON THE OTHER SIDE.

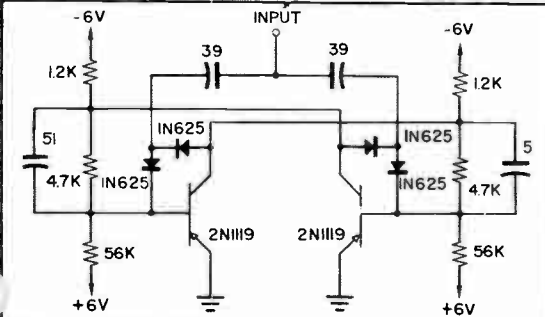


SYMMETRICAL TRANSISTOR TRIGGERS BOTH SIDES OF FLIP-FLOP SIMULTANEOUSLY.

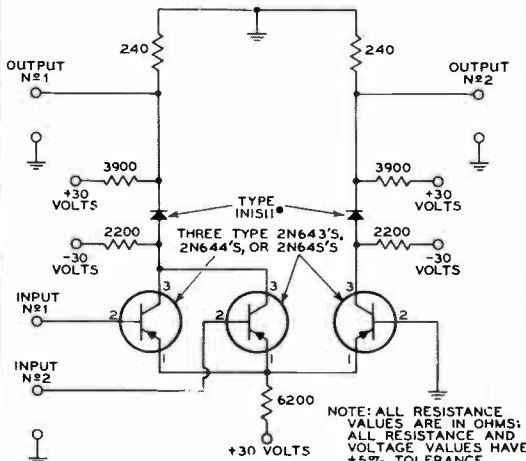


CIRCUIT OF FIGURE 1113(B) WITH TRIGGER STEERING ADDED FOR COUNTER APPLICATION

TRIGGER CIRCUITS

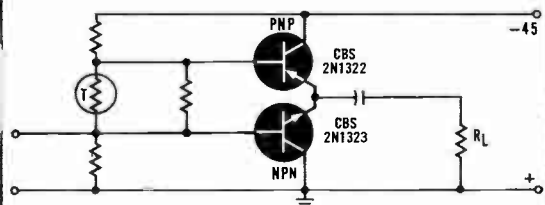


FULL-WAVE PHASE-CONTROLLED RECTIFIER WITH COMMON CATHODES.

