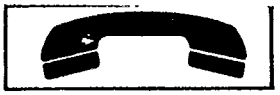
germanium transistors cont'd

germanium power transistors

Type	Polarity	Power Dissipation @ 25°C (watts)	T_J (°C)	BV_{CBO} (volts)	BV_{CE-} (volts)	h_{FE} @ Ic (Min.)	h_{FE} @ Ic (Max.)	h_{FE} @ Ic (Amps)	$V_{CE(SAT)}$ @ Ic (volts)	$V_{CE(SAT)}$ @ Ic (Amps)	hf—	f— (KHz)	Case Style
		NOTE 1			NOTE 2						NOTE 3	NOTE 4	
2N155	PNP	1.5 (A)	85	30	—	24	—	0.5	0.65	0.5	—	—	TO-3
2N156	PNP	1.5 (A)	85	30	—	24	—	0.5	0.6	1.0	—	145 (B)	TO-13
2N158	PNP	1.5 (A)	85	60	—	21	—	0.5	0.75	1.0	—	145 (B)	TO-13
2N158A	PNP	1.5 (A)	95	80	60 (O)	21	—	0.5	0.75	1.0	—	4.0 (E)	TO-13
2N173	PNP	10 (C)	95	60	50 (S)	35	70	5.0	1.0	12.0	—	—	TO-36
2N174	PNP	100 (C)	95	80	70 (S)	25	50	5.0	0.9	12.0	—	—	TO-36
2N176	PNP	90 (C)	80	40	30 (R)	25	—	0.5	0.4	3.0	—	4.0 (E)	TO-3
2N234A	PNP	25 (C)	90	—	25 (R)	—	—	—	—	—	—	—	TO-3
2N235A	PNP	25 (C)	90	—	40 (U)	—	—	—	0.8	1.0	—	—	TO-3
2N235B	PNP	25 (C)	85	50	35 (R)	—	—	—	0.8	1.0	—	5.0 (E)	TO-3
2N236A	PNP	25 (C)	95	—	35 (R)	—	—	—	1.0	3.0	—	—	TO-3
2N236B	PNP	25 —	95	50	35 (R)	—	—	—	1.0	3.0	—	5.0 (E)	TO-3
2N242	PNP	20 (C)	85	45	45 (R)	—	—	—	—	—	—	5.0 (B)	TO-3
2N250	PNP	12 (C)	80	30	—	30	—	0.5	—	—	—	8.0 (E)	TO-3
2N250A	PNP	90 (C)	100	40	35 (V)	25	100	3.0	0.7	3.0	—	200 (T)	TO-3
2N251	PNP	12 (C)	80	60	—	30	—	0.5	—	—	—	8.0 (E)	TO-3
2N251A	PNP	90 (C)	100	60	55 (V)	25	100	3.0	0.7	3.0	—	200 (T)	TO-3
2N255	PNP	1.5 (A)	85	15	—	—	—	—	—	—	—	—	TO-3
2N255A	PNP	20 (C)	85	15	15 (R)	—	—	—	—	—	—	—	TO-3
2N256	PNP	1.5 (A)	85	30	—	—	—	—	—	—	—	—	TO-3
2N256A	PNP	20 (C)	85	30	25 (R)	—	—	—	—	—	—	—	TO-3
2N257	PNP	25 (C)	85	40	—	—	—	—	—	—	—	7.0 —	TO-3
2N268	PNP	25 (C)	85	80	—	—	—	—	—	—	—	6.0 —	TO-3
2N268A	PNP	10 (C)	90	80	60 (V)	20	—	2.0	1.0	2.0	—	—	TO-3
2N277	PNP	70 (C)	95	40	40 (S)	35	70	5.0	—	—	—	—	TO-36
2N278	PNP	70 (C)	95	50	45 (S)	35	70	5.0	1.0	12	—	—	TO-36
2N285A	PNP	25 (C)	95	—	35 (R)	—	—	—	0.5	1.0	—	—	TO-3
2N285B	PNP	25 (C)	95	—	35 (R)	—	—	—	0.5	1.0	—	—	TO-3
2N296	PNP	20 (C)	85	60	—	19	—	1.0	1.0	1.0	—	4.0 (B)	TO-3
2N297	PNP	35 (C)	95	60	50 (S)	40	100	0.5	1.0	2.0	—	5.0 (E)	TO-3
2N297A	PNP	35 (C)	95	60	50 (S)	40	100	0.5	1.0	2.0	—	5.0 (E)	TO-3
2N301	PNP	11 (A)	85	40	—	—	—	—	—	—	—	—	TO-41
2N301A	PNP	11 (A)	85	60	—	—	—	—	—	—	—	—	TO-41
2N307	PNP	25 (C)	75	35	35 (R)	20	—	0.2	1.0	0.2	—	3.0 (E)	TO-3
2N307A	PNP	25 (C)	75	35	35 (R)	20	—	0.2	0.8	1.0	—	3.5 (E)	TO-3
2N350	PNP	10 (A)	100	50	40 (O)	20	60	0.7	—	—	—	—	TO-3
