



Micro Commercial Components  
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# S1A THRU S1M

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 250°C for 10 Seconds At Terminals

## 1 Amp Silicon Rectifier 50 to 1000 Volts

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 30°C/W Junction To Lead

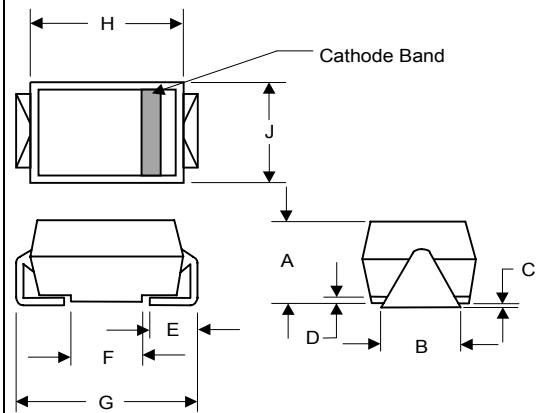
MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
S1A	S1A	50V	35V	50V
S1B	S1B	100V	70V	100V
S1D	S1D	200V	140V	200V
S1G	S1G	400V	280V	400V
S1J	S1J	600V	420V	600V
S1K	S1K	800V	560V	800V
S1M	S1M	1000V	700V	1000V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward current	$I_{F(AV)}$	1.0A	$T_J = 100^\circ\text{C}$
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	$I_R$	5 $\mu\text{A}$ 50 $\mu\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	12pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

## DO-214AA (SMBJ) (Round Lead)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.078	.116	1.98	2.95	
B	.075	.089	1.90	2.25	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.035	.055	.90	1.40	
F	.065	.091	1.65	2.32	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.130	.155	3.30	3.94	

