

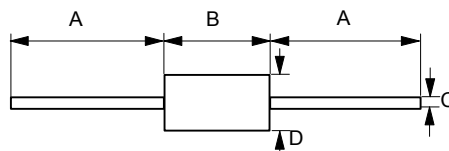
**Sidac High Voltage
Silicon Bidirectional Thyristors**

**SIDACS
1 AMPERES RMS
120 thru 240 VOLTS**

FEATURES

- High Pressure Sodium Vapor Lighting
- Strobes and Flashers
- Ignitors
- High Voltage Regulators
- Pulse Generators
- Used to Trigger Gates of SCR's and Triacs

DO-201AD



DO-201AD		
Dim.	Min.	Max.
A	25.4	-
B	7.30	9.50
C	1.20 $\varnothing$	1.30 $\varnothing$
D	4.80 $\varnothing$	5.30 $\varnothing$
All Dimensions in millimeter		



MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage ($T_j = -40$ to 125°C , Sine Wave, 50 to 60 Hz)	V_{DRM} , V_{RRM}	± 90 ± 180	Volts
On-State RMS Current ($T_L = 80^\circ\text{C}$, Lead Length=3/8", All Conduction Angles)	$I_T(RMS)$	± 1	Amp
Peak Non-Repetitive Surge Current 60 Hz One Cycle Sine Wave ($T_j = 125^\circ\text{C}$)	I_{TSM}	± 20	Amps
Operating Junction Temperature Range	T_J	-40 to +125	
Storage Temperature Range	T_{stg}	-40 to +150	

Maximum ratings are those values beyond which device damage can occur.

Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

REV. 1, Dec-2004, KDXF01

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Lead Lead Length = 3/8 "	RthJL	15	/W
Maximum Lead Solder Temperature (Lead Length 1/16 " from Case, 10s Max)	TL	260	

ELECTRICAL CHARACTERISTICS (T_c=25 unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Peak Reptitive Forward or Reverse Blocking Current (50 to 60 Hz Sine Wave)	T _j =25				
V _{DRM} =90V V _{DRM} =180V	SD3A120 SD3A240	I _{DRM}	----	----	10 uA

ON CHARACTERISTICS

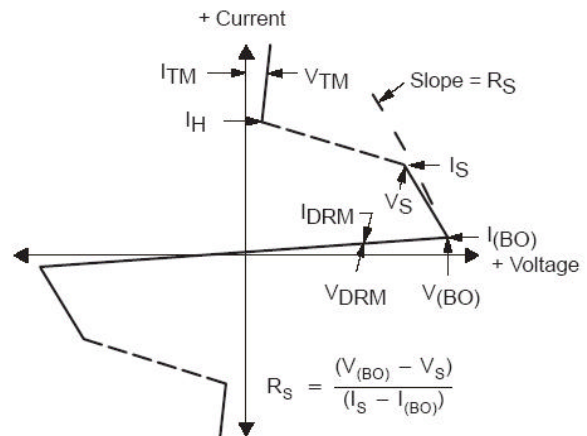
Peak On-State Voltage (I _{TM} =1A Peak @T _p 300 us, Duty Cycle 2%)		V _{TM}	----	1.1	1.5	Volts
Breakover Voltage, I _{BO} = 200 uA	SD3A120 SD3A240	V _{BO}	110 220	--- ---	130 250	Volts
Breakover Current		I _{BO}	----	----	200	uA
Dynamic Holding Current (Sine Wave, 50 to 60 Hz, R _L =100 Ohm)		I _H	100	----	100	mA
Switching Resistance (Sine Wave, 50 to 60 Hz)		R _s	0.1	----	----	kO

DYNAMIC CHARACTERISTICS

Critical Rate of Rise of On-State Current, Critical Damped Waveform Circuit (I _{PK} = 130 A, Pulse Width = 10 us)		di/dt	----	120	----	A/us
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**Voltage Current Characteristic of SIDAC
(Bidirectional Device)**

Symbol	Parameter
I_{DRM}	Off State Leakage Current
V_{DRM}	Off State Repetitive Blocking Voltage
V_{BO}	Breakover Voltage
I_{BO}	Breakover Current
I_H	Holding Current
V_{TM}	On State Voltage
I_{TM}	Peak on State Current