2N350A	PNP	90 (J)	100	50	40 (S)	20	60	0.7	1.75	3.0	—	5.0 (E)	TO-3
2N351	PNP	10 (A)	100	50	40 (O)	25	90	0.7	—	—	—	—	TO-3
2N351A	PNP	90 (J)	100	50	40 (S)	25	90	0.7	1.75	4.0	—	5.0 (E)	TO-3
2N375	PNP	58 (C)	95	80	60 (S)	35	90	1.0	1.0	2.0	—	7.0 (E)	TO-3
2N376	PNP	10 (A)	100	50	40 (O)	35	120	0.7	—	—	—	—	TO-3
2N376A	PNP	90 (J)	100	50	40 (S)	35	120	0.7	1.75	5.0	—	5.0 (E)	TO-3
2N378	PNP	50 (C)	100	20	—	40	80	2.0	1.0	2.0	—	5.0 (E)	TO-3
2N379	PNP	50 (C)	100	40	—	20	70	2.0	1.0	2.0	—	5.0 (E)	TO-3
2N380	PNP	50 (C)	100	30	—	30	70	2.0	1.0	2.0	—	5.0 (E)	TO-3
2N392	PNP	48 (C)	95	60	40 (R)	60	150	3.0	0.5	3.0	—	—	TO-3
2N399	PNP	25 (C)	90	—	35 (R)	—	—	—	1.0	1.2	—	—	TO-3
2N400	PNP	35 (C)	95	25	20 (O)	40	300	0.5	0.8	1.0	25 (E)	3.0 (E)	TO-3
2N401	PNP	25 (C)	90	—	35 (R)	—	—	—	1.0	1.2	—	—	TO-3
2N418	PNP	25 (C)	100	100	75 (R)	40	—	4.0	2.0	4.0	—	—	TO-3
2N419	PNP	35 (C)	95	25	20 (O)	50	350	0.5	0.8	1.5	25 (E)	3.0 (E)	TO-3
2N420	PNP	25 (C)	100	65	40 (R)	40	—	4.0	2.0	4.0	—	—	TO-3
2N420A	PNP	25 (C)	100	90	65 (R)	40	—	4.0	2.0	4.0	—	—	TO-3
2N441	PNP	50 (C)	95	40	40 (S)	20	40	5.0	—	—	—	—	TO-36
2N442	PNP	50 (C)	95	50	45 (S)	20	40	5.0	—	—	—	—	TO-36
2N443	PNP	50 (C)	95	60	50 (S)	20	40	5.0	1.0	12	—	—	TO-36
2N456	PNP	50 (C)	95	40	40 (X)	—	—	—	1.0	5.0	—	—	TO-3
2N456A	PNP	150 (C)	—	40	40 (O)	30	90	5.0	0.5	5.0	—	4.0 (E)	TO-3
2N456B	PNP	150 (C)	100	40	30 (O)	30	90	5.0	0.5	5.0	—	200 (T)	TO-3
2N457	PNP	50 —	95	60	60 (X)	—	—	—	1.0	5.0	—	—	TO-3
2N457A	PNP	150 (C)	—	60	60 (O)	30	90	5.0	0.5	5.0	—	4.0 (E)	TO-3
2N457B	PNP	150 (C)	100	60	40 (O)	30	90	5.0	0.5	5.0	—	200 (T)	TO-3
2N458	PNP	50 —	95	80	80 (X)	—	—	—	1.0	5.0	—	—	TO-3
2N458A	PNP	150 (C)	—	80	80 (O)	30	90	5.0	0.5	5.0	—	4.0 (E)	TO-3
2N458B	PNP	150 (C)	100	80	45 (O)	30	90	5.0	0.5	5.0	—	200 (T)	TO-3
2N511	PNP	150 (C)	—	40	—	20	60	10	0.5	10	—	260 (T)	TO-41
2N511A	PNP	150 (C)	—	60	—	20	60	10	0.5	10	—	260 (T)	TO-41
2N511B	PNP	150 (C)	—	80	—	20	60	10	0.5	10	—	260 (T)	TO-41
2N512	PNP	150 (C)	—	40	—	20	60	15	0.75	15	—	260 (T)	TO-41
2N512A	PNP	150 (C)	—	60	—	20	60	15	0.75	15	—	260 (T)	TO-41
2N512B	PNP	150 (C)	—	80	—	20	60	15	0.5	10	—	260 (T)	TO-41
2N513	PNP	150 (C)	—	40	—	20	60	20	1.25	20	—	300 (T)	TO-41
2N513A	PNP	150 (C)	—	60	—	20	60	20	1.25	20	—	260 (T)	TO-41
2N513B	PNP	150 (C)	—	80	—	20	60	20	0.5	10	—	260 (T)	TO-41
2N514	PNP	80 (C)	95	40	40 (X)	—	—	—	1.25	25	—	—	TO-41



