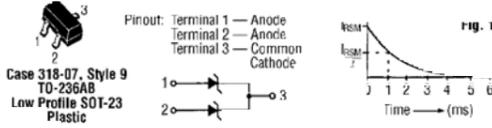


TVS (Transient Voltage Suppressors) (Continued)

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=25°C unless otherwise noted). Bidirectional (Circuit tied to pins 1 and 2).

| Mfr.'s Type | Breakdown Voltage | | | Working Peak Reverse Voltage V _{WM} (V) | Max. Reverse Leakage Current I _{SM} (nA) | Max. Reverse Surge Current I _{SM} (A) | Max. Reverse Voltage @ I _{SM} (Clamping Voltage) V _{CSM} (V) | Max. Temperature Coefficient of V _{BR} (mV/°C) |
|--------------------------|---------------------|------|------|--|---|--|--|---|
| | V _{BR} (V) | | | | | | | |
| | Min. | Nom. | Max. | | | | | |
| MMBZ15VLDL1 [†] | 14.3 | 15 | 15.8 | 1.0 | 12.8 | 100 | 1.9 | 21.2 |

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

Surface Mount (Continued)

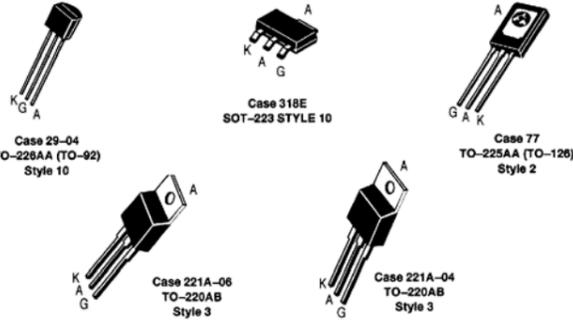


Peak Power Dissipation (600 Watts @ 1 ms Surge) T3 suffix indicates 2500 pieces on tape and reel.

| Mfr.'s Type | Working Peak Reverse Voltage V _{WM} (V) | Breakdown Voltage* | | Maximum Reverse Leakage @ V _{WM} I _L (µA) | Maximum Reverse Surge Current I _{SM} (µA) | Maximum Reverse Voltage @ I _{SM} (Clamping Voltage) V _{CSM} (V) |
|--------------------------|--|---------------------|-----------------------------|---|--|---|
| | | V _{BR} (V) | @ I _T Pulse (mA) | | | |
| | | Min. | | | | |
| 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

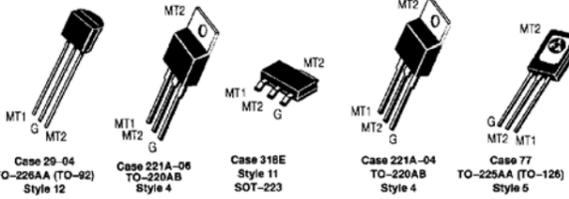


SCRs — General Purpose Plastic Packages 0.8 to 55 Amperes RMS, 25 to 800 Volts

| Mfr.'s Type | Package Style | On-State RMS Current | V _{ORM} (V) | I _{SM} (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 [†] | 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 [†] | 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 |

[†] Exponential decay 2 µs wide at 5 times constants, f=12 Hz. ^{††}Peak capacitor discharge current for tw=1 ms. tw is defined as five time constants 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 _{ORM} (V) | I _{SM} (A) | I _{GT} @ 25°C (mA) | | | | V _{GT} @ 25°C (V) | | | |
|-------------|---------------|------------------------------|----------------------|---------------------|-----------------------------|-----------------|-----------------------------|-----------------|----------------------------|--------------|--------------|------------------|
| | | | | | MT2 (+) G(+) | MT2 (+) G(-) | MT2 (-) G(-) | MT2 (-) G(+) | MT2 (+) G(+) | MT2 (+) G(-) | MT2 (-) G(-) | MT2 (-) G(+) |
| | | | | | MAC97A4 | Case 29-04 | 0.6 A, T _C =50°C | 200 | 8 | 5 | 5 | 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 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| 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 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| 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 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC224A6 | Case 221A-04 | 40.0 A, T _C =75°C | 400 | 350 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| 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 [†] | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC228A8 | Case 221A-04 | 8.0 A, T _C =80°C | 600 | 80 | 5 | 5 | 5 | 10 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC210A8 | Case 221A-04 | 10.0 A, T _C =70°C | 600 | 100 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| 2N6349A | Case 221A-06 | 12.0 A, T _C =80°C | 600 | 120 | 50 | 75 | 50 | 75 | 2.0 | 2.0 | 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 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC223A8 | Case 221A-04 | 25.0 A, T _C =80°C | 600 | 250 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC224A8 | Case 221A-04 | 40.0 A, T _C =75°C | 600 | 350 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC228A10 | Case 221A-04 | 8.0 A, T _C =80°C | 800 | 80 | 5 | 5 | 5 | 10 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| 2N6349A | Case 221A-06 | 12.0 A, T _C =80°C | 800 | 120 | 50 | 75 | 50 | 75 | 2.0 | 2.0 | 2.0 | 2.5 |
| MAC223A10 | Case 221A-04 | 25.0 A, T _C =80°C | 800 | 250 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |
| MAC224A10 | Case 221A-04 | 40.0 A, T _C =75°C | 800 | 350 | 50 | 50 | 50 | 75 [†] | 2.0 | 2.0 | 2.0 | 2.5 [†] |

*Applied to A-version only. Non-A-version is unspecified. [†]Denotes 2N6346-49 Series only. ^{††}V_{GT} @ 25°C (V)=-40°C.

Thyristor Triggers

Programmable Unijunction Transistor — PUT

Similar to UJTs, except that I_V 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 | | I _{GAO} @ 40 V nA Max. | I _V | |
|-------------|--------------------------------|-------------------------------|---------------------------------|--------------------------------|-------------------------------|
| | R _G = 10 K Ω | R _G = 1 M Ω | | R _G = 10 K Ω | R _G = 1 M Ω |
| | (µA) Max. | | | (µA) Min. | |
| 2N6027 | 5 | 2.00 | 10 | 70 | 50 |
| 2N6028 | 1 | 0.15 | 10 | 25 | 25 |

