

Sidac High Voltage Bilateral Triggers

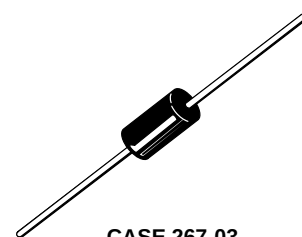
... designed for direct interface with the ac power line. Upon reaching the breakover voltage in each direction, the device switches from a blocking state to a low voltage on-state. Conduction will continue like an SCR until the main terminal current drops below the holding current. The plastic axial 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}	—	± 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	μA
Repetitive Peak Off-State Current (60 Hz Sine Wave, $V_D = 90\text{ V}$)	I_{DRM}	—	—	10	μA
Forward "On" Voltage ($I_{\text{TM}} = 1\text{ A Peak}$)	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

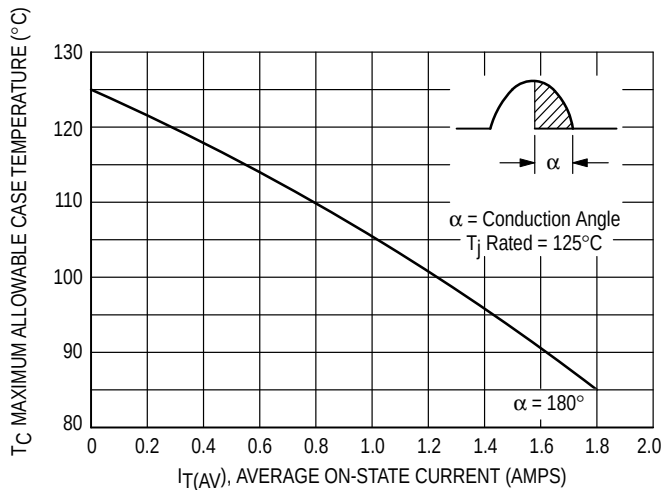


Figure 1. Maximum Case Temperature

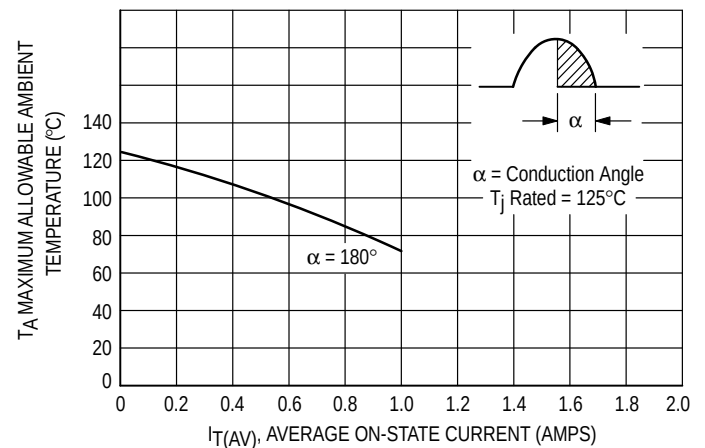


Figure 2. Maximum Ambient Temperature

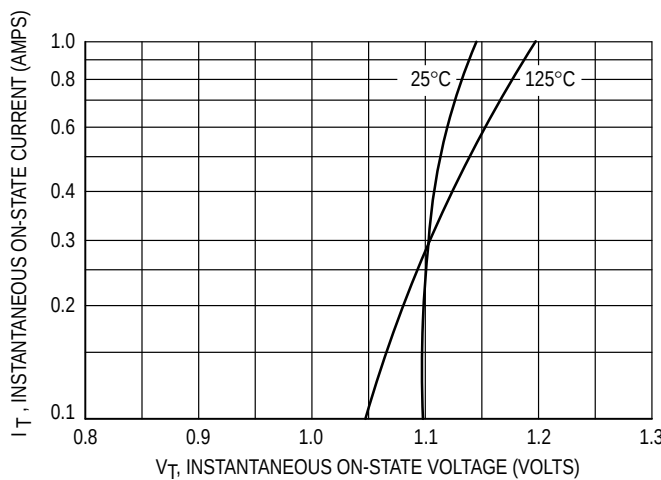


Figure 3. Typical Forward Voltage

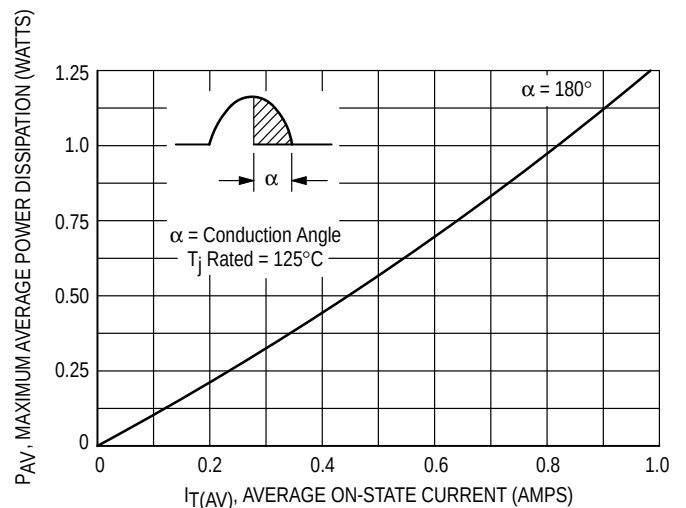


Figure 4. Power Dissipation

