

## 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

**MKP1V120**  
**MKP1V130**

**SIDACs**  
**0.9 AMPERES RMS**  
**110 thru 280 VOLTS**



**CASE 59-04**  
**(DO-41)**  
Polarity denoted by cathode band

### MAXIMUM RATINGS (T<sub>J</sub> = 25°C unless otherwise noted)

Rating	Symbol	MKP1V120 MKP1V130	Unit
Off-State Repetitive Voltage	V <sub>DRM</sub>	±90	Volts
On-State Current RMS (T <sub>L</sub> = 80°C, Lead Length = 3/8", conduction angle = 180°, 60 Hz Sine Wave)	I <sub>T(RMS)</sub>	0.9	Amp
On-State Surge Current (Non-repetitive) (60 Hz One Cycle Sine Wave, Peak Value)	I <sub>TSM</sub>	4	Amps
Operating Junction Temperature Range	T <sub>J</sub>	-40 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +150	°C
Lead Solder Temperature (Lead Length ≥ 1/16" from Case, 10 s Max)	T <sub>L</sub>	230	°C

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Lead Lead Length = 3/8"	R <sub>θJL</sub>	40	°C/W

# MKP1V120 MKP1V130

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

Characteristic	Symbol	Min	Typ	Max	Unit
Breakover Voltage	$V_{BO}$	110 120	—	130 140	Volts
Repetitive Peak Off-State Current (60 Hz Sine Wave, $V_D = \text{Rated } V_{DRM}$ )	$I_{DRM}$	— —	— —	5 50	$\mu\text{A}$
Forward "On" Voltage ( $I_{TM} = 1 \text{ A}$ )	$V_{TM}$	—	1.3	1.5	Volts
Dynamic Holding Current	$I_H$	—	—	100	mA
Switching Resistance	$R_S$	0.1	—	—	$\text{k}\Omega$
Breakover Current	$I_{BO}$	—	—	200	$\mu\text{A}$
Maximum Rate-of-Change of On-State Current	$di/dt$	—	90	—	$\text{A}/\mu\text{s}$