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germanium transistors cont'd

germanium power transistors—(cont'd)

Type	Polarity	Power Dissipation @ 25°C (watts) NOTE 1	T_J (°C)	BV_{CBO} (volts)	BV_{CE-} (volts) NOTE 2	h_{FE} @ Ic (Min.)	h_{FE} @ Ic (Max.)	h_{FE} @ Ic (Amps)	$V_{CE(SAT)}$ @ Ic (volts)	$V_{CE(SAT)}$ @ Ic (Amps)	hf— NOTE 3	f— (KHz) NOTE 4	Case Style
2N514A	PNP	80 (C)	95	60	60 (X)	—	—	—	1.25	25	—	—	TO-41
2N514B	PNP	80 (C)	95	80	80 (X)	—	—	—	1.25	25	—	—	TO-41
2N538	PNP	34 (J)	95	80	60 —	20	50	2.0	—	—	—	—	MT-36
2N538A	PNP	34 (J)	95	80	60 —	20	50	2.0	0.6	2.0	—	—	MT-36
2N539	PNP	34 (J)	95	80	55 —	30	75	2.0	0.6	2.0	—	—	MT-36
2N539A	PNP	11 (J)	95	80	55 —	30	75	2.0	0.6	2.0	—	—	MT-36
2N540	PNP	34 (J)	95	80	55 —	45	113	2.0	0.6	2.0	—	—	MT-36
2N540A	PNP	34 (J)	95	80	55 —	45	113	2.0	0.6	2.0	—	—	MT-36
2N553	PNP	35 (C)	95	80	—	40	80	0.5	0.9	3.0	—	—	TO-3
2N554	PNP	40 (J)	90	—	—	—	—	—	—	—	—	—	TO-3
2N555	PNP	10 (J)	90	40	—	—	—	—	—	—	—	5.0 (B)	TO-3
2N561	PNP	50 (A)	100	80	50 (O)	20	50	4.0	—	—	—	—	TO-3
2N574	PNP	180 (J)	100	60	55 (O)	9.0	22	10	0.2	10	—	—	MT-7
2N574A	PNP	180 (J)	100	80	60 (O)	9.0	22	10	0.2	10	—	—	MT-7
2N575	PNP	180 (J)	100	60	50 (O)	19	42	10	0.5	25	—	—	MT-7
2N618	PNP	90 (C)	95	80	60 (S)	60	140	1.0	0.8	2.0	—	5.0 (E)	TO-3
2N627	PNP	90 (C)	100	40	30 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N628	PNP	90 (C)	100	60	45 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N629	PNP	90 (C)	100	80	60 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N630	PNP	90 (C)	100	100	75 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N637	PNP	60 (C)	100	—	35 (R)	30	60	3.0	1.5	3.0	—	—	TO-3
2N637A	PNP	60 (C)	100	—	65 (R)	30	60	3.0	1.5	3.0	—	—	TO-3
2N637B	PNP	60 (C)	100	—	75 (R)	30	60	3.0	1.5	3.0	—	—	TO-3
2N638	PNP	60 (C)	100	—	35 (R)	20	40	3.0	2.0	3.0	—	—	TO-3
2N638A	PNP	60 (C)	100	—	65 (R)	20	40	3.0	2.0	3.0	—	—	TO-3
2N638B	PNP	60 (C)	100	—	75 (R)	20	40	3.0	2.0	3.0	—	—	TO-3
2N663	PNP	35 (C)	100	50	25 (O)	25	75	0.5	1.0	3.0	—	15 (E)	TO-3
2N665	PNP	35 (C)	95	80	40 (O)	40	80	0.5	0.9	3.0	—	20 (E)	TO-3
2N669	PNP	62.5 (C)	100	40	30 (S)	—	250	0.5	—	—	—	3.0 (E)	TO-3
2N677	PNP	90 (C)	100	50	30 (S)	20	60	10	1.0	10	—	—	TO-41
2N677A	PNP	90 (C)	100	60	40 (S)	20	60	10	1.0	10	—	—	TO-41
2N677B	PNP	90 (C)	100	90	70 (S)	20	60	10	1.0	10	—	—	TO-41
2N677C	PNP	90 (C)	100	100	80 (S)	20	60	10	1.0	10	—	—	TO-41
2N678	PNP	90 (C)	100	50	20 (O)	50	100	10	1.0	10	—	—	TO-41
2N678A	PNP	90 (C)	100	60	30 (O)	50	100	10	1.0	10	—	—	TO-41
2N678B	PNP	90 (C)	100	90	60 (O)	50	100	10	1.0	10	—	—	TO-41
2N678C	PNP	90 (C)	100	100	70 (O)	50	100	10	1.0	10	—	—	TO-41
2N1011	PNP	35 (C)	95	80	80 (S)	30	75	3.0	1.5	3.0	20 (E)	5.0* (E)	TO-3
2N1021	PNP	50 (C)	95	100	100 (X)	23	70	1.0	1.0	5.0	—	—	TO-3
2N1021A	PNP	150 (C)	100	100	50 (O)	30	90	5.0	0.5	5.0	—	200 (T)	TO-3
2N1022	PNP	50 (C)	95	120	120 (X)	23	70	5.0	1.0	5.0	—	—	TO-3
2N1022A	PNP	150 (C)	100	120	55 (O)	30	90	5.0	0.5	5.0	—	200 (T)	TO-3
2N1031	PNP	90 (C)	100	50	30 (S)	20	60	10	1.0	10	10 (E)	2.0 (E)	TO-41
2N1031A	PNP	90 (C)	100	60	40 (S)	20	60	10	1.0	10	10 (E)	2.0 (E)	TO-41
2N1031B	PNP	90 (C)	100	90	70 (S)	20	60	10	1.0	10	10 (E)	2.0 (E)	TO-41
2N1031C	PNP	90 (C)	100	100	80 (S)	20	60	10	1.0	10	10 (E)	2.0 (E)	TO-41
2N1032	PNP	90 (C)	100	50	30 (S)	50	10	10	1.0	10	25 (E)	2.0 (E)	TO-41
2N1032A	PNP	90 (C)	100	60	40 (S)	50	100	10	1.0	10	25 (E)	2.0 (E)	TO-41
2N1032B	PNP	90 (C)	100	90	70 (S)	50	100	10	1.0	10	25 (E)	2.0 (E)	TO-41
2N1032C	PNP	90 (C)	100	100	80 (S)	50	100	10	1.0	10	25 (E)	2.0 (E)	TO-41
2N1038	PNP	20 (C)	95	40	40 (V)	20	60	1.0	0.25	1.0	18 (E)	8.0 (E)	TO-5
2N1099	PNP	50 (C)	95	80	70 (S)	35	70	5.0	0.7	12	—	—	TO-36
2N1100	PNP	50 (C)	95	100	65 (O)	25	50	5.0	0.7	12	—	—	TO-36
2N1120	PNP	45 (C)	95	80	70 (S)	20	50	10	1.0	10	30 (E)	3.0 (E)	TO-41
2N1136	PNP	—	100	60	35 (R)	50	100	3.0	1.0	3.0	—	4.0 (E)	TO-3
2N1136A	PNP	—	100	90	35 (R)	50	100	3.0	1.0	3.0	—	4.0 (E)	TO-3
2N1136B	PNP	—	100	100	75 (R)	50	100	3.0	1.0	3.0	—	4.0 (E)	TO-3
2N1137	PNP	—	100	60	25 (O)	75	150	3.0	1.0	3.0	—	—	TO-3
2N1137A	PNP	—	100	90	55 (O)	75	150	3.0	1.0	3.0	—	—	TO-3
2N1137B	PNP	—	100	100	65 (O)	75	150	3.0	1.0	3.0	—	—	TO-3
2N1138	PNP	—	100	60	25 (O)	100	200	3.0	1.0	3.0	—	—	TO-3
2N1138A	PNP	—	100	90	55 (O)	100	200	3.0	1.0	3.0	—	—	TO-3
2N1138B	PNP	—	100	100	65 (O)	100	200	3.0	1.0	3.0	—	—	TO-3
2N1146	PNP	87 (C)	95	40	20 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-3
2N1146A	PNP	87 (C)	95	60	30 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-3
2N1146B	PNP	87 (C)	95	80	40 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-3
2N1146C	PNP	87 (C)	95	100	50 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-3
2N1147	PNP	87 (C)	95	40	20 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-41
2N1147A	PNP	87 (C)	95	60	30 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-41
2N1147B	PNP	87 (C)	95	80	40 (O)	60	150	5.0	1.0	15	—	0.15*(E)	TO-41
2N1147C	PNP	87 (C)	95	100	50 (O)	60	150	5.0	1.0	15	—	0.15 (E)	TO-41
2N1157	PNP	187 (J)	100	60	45 (O)	38	84	10	0.8	40	—	75 (T)	MT-7
2N1157A	PNP	187 (J)	100	80	50 (O)	38	84	10	0.8	40	—	75 (T)	MT-7
2N1159	PNP	35 (C)	95	80	60 (O)	30	75	3.0	1.0	3.0	—	—	TO-3
2N1160	PNP	35 (C)	95	80	60 (O)	20	50	5.0	1.0	5.0	—	—	TO-3

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germanium transistors cont'd

germanium power transistors—(cont'd)

