

**Sidac High Voltage
Silicon Bidirectional Thyristors**

**SIDACS
0.9 AMPERES RMS
105 thru 240 VOLTS**

FEATURES

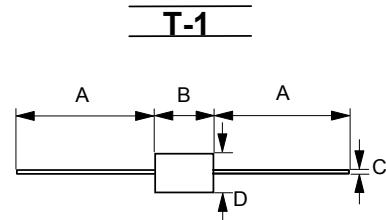
- High pulse current capability, typ=120A/us
- Glass passivation insures reliable operation
- Compact package, T1 Package
- Max. Dynamic Holding Current -100mA
- UL Recognition File # E219635

APPLICATION

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

MECHANICAL DATA

- Case: JEDEC T1 molded plastic
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/EC
- Weight : 0.004 ounces, 0.13 grams



T-1		
Dim.	Min.	Max.
A	25.4	-
B	2.60	3.20
C	0.53 \varnothing	0.64 \varnothing
D	2.20 \varnothing	2.60 \varnothing
All Dimensions in millimeter		



MAXIMUM RATINGS (Tj= 25°C unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage (Tj= -40 to 125°C, Sine Wave, 50 to 60 Hz) SD09A105D, SD09A120D, SD09A130D, SD09A160D SD09A220D, SD09A240D	V _{DRM} , V _{RRM}	± 90 ± 180	Volts
On-State RMS Current (T _L = 80°C, Lead Length=3/8" , All Conduction Angles)	I _{T(RMS)}	± 0.9	Amp
Peak Non-Repetitive Surge Current 60 Hz One Cycle Sine Wave (Tj = 125°C)	I _{TSM}	± 4.0	Amps
Operating Junction Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

Note:

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, Oct-2010, KDXA01

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Lead, Lead Length = 3/8 "	RthJL	40	°C/W
Maximum Lead Solder Temperature (Lead Length \geq 1/16 " from Case, 10s Max)	TL	260	°C

ELECTRICAL CHARACTERISTICS (T_j=25°C 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) V _{DRM} =90V, SD09A105D, SD09A120D, SD09A130D, SD09A160D V _{DRM} =180V, SD09A220D, SD09A240D	I _{DRM}	----	----	5	uA
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ON CHARACTERISTICS

Peak On-State Voltage (I _{TM} =1A Peak @T _p \leq 300 us, Duty Cycle \leq 2%)	V _{TM}	----	1.3	1.5	Volts
Breakover Voltage I _{BO} = 35uA SD09A105D 35uA SD09A120D 35uA SD09A130D 35uA SD09A160D 35uA SD09A220D 35uA SD09A240D	V _{BO}	95 110 120 150 210 220	--- --- --- --- --- ---	110 130 140 170 230 250	Volts
Dynamic Holding Current (Sine Wave, 50 to 60 Hz, R _L =100 Ohm)	I _H	----	----	100	mA
Switching Resistance (Sine Wave, 50 to 60 Hz)	R _s	0.1	----	----	kΩ

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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ORDERING INFORMATION

SD ↓ SIDAC Series	09A ↓ Current: 09A=0.9A	105 ↓ Voltage: 105=105V 120=120V 130=130V 160=160V 220=220V 240=240V	D ↓ Package: T1
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MARKING INFORMATION