THERMAL CHARACTERISTICS

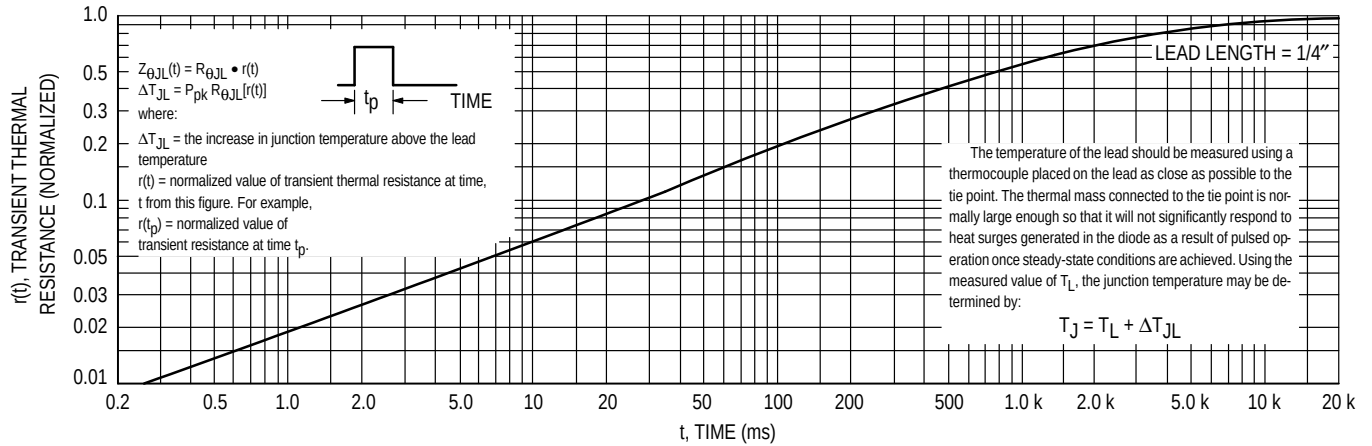


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

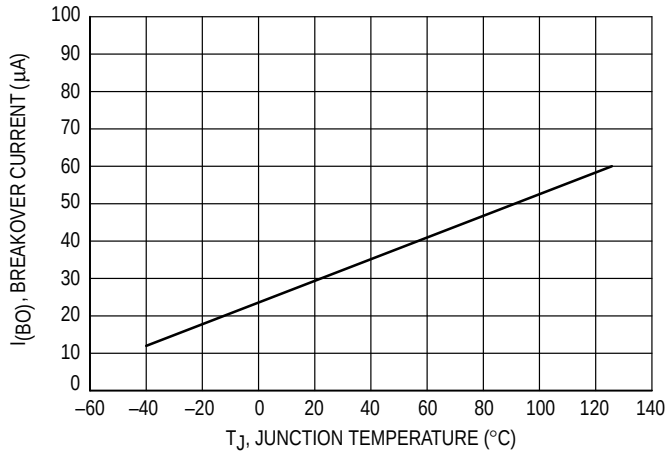


Figure 6. Breakover Current

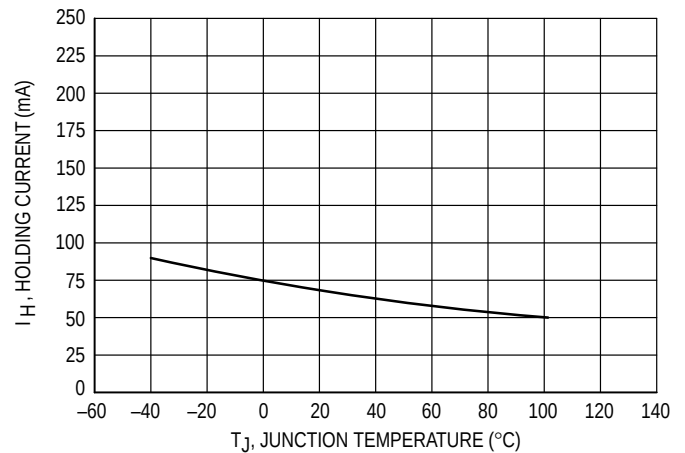


Figure 7. Holding Current

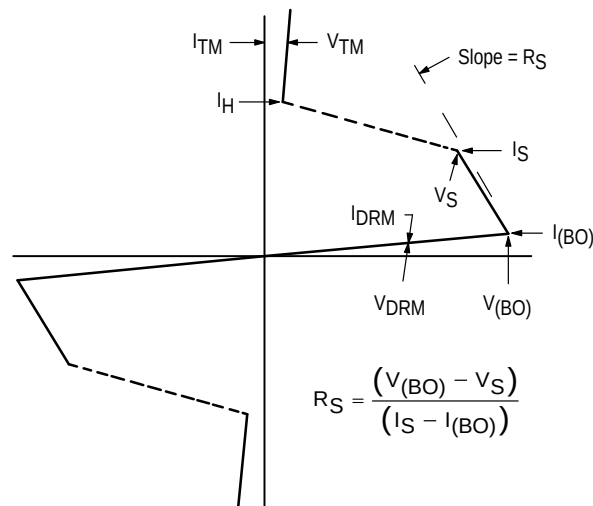
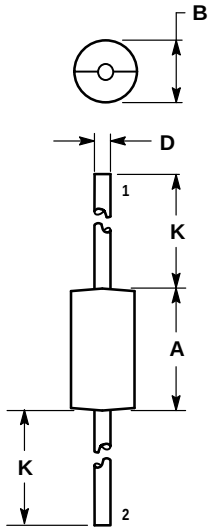


Figure 8. V-1 Characteristics

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

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters can and do vary in different applications. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Literature Distribution Centers:

USA: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036.
EUROPE: Motorola Ltd.; European Literature Centre; 88 Tanners Drive, Blakelands, Milton Keynes, MK14 5BP, England.
JAPAN: Nippon Motorola Ltd.; 4-32-1, Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan.
ASIA PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Center, No. 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong.