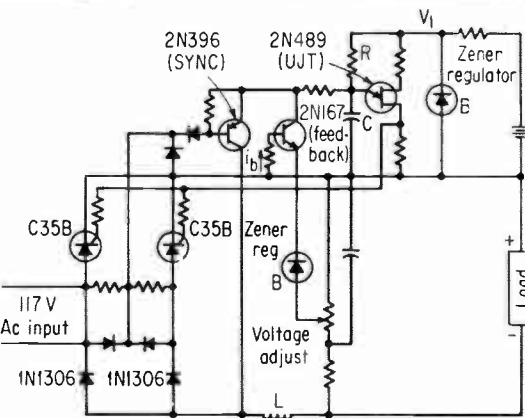


THREE-TRANSISTOR GATE

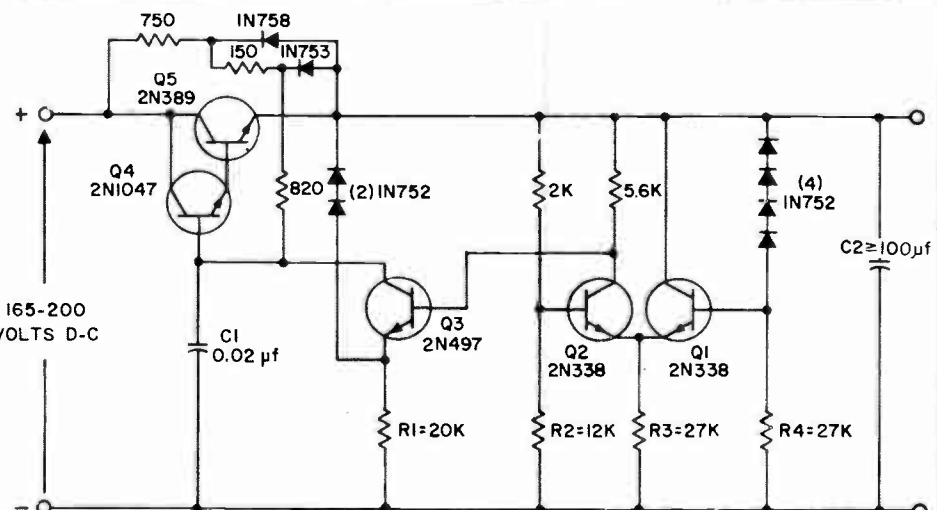
NOTE: ALL RESISTANCE VALUES ARE IN OHMS; ALL RESISTANCE AND VOLTAGE VALUES HAVE ±5% TOLERANCE. *6-VOLT ZENER DIODE



Typical Industrial Complementary Push-Pull Amplifier

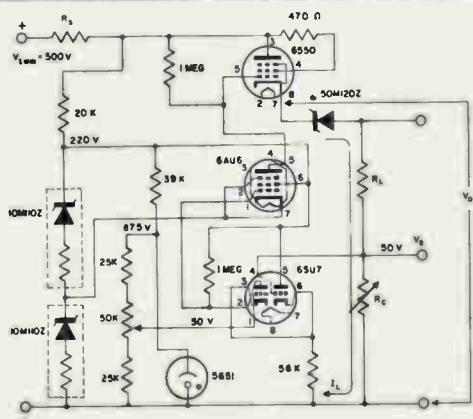


Dc voltage regulator using phase-angle control of single phase rectifier bridge.

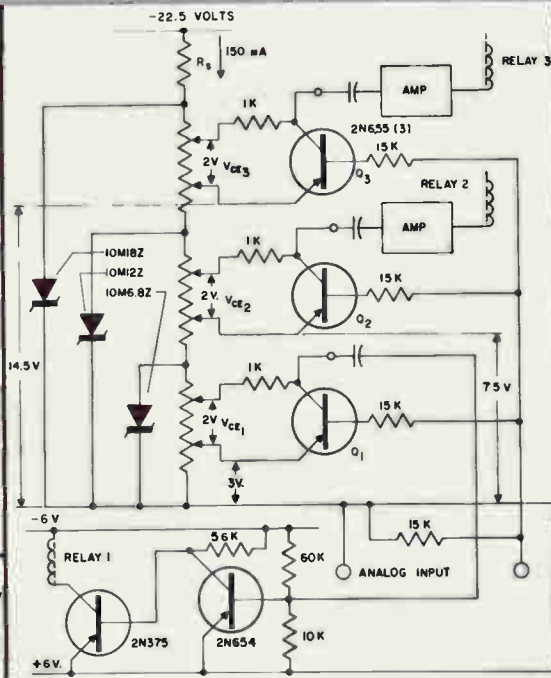


150-VOLT REGULAR CIRCUIT

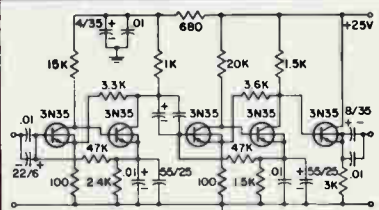
SEMICONDUCTOR INDUSTRIAL CIRCUIT APPLICATIONS



**CONSTANT CURRENT
REGULATOR CIRCUIT**

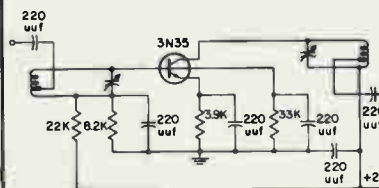


**A ZENER CONTROLLED HIGH RESOLUTION
TRANSISTORIZED QUANTIZER**



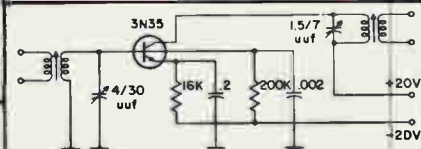
**Measured Transducer Power Gain —
Approximately 53 db
Gain Down — 3.2 db at 10 MC
Load Used — 470 Ohms**

