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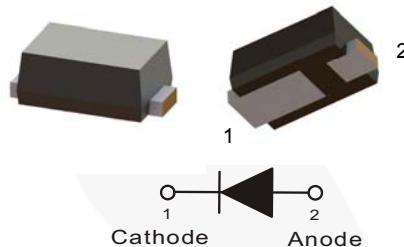
April 2016

# 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  $T_A = 25^\circ\text{C}$  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		$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +175		$^\circ\text{C}$

## Thermal Characteristics<sup>(1)</sup>

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$\psi_{JL}$	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

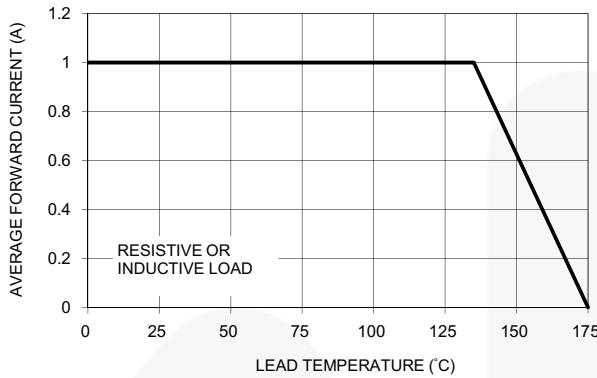
Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Instantaneous Forward Voltage <sup>(2)</sup>	$I_F = 1 \text{ A}$		0.96	1.1	V
$I_R$	Reverse Current at Rated $V_R$	$T_J = 25^\circ\text{C}$		0.02	1	$\mu\text{A}$
		$T_J = 125^\circ\text{C}$		10.35	50	
$T_{rr}$	Reverse Recovery Time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$		782		ns
$C_J$	Junction Capacitance	$V_R = 4.0 \text{ V}, f = 1 \text{ MHz}$		3		pF

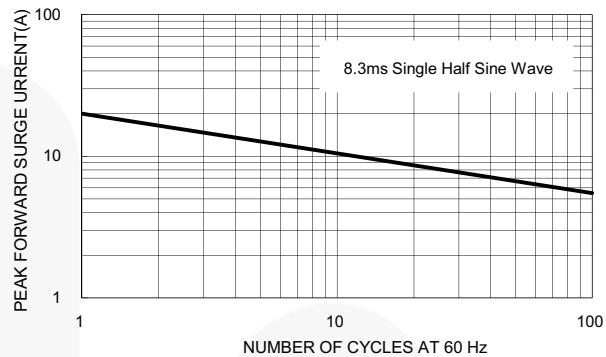
**Note:**

2. Pulse test with PW = 300  $\mu\text{s}$ , 1% duty cycle.

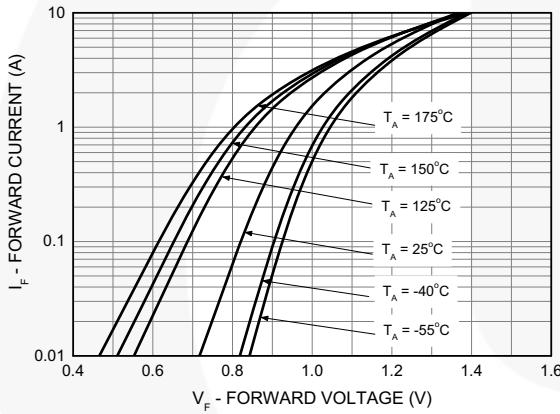
## Typical Performance Characteristics



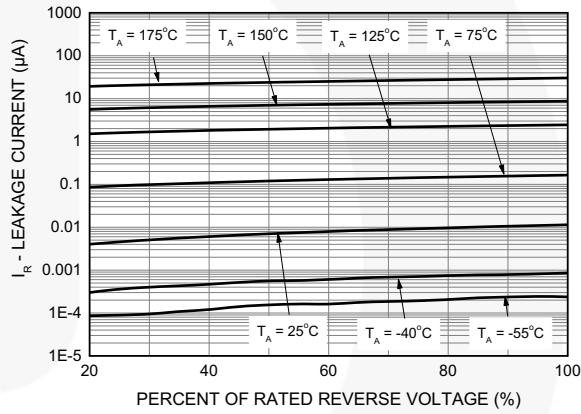
**Figure 1. Forward Current Derating Curve**