CURRENT DERATING

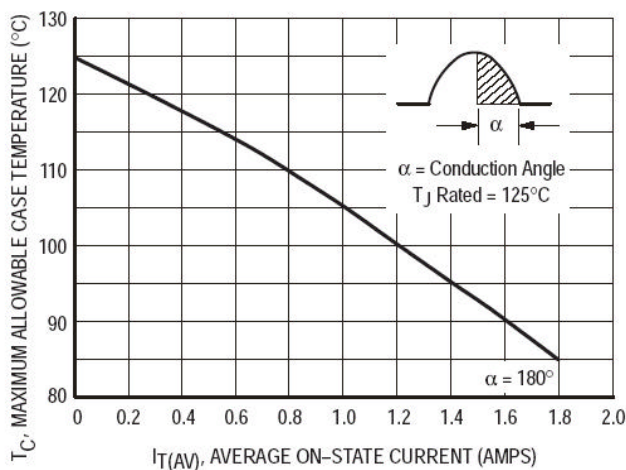


Figure 1. Maximum Case Temperature

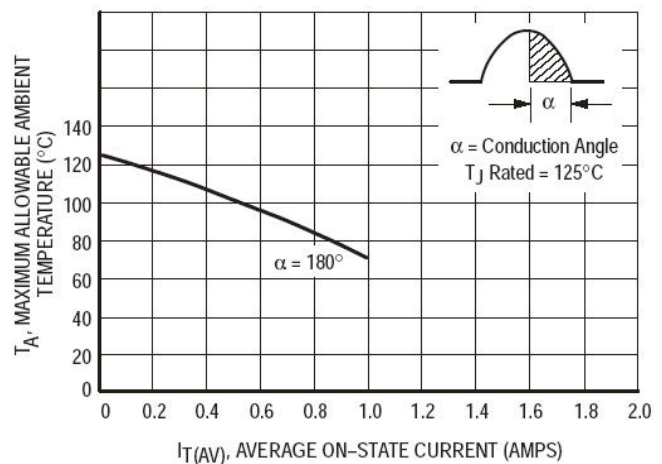


Figure 2. Maximum Ambient Temperature

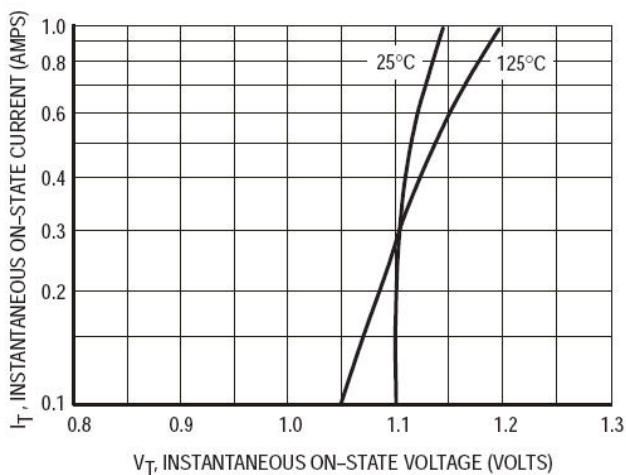


Figure 3. Typical Forward Voltage

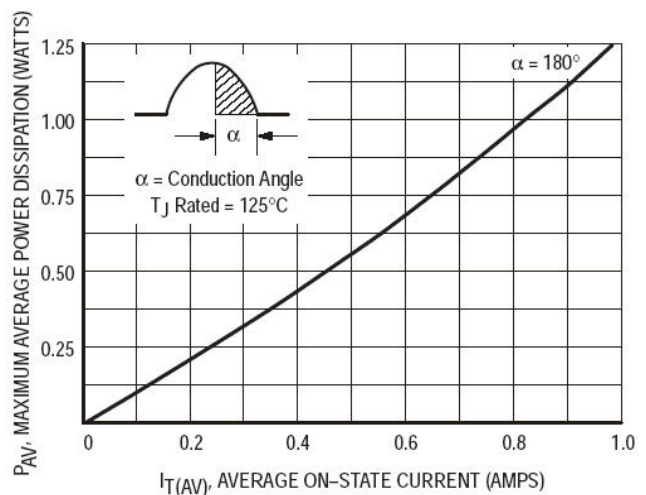


