

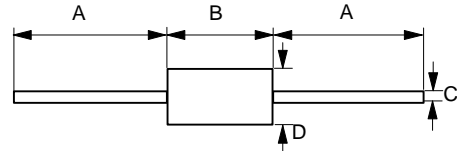
**Sidac High Voltage  
Silicon Bidirectional Thyristors**

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

**FEATURES**

- High Pressure Sodium Vapor Lighting
- Strobes and Flashers
- Igniters
- 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<sub>j</sub>= 25 unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage (T <sub>J</sub> = -40 to 125 , Sine Wave, 50 to 60 Hz)	SD3A120 SD3A220, SD3A240 V <sub>DRM</sub> , V <sub>R</sub> RRM	± 90 ± 180	Volts
On-State RMS Current (T <sub>L</sub> = 80 , Lead Lengh=3/8" , All Conduction Angles)	I <sub>T(RMS)</sub>	± 1	Amp
Peak Non-Repetitive Surge Current 60 Hz One Cycle Sine Wave (T <sub>J</sub> = 125 )	I <sub>TSM</sub>	± 20	Amps
Operating Junction Temperature Range	T <sub>J</sub>	-40 to +125	
Storage Temperature Range	T <sub>stg</sub>	-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. 3, May-2006, 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** (Tj=25 unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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**OFF CHARACTERISTICS**

Peak Repetitive Forward or Reverse Blocking Current (50 to 60 Hz Sine Wave)	IDRM	---	---	10	uA
VDRM=90V VDRM=180V					

**ON CHARACTERISTICS**

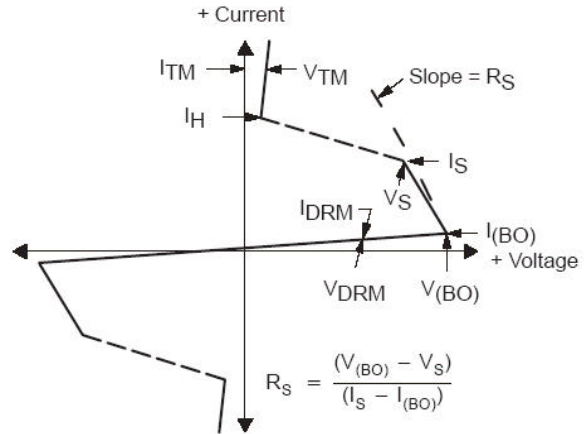
Peak On-State Voltage (ITM=1A Peak @Tp 300 us, Duty Cycle 2%)	VTM	----	1.1	1.5	Volts
Breakover Voltage, IBO = 35 uA	VBO	110	---	130	Volts
SD3A120		210	---	230	
SD3A220 SD3A240		220	---	250	
Breakover Current	IBO	----	----	200	uA
Dynamic Holding Current (Sine Wave, 50 to 60 Hz, RL=100 Ohm)	IH	----	----	100	mA
Switching Resistance (Sine Wave, 50 to 60 Hz)	Rs	0.1	----	----	kO

**DYNAMIC CHARACTERISTICS**

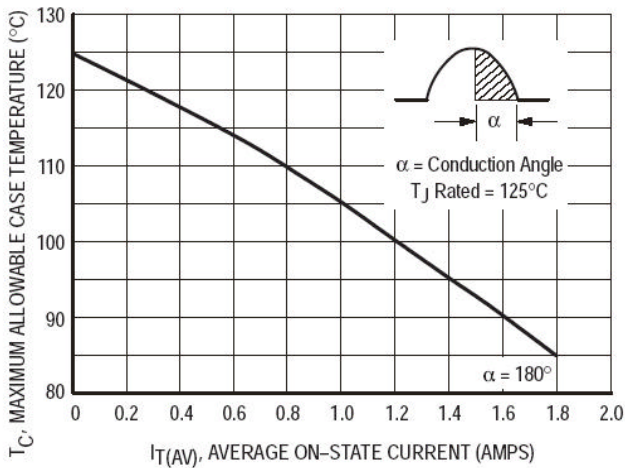
Critical Rate of Rise of On-State Current, Critical Damped Waveform Circuit (IPK = 130 A, Pulse Width = 10 us)	di/dt	----	120	----	A/us
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**Voltage Current Characteristic of SIDAC  
(Bidirectional Device)**

