

H105C(LS)

SIDAC HIGH VOLTAGE SILICON Uni-Directional THYRISTORS

SIDACS 0.25 AMPERES RMS 105 VOLTS

FEATURES

- High pulse current capability
- Glass passivation insures reliable operation
- Max. Dynamic Holding Current 50mA
- Compact package, SOT-23 package
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

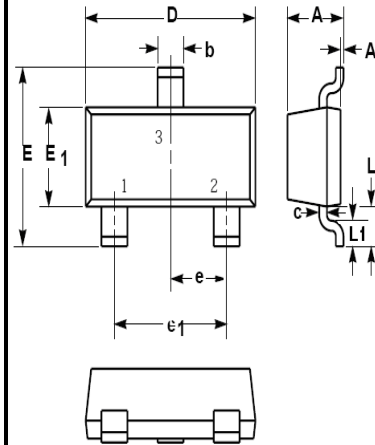
APPLICATION

- Anion generators
- Pulse generating

MECHANICAL DATA

- Package: SOT-23
- Package Material: Molded Plastic, "Green" Mold Compound. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 (e3)
- Weight : 0.009 grams (Approximate)

SOT-23



SOT-23		
Dim.	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	2.25	2.55
E1	1.20	1.40
e	0.95 Typ.	
e1	1.80	2.00
L	0.55 Ref.	
L1	0.30	0.50
Dimensions in millimeter		

MAXIMUM RATINGS (T_j=25°C, unless otherwise specified) (Note 4)

PARAMETER	SYMBOL	VALUE	UNIT
Peak repetitive off-state voltage T _J = -40 to +105°C, Sine Wave, 50 to 60Hz	V _{DRM}	90	V
On-state RMS current (T _L = 80°C, All Conduction Angles)	I _{T(RMS)}	0.25	A
Peak Non-Repetitive Surge Current Waveform 10/1000us (T _j =25°C) refer Fig.4	I _{TSM}	14	A
Operating junction temperature range	T _J	-40 ~ +105	°C
Storage temperature range	T _{STG}	-40 ~ +125	°C

- Notes:**
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. 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.

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Thermal resistance – Junction to case	Rthjc	15	°C/W
Maximum lead Solder Temperature (Lead Length \geq 1/16 " from Case, 10s Max)	TL	260	°C

OFF CHARACTERISTICS

PARAMETER	SYMBOL	MAX	UNIT
Peak repetitive forward or Reverse Blocking Current (50 to 60Hz)	IDRM	10	uA

ON CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Peak On-State Voltage $I_T=0.3A$	V _{TM}	---	1.1	1.5	Volts
Break over Voltage $I_{BO}= 5\mu A$	V _{BO}	95	---	110	Volts
Break Over Current $V_{BO} =105V$	I _{BO}	---	5	---	mA
Holding Current	I _H	---	---	50	mA
Switching Resistance	R _s	0.1	---	---	kΩ

Electrical Characteristic of SIDAC

Holding Current VS. Tj

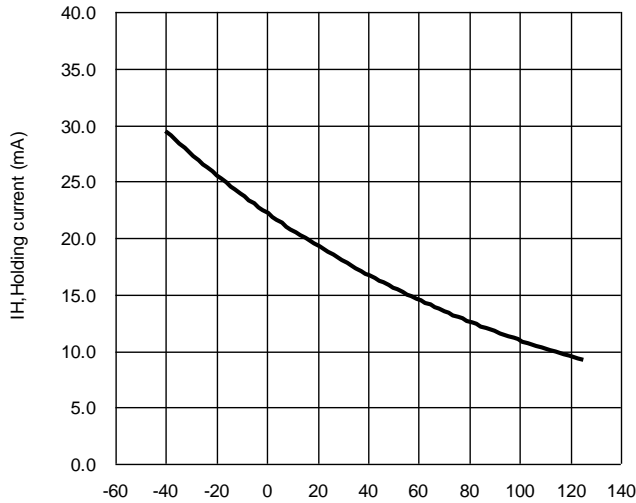


Fig.1, Tj, Junction temperature (°C)

