

## Sidac High Voltage Bilateral Triggers

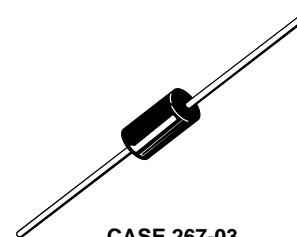
... designed for direct interface with the ac power line. Upon reaching the breakover voltage in each direction, the device switches from a blocking state to a low voltage on-state. Conduction will continue like an SCR until the main terminal current drops below the holding current. The plastic axial 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

**MKP3V110\***  
**MKP3V120\***  
**MKP3V130\***

\*Motorola preferred devices

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



**CASE 267-03**  
**SURMETIC 50**  
**PLASTIC AXIAL**

### MAXIMUM RATINGS ( $T_J = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Min	Max	Unit
Repetitive Breakover Voltage MKP3V110 MKP3V120 MKP3V130	$V_{(BO)}$	100 110 120	120 130 140	Volts
Off-State Repetitive Voltage	$V_{DRM}$	—	$\pm 90$	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	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-40	+150	$^\circ\text{C}$
Lead Solder Temperature (Lead Length $\geq 1/16''$ from Case, 10 s Max)	—	—	+230	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Thermal Resistance, Junction to Lead (Lead Length = 3/8")	$R_{\theta JL}$	—	15	$^\circ\text{C/W}$