Type	Polarity	Power Dissipation @ 25°C (watts)	T_J (°C)	BV_{CBO} (volts)	BV_{CE-} (volts)	h_{FE} @ Ic (Min.)	h_{FE} @ Ic (Max.)	h_{FE} @ Ic (Amps)	$V_{CE(SAT)}$ @ Ic (volts)	$V_{CE(SAT)}$ @ Ic (Amps)	hf—	f— (KHz)	Case Style
		NOTE 1			NOTE 2						NOTE 3	NOTE 4	
2N1162	PNP	90 (C)	100	50	35 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-3
2N1162A	PNP	90 (C)	100	50	35 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-3
2N1163	PNP	90 (C)	100	50	35 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-41
2N1163A	PNP	90 (C)	100	50	35 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-41
2N1164	PNP	90 (C)	100	80	60 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-3
2N1164A	PNP	90 (C)	100	80	60 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-3
2N1165	PNP	90 (C)	100	80	60 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-41
2N1165A	PNP	90 (C)	100	80	60 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-41
2N1166	PNP	90 (C)	100	100	75 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-3
2N1166A	PNP	90 (C)	100	100	75 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-3
2N1167	PNP	90 (C)	100	100	75 (S)	15	65	25	0.8	25	—	1.0 (E)	TO-41
2N1167A	PNP	90 (C)	100	100	75 (S)	15	65	25	0.8	25	—	3.0 (E)	TO-41
2N1168	PNP	45 (C)	95	50	30 (R)	—	—	—	—	—	—	—	TO-3
2N1202	PNP	34 (J)	95	80	60 (O)	40	120	0.5	0.3	0.5	—	200 (T)	MT-36
2N1203	PNP	34 (J)	95	120	70 (O)	25	75	2.0	0.6	2.0	—	200 (T)	MT-36
2N1227	PNP	50 (C)	95	35	20 (O)	50	350	0.5	0.8	1.5	25 (E)	3.0 (E)	TO-3
2N1261	PNP	34 (J)	95	80	40 —	20	50	2.0	0.6	2.0	—	200 (T)	MT-36
2N1262	PNP	35 (J)	95	80	45 (O)	30	75	2.0	0.6	2.0	—	200 (T)	MT-36
2N1263	PNP	34 (J)	95	80	45 (O)	45	113	2.0	0.6	2.0	—	200 (T)	MT-36
2N1358	PNP	90 —	95	80	40 (O)	40	80	1.2	0.7	12	—	100 (B)	TO-36
2N1359	PNP	90 (J)	100	50	40 (S)	35	90	1.0	0.1	2.0	—	5.0 (E)	TO-3
2N1360	PNP	90 (J)	100	50	40 (S)	60	140	1.0	1.0	2.0	—	5.0 (E)	TO-3
2N1362	PNP	90 (J)	100	100	75 (S)	35	90	1.0	1.0	2.0	—	5.0 (E)	TO-3
2N1363	PNP	90 (J)	100	100	75 (S)	60	140	1.0	1.0	2.0	—	5.0 (E)	TO-3
2N1364	PNP	90 (J)	100	120	100 (S)	35	90	1.0	1.0	2.0	—	5.0 (E)	TO-3
2N1365	PNP	90 (J)	100	120	100 (S)	60	140	1.0	1.0	2.0	—	5.0 (E)	TO-3
2N1412	PNP	70 (C)	95	100	65 (O)	25	50	5.0	0.7	12	—	—	TO-36
2N1501	PNP	34 (J)	95	60	40 —	25	100	2.0	0.6	2.0	—	200 (T)	MT-36
2N1502	PNP	34 (J)	95	40	40 —	25	100	2.0	0.6	2.0	—	200 (T)	MT-36
2N1529	PNP	90 (C)	100	40	30 (S)	20	40	3.0	1.5	3.0	—	—	TO-3
2N1529A	PNP	90 (C)	100	40	20 (O)	20	40	3.0	1.5	3.0	—	5.0 (E)	TO-3
2N1530	PNP	90 (C)	100	60	45 (S)	20	40	3.0	1.5	3.0	—	—	TO-3
2N1530A	PNP	90 (C)	100	60	30 (O)	20	40	3.0	1.5	3.0	—	5.0 (E)	TO-3
2N1531	PNP	90 (C)	100	80	60 (S)	20	40	3.0	1.5	3.0	—	—	TO-3
2N1531A	PNP	90 (C)	100	80	40 (O)	20	40	3.0	1.5	3.0	—	5.0 (E)	TO-3
2N1532	PNP	90 (C)	100	100	75 (S)	20	40	3.0	1.5	3.0	—	—	TO-3
2N1532A	PNP	90 (C)	100	100	50 (O)	20	40	3.0	1.5	3.0	—	5.0 (E)	TO-3
2N1533	PNP	90 (C)	100	120	90 (S)	20	40	3.0	1.5	3.0	—	—	TO-3
2N1534	PNP	90 (C)	100	40	30 (S)	35	70	3.0	1.2	3.0	—	—	TO-3
2N1534A	PNP	90 (C)	100	40	20 (O)	35	70	3.0	1.2	3.0	—	5.0 (E)	TO-3
2N1535	PNP	90 (C)	100	60	45 (S)	45	70	3.0	1.2	3.0	—	—	TO-3
2N1535A	PNP	90 (C)	100	60	30 (O)	35	70	3.0	1.2	3.0	—	5.0 (E)	TO-3
2N1536	PNP	90 (C)	100	80	60 (S)	35	70	3.0	1.2	3.0	—	—	TO-3
2N1536A	PNP	90 (C)	100	80	40 (O)	35	70	3.0	1.2	3.0	—	5.0 (E)	TO-3
2N1537	PNP	90 (C)	100	100	75 (S)	35	70	3.0	1.2	3.0	—	—	TO-3
2N1537A	PNP	90 (C)	100	100	50 (O)	35	70	3.0	1.2	3.0	—	5.0 (E)	TO-3
2N1538	PNP	90 (C)	100	120	90 (S)	35	70	3.0	1.2	3.0	—	—	TO-3
2N1539	PNP	90 (C)	100	40	30 (S)	50	100	3.0	0.3	3.0	—	—	TO-3
2N1539A	PNP	90 (C)	100	40	20 (O)	50	100	3.0	0.3	3.0	—	—	TO-3
2N1540	PNP	90 (C)	100	60	45 (S)	50	100	3.0	0.3	3.0	—	3.0 (E)	TO-3
2N1540A	PNP	90 (C)	100	60	30 (O)	50	100	3.0	0.3	3.0	—	—	TO-3
2N1541	PNP	90 (C)	100	80	60 (S)	50	100	3.0	0.3	3.0	—	3.0 (E)	TO-3
2N1541A	PNP	90 (C)	100	80	40 (O)	50	100	3.0	0.3	3.0	—	—	TO-3
2N1542	PNP	90 (C)	100	100	75 (S)	50	100	3.0	0.3	3.0	—	3.0 (E)	TO-3
2N1542A	PNP	90 (C)	100	100	50 (O)	50	100	3.0	0.3	3.0	—	—	TO-3
2N1543	PNP	90 (C)	100	120	90 (S)	50	100	3.0	0.3	3.0	—	3.0 (E)	TO-3
2N1544	PNP	90 (C)	100	40	30 (S)	75	150	3.0	0.2	3.0	—	—	TO-3
2N1544A	PNP	90 (C)	100	40	30 (S)	75	—	3.0	0.2	3.0	—	1.0 (E)	TO-3
2N1545	PNP	90 (C)	100	60	45 (S)	75	150	3.0	0.2	3.0	—	3.0 (E)	TO-3
2N1545A	PNP	90 (C)	100	60	45 (S)	75	—	3.0	0.2	3.0	—	1.0 (E)	TO-3
2N1546	PNP	90 (C)	100	80	60 (S)	75	150	3.0	0.2	3.0	—	3.0 (E)	TO-3
2N1546A	PNP	90 (C)	100	80	60 (S)	75	—	3.0	0.2	3.0	—	1.0 (E)	TO-3
2N1547	PNP	90 (C)	100	100	75 (S)	75	150	3.0	0.2	3.0	—	3.0 (E)	TO-3
2N1547A	PNP	90 (C)	100	100	75 (S)	75	—	3.0	0.2	3.0	—	1.0 (E)	TO-3
2N1548	PNP	90 (C)	100	120	90 (S)	75	150	3.0	0.2	3.0	—	3.0 (E)	TO-3
2N1549	PNP	90 (C)	100	40	30 (S)	10	30	10	1.0	10	—	1.0 (E)	TO-3
2N1549A	PNP	90 (C)	100	40	30 (S)	10	30	10	1.0	10	—	—	TO-3
2N1550	PNP	90 (C)	100	60	45 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N1550A	PNP	90 (C)	100	60	45 (S)	10	30	10	1.0	10	—	—	TO-3
2N1551	PNP	90 (C)	100	80	60 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N1551A	PNP	90 (C)	100	80	60 (S)	10	30	10	1.0	10	—	—	TO-3
2N1552	PNP	90 (C)	100	100	75 (S)	10	30	10	1.0	10	—	5.0 (E)	TO-3
2N1552A	PNP	90 (C)	100	100	75 (S)	10	30	10	1.0	10	—	—	TO-3
2N1553	PNP	90 (C)	100	40	30 (S)	30	60	10	0.5	10	—	5.0 (E)	TO-3
2N1553A	PNP	90 (C)	100	40	20 (O)	30	60	10	0.5	10	—	1.0 (E)	TO-3
												3.0 (E)	TO-3

