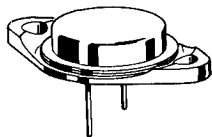


TYPE	MATERIAL	POLARITY	REPLACE- MENT	PAGE NUMBER	USE	MAXIMUM RATINGS						ELECTRICAL CHARACTERISTICS									
						P _D @ 25°C	Point Ref	T _J °C	V _{CB} (volts)	V _{CE--} (volts)	Subscript	h _{FE} @ I _C		V _{CE(SAT)} @ I _C		h _{FE}	Subscript	f _T	Subscript		
												(min)	(max)	Units	(volts)	Units		Units			
2N992	G	P			RFC	67M	A	75	20	20	R	40		1.0M			40	E			
2N993	G	P			RFC	67M	A	75	20	20	R	40		1.0M			40	E			
2N994	G	P			HSS	200M	A	150	15	6.0	O	45	140	10M	0.18	10M					
2N995	S	P			RFA	360M	A	200	20	15	O	35	140	20M	0.2	20M					100M
2N995A	S	P	2N3250	8-61	RFA	360M	A	200	20	15	O	35	140	20M	0.2	20M					100M
2N996	S	P	2N3248	8-208	RFA	360M	A	200	15	12	O	35		20M	0.3	60M					100M
2N997	S	N		8-204	AFA	500M	A	175	75	40	O	35		100*	1.6	50M					100M
2N998	S	N			SPP	500M	A	200	100	60	O				1.2	50M	1000	E			
2N999	S	N			SPP	500M	A	200	60	60	O				1.6	100M					
2N1000	G	N			MSA	150M	A	100	40	25	O	40		10M	0.25	100M					7.0M
2N1003	G	P			RFA	120M	A	100	35	20	U										
2N1004	G	P			UID	120M	A	100	35	20	U										
2N1005	S	N			AFA	150M	A	175	15	15	O	10	25	10M	0.6	10M					
2N1006	S	N			AFA	150M	A	175	15	15	O	25	150	10M	0.6	10M					
2N1007	G	P			LPA	35W	C	95	25	20	O	50	250	1.0A	1.0	2.0A					60K
2N1008	G	P		6-24	AFA	0.3W	C	85	20	15	R				0.25	0.1A					
2N1008A	G	P		6-24	AFA	0.3W	C	85	40	35	R				0.25	0.1A					
2N1008B	G	P		6-24	AFA	0.3W	C	85	60	55	R				0.25	0.1A					
2N1009	G	P			AFA	0.4W	C	85	35	35	R				0.25	0.1A					
2N1010	G	N			APC	20M	A	55	10	10	O										
2N1011	G	P		7-44	LPA	35W	C	95	80	80	S	30	75	3.0A	1.5	3.0A	20	E			5.0K
2N1012	G	N			MSA	150M	A	100	40	25	O	20		100M	0.2	100M					3.0M
2N1014	G	P	2N1552	7-67	LPA	50M	C	100	100	65	O	40	50	4.0A	0.8	4.0A					0.5M
2N1015	S	N	2N3713	7-125	PMS	150W	C	150	30	30	V	10		2.0A	1.5	2.0A					
2N1015A	S	N			PMS	150W	C	150	60	60	V	10		2.0A	1.5	2.0A					
2N1015B	S	N			PMS	150W	C	150	100	100	V	10		2.0A	1.5	2.0A					
2N1015C	S	N			PMS	150W	C	150	150	150	V	10		2.0A	1.5	2.0A					
2N1015D	S	N			PMS	150W	C	150	200	200	V	10		2.0A	1.5	2.0A					
2N1015E	S	N			PMS	150W	C	150	250	250	V	10		2.0A	1.5	2.0A					
2N1015F	S	N			PMS	150W	C	150	300	300	V	10		2.0A	1.5	2.0A					
2N1016	S	N	2N3713	7-125	PMS	150W	C	150	30	30	V	10		5.0A	2.5	5.0A					
2N1016A	S	N			PMS	150W	C	150	60	60	V	10		5.0A	2.5	5.0A					
2N1016B	S	N			PMS	150W	C	150	100	100	V	10		5.0A	2.5	5.0A					
2N1016C	S	N			PMS	150W	C	150	150	150	V	10		5.0A	2.5	5.0A					