Figure 4. Typical Power Dissipation

THERMAL CHARACTERISTICS

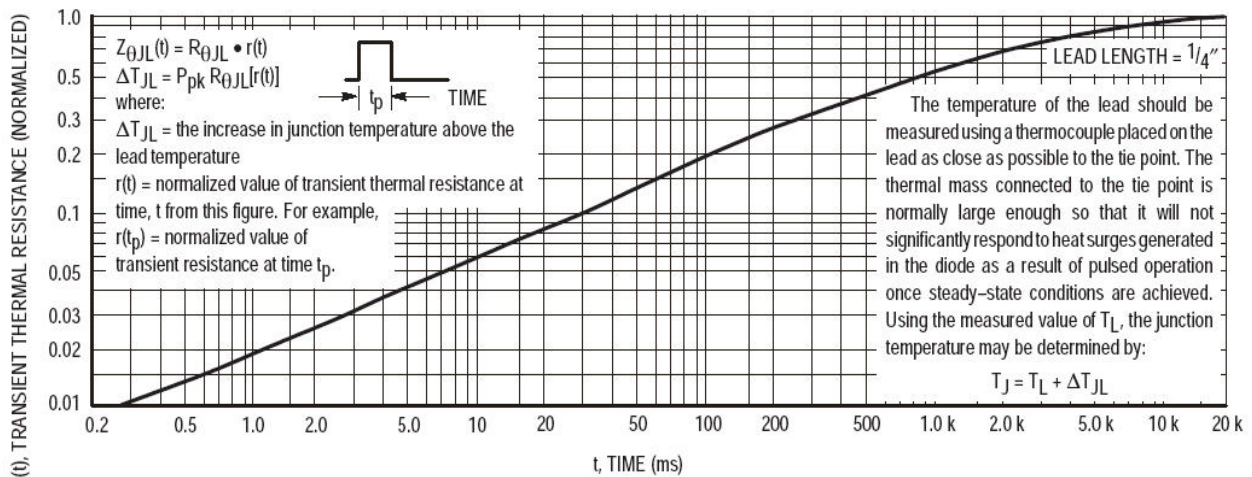


Figure 5. Thermal Response

TYPICAL CHARACTERISTICS

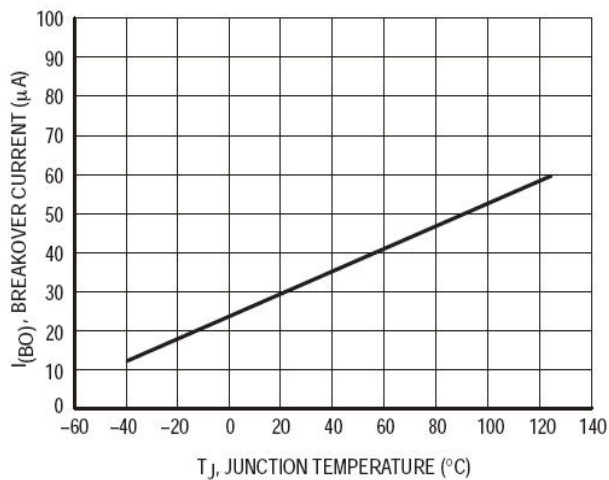


Figure 6. Typical Breakover Current

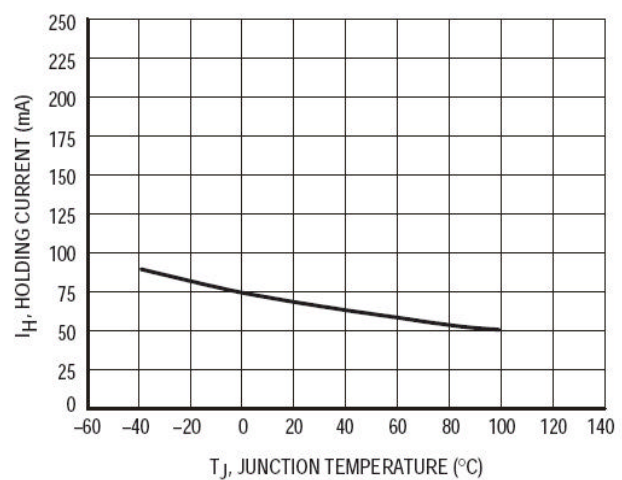


Figure 7. Typical Holding Current