10 MC VIDEO AMPLIFIER



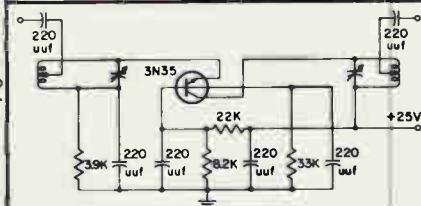
**Gain — 8 to 11 db at 108 MC
Un-neutralized**

108 MC RF AMPLIFIER



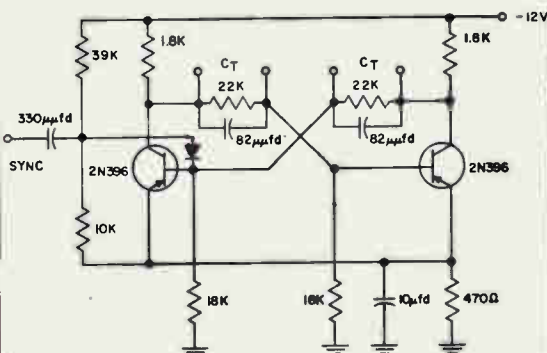
**Single Stage
Stage Gain — 12.5 db
Stage Bandwidth — 32 MC**

60 MC IF AMPLIFIER



Gain — 8 to 20 db at 150 MC

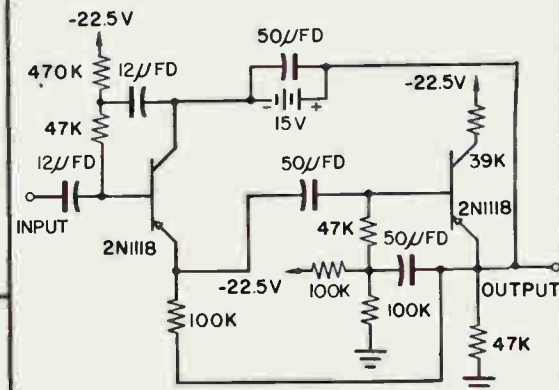
150 MC RF AMPLIFIER



**SYNC PULSE AMPLITUDE MUST EXCEED
1.5V POSITIVE; RISE TIME MUST BE LESS
THAN 1.0 μ SEC.**

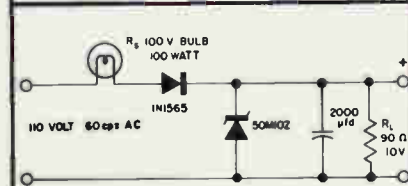
FREQUENCY RANGE 1 CPS TO 250 KCPS BY CHANGING C_T

ASTABLE MULTIVIBRATOR

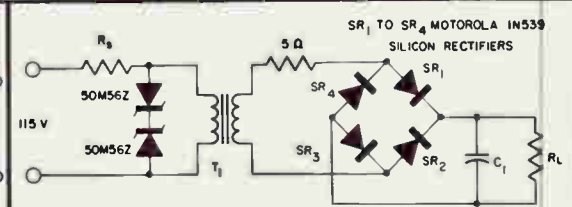


HIGH INPUT IMPEDANCE AMPLIFIER

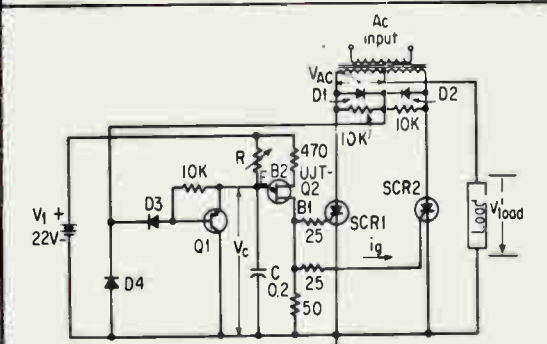
-Z_{IN} > 2 megohms (25°C—125°C)



