

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

Rating	Symbol	MKP1V120 MKP1V130	Unit
Off-State Repetitive Voltage	V_{DRM}	± 90	Volts
On-State Current RMS ($T_L = 80^\circ\text{C}$, Lead Length = 3/8", conduction angle = 180°, 60 Hz Sine Wave)	$I_{T(RMS)}$	0.9	Amp
On-State Surge Current (Non-repetitive) (60 Hz One Cycle Sine Wave, Peak Value)	I_{TSM}	4	Amps
Operating Junction Temperature Range	T_J	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 to +150	$^\circ\text{C}$
Lead Solder Temperature (Lead Length $\geq 1/16"$ from Case, 10 s Max)	T_L	230	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Lead Lead Length = 3/8"	$R_{\theta JL}$	40	$^\circ\text{C/W}$

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	μA
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	μA
Maximum Rate-of-Change of On-State Current	di/dt	—	90	—	$\text{A}/\mu\text{s}$

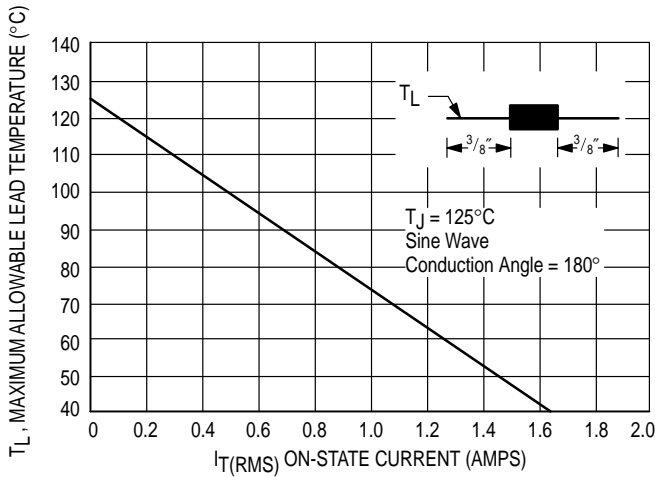


Figure 1. Maximum Lead Temperature

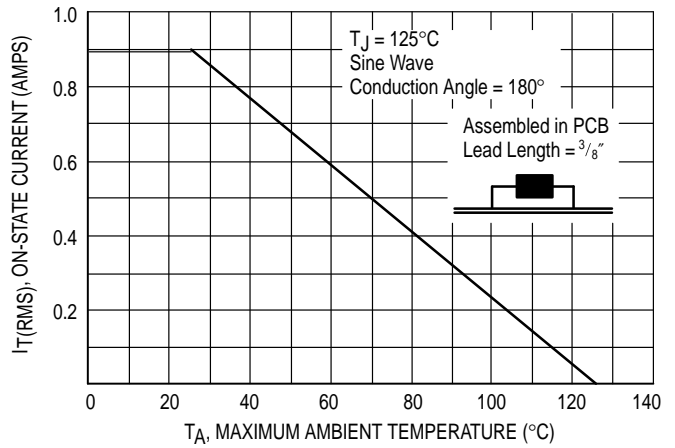


Figure 2. Maximum Ambient Temperature

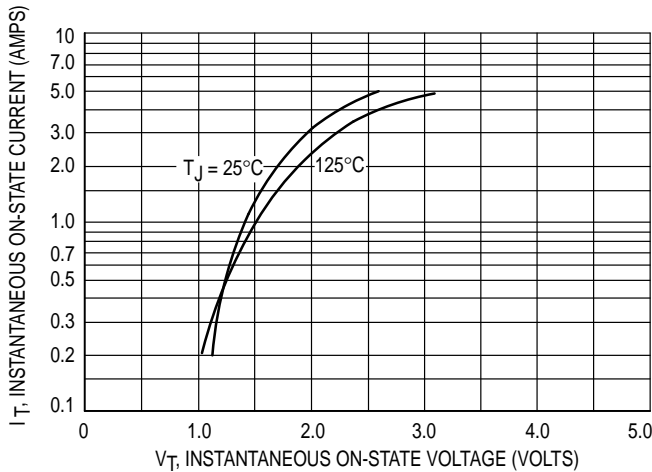


Figure 3. Typical On-State Voltage

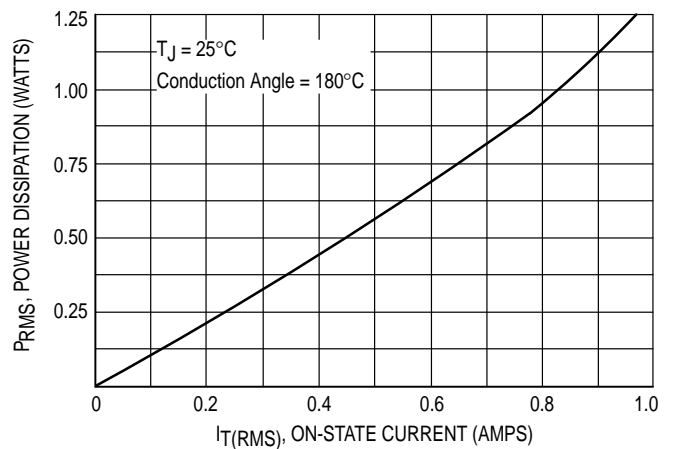


Figure 4. Power Dissipation

