Sidac High Voltage Bilateral Triggers

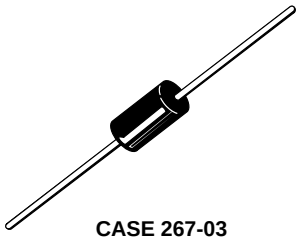
MKP3V110*
MKP3V120*
MKP3V130*

***Motorola preferred devices**

. . . designed for direct interface with the ac power line. Upon reaching the breakover 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
- Ignitors
- High Voltage Regulators
- Pulse Generators

SIDACs
1 AMPERE RMS
100 thru 135 VOLTS



CASE 267-03
SURMETIC 50
PLASTIC AXIAL

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Rating	Symbol	Min	Max	Unit
Repetitive Breakover Voltage	$V_{(BO)}$			Volts
MKP3V110		100	120	
MKP3V120		110	130	
MKP3V130		120	140	
Off-State Repetitive Voltage	V_{DRM}	—	±90	Volts
On-State RMS Current	$I_{T(RMS)}$	—	1	Amp
On-State Surge Current (Non-repetitive) (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 Lead (Lead Length = 3/8″)	$R_{\theta JL}$	—	15	°C/W

Preferred devices are Motorola recommended choices for future use and best overall value.

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted; both directions)

Characteristic	Symbol	Min	Typ	Max	Unit
Breakover Current	$I_{(BO)}$	—	—	200	μA
Repetitive Peak Off-State Current (60 Hz Sine Wave, V_D = 90 V)	I_{DRM}	—	—	10	μA
Forward "On" Voltage (I_{TM} = 1 A Peak)	V_{TM}	—	1.1	1.5	Volts
Dynamic Holding Current	I_H	—	—	100	mA
Switching Resistance	R_S	0.1	—	—	kΩ
Maximum Rate of Change of On-State Current	di/dt	—	50	—	A/μs