2N1016D	S	N			PMS	150W	C	150	200	200	V	10		5.0A	2.5	5.0A					
2N1016E	S	N			PMS	150W	C	150	250	250	V	10		5.0A	2.5	5.0A					
2N1016F	S	N			PMS	150W	C	150	300	300	V	10		5.0A	2.5	5.0A					
2N1017	G	P			MSA	150M	C	85	30	10	O	70		20M	2.6	200M					15M
2N1018	G	P			MSS	200M	A	100	30	6.0	O	70		70M	2.6	200M					20M
2N1021	G	P		7-46	LPA	50W	C	95	100	100	X	23	70	1.0A	1.0	5.0A					
2N1021A	G	P	2N1021	7-46	LPA	150W	C	100	100	30	O	30	90	5.0A	0.5	5.0A					200K
2N1022	G	P			LPA	50W	C	95	120	120	X	23	70	5.0A	1.0	5.0A					
2N1022A	G	P	2N1022	7-46	LPA	150W	C	100	120	55	O	30	90	5.0A	0.5	5.0A					200K
2N1023	G	P	2N3323	9-71	RFA	120M	A	100	40	40	O	20	175	1.5M							
2N1024	S	P			AFA	0.25W	A	175	18	15	U						9.0	E			1.0M
2N1025	S	P			AFA	0.25W	A	175	40	35	U						9.0	E			1.0M
2N1026	S	P			AFA	0.25W	A	175	40	35	U						18	E			2.0M
2N1027	S	P			AFA	0.25W	A	175	18	15	U						18	E			4.0M
2N1028	S	P			AFA	0.25W	A	175	12	10	U						9.0	E			7.2M
2N1029	G	P	2N1553	7-67	LPA	90W	C	100	50	20	O	20	60	10A	1.0	10A					
2N1029A	G	P	2N1554	7-67	LPA	90W	C	100	60	30	O	20	60	10A	1.0	10A					
2N1029B	G	P	2N1555	7-67	LPA	90W	C	100	90	60	O	20	60	10A	1.0	10A					
2N1029C	G	P	2N1556	7-67	LPA	90W	C	100	100	70	O	20	60	10A	1.0	10A					
2N1030	G	P	2N1557	7-67	LPA	90W	C	100	50	20	O	50	100	10A	1.0	10A					
2N1030A	G	P	2N1558	7-67	LPA	90W	C	100	60	30	O	50	100	10A	1.0	10A					
2N1030B	G	P	2N1559	7-67	LPA	90W	C	100	90	60	O	50	100	10A	1.0	10A					
2N1030C	G	P	2N1560	7-67	LPA	90W	C	100	100	70	O	50	100	10A	1.0	10A					
2N1031	G	P	2N1553	7-67	LPA	90W	C	100	50	30	S	20	60	10A	1.0	10A					2.0K
2N1031A	G	P	2N1554	7-67	LPA	90W	C	100	60	40	S	20	60	10A	1.0	10A					2.0K
2N1031B	G	P	2N1555	7-67	LPA	90W	C	100	90	70	S	20	60	10A	1.0	10A					2.0K
2N1031C	G	P	2N1556	7-67	LPA	90W	C	100	100	80	S	20	60	10A	1.0	10A					
2N1032	G	P	2N1557	7-67	LPA	90W	C	100	50	30	S	50	100	10A	1.0	10A					2.0K
2N1032A	G	P			LPA	90W	C	100	60	40	S	50	100	10A	1.0	10A					2.0K
2N1032B	G	P			LPA	90W	C	100	90	70	S	50	100	10A	1.0	10A					2.0K
2N1032C	G	P			LPA	90W	C	100	100	80	S	50	100	10A	1.0	10A					2.0K
2N1034	S	P			AFA	250M	A	160	50	40	O				0.5	8.0M					150K
2N1035	S	P			AFA	250M	A	160	50	35	O				0.4	8.0M					200K
2N1036	S	P			AFA	250M	A	160	50	30	O				0.3	8.0M					300K
2N1037	S	P			AFA	250M	A	160	50	35	O				0.5	8.0M					150K
2N1038	G	P	2N2138	7-78	LPA	20W	C	95	40	40	V	20	60	1.0A	0.25	1.0A					8.0K
2N1039	G	P	2N2139	7-78	LPA	20W	C	95	60	60	V	20	60	1.0A	0.25	1.0A					8.0K