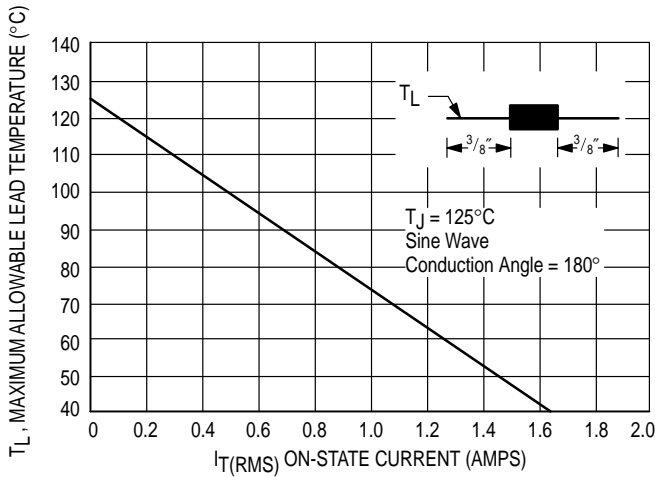


Figure 1. Maximum Lead Temperature

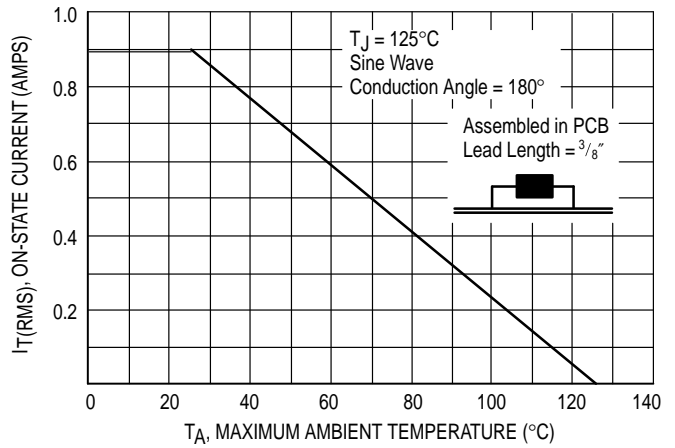


Figure 2. Maximum Ambient Temperature

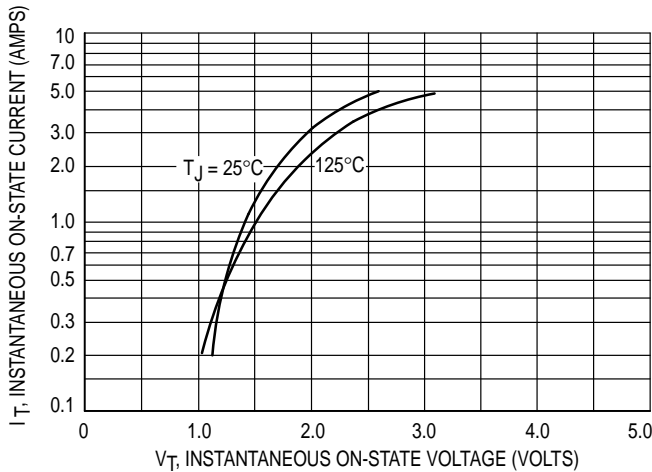


Figure 3. Typical On-State Voltage

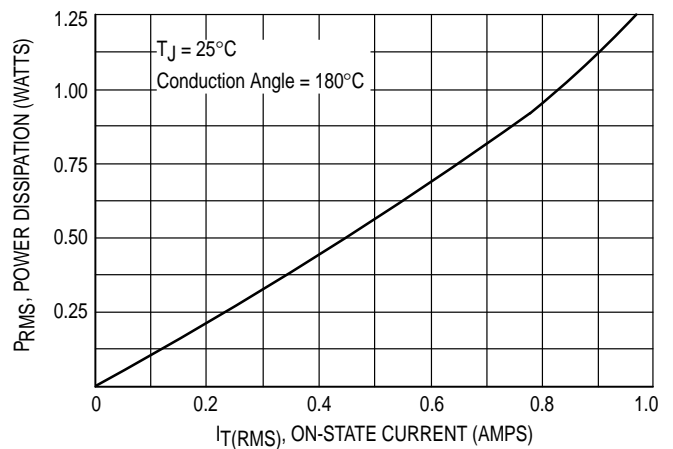


Figure 4. Power Dissipation

THERMAL CHARACTERISTICS

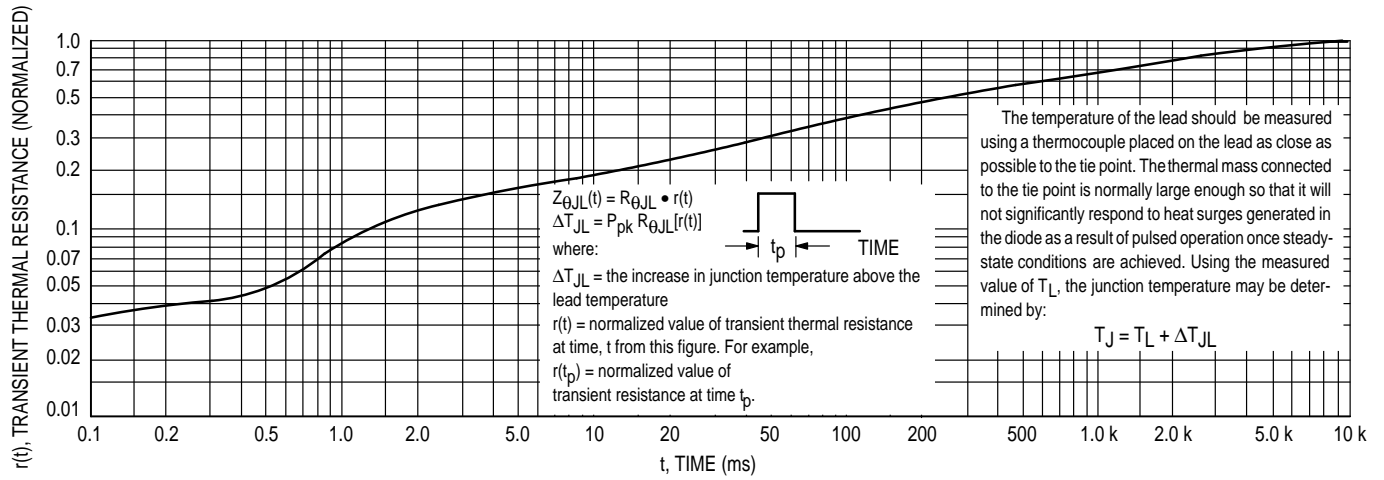


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

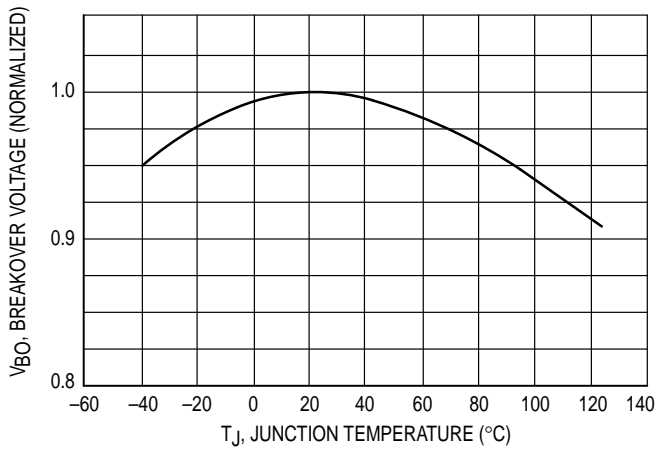


Figure 6. Breakover Voltage

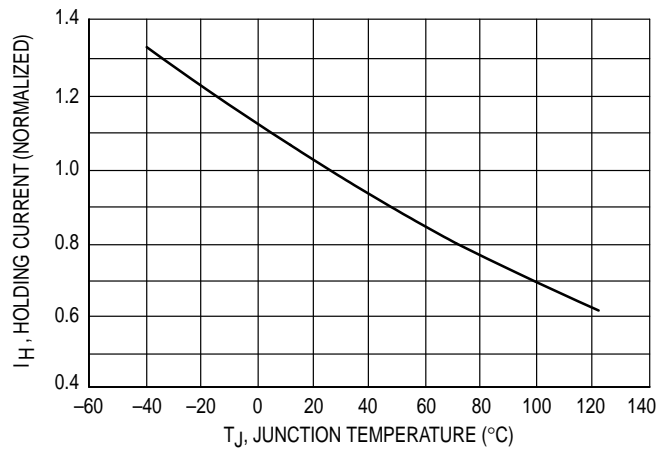


