

T-25-05

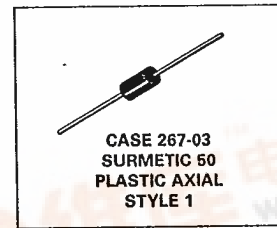
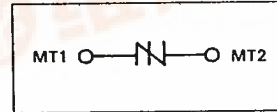
Sidac High Voltage Bilateral Triggers

... designed for direct interface with the ac power line. Upon reaching the break-over voltage in each direction, the device switches from a blocking state to a low voltage on-state. Conduction will continue like an SCR until the main terminal current drops below the holding current. The plastic axial lead package provides high pulse current capability at low cost. Glass passivation insures reliable operation. Applications are:

- High Pressure Sodium Vapor Lighting
- Strobes and Flashers
- Igniters
- High Voltage Regulators
- Line Transient Clippers
- Pulse Generators

**MK1V115
MK1V125
MK1V135**

**SIDACs
1 AMPERE RMS
104 thru 135 VOLTS**



MAXIMUM RATINGS

Rating	Symbol	Min	Max	Unit
Repetitive Breakover Voltage	V(BO)			Volts
MK1V115		104	115	
MK1V125		110	125	
MK1V135		120	135	
Off-State Repetitive Voltage	VDRM	—	±90	Volts
On-State RMS Current (All Conduction Angles)	I _T (RMS)	—	1	Amp
On-State Surge Current (Nonrepetitive) (60 Hz One Cycle Sine Wave, Peak Value)	I _{TSM}	—	20	Amps
Operating Junction Temperature Range	T _J	-40	+125	°C
Storage Temperature Range	T _{stg}	-40	+150	°C
Lead Solder Temperature (Lead Length ≥ 1/16" from case, 10 s Max)	—	—	+230	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	—	15	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	—	45	°C/W

MOTOROLA THYRISTOR DEVICE DATA

3-265



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ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted; both directions.)

Characteristic	Symbol	Min	Typ	Max	Unit
Breakover Current (60 Hz Sine Wave)	$I_{(BO)}$	—	—	200	μA
Repetitive Peak Off-State Current (60 Hz Sine Wave, $V = V_{DRM}$)	I_{DRM}	—	—	10	μA
Repetitive Peak On-State Current ($T_C = 25^\circ\text{C}$, Pulse Width = 10 μs , Repetition Frequency, $f = 1$ kHz)	I_{TRM}	—	20	—	Amps
Forward "On" Voltage ($I_{TM} = 1$ A peak)	V_{TM}	—	1.1	1.5	Volts
Dynamic Holding Current (60 Hz Sine Wave, $R_S = 0.1$ k Ω)	I_H	—	—	100	mA
Switching Resistance	R_S	0.1	—	—	k Ω
Maximum Rate of Change of On-State Current	di/dt	—	50	—	$\text{A}/\mu\text{s}$