THERMAL CHARACTERISTICS

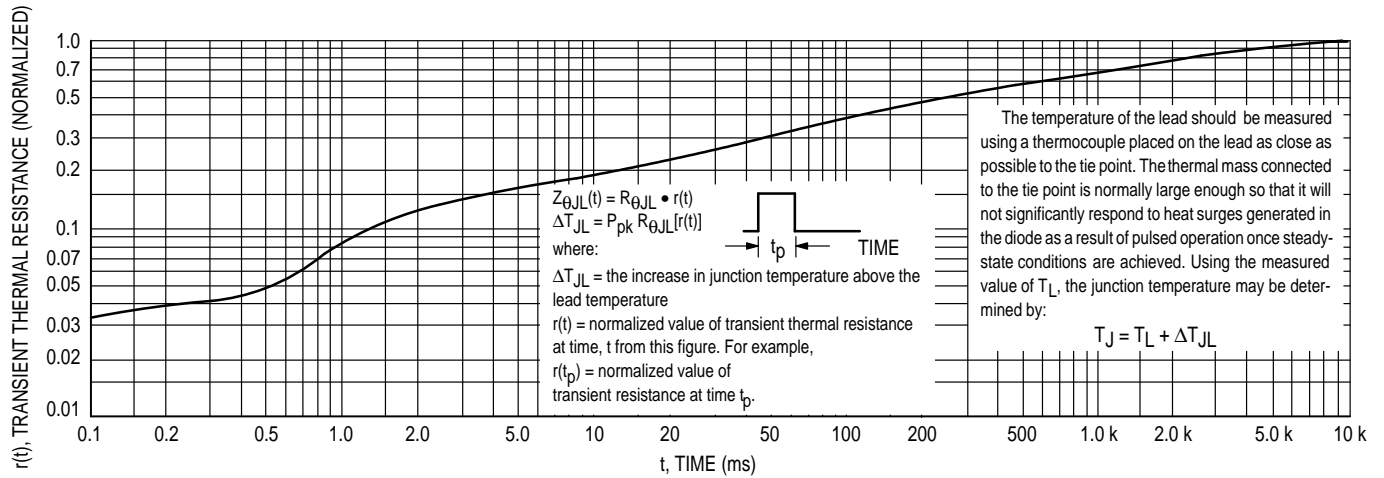


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

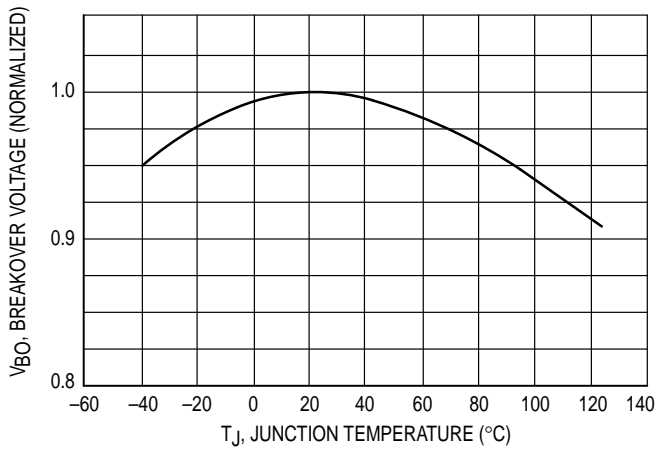


Figure 6. Breakover Voltage

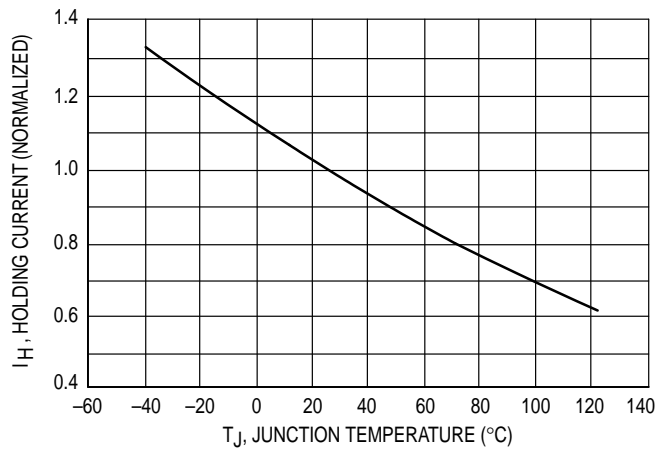


Figure 7. Holding Current

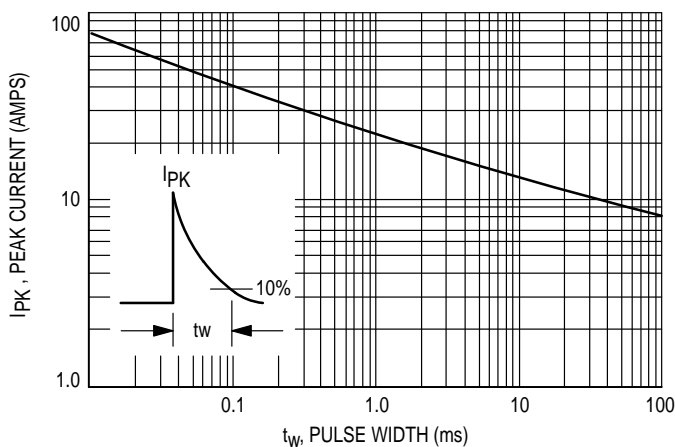


Figure 8. Pulse Rating Curve

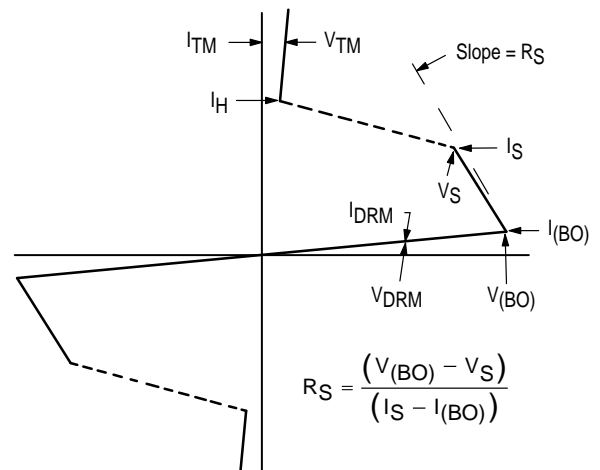
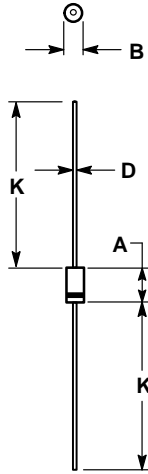


Figure 9. V-I Characteristics

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

DATE 09/25/84

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