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S1Q Thru S1ZZ

Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Gull Wing Lead Bend To Prevent Arcing
- Perfect For High Voltage Applications

1 Amp Silicon Rectifier 1200 to 2000 Volts

Maximum Ratings

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

Microsemi Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
S1Q	S1Q	1200V	840V	1200V
S1V	S1V	1400V	980V	1400V
S1Y	S1Y	1600V	1120V	1600V
S1Z	S1Z	1800V	1260V	1800V
S1ZZ	S1ZZ	2000V	1400V	2000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_J = 75^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.1V	$I_{FM} = 1.0\text{A};$ $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	10 μA 50 μA	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Typical Junction Capacitance	C_J	15pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

*Pulse test: Pulse width 200 μsec , Duty cycle 2%

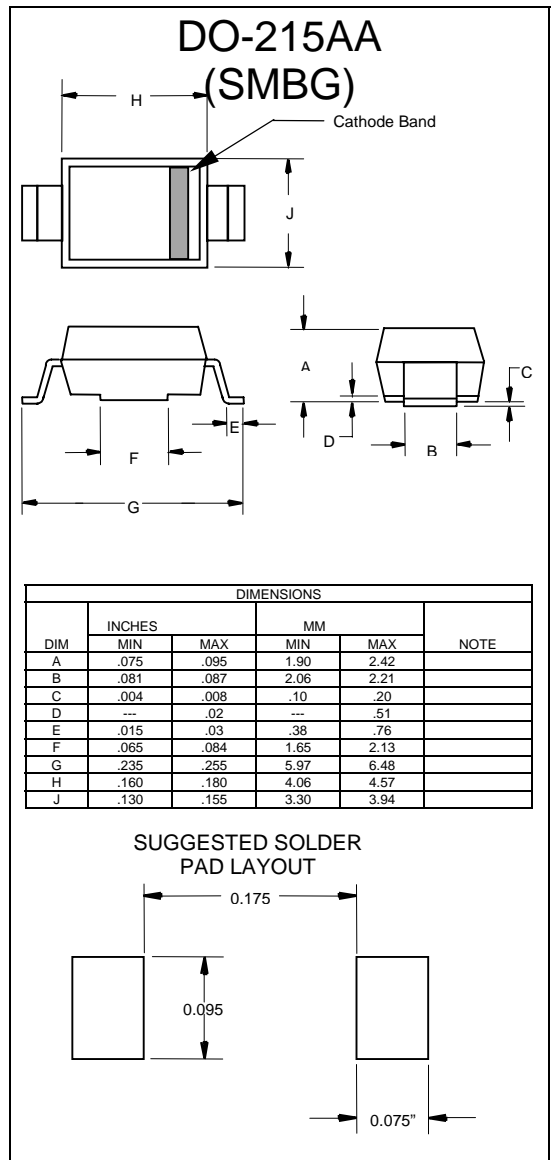


Figure 1
Typical Forward Characteristics

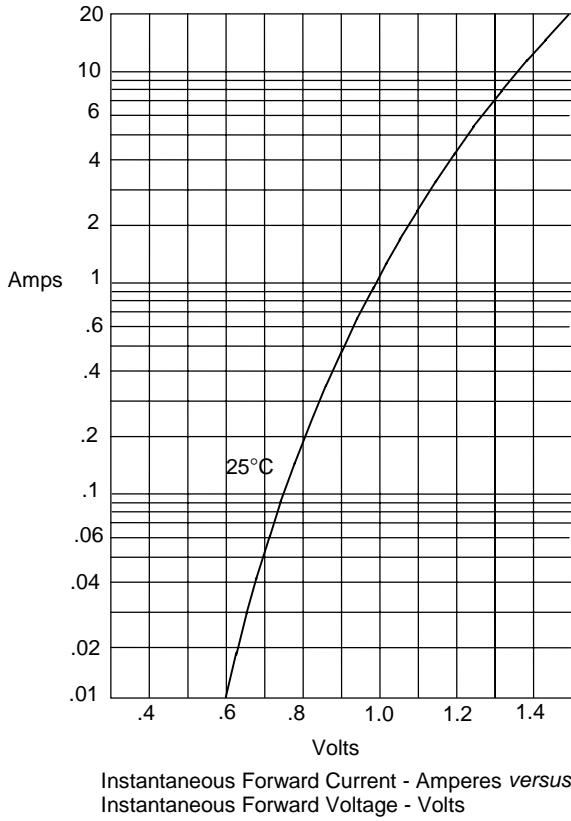


Figure 3
Maximum Overload Surge Current

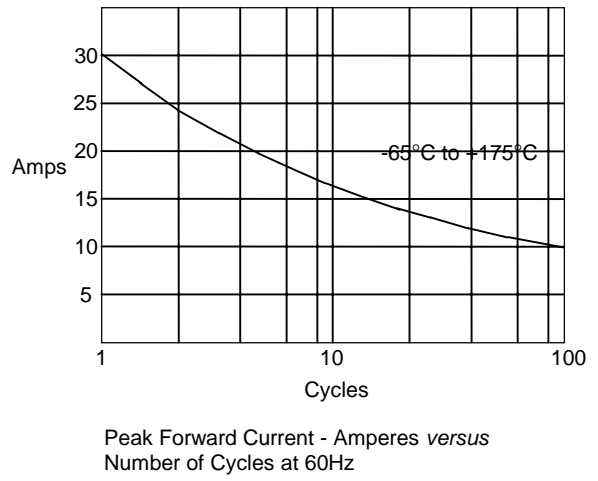


Figure 4
Forward Derating Curve

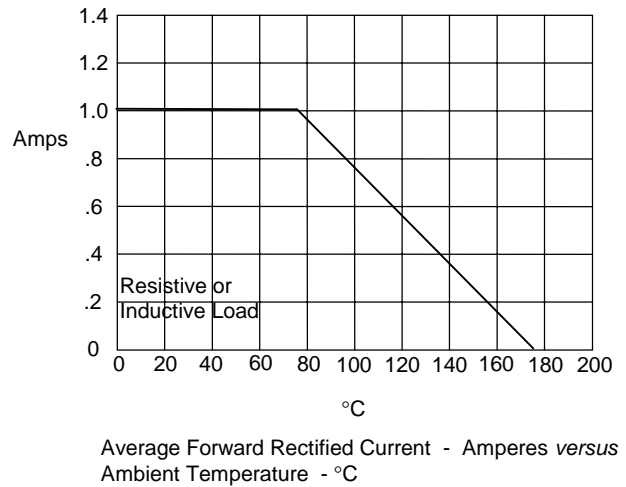


Figure 2
Junction Capacitance

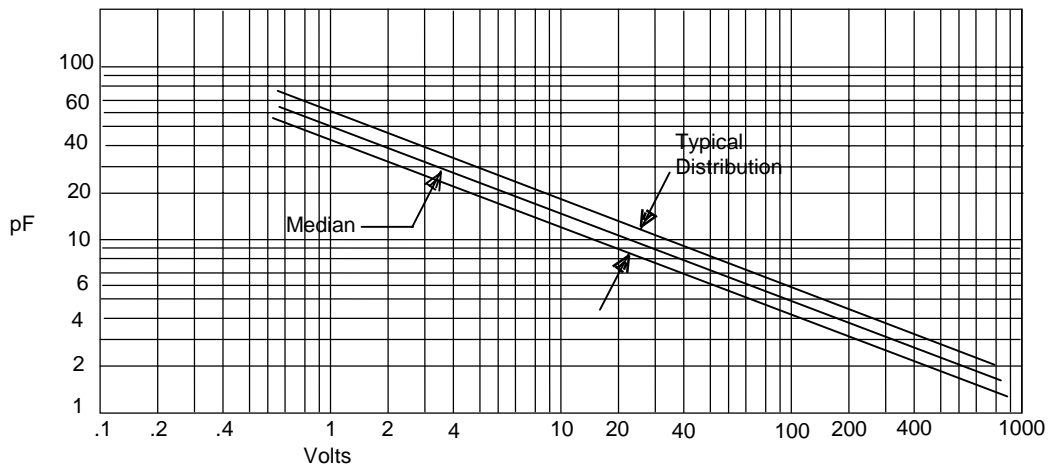
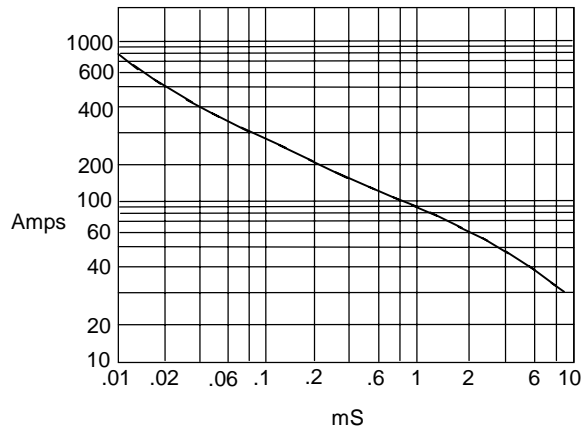
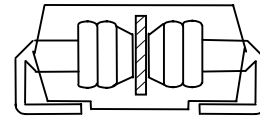


Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*
Pulse Duration - Milliseconds (mS)

Figure 6
New SMB Assembly



Round Lead