2N1011 (GERMANIUM)
2N1011 JAN AVAILABLE

$V_{CB} = 80\text{ V}$
 $I_C = 5\text{ A}$
 $P_D = 90\text{ W}$



CASE 11
 (TO-3)

PNP germanium power transistors for general purpose power amplifier and switching applications in military and industrial equipment. Operating temperature range and power dissipation exceed military specifications.

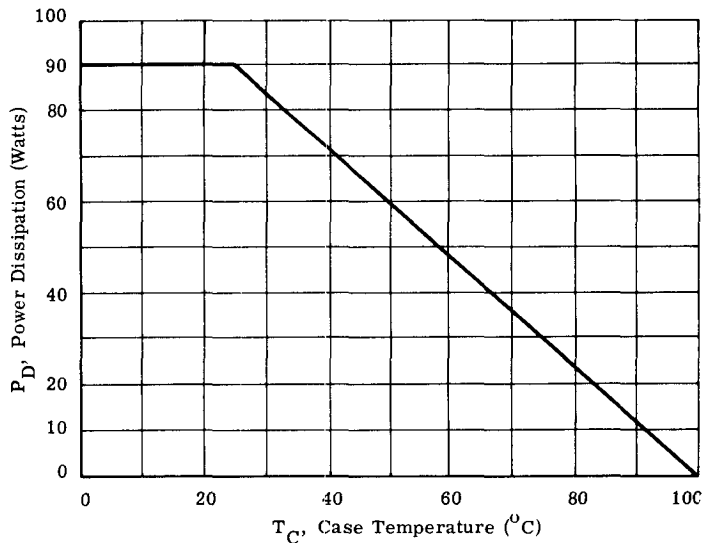
MAXIMUM RATINGS

Rating	Symbol	2N1011	Unit
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Collector-Emitter Voltage	V_{CES}	80	Vdc
Collector-Base Voltage	V_{CB}	80	Vdc
Emitter-Base Voltage	V_{EB}	40	Vdc
Collector Current	I_C	5	Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	90 1.2	Watts $\text{W}/^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +100	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	0.8	$^\circ\text{C}/\text{W}$

**POWER-TEMPERATURE
 DERATING CURVE**



2N1011 (continued)

ELECTRICAL CHARACTERISTICS (At 25°C unless otherwise noted)

Characteristic	Symbol	Minimum	Maximum	Unit
DC Current Transfer Ratio $V_{CE} = 2 \text{ V}$ $I_C = 1.0 \text{ Adc}$	h_{FE}	—	150	—
DC Current Transfer Ratio $V_{CE} = 2 \text{ V}$ $I_C = 3.0 \text{ Adc}$	h_{FE}	30	75	—
Small-Signal Current Transfer Ratio Cutoff Frequency $V_{CE} = 2 \text{ Vdc}$ $I_C = 3 \text{ Amp}$	$f_{\alpha e}$	5	—	kHz
Emitter-Base Cutoff Current $V_{EB} = 40 \text{ Vdc}$ $I_C = 0$	I_{EBO}	—	3.0	mAdc
Collector-Base Cutoff Current $V_{CB} = 2 \text{ Vdc}$ $I_E = 0$	I_{CBO}	—	200	μAdc
Collector-Base Cutoff Current $V_{CB} = 80 \text{ Vdc}$ $I_E = 0$	I_{CBO}	—	15.0	mAdc
Base Current $V_{CE} = 2 \text{ Vdc}$ $I_C = 1 \text{ Adc}$	I_B	6.7	—	mAdc
Base Current $V_{CE} = 2 \text{ Vdc}$ $I_C = 3 \text{ Adc}$	I_B	40	100	mAdc
Emitter-Base Voltage $V_{CE} = 2 \text{ Vdc}$ $I_C = 3 \text{ Adc}$	V_{EB}	—	2.0	Vdc
Floating Potential $V_{CB} = 50 \text{ Vdc}$ (Voltmeter input resistance = 10 Megohm min)	V_{fl}	—	1.0	Vdc
Collector-Emitter Saturation Voltage $I_C = 3 \text{ Adc}$ $I_B = 200 \text{ mAdc}$	$V_{CE(SAT)}$	—	1.5	Vdc
Collector-Emitter Voltage $I_C = 300 \text{ mAdc}$ $I_B = 0$	BV_{CEO}	40	—	Vdc
Collector-Emitter Voltage $I_C = 300 \text{ mAdc}$ $V_{EB} = 0$	BV_{CES}	80	—	Vdc
High-Temperature Operation $T_C = +90^\circ\text{C min}$ Collector Cutoff Current $V_{CB} = 30 \text{ Vdc}$ $I_E = 0$	I_{CBO}	—	20	mAdc