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germanium transistors cont'd

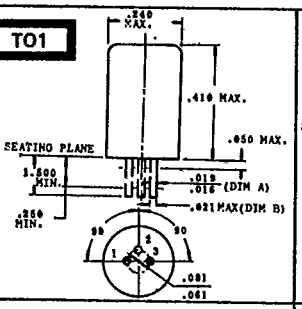
germanium power transistors — (cont'd)

Type	Polarity	Power Dissipation @ 25°C (watts)	T_J (°C)	BV_{CBO} (volts)	BV_{CE-} (volts)	h_{FE} @ I_C (Min.)	h_{FE} @ I_C (Max.)	h_{FE} @ I_C (Amps)	$V_{CE(SAT)}$ @ I_C (volts)	$V_{CE(SAT)}$ @ I_C (Amps)	hf—	f— (KHz)	Case Style
		NOTE 1			NOTE 2						NOTE 3	NOTE 4	
2N1554	PNP	90 (C)	100	60	45 (S)	30	60	10	0.5	10	—	1.0 (E)	TO-3
2N1554A	PNP	90 (C)	100	60	30 (O)	30	60	10	0.5	10	—	3.0 (E)	TO-3
2N1555	PNP	90 (C)	100	80	60 (S)	30	60	10	0.5	10	—	1.0 (E)	TO-3
2N1555A	PNP	90 (C)	100	80	40 (O)	30	60	10	0.5	10	—	3.0 (E)	TO-3
2N1556	PNP	90 (C)	100	100	75 (S)	30	60	10	0.5	10	—	1.0 (E)	TO-3
2N1556A	PNP	90 (C)	100	100	50 (O)	30	60	10	0.5	10	—	3.0 (E)	TO-3
2N1557	PNP	90 (C)	100	40	30 (S)	50	100	10	0.4	10	—	1.0 (E)	TO-3
2N1557A	PNP	90 (C)	100	40	20 (O)	50	100	10	0.5	10	—	3.0 (E)	TO-3
2N1558	PNP	90 (C)	100	60	45 (S)	50	100	10	0.4	10	—	1.0 (E)	TO-3
2N1558A	PNP	90 (C)	100	60	30 (O)	20	100	10	0.5	10	—	3.0 (E)	TO-3
2N1559	PNP	90 (C)	100	80	60 (S)	50	100	10	0.4	10	—	1.0 (E)	TO-3
2N1559A	PNP	90 (C)	100	80	40 (O)	50	100	10	0.5	10	—	3.0 (E)	TO-3
2N1560	PNP	90 (C)	100	100	75 (S)	50	100	10	0.4	10	—	1.0 (E)	TO-3
2N1560A	PNP	90 (C)	100	100	50 (O)	50	100	10	0.5	10	—	3.0 (E)	TO-3
2N1970	PNP	150 (C)	100	100	50 (B)	17	40	5	1	12	—	5.0 (E)	TO-36
2N1971	PNP		100	80	40 (O)	25	60	.5	.9	3.0	—	15 (E)	TO-3
2N1980	PNP	170 (C)	100	50	30 (O)	50	100	5.0	0.5	5.0	—	3.0 (E)	TO-36
2N1981	PNP	170 (C)	100	70	40 (O)	50	100	5.0	0.5	5.0	—	3.0 (E)	TO-36
2N1982	PNP	170 (C)	100	90	50 (O)	50	100	5.0	0.5	5.0	—	3.0 (E)	TO-36
2N2075	PNP	170 (C)	110	80	80 (S)	20	40	5.0	0.7	12	—	5.0 (E)	TO-36
2N2076	PNP	170 (C)	110	70	70 (S)	20	40	5.0	0.7	12	—	5.0 (E)	TO-36
2N2077	PNP	170 (C)	110	50	50 (S)	20	40	5.0	0.9	12	—	5.0 (E)	TO-36
2N2078	PNP	170 (C)	110	40	40 (S)	20	40	5.0	0.9	12	—	5.0 (E)	TO-36
2N2079	PNP	170 (C)	110	80	80 (S)	35	70	5.0	0.7	12	—	5.0 (E)	TO-36
2N2080	PNP	170 (C)	110	70	70 (S)	35	70	5.0	0.7	12	—	5.0 (E)	TO-36
2N2081	PNP	170 (C)	110	50	50 (S)	35	70	5.0	0.9	12	—	5.0 (E)	TO-36
2N2082	PNP	170 (C)	110	40	40 (S)	35	70	5.0	0.9	12	—	5.0 (E)	TO-36
2N2138	PNP	62.5 (C)	100	45	45 (S)	30	60	0.5	0.5	2.0	—	12 (E)	TO-3
2N2139	PNP	62.5 (C)	100	60	60 (S)	30	60	0.5	0.5	2.0	—	12 (E)	TO-3
2N2140	PNP	62.5 (C)	100	75	75 (S)	30	60	0.5	0.5	2.0	—	12 (E)	TO-3
2N2141	PNP	62.5 (C)	100	90	90 (S)	30	60	0.5	0.5	2.0	—	12 (E)	TO-3
2N2142	PNP	62.5 (C)	100	30	30 (S)	50	100	0.5	0.5	2.0	—	12 (E)	TO-3
2N2143	PNP	62.5 (C)	100	45	45 (S)	50	100	0.5	0.5	2.0	—	12 (E)	TO-3
