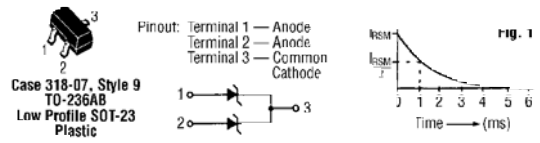
TVS (Transient Voltage Suppressors) (Continued)

Surface Mount



Peak Power Dissipation (40 Watts @ 1 ms Surge — Figure 1) Case 318-07 — Common Cathode SOT-23 Dual Monolithic Common Cathode Bipolar Zener (For ESD Protection)
Electrical Characteristics (T^1=25°C unless otherwise noted). Bidirectional (Circuit tied to pins 1 and 2).

Mfr.'s Type	Breakdown Voltage V_{BR}[2] (V) Min.	Nom.	Max.	@ I_T (mA)	Working Peak Reverse Voltage V_{RWM} (V)	Max. Reverse Leakage Current I_{RWM} I_R (nA)	Max. Reverse Surge Current I_{RSM} (A)	Max. Reverse Voltage @ I_{RMS} (Clamping Voltage) V_{RSM} (V)	Max. Temperature Coefficient of V_{BR} (mV/°C)
MMBZ15VDLT1[1]	14.3	15	15.8	1.0	12.8	100	1.9	21.2	12

[1]T1 Suffix designates tap and reel of 300 unit. [2]V_{BR} measured at pulse test current I_T at an ambient temperature of 25°C.

Surface Mount (Continued)

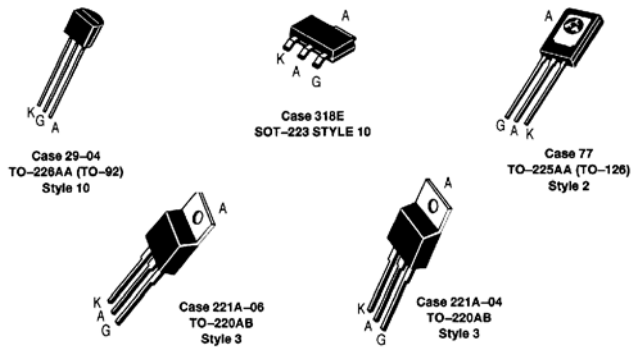
SMB
Case 403A
Plastic; Cathode=Notch

Peak Power Dissipation
(600 Watts @ 1 ms Surge)
T3 suffix indicates 2500 pieces on tape and reel.

Mfr.'s Type	Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage* V_{BR} (V) Min.	@ I_T Pulse (mA)	Maximum Reverse Leakage @ V_{RWM} I_R (µA)	Maximum Reverse Surge Current I_{RSM} I_R (µA)	Maximum Reverse Voltage @ I_{RSM} (Clamping Voltage) V_{RSM} (V)
P6SMB6.8AT3†	5.8	6.80	1	1000.0	57.0	10.5
P6SMB15AT3†	12.8	15.00	1	5.0	28.0	21.2
P6SMB33AT3†	28.2	33.00	1	5.0	13.2	45.7
P6SMB36AT3†	30.8	36.00	1	5.0	12.0	49.9
1SMB5.0AT3†	5.0	6.40	10	800.0	65.2	9.2
1SMB7.0AT3†	7.0	7.78	10	200.0	50.0	12.0
1SMB15AT3†	15.0	16.70	1	5.0	24.0	24.4

*Breakdown voltage tolerance is ±5%. †Unidirectional, Case 403A.