**TRANSFORMERLESS
REGULATED SUPPLY**



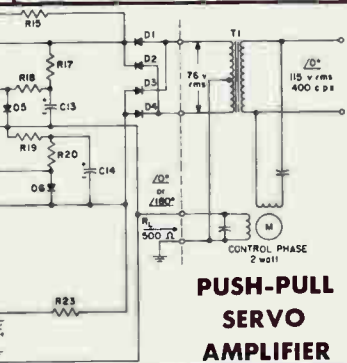
PRIMARY AC REGULATOR



**D1, D2, D3, D4 = 1N1695
Q1 = 2N396**

**Q2 = 2N489
SCR1, SCR2 = C35**

**FULL-WAVE PHASE-CONTROLLED RECTIFIER
WITH COMMON CATHODES.**



**PUSH-PULL
SERVO
AMPLIFIER**

RESISTORS

R1	68K Ω	1/4 w
R2, R3	22K Ω	1/4 w
R4	39 Ω	1/4 w
R5	2.2K Ω	1/4 w
R6, R12	15K Ω	1/4 w
R7	10K Ω	1/4 w
R8	5.1K Ω	1/4 w
R9	100 Ω	1/4 w
R10, R15, R23	1.5K Ω	1/2 w
R11	680 Ω	1/4 w
R13	4.7K Ω	1/4 w
R14, R22	390 Ω	1/4 w
R16, R21	15 Ω	1/4 w
R17, R19	3.3K Ω	2 w
R18, R20	470 Ω	1/4 w

TRANSISTORS

Q1, Q2	2N337
Q3	2N654
Q4, Q5	2N1048

CAPACITORS

C1	6.8 μf — 20 volt
C2, C3, C4, C6	47 μf — 20 volt
C5	0.1 μf
C7, C8, C11, C12	47 μf — 35 volt
C9, C10	0.001 μf
C13, C14	39 μf — 10 volt

Value depends on primary inductance of T2

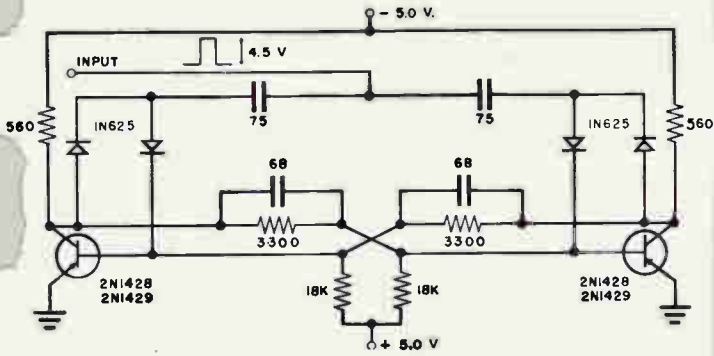
TRANSFORMERS

T1	400 cps - 4 watt - Power Transformer Step-down 115 volt to 76 volt c.t.
T2	400 cps - 50 mw - Driver Transformer Turns Ratio N1 : N2 : N3 = 3.7 : 1 : 1 Primary Current = 5 ma dc Primary Inductance ≈ 1.5 hy