### SUGGESTED SOLDER PAD LAYOUT

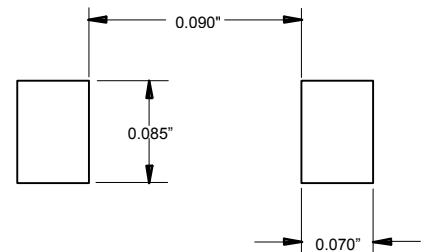


Figure 1  
Typical Forward Characteristics

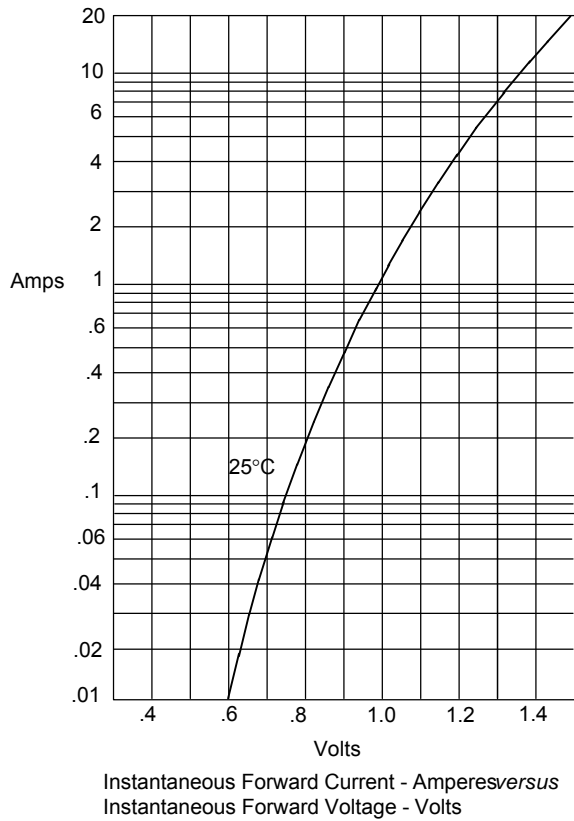


Figure 3  
Maximum Overload Surge Current

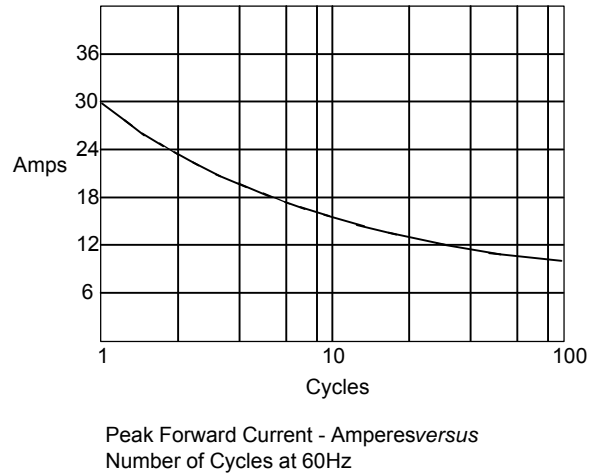


Figure 4  
Forward Derating Curve

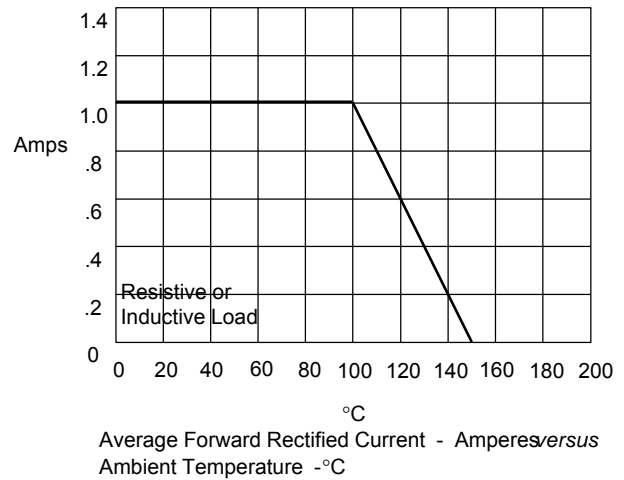
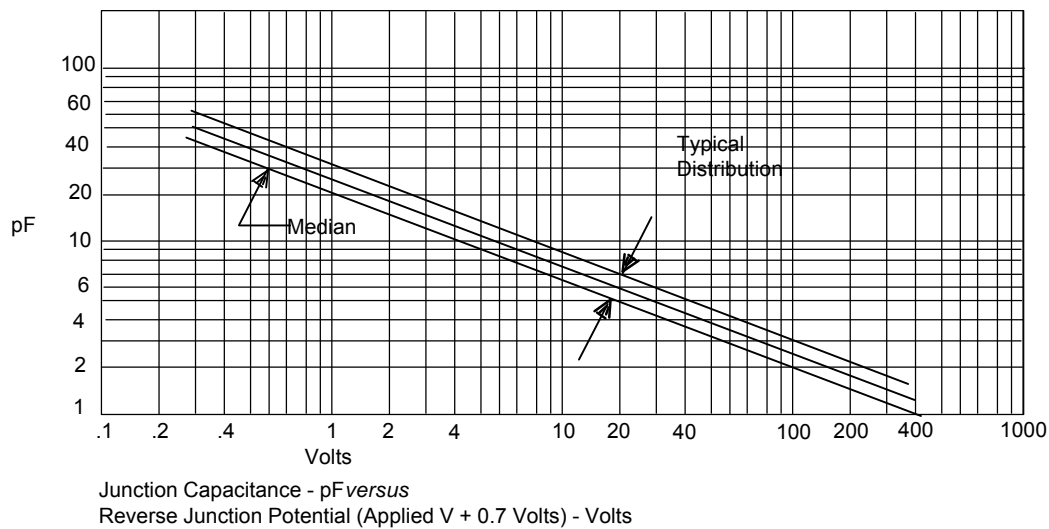


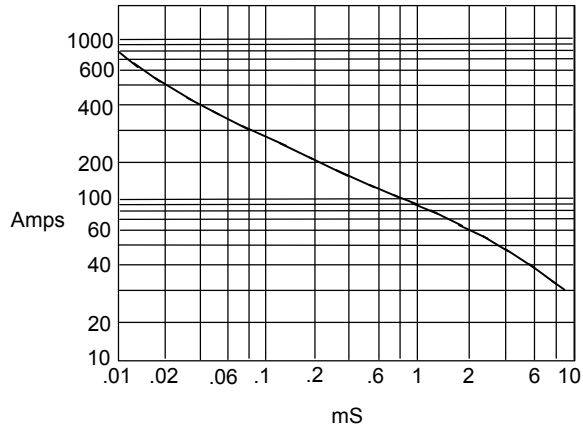
Figure 2  
Junction Capacitance



# S1A thru S1M

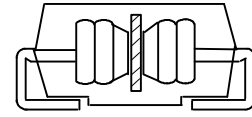


Figure 5  
Peak Forward Surge Current



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

Figure 6  
New SMB Assembly



Round Lead  
Process