Silicon Controlled Rectifiers

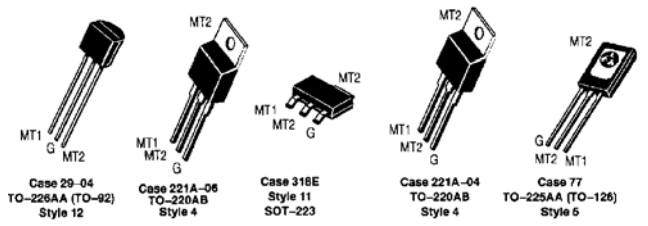


SCRs — General Purpose Plastic Packages 0.8 to 55 Amperes RMS, 25 to 800 Volts

Mfr.'s Type	Package Style	On-State RMS Current	V_{DRM} V_{RRM} (V)	I_{TSM} (A) 60 Hz	I_{GT} (mA)	V_{GT} (V)
2N5060	Case 29-04	0.8 A, T_C=58°C	25	10	0.2	0.8
2N5061	Case 29-04	0.8 A, T_C=58°C	50	10	0.2	0.8
2N6504	Case 221A-04	25.0 A, T_C=85°C	50	300	40.0	1.5
MCR69-2	Case 221A-04	25.0 A, T_C=85°C	50	750[1]	30.0	1.5
2N6505	Case 221A-04	25.0 A, T_C=85°C	100	300	40.0	1.5
2N5064	Case 29-04	0.8 A, T_C=58°C	200	10	0.2	0.8
C106B	Case 77	4.0 A, T_C=30°C	200	20	0.2	0.8
MCR265-4	Case 221A-04	55.0 A, T_C=70°C	200	550	50.0	1.5
MCR100-6	Case 29-04	0.8 A, T_C=58°C	400	10	0.2	0.8
MCR22-6	Case 29-04	1.5 A, T_C=50°C	400	15, 150[2]	0.2	0.8
MCR106-6	Case 77	4.0 A, T_C=93°C	400	25	0.2	1.0
2N6240	Case 77	4.0 A, T_C=93°C	400	20	0.2	0.8
C106D	Case 77	4.0 A, T_C=30°C	400	20	0.2	0.8
MCR72-6	Case 221A-04	8.0 A, T_C=83°C	400	100	0.2	1.5
2N6507	Case 221A-04	25.0 A, T_C=85°C	400	300	40.0	1.5
MCR265-6	Case 221A-04	55.0 A, T_C=70°C	400	550	50.0	1.5
MCR106-8	Case 77	4.0 A, T_C=93°C	600	25	0.2	1.0
MCR72-8	Case 221A-04	8.0 A, T_C=83°C	600	100	0.2	1.5
2N6508	Case 221A-04	25.0 A, T_C=85°C	600	300	40.0	1.5
MCR264-8	Case 221A-04	40.0 A, T_C=80°C	600	400	50.0	1.5
MCR265-8	Case 221A-04	55.0 A, T_C=70°C	600	550	50.0	1.5
MCR8N	Case 221A-06	8.0 A, T_C=80°C	800	80	15.0	1.0
MCR8SN	Case 221A-06	8.0 A, T_C=80°C	800	80	0.2	1.0
MCR12N	Case 221A-06	12.0 A, T_C=80°C	800	100	20.0	2.2
2N6509	Case 221A-04	25.0 A, T_C=85°C	800	300	40.0	1.5
MCR265-10	Case 221A-04	55.0 A, T_C=70°C	800	550	50.0	1.5

[1] Exponential decay 2 µs wide at 5 times constants, f=12 Hz. [2]Peak capacitor discharge current for t_W=1 ms. t_W is defined as five time constraints of an exponentially decaying current pulse.

TRIACs



TRIACs — General Purpose Plastic Packages 0.6 to 40 Amperes RMS, 200 to 800 Volts