CURRENT DERATING

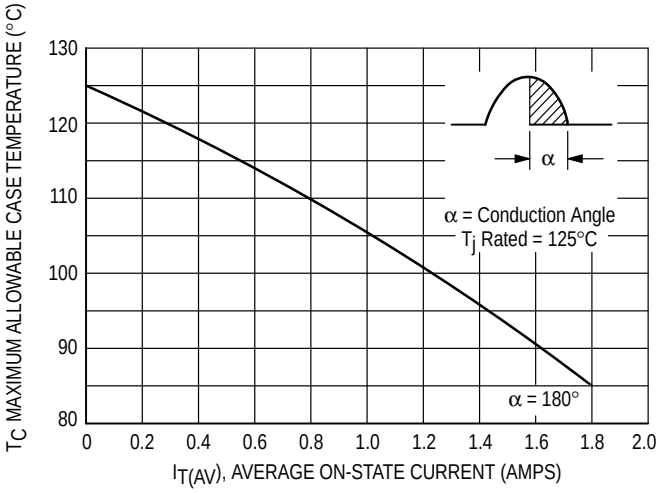


Figure 1. Maximum Case Temperature

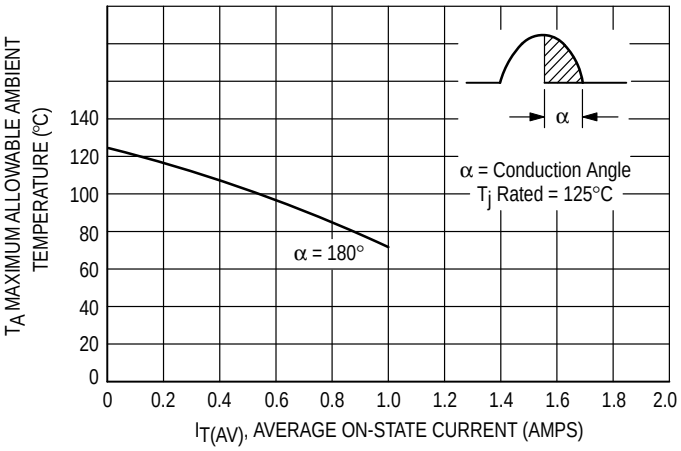


Figure 2. Maximum Ambient Temperature

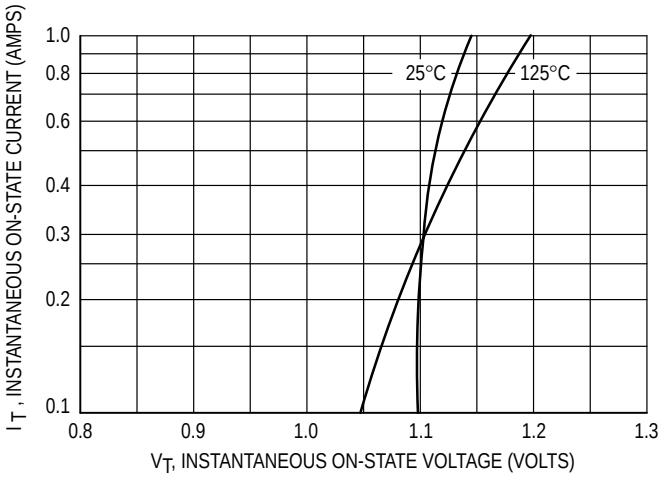


Figure 3. Typical Forward Voltage

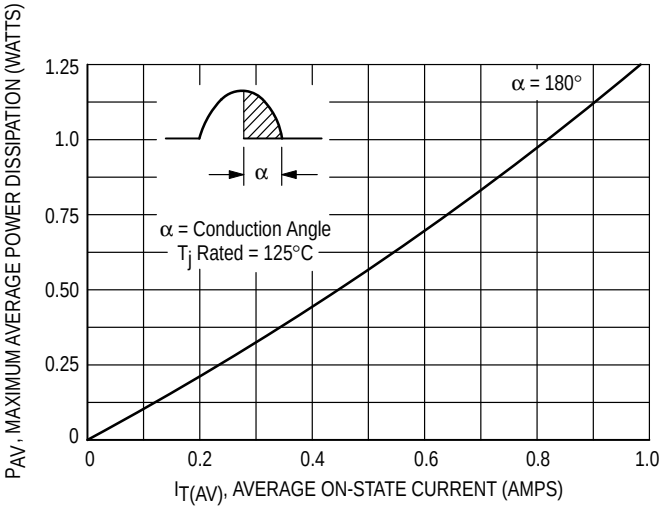


Figure 4. Power Dissipation

THERMAL CHARACTERISTICS

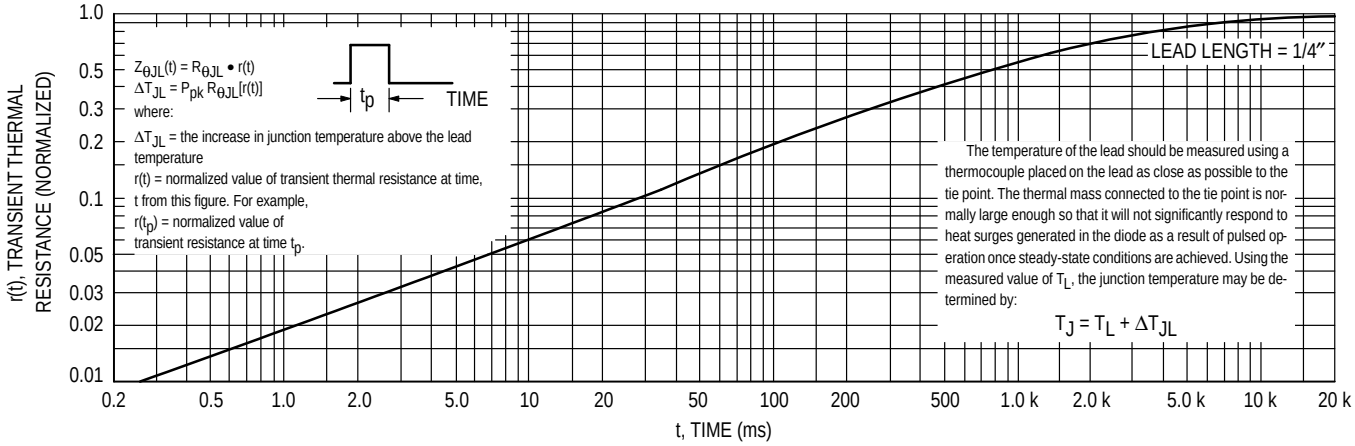


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

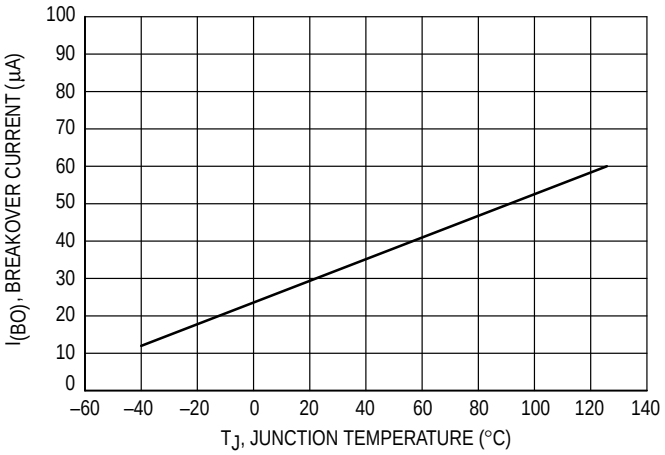


Figure 6. Breakover Current