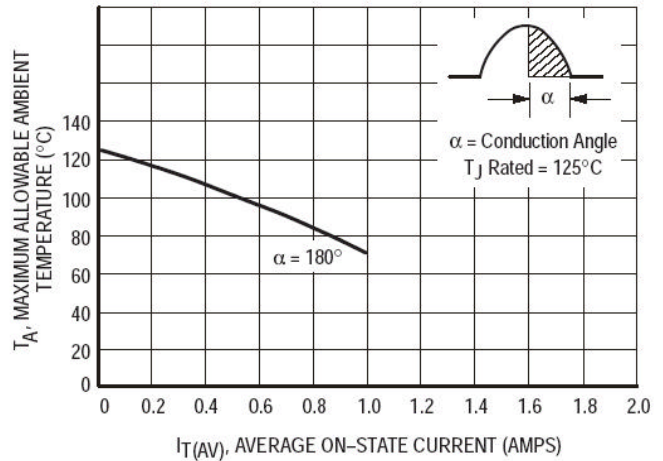
Symbol	Parameter
$I_{DRM}$	Off State Leakage Current
$V_{DRM}$	Off State Repetitive Blocking Voltage
$V_{BO}$	Breakover Voltage
$I_{BO}$	Breakover Current
$I_H$	Holding Current
$V_{TM}$	On State Voltage
$I_{TM}$	Peak on State Current