Mfr.'s Type	Package Style	On-State RMS Current	V_{DRM} (V)	I_{TSM} (A)	I_{GT} @ 25°C (mA) MT2 (+) G(+)	MT2 (+) G(–)	MT2 (–) G(–)	MT2 (–) G(+)	V_{GT} @ 25°C (V) MT2 (+) G(+)	MT2 (+) G(–)	MT2 (–) G(–)	MT2 (–) G(+)
MAC97A4	Case 29-04	0.6 A, T_C=50°C	200	8	5	5	5	7	2.0	2.0	2.0	2.5
2N6071A*	Case 77	4.0 A, T_C=85°C	200	30	5	5	5	5	2.5	2.5	2.5	—
2N6071B*	Case 77	4.0 A, T_C=85°C	200	30	3	3	3	5	2.5	2.5	2.5	—
MAC228A4	Case 221A-04	8.0 A, T_C=80°C	200	80	5	5	5	10[1]	2.0	2.0	2.0	2.5[1]
MAC97A6	Case 29-04	0.6 A, T_C=50°C	400	8	5	5	5	7	2.0	2.0	2.0	2.5
2N6073A*	Case 77	4.0 A, T_C=85°C	400	30	5	5	5	5	2.5	2.5	2.5	—
2N6073B*	Case 77	4.0 A, T_C=85°C	400	30	3	3	3	5	2.5	2.5	2.5	—
T2500D	Case 221A-04	6.0 A, T_C=80°C	400	60	25	60	25	60	2.5	2.5	2.5	2.5
MAC8D	Case 221A-06	8.0 A, T_C=80°C	400	80	35	35	35	—	1.5	1.5	1.5	—
MAC228A6	Case 221A-04	8.0 A, T_C=80°C	400	80	5	5	5	10[1]	2.0	2.0	2.0	2.5[1]
T2800D	Case 221A-04	8.0 A, T_C=80°C	400	100	25	60	25	60	2.5	2.5	2.5	2.5
MAC223A6	Case 221A-04	25.0 A, T_C=80°C	400	250	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC224A6	Case 221A-04	40.0 A, T_C=75°C	400	350	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC97A8	Case 29-04	0.6 A, T_C=50°C	600	8	5	5	5	7	2.0	2.0	2.0	2.5
2N6075A*	Case 77	4.0 A, T_C=85°C	600	30	5	5	5	5	2.5	2.5	2.5	—
2N6344	Case 221A-04	8.0 A, T_C=80°C	600	100	50	75[2]	50	75[2]	2.0	2.5[2]	2.5	2.5[2]
MAC228A8	Case 221A-04	8.0 A, T_C=80°C	600	80	5	5	5	10[1]	2.0	2.0	2.0	2.5[1]
MAC210A8	Case 221A-04	10.0 A, T_C=70°C	600	100	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
2N6348A	Case 221A-06	12.0 A, T_C=80°C	600	120	50	75	50	75	2.0	2.5	2.0	2.5
MAC12M	Case 221A-06	12.0 A, T_C=80°C	600	120	35	35	35	—	1.5	1.5	1.5	—
MAC15A8	Case 221A-04	15.0 A, T_C=90°C	600	150	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC223A8	Case 221A-04	25.0 A, T_C=80°C	600	250	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC224A8	Case 221A-04	40.0 A, T_C=75°C	600	350	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC228A10	Case 221A-04	8.0 A, T_C=80°C	800	80	5	5	5	10[1]	2.0	2.0	2.0	2.5[1]
2N6349A	Case 221A-06	12.0 A, T_C=80°C	800	120	50	75	50	75	2.0	2.5	2.0	2.5
MAC223A10	Case 221A-04	25.0 A, T_C=80°C	800	250	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]
MAC224A10	Case 221A-04	4.0 A, T_C=75°C	800	350	50	50	50	75[1]	2.0	2.0	2.0	2.5[1]

[1]Applied to A-version only. Non- A-version is unspecified. [2]Denotes 2N6346-49 Series only. *VGT @ 25°C (V)=–40°C.

13

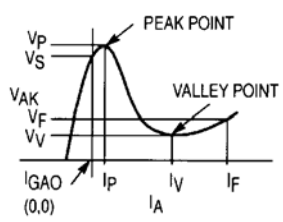
Thyristor Triggers

Programmable Unijunction Transistor — PUT

Similar to UJTs, except that I_V, I_P and intrinsic standoff voltage are programmable (adjustable) by means of external voltage divider. This stabilizes circuit performance for variations in device parameters. General operating frequency range is from 0.01 Hz to 10 kHz, making them suitable for long-duration timer circuits.

Plastic TO-92 (Case 29-04/16)

Mfr.'s Type	I_P R_G= 10 KΩ (µA) Max.	R_G= 1 MΩ (µA) Max.	I_{GAO} @ 40 V nA Max.	I_V R_G= 10 KΩ (µA) Min.	R_G= 1 MΩ (µA) Max.
2N6027	5	2.00	10	70	50
2N6028	1	0.15	10	25	25



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