

**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
- Max. Dynamic Holding Current -100mA
- UL Recognition File # E219635

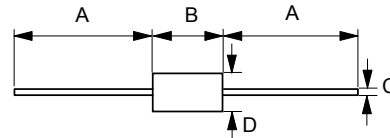
APPLICATION

- 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 DO-41 molded plastic
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/EC
- Weight : 0.012 ounces, 0.34 grams

DO-41



DO-41		
Dim.	Min.	Max.
A	25.4	-
B	4.10	5.20
C	0.71 ϕ	0.86 ϕ
D	2.00 ϕ	2.70 ϕ
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)	SD09A105E, SD09A120E, SD09A130E, SD09A160E	V _{DRM} , V _{VRRM}	+90 - 90 Volts
	SD09A220E, SD09A240E	V _{DRM} , V _{VRRM}	+180 - 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. 8, Oct-2010, KDXC01

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 ≥ 1/16 " from Case, 10s Max)	TL	260	°C

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
-----------------	--------	-----	-----	-----	------

OFF CHARACTERISTICS

Peak Repetitive Forward or Reverse Blocking Current (50 to 60 Hz Sine Wave) V _{DRM} =90V, SD1A105, SD1A120, SD1A130, SD1A160 V _{DRM} =180V, SD1A220, SD1A240	I _{DRM}	----	----	5	uA
---	------------------	------	------	---	----

ON CHARACTERISTICS

Peak On-State Voltage (I _{TM} =1A Peak @T _p ≤300 us, Duty Cycle ≤ 2%)	V _{TM}	----	1.3	1.5	Volts	
Breakover Voltage I _{BO} = 35uA 35uA 35uA 35uA 35uA 35uA	SD09A105E SD09A120E SD09A130E SD09A160E SD09A220E SD09A240E	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
--	-------	------	-----	------	------

ORDERING INFORMATION

SD ↓ SIDAC Series	09A ↓ Current: 09A=0.9A	105 ↓ Voltage: 105=105V 120=120V 130=130V 160=160V 220=220V 240=240V	E ↓ Package: DO-41
--------------------------------	---	---	------------------------------------

MARKING INFORMATION

SD09AXXXE NOTE: XXX = Voltage

**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

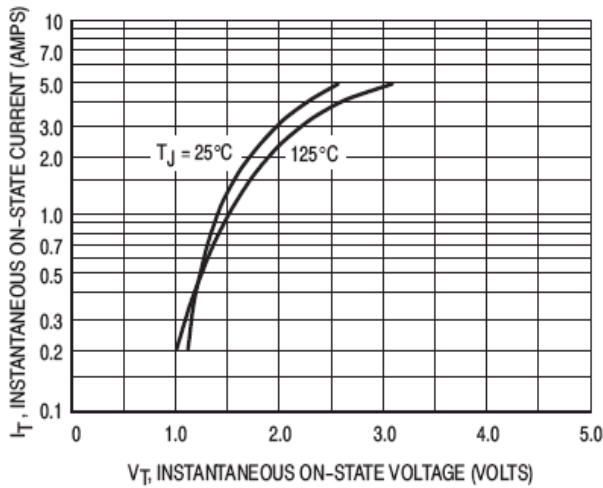
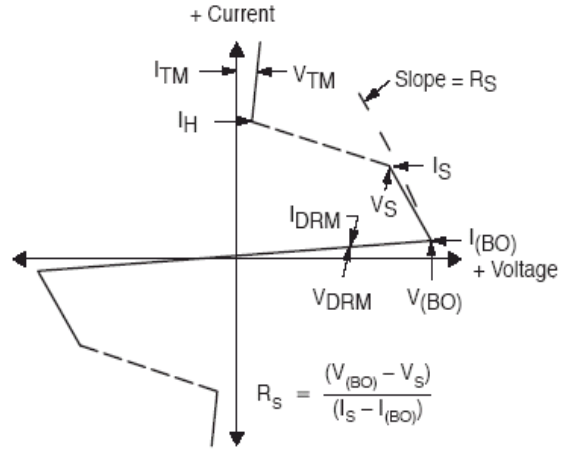


Figure 1. Typical On-State Voltage

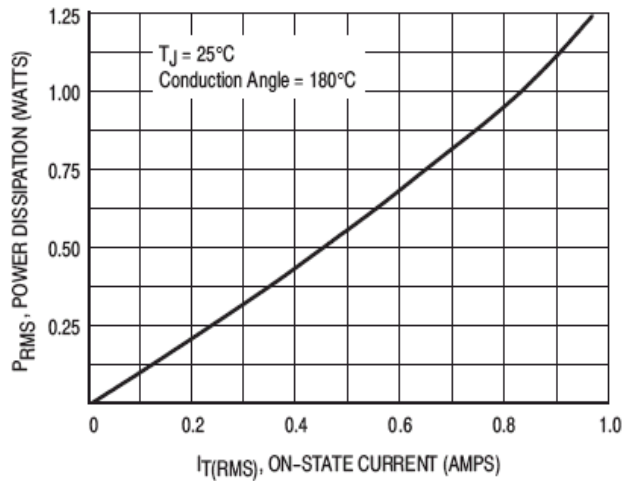


Figure 2. Typical Power Dissipation

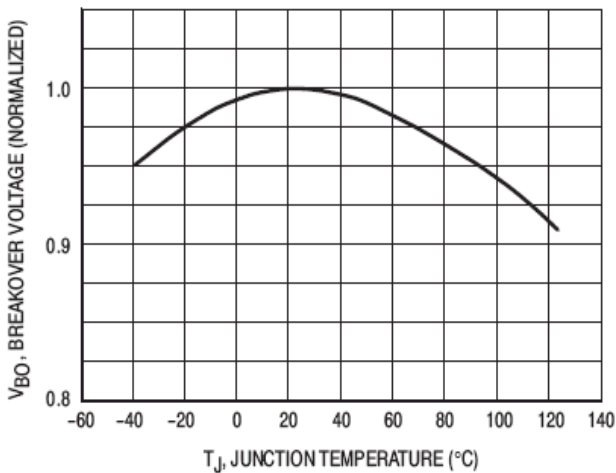


Figure 3. Typical Breakover Voltage

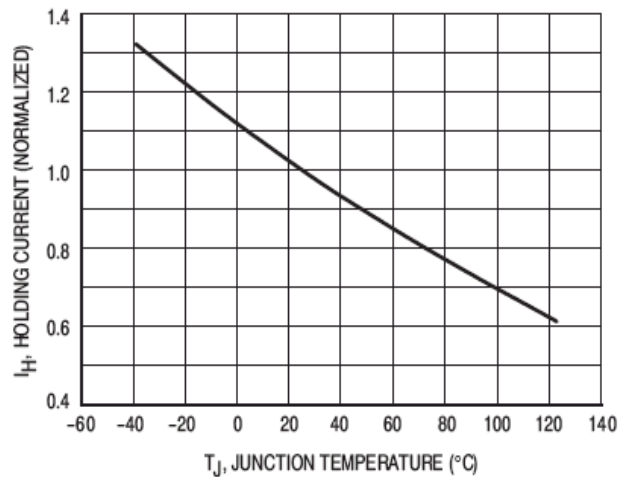


Figure 4. Typical Holding Current

Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.