2N2144	PNP	62.5 (C)	100	60	60 (S)	50	100	0.5	0.5	2.0	—	12 (E)	TO-3
2N2145	PNP	62.5 (C)	100	75	75 (S)	50	100	0.5	0.5	2.0	—	12 (E)	TO-3
2N2146	PNP	62.5 (C)	100	90	90 (S)	50	100	0.5	0.5	2.0	—	12 (E)	TO-3
2N2158	PNP	170 (C)	110	75	75 (S)	80	160	5.0	0.1	5.0	—	2.0 (E)	TO-36
2N2266	PNP	50 (J)	125	100	55 —	40	120	0.5	0.75	5.0	—	200 (T)	MT-36
2N2267	PNP	50 (J)	125	120	55 —	40	120	0.5	0.75	5.0	—	200 (T)	MT-36
2N2268	PNP	50 (J)	125	100	55 —	40	120	0.5	0.75	5.0	—	200 (T)	MT-36
2N2269	PNP	50 (J)	125	120	55 —	40	120	0.5	0.75	5.0	—	200 (T)	MT-36
2N2445	PNP	90 (C)	100	100	50 (O)	30	60	10	1.0	10	30 (E)	0.1* (T)	TO-41
2N2730	PNP	140 (C)	110	80	60 (O)	30	120	25	0.25	25	—	200 (T)	TO-36
2N2731	PNP	140 (C)	110	60	45 (O)	30	120	25	0.25	25	—	200 (T)	TO-36
2N2732	PNP	140 (C)	110	40	30 (O)	30	120	25	0.25	25	—	200 (T)	TO-36
2N2733	PNP	140 (C)	110	80	60 (O)	30	120	25	0.25	25	—	200 (T)	MT-23
2N2734	PNP	140 (C)	110	60	45 (O)	30	120	25	0.25	25	—	200 (T)	MT-23
2N2735	PNP	140 (C)	110	40	30 (O)	30	120	25	0.25	25	—	200 (T)	MT-23
2N2736	PNP	140 (C)	110	80	60 (O)	30	120	25	0.25	25	—	200 (T)	MT-22
2N2737	PNP	140 (C)	110	60	45 (O)	30	120	25	0.25	25	—	200 (T)	MT-22
2N2738	PNP	140 (C)	110	40	30 (O)	30	120	25	0.25	25	—	200 (T)	MT-22
2N2869	PNP	30 (C)	100	60	50 (O)	50	165	1.0	0.75	10	—	200 (T)	TO-3
2N3311	PNP	170 (C)	110	30	30 (S)	60	120	3.0	0.1	3.0	30 (E)	1.0 (E)	TO-36
2N3312	PNP	170 (C)	110	45	45 (S)	60	120	3.0	0.1	3.0	30 (E)	1.0 (E)	TO-36
2N3313	PNP	170 (C)	110	60	60 (S)	60	120	3.0	0.1	3.0	30 (E)	1.0 (E)	TO-36
2N3314	PNP	170 (C)	110	30	30 (S)	100	200	3.0	0.1	3.0	40 (E)	1.0 (E)	TO-36
2N3315	PNP	170 (C)	110	45	45 (S)	100	200	3.0	0.1	3.0	40 (E)	1.0 (E)	TO-36
2N3316	PNP	170 (C)	110	60	60 (S)	100	200	3.0	0.1	3.0	40 (E)	1.0 (E)	TO-36
2N3611	PNP	85 (C)	110	40	30 (S)	35	70	3.0	0.25	3.0	40 (E)	0.3* (T)	TO-3
2N3612	PNP	85 (C)	110	60	45 (S)	35	70	3.0	0.25	3.0	40 (E)	0.3* (T)	TO-3
2N3613	PNP	85 (C)	110	40	30 (S)	60	120	3.0	0.25	3.0	60 (E)	0.3* (T)	TO-3
2N3614	PNP	85 (C)	110	60	45 (S)	60	120	3.0	0.25	3.0	60 (E)	0.3* (T)	TO-3
2N3615	PNP	85 (C)	110	80	60 (S)	30	60	3.0	0.25	3.0	40 (E)	0.3* (T)	TO-3
2N3616	PNP	85 (C)	110	100	75 (S)	30	60	3.0	0.25	3.0	40 (E)	0.3* (T)	TO-3
2N3617	PNP	85 (C)	110	80	60 (S)	45	90	3.0	0.25	3.0	60 (E)	0.3* (T)	TO-3
2N3618	PNP	85 (C)	110	100	75 (S)	45	90	3.0	0.25	3.0	60 (E)	0.3* (T)	TO-3
3N49	PNP	94 (C)	100	60	35 —	30	120	5.0	0.4	5.0	30 (E)	600 —	MT-70
3N50	PNP	94 (C)	100	80	50 —	20	80	5.0	0.4	5.0	—	300 —	MT-70
3N51	PNP	94 (C)	100	40	25 —	30	120	5.0	0.4	5.0	30 (E)	500 —	MT-70
3N52	PNP	94 (C)	100	60	40 —	20	80	5.0	0.4	5.0	—	300 —	MT-70