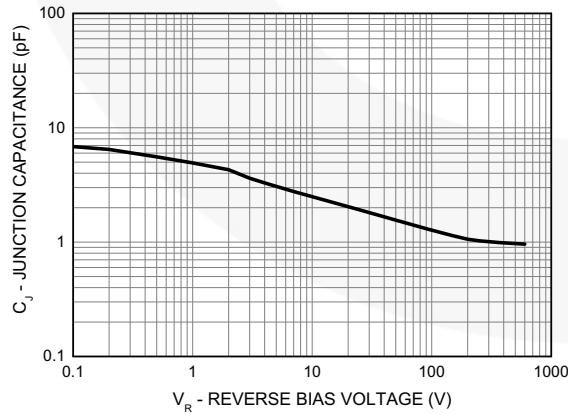
**Figure 2. Maximum Non-Repetitive Forward Surge Current**



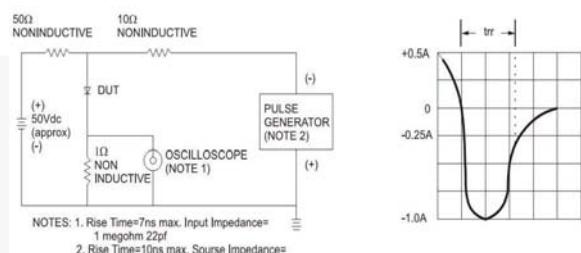
**Figure 3. Typical Forward Characteristics**



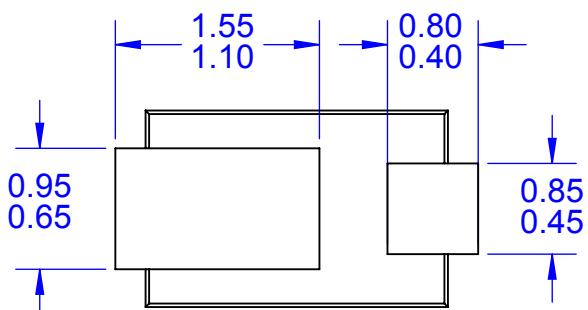
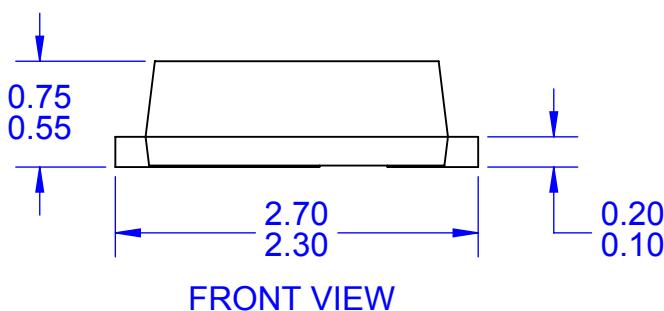
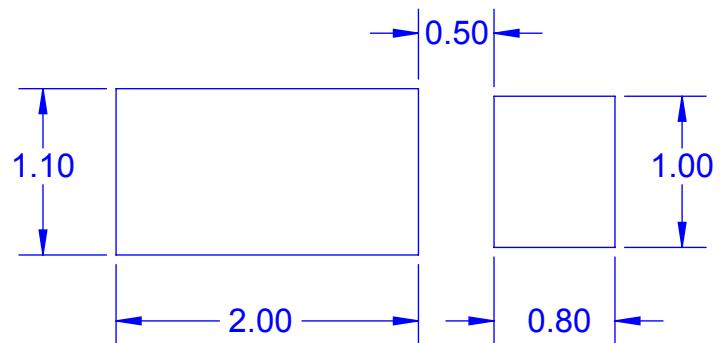
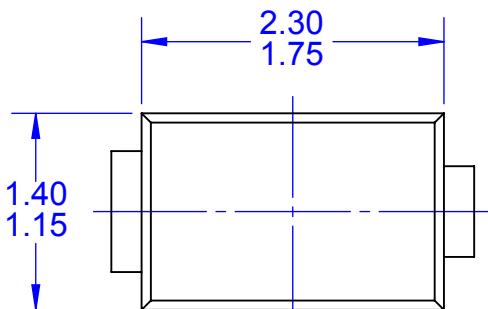
**Figure 4. Typical Reverse Characteristics**



**Figure 5. Typical Junction Capacitance**



**Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram**



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