DIODES

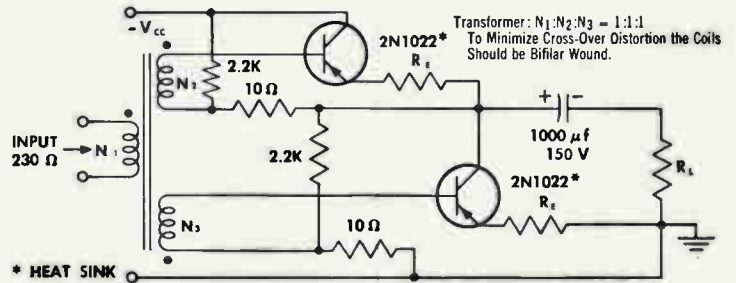
D1, D2, D3, D4	1N4645
D5, D6	1N482

SEMICONDUCTOR INDUSTRIAL CIRCUIT APPLICATIONS

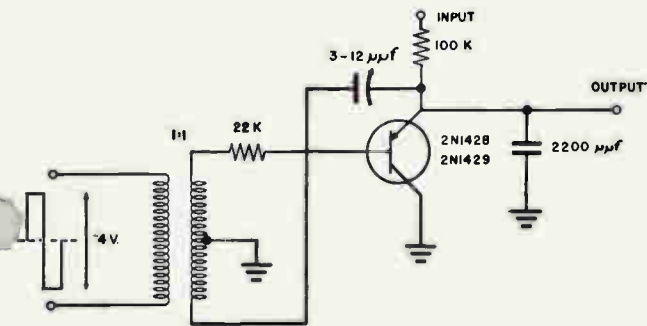


1 MC BINARY STAGE
(-55°C TO +125°C)

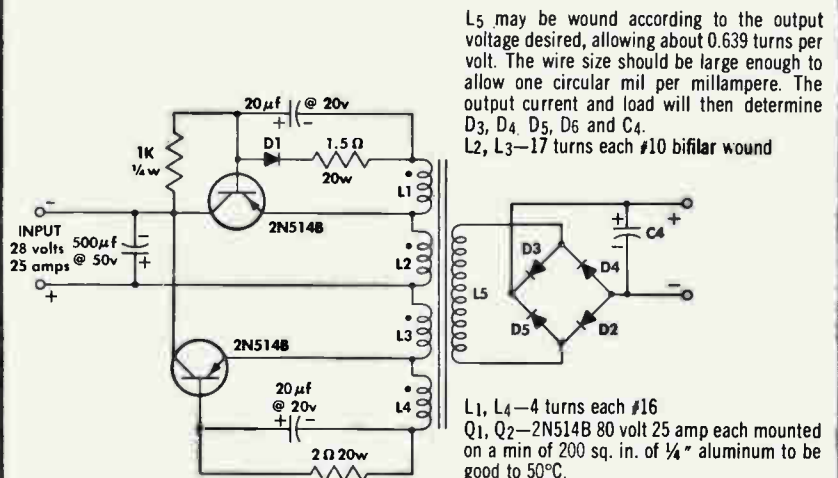
TRANSISTOR	V _{CC} V	R _L Ω	EFFICIENCY	DISTORTION 20 WATTS	R _E Ω
2N1021	80	30	66%	2%	3
2N1022	-100	50	66%	2%	5