* MHz

case outline drawings

TO1



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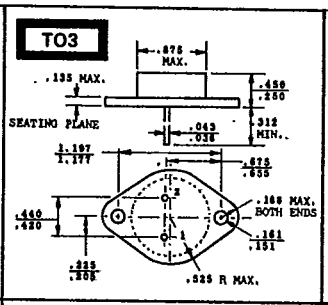

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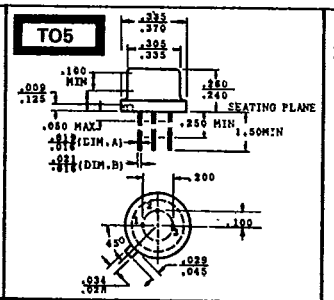

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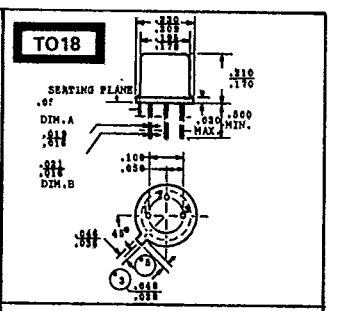

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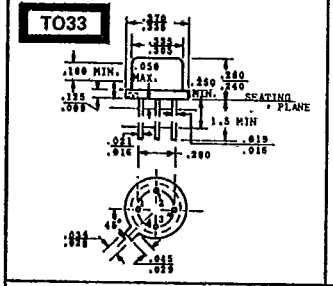

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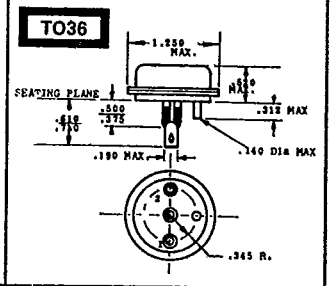

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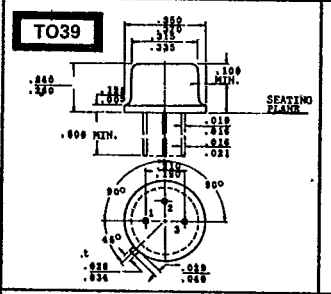

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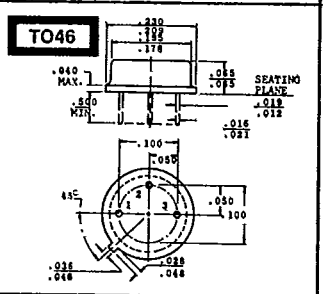
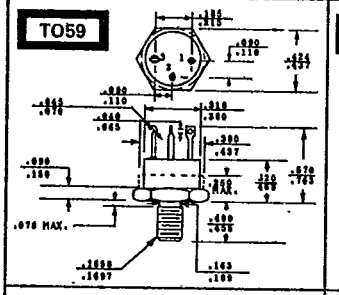
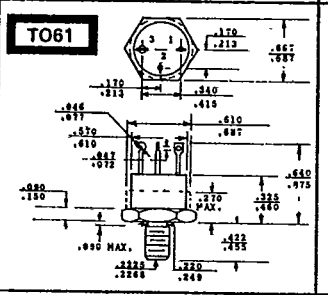


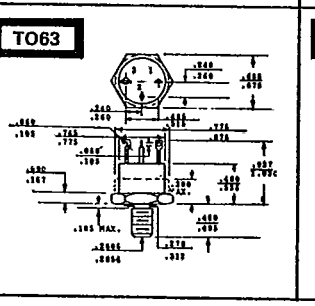
TO59



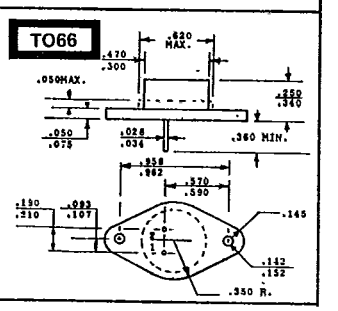
TO61



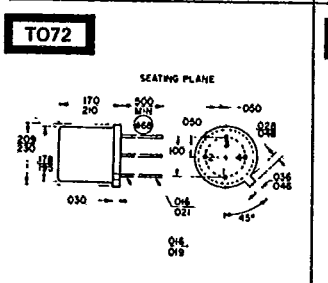
TO63



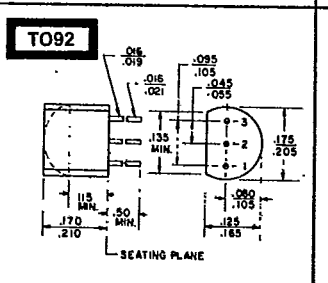
TO66



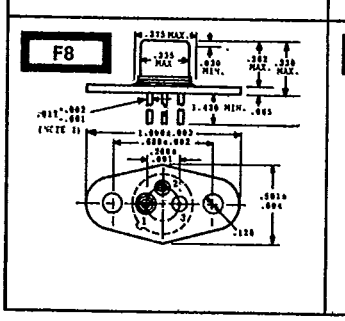
TO72



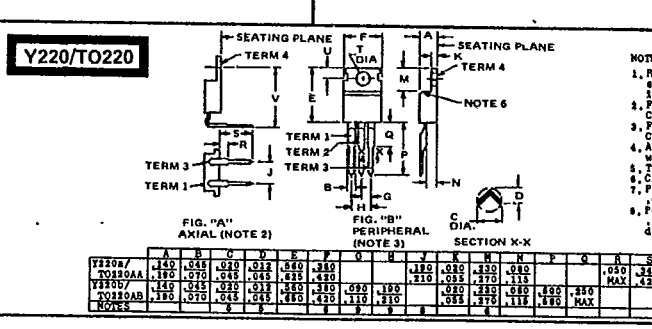
TO92



F8



Y220/TO220

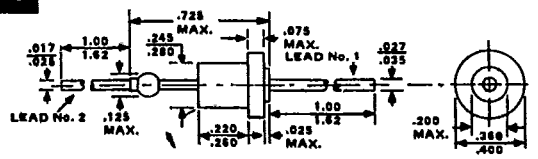


NOTES:
1. Refer to rules for dimensioning semiconductor product outlines included in Publication No. 76.
2. Figure "A" , Axial Terminal Configuration, applicable.
3. Figure "B" , Peripheral Terminal Configuration, applicable.
4. Alternate lead configurations allowed within C and D.
5. Tab contour optional within H and P.
6. Chamfer optional.
7. Position of lead to be measured .050 -.055 below seating plane.
8. Position of lead to be measured .250 -.255 from bottom of dimension E.