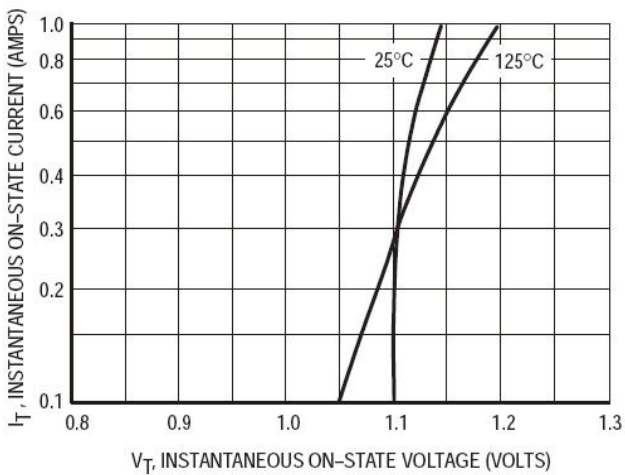
**CURRENT DERATING**



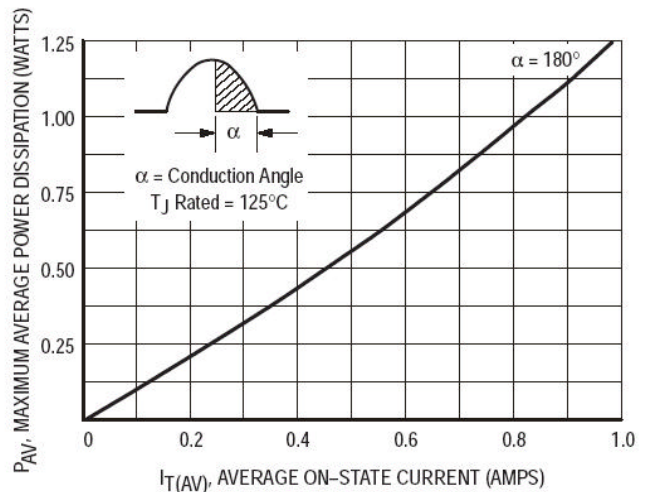
**Figure 1. Maximum Case Temperature**



**Figure 2. Maximum Ambient Temperature**

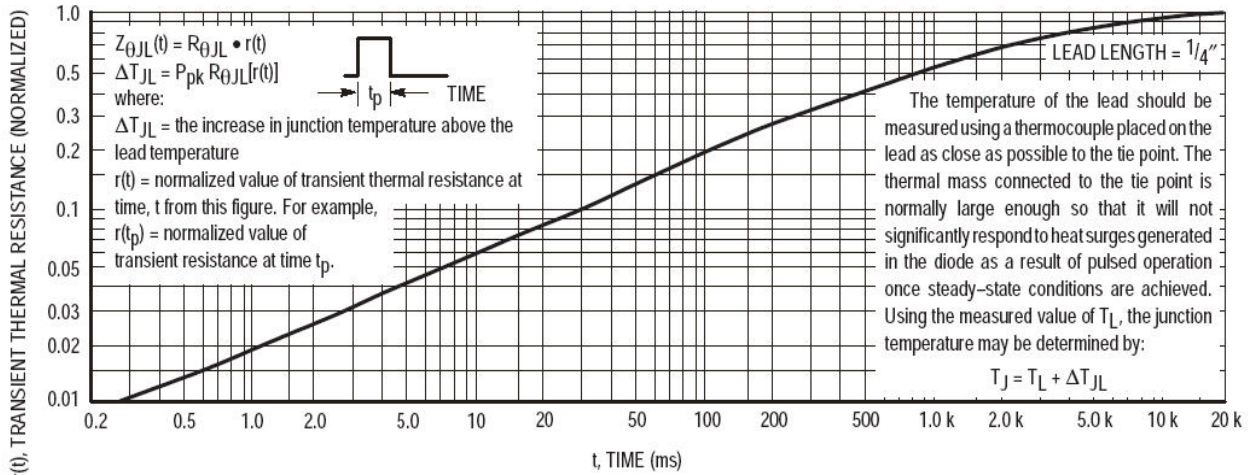


**Figure 3. Typical Forward Voltage**



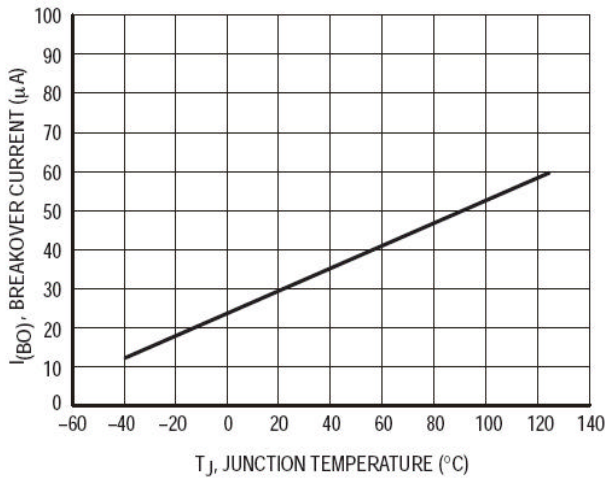
**Figure 4. Typical Power Dissipation**

**THERMAL CHARACTERISTICS**

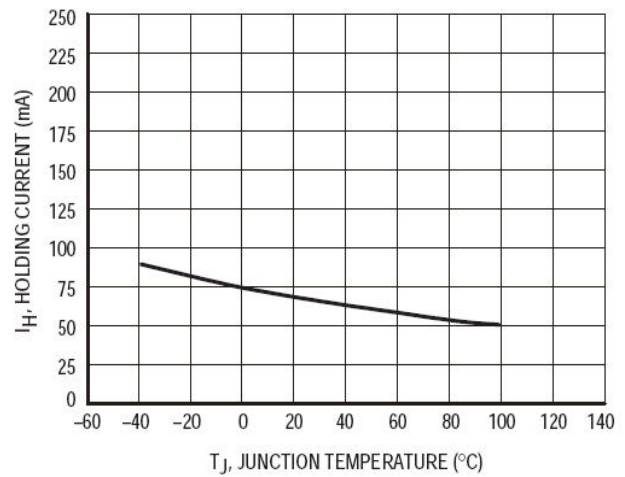


**Figure 5. Thermal Response**

**TYPICAL CHARACTERISTICS**



**Figure 6. Typical Breakover Current**



**Figure 7. Typical Holding Current**