S09XXXYZ

NOTE: XXX = Voltage, Y =Year, Z = Week

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

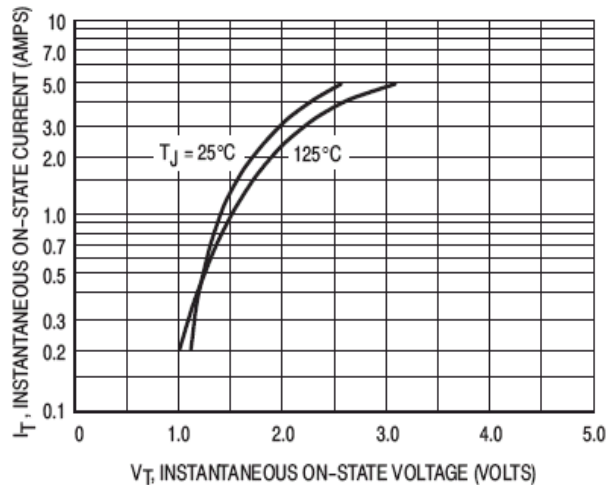
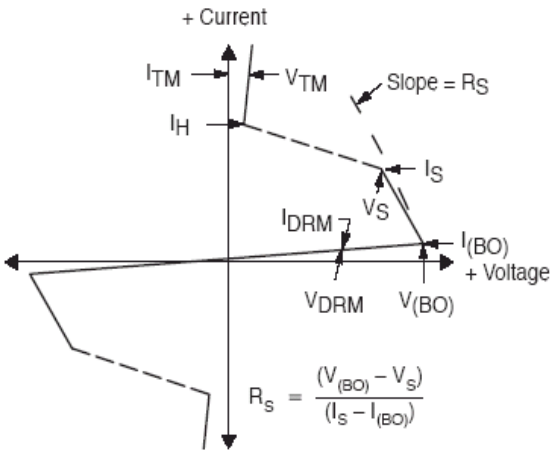


Figure 1. Typical On-State Voltage

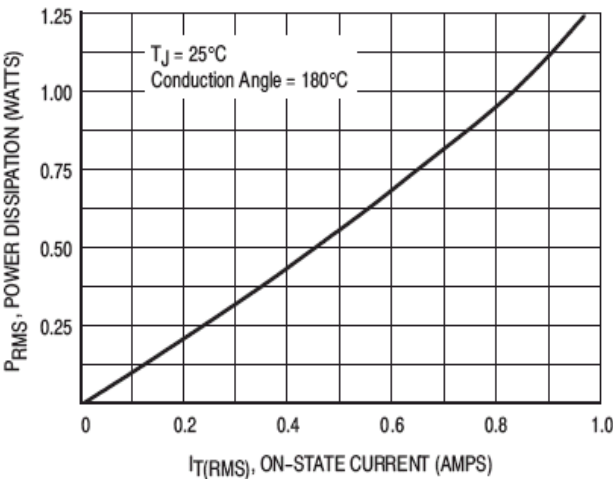


Figure 2. Typical Power Dissipation

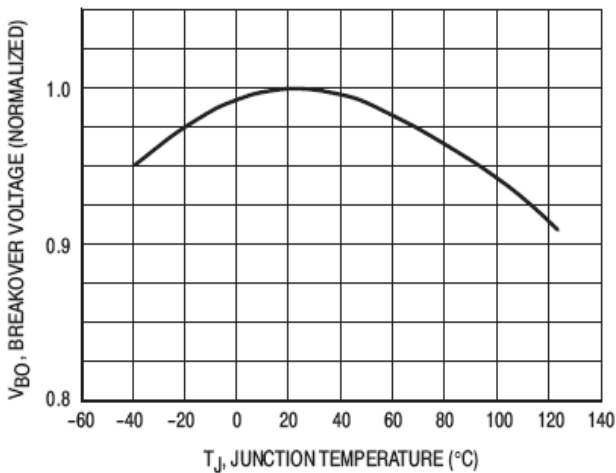


Figure 3. Typical Breakover Voltage

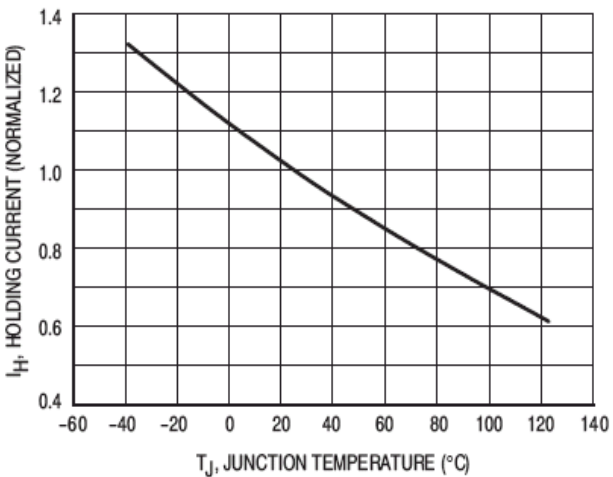


Figure 4. Typical Holding Current

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