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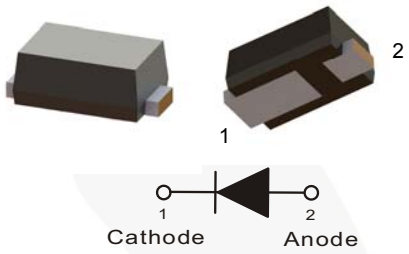
April 2016

S1GHE - S1JHE
1 A, 400 V - 600 V Surface Mount Rectifiers

Features

- Low Profile Package with <0.75 mm Package Height
- High Efficiency
- Moisture Sensitivity Level 1 per J-STD-020
- Glass Passivated Chip Junction
- UL Flammability 94V-0 Classification
- RoHS Compliant / Green Mold Compound
- Industrial Devices Qualified Per AEC-Q101 Rev. C Standards
  * see authorized use policy



Ordering Information

Part Number	Top Mark	Package	Packing Method
S1GHE	A5	SOD-323HE	Tape and Reel
S1JHE	A7	SOD-323HE	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value		Unit
		S1GHE	S1JHE	
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	400	600	V
$I_{F(AV)}$	Maximum Average Forward Rectified Current	1		A
I_{FSM}	Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	20		A
T_J	Operating Junction Temperature Range	-55 to +175		°C
T_{STG}	Storage Temperature Range	-55 to +175		°C

Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
Ψ_{JL}	Junction to Lead Thermal Resistance Thermocouple Soldered to Cathode	26.5	°C/W
$R_{\theta JA}$	Junction to Ambient Thermal Resistance	200	°C/W

Note: Per JESD51-3 Recommended Thermal Test Board. Device mounted on FR-4 PCB, board size = 76.2mm x 114.3mm

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Instantaneous Forward Voltage[2]	I_F = 1 A		0.96	1.1	V
I_R	Reverse Current at Rated V_R	T_J = 25°C		0.02	1	μA
		T_J = 125°C		10.35	50	
T_{rr}	Reverse Recovery Time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		782		ns
C_J	Junction Capacitance	V_R = 4.0 V, f = 1 MHz		3		pF

Note:

2. Pulse test with PW = 300 μs, 1% duty cycle.

Typical Performance Characteristics

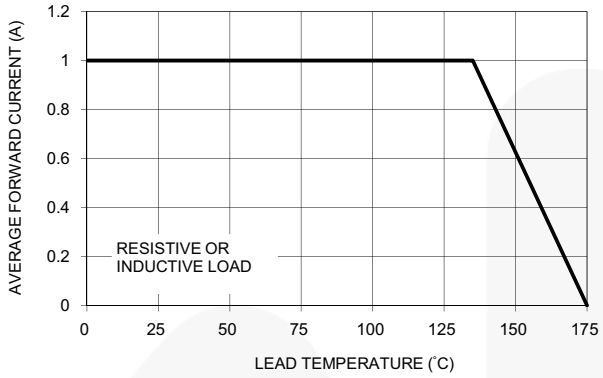


Figure 1. Forward Current Derating Curve

Figure 2. Maximum Non-Repetitive Forward Surge Current

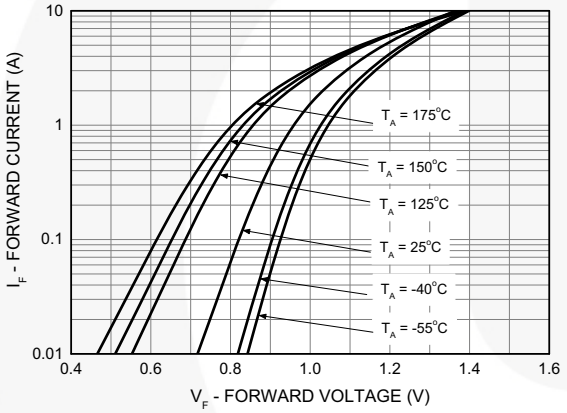


Figure 3. Typical Forward Characteristics

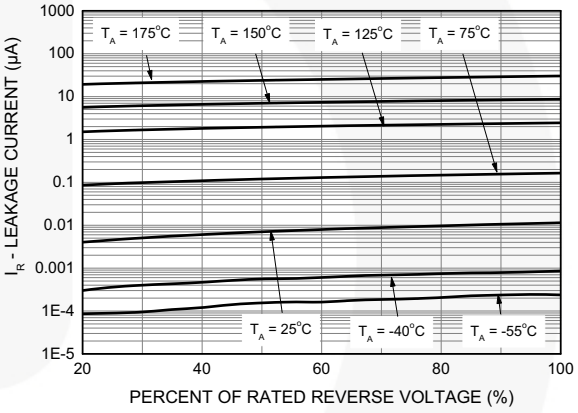


Figure 4. Typical Reverse Characteristics

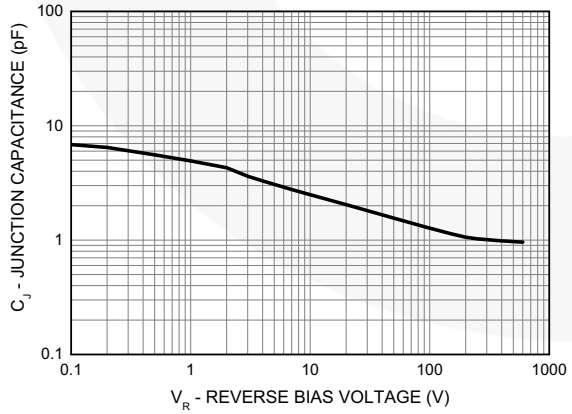


Figure 5. Typical Junction Capacitance

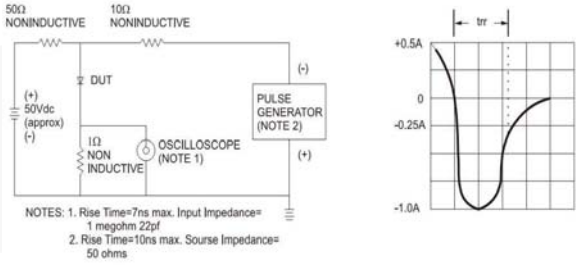
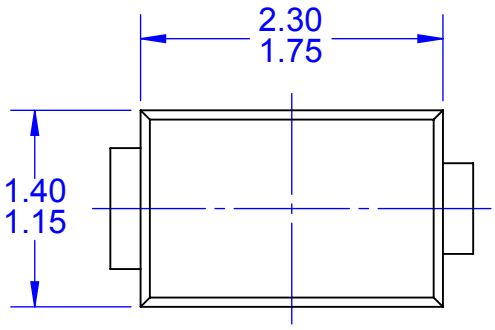
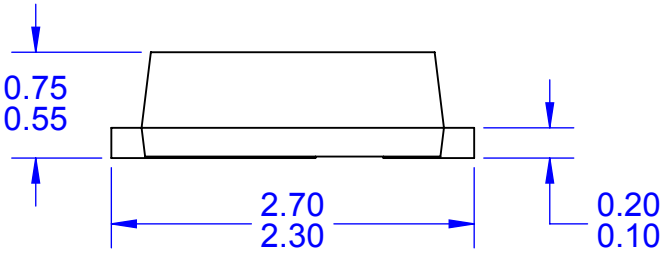


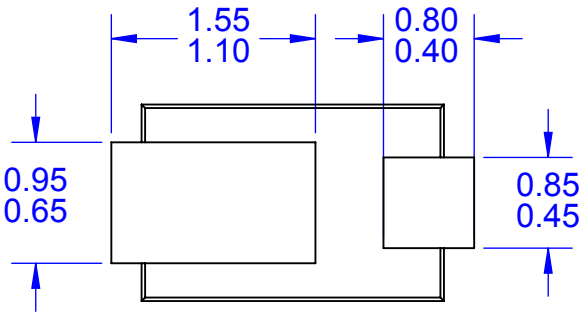
Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram



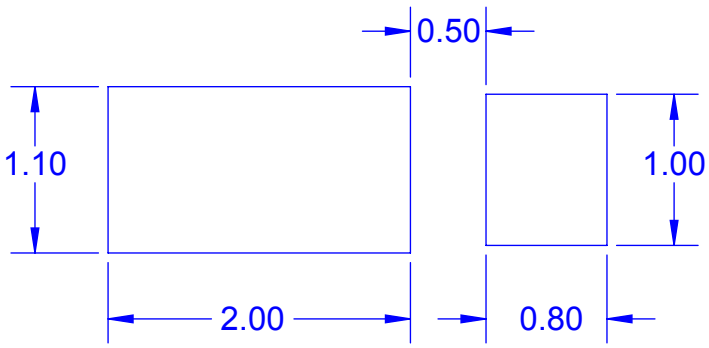
TOP VIEW



FRONT VIEW



BOTTOM VIEW



LAND PATTERN RECOMMENDATION

NOTES:

A. THIS PACKAGE DOES NOT CONFORM TO ANY STANDARDS.
B. ALL DIMENSIONS ARE IN MILLIMETERS.
C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
D. DRAWING FILE NAME: MKT-SOD323HErev2

FAIRCHILD ™

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