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

# MKP3V110 MKP3V120 MKP3V130

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

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

## CURRENT DERATING

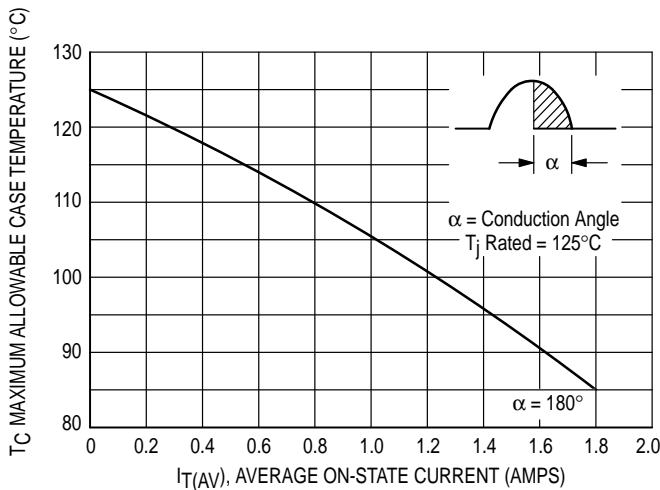


Figure 1. Maximum Case Temperature

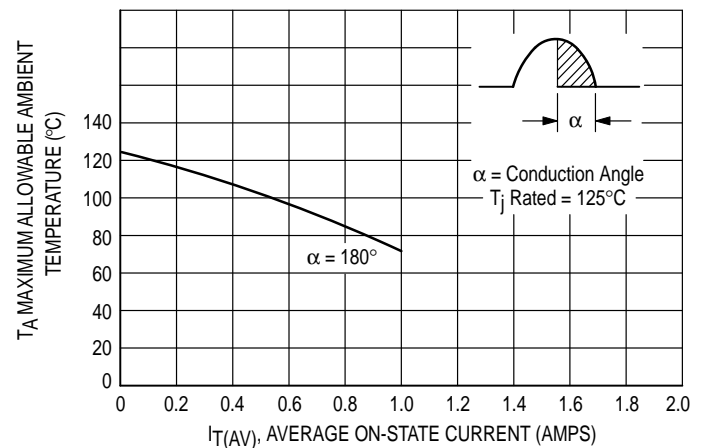


Figure 2. Maximum Ambient Temperature

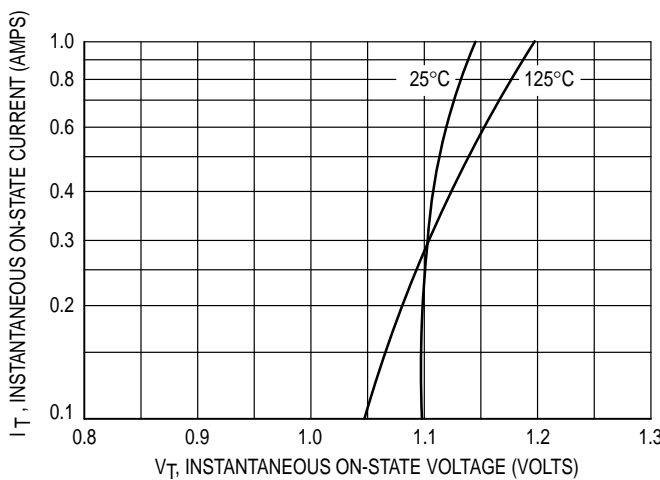


Figure 3. Typical Forward Voltage

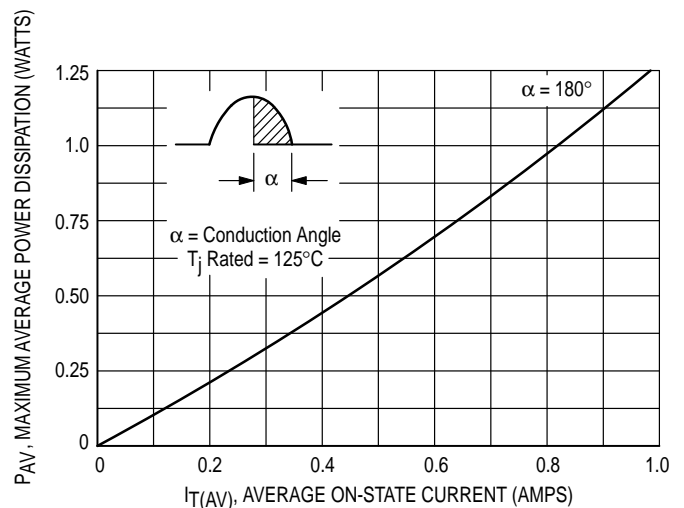


Figure 4. Power Dissipation

THERMAL CHARACTERISTICS

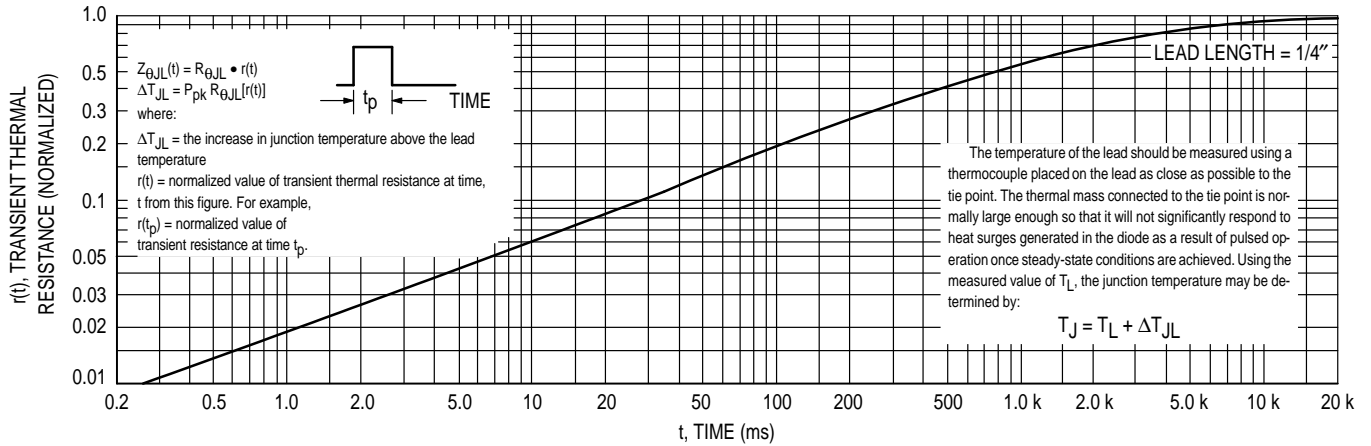