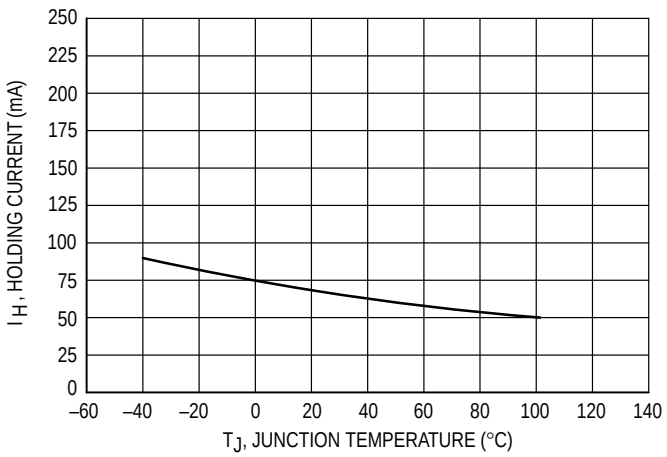


Figure 7. Holding Current

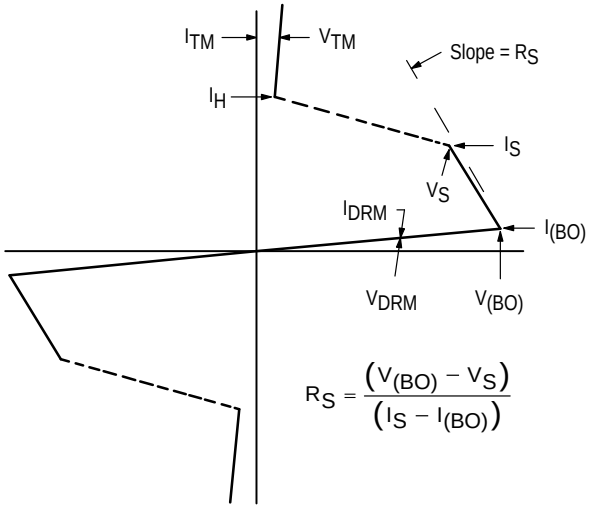
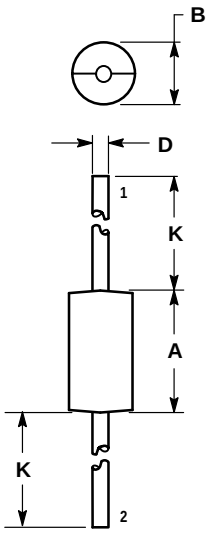


Figure 8. V-1 Characteristics

PACKAGE DIMENSIONS



STYLE 1:
PIN 1. CATHODE
2. ANODE

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.370	0.380	9.40	9.65
B	0.190	0.210	4.83	5.33
D	0.048	0.052	1.22	1.32
K	1.000	—	25.40	—

CASE 267–03

Literature Distribution Centers:
USA: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036.
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