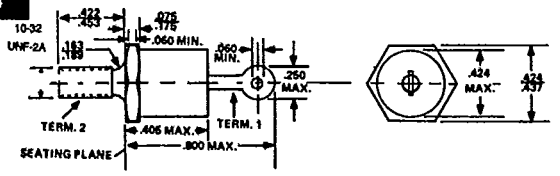
	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R	S	T	U	V	NOTES
Y220a/ TO220AA	.140 .190	.048 .070	.020 .045	.012 .045	.560 .625	.360 .420			.180 .210	.020 .055	.330 .370	.080 .115			.050 MAX	.340 .422	.139 .147	.100 .130	.580 .610	2
Y220b/ TO220AB	.140 .190	.045 .070	.020 .045	.012 .045	.560 .625	.360 .420	.090 .110	.180 .210		.020 .055	.330 .370	.080 .115	.400 .480	.250 MAX			.139 .161	.100 .135		3
NOTES																				

case outline drawings cont'd

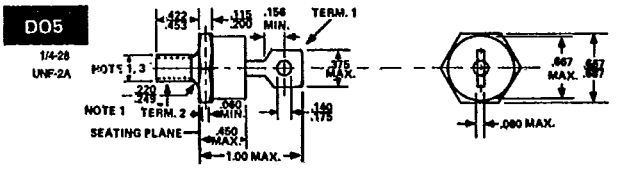
DO1-3



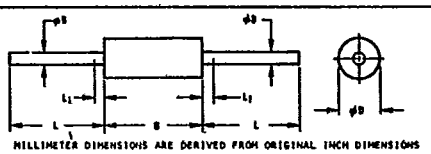
DO4



DO5



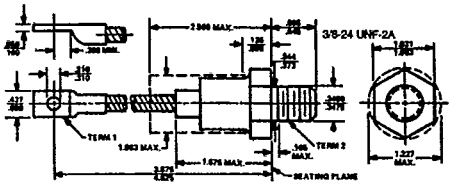
DO7



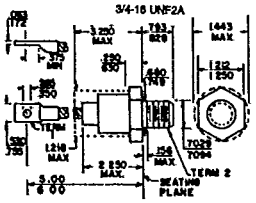
MILLIMETER DIMENSIONS ARE DERIVED FROM ORIGINAL INCH DIMENSIONS

SYMBOL	INCHES MIN.	INCHES MAX.	MILLIMETERS MIN.	MILLIMETERS MAX.	NOTES
ϕB	.018	.022	0.458	0.558	-
ϕD	.085	.107	2.16	2.71	1
G	.230	.300	5.85	7.62	1
L	1.000	-	25.40	-	-
L_1	-	.050	-	1.27	2

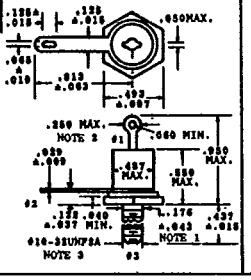
DO8



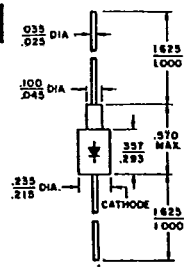
DO9



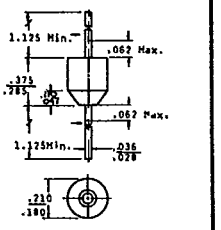
DO10



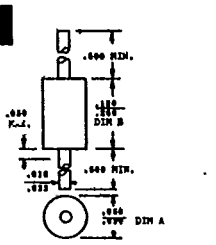
DO13



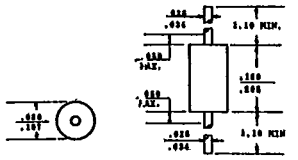
DO27



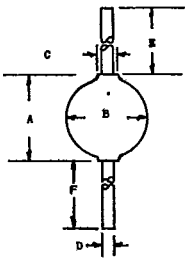
DO35



DO41

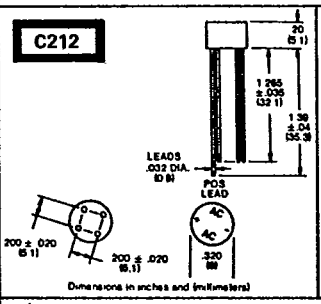


A249

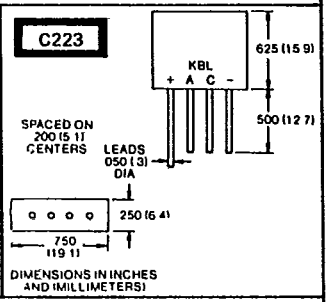


	A	B	C	D	E	F
A249	.310 .360	.330 MAX	.093 MIN	.093 MAX	1.000 MIN	1.000 MIN
A249b	.196 MAX	.197 MAX		.035 MAX	.894 MIN	.894 MIN
A249b	.175 MAX	.130 MAX		.035 .032	1.13	
A249c	.196 MAX	.197 MAX		.035 .032	1.14 MIN	1.14 MIN

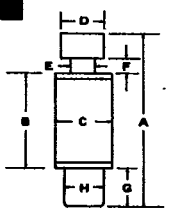
C212



C223



F22



	A	B	C	D	E	F	G	H
F22	.875 1.03	.600 .650	.340 .360	.340 .360	.100 .100	.053 .073	.350 .350	.340 .360
F22a	1.48	.969	.400 MAX	.350	.120	.063	.350	.350
F22b	1.93	1.45	.400 MAX	.350	.120	.063	.350	.350
F22c	2.40	1.90	.400 MAX	.350	.120	.063	.350	.350
F22d	2.87	2.37	.400 MAX	.350	.120	.063	.350	.350
F22e	3.34	2.84	.400 MAX	.350	.120	.063	.350	.350
F22f	3.81	3.31	.400 MAX	.350	.120	.063	.350	.350
F22g h	1.13	.800	.400 MAX	.350	.120	.063	.350	.350