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

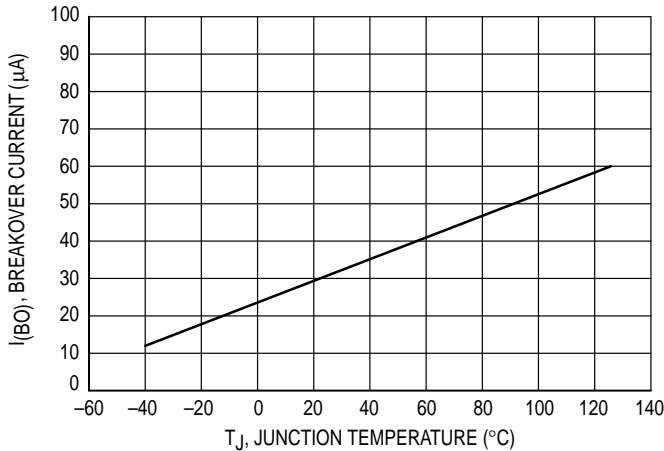


Figure 6. Breakover Current

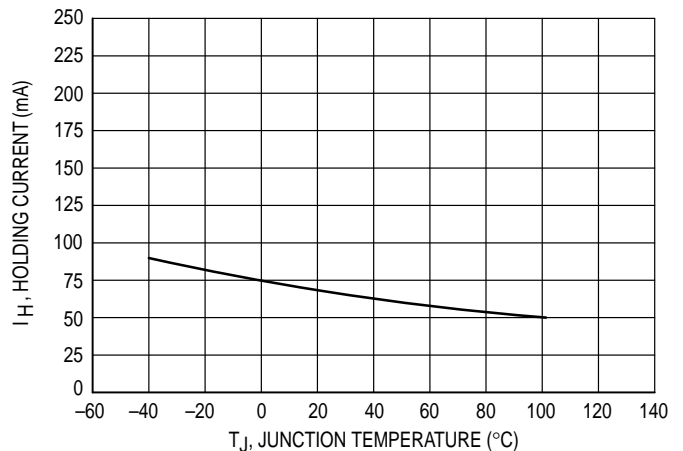


Figure 7. Holding Current

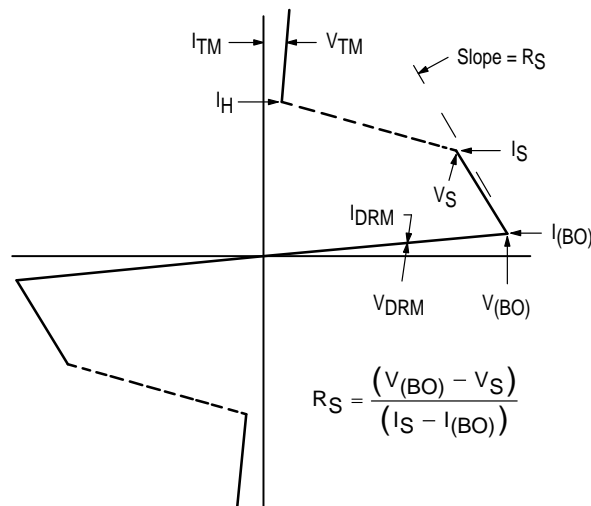
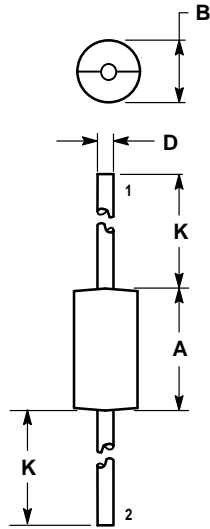


Figure 8. V-1 Characteristics

PACKAGE DIMENSIONS




STYLE 1:  
PIN 1: CATHODE  
2: ANODE

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

DIM	INCHES		MILLIMETERS	
	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

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