CURRENT DERATING

FIGURE 1 — MAXIMUM CASE TEMPERATURE

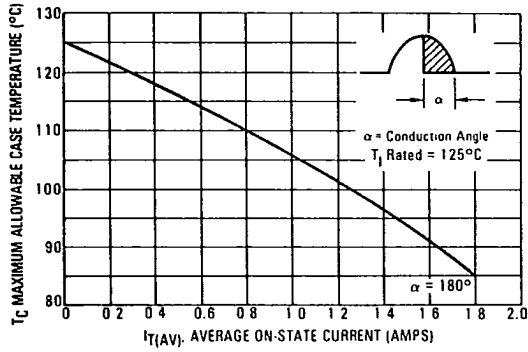


FIGURE 2 — MAXIMUM AMBIENT TEMPERATURE

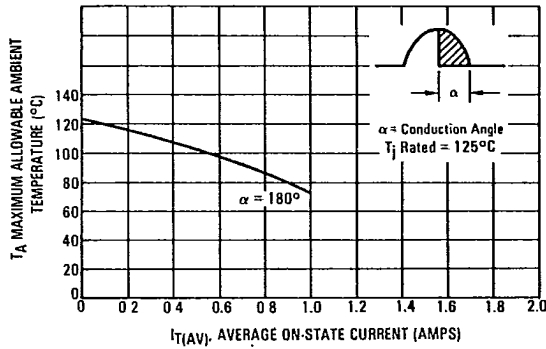


FIGURE 3 — TYPICAL FORWARD VOLTAGE

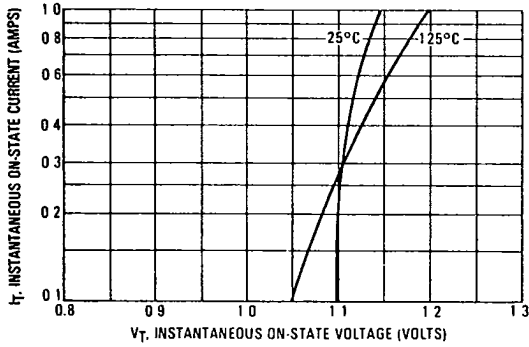
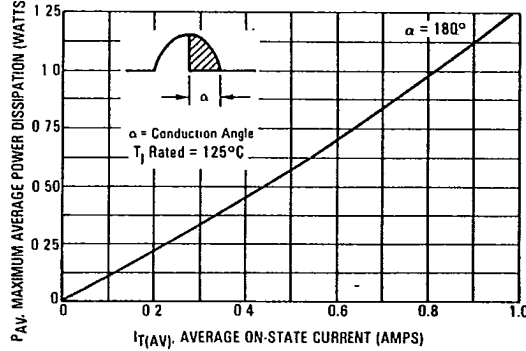
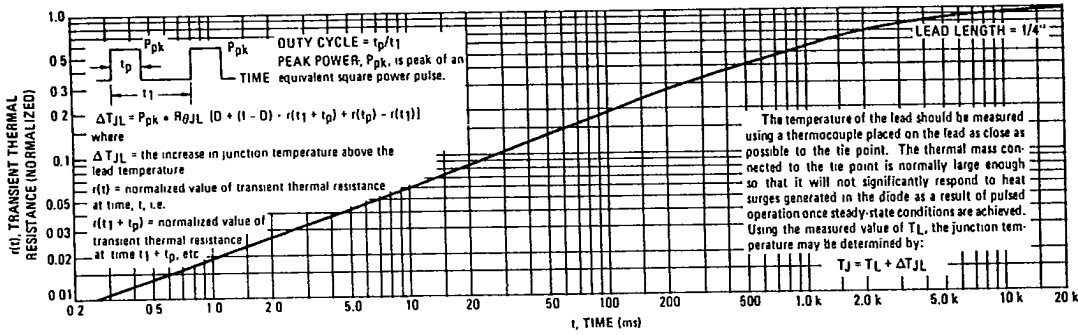


FIGURE 4 — POWER DISSIPATION



THERMAL CHARACTERISTICS

FIGURE 5 — THERMAL RESPONSE



TYPICAL CHARACTERISTICS

FIGURE 6 — BREAKOVER CURRENT

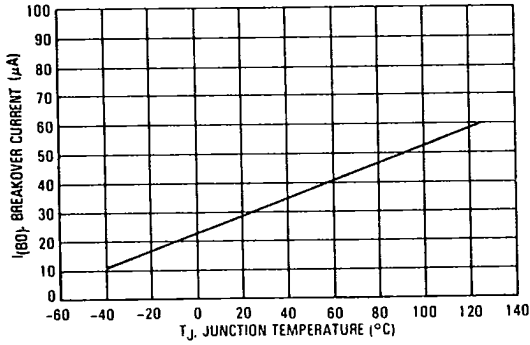


FIGURE 7 — HOLDING CURRENT

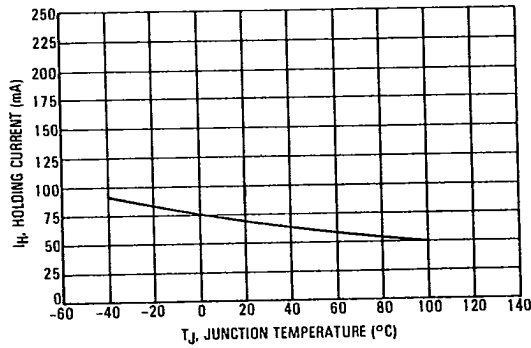


FIGURE 8 — V-1 CHARACTERISTICS