Breakover Voltage VS. Tj

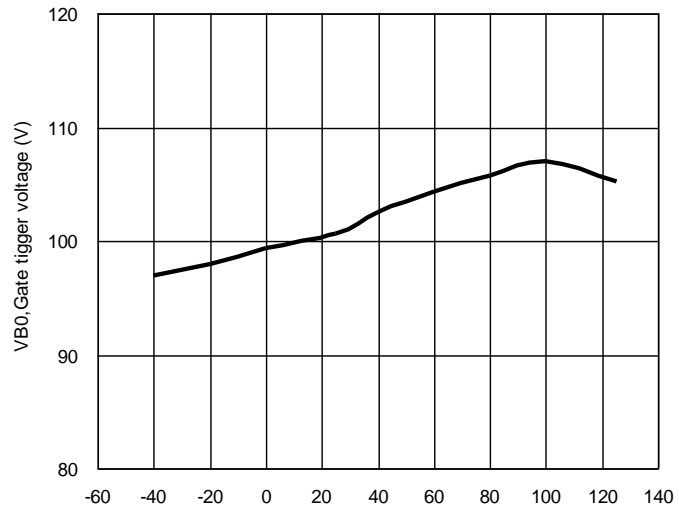


Fig.2, Tj, Junction temperature (°C)

On State Voltage vs. On State Current

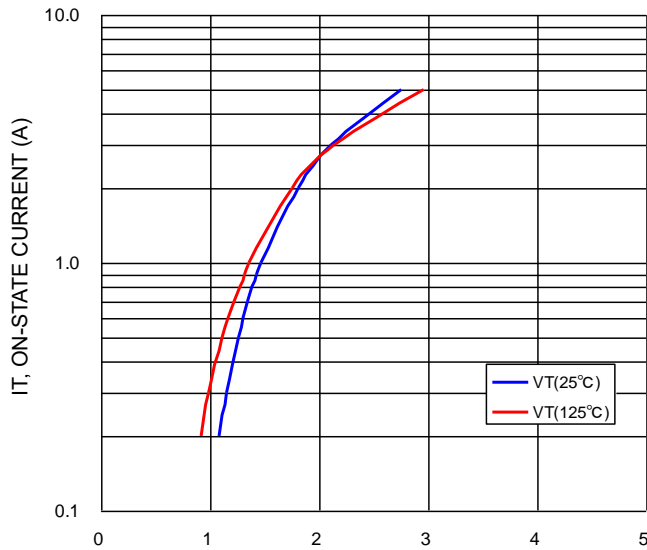


Fig.3, VT, ON-STATE VOLTAGE(V)

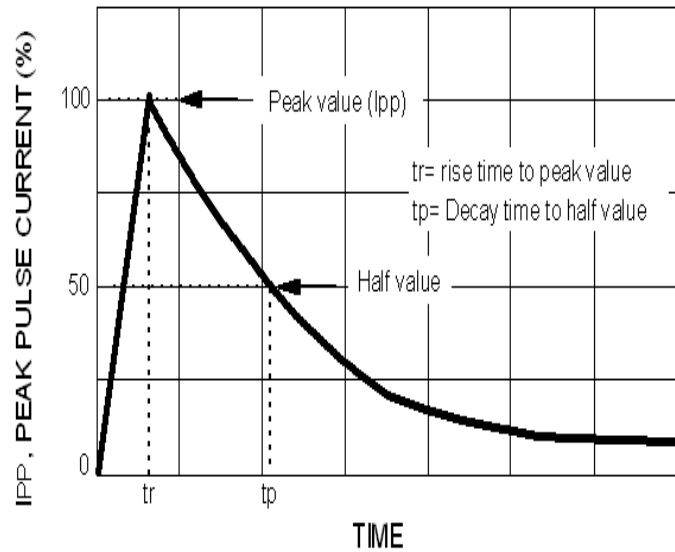
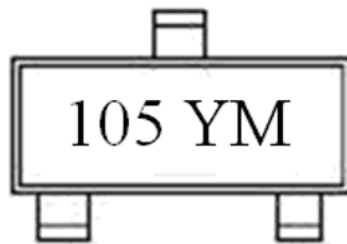


Fig.4, 10/1000us Surge Waveform

Ordering Information:

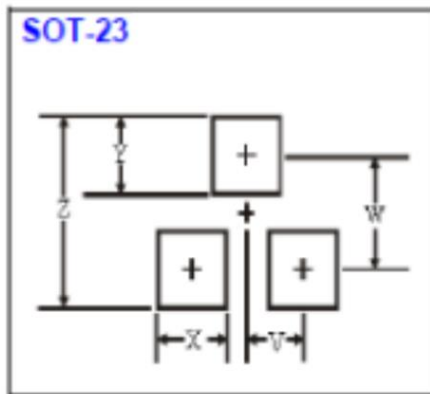
Part Number	Package	Packing	
		Qty.	Carrier
H105C	SOT-23	3000pcs	7"Reel

Marking Information:



105 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (0 to 9)
 M = Month (0 to 9, A, B, C)

Suggested Pad Layout:



Dimension	Value (In mm)
Z	3.20
X	0.80
W	2.60
Y	1.00
V	0.95

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