Figure 7. Holding Current

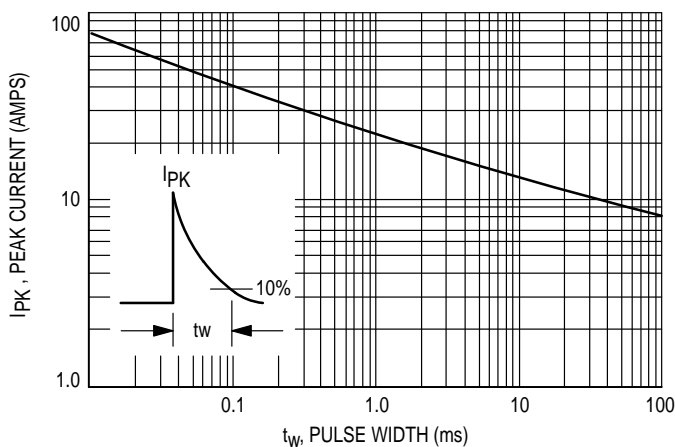


Figure 8. Pulse Rating Curve

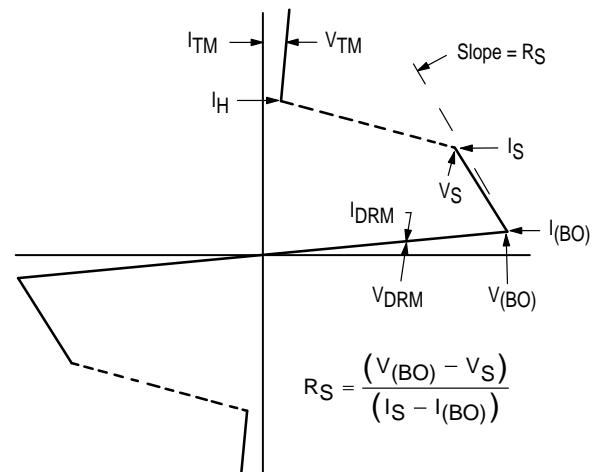
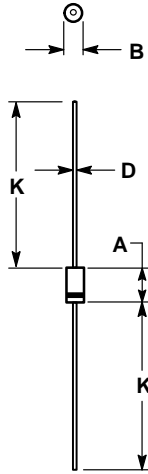


Figure 9. V-I Characteristics

PACKAGE DIMENSIONS




- NOTES:  
 1. POLARITY DENOTED BY CATHODE BAND.  
 2. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	5.97	6.60	0.235	0.260
B	2.79	3.05	0.110	0.120
D	0.76	0.86	0.030	0.034
K	27.94	—	1.100	—

CASE 59-04  
 (DO-41)  
 ISSUE M

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