TYPICAL 20 WATT AMPLIFIER
POWER GAIN = 23 db



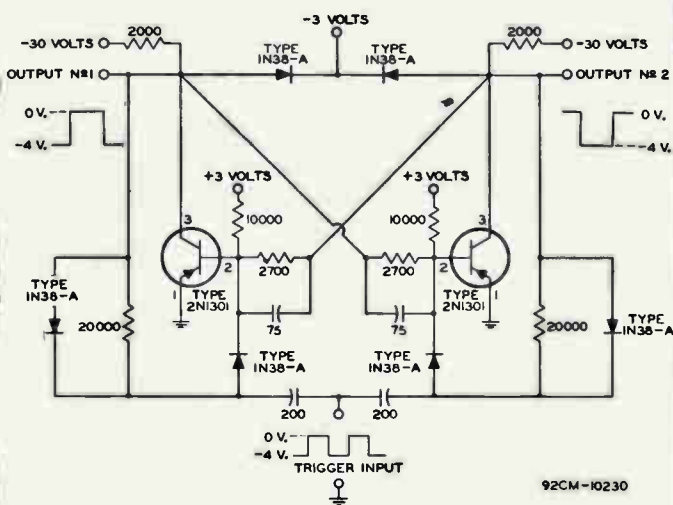
LOW LEVEL (<1MV) CHOPPER



L₅ may be wound according to the output voltage desired, allowing about 0.639 turns per volt. The wire size should be large enough to allow one circular mil per millampere. The output current and load will then determine D₃, D₄, D₅, D₆ and C₄.
L₂, L₃—17 turns each #10 bifilar wound

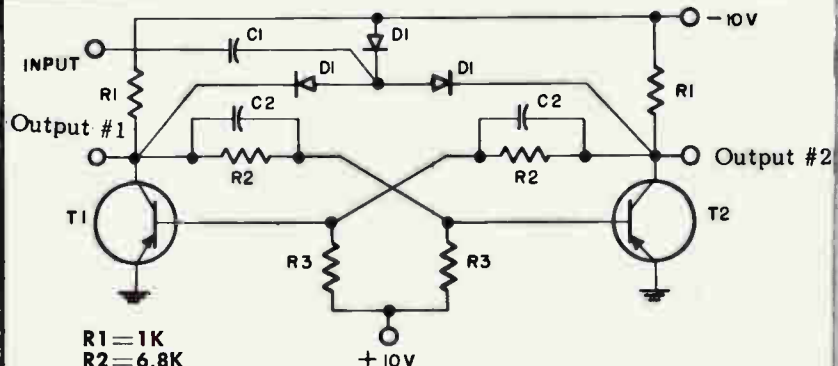
L₁, L₄—4 turns each #16
Q₁, Q₂—2N514B 80 volt 25 amp each mounted on a min of 200 sq. in. of 1/4" aluminum to be good to 50°C.
D₁—1N1124 mounted on a min of 1 sq. in. of exposed 1/16" aluminum. Operation to 50°C. Frequency about 1 kc.
Core-type 50022-2A Magnetics, Inc.

DC-TO-DC POWER CONVERTER
630-WATT OUTPUT AT 90% EFFICIENCY



NOTE: Resistance values are in ohms and capacitance values are in micromicrofarads unless otherwise stated.
All resistance, capacitance, and voltage values have ± 5% tolerance.

TYPICAL ECCLES-JORDAN TYPE "FLIP-FLOP" COUNTER CIRCUIT UTILIZING TYPE 2N1301.



R₁ = 1K
R₂ = 6.8K
R₃ = 56K
C₁ = 1000
C₂ = 33
D₁ = IN625
T₁, T₂ = 2N501

BINARY COUNTER WITH DIODE STEERING

NEW YORK

JAMAICA

**100 SIXTH AVE.
NEW YORK 13, N. Y.
WORTH 6-5300
TWX: NY 1-648**

**165-08 LIBERTY AVE.
JAMAICA 33, N. Y.
AXTEL 1-7000
TWX: NY 4-933**

John Fabian
Bill Scully
Ted Cutler
Seymour Moed

Leo Teplin
Allan Goodman
Karl Barlay
Joe Weisberger

Irv Hodas
Gerard Calone
Otto Mahlow

Sol Nussbaum
Tom Rooney
Karl Scholl

*Lafayette
Radio*



INDUSTRIAL DIVISIONS

**110 FEDERAL ST.
BOSTON 10, MASS.
HUBBARD 2-7850
TWX: BS-447U**

**139 W. 2ND ST.
PLAINFIELD, N. J.
PLAINFIELD 6-4718**

George Jaye
Austin Kenyon

BOSTON

PLAINFIELD

**24 CENTRAL AVE.
NEWARK 2, N. J.
MARKET 2-1661**

Nicholas Bozzay
Joe Schocken

William C. Evans
James Zambrano

NEWARK