

S3A THRU S3M

Features

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

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 10°C/W Junction To Lead

Microsemi Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
S3A	S3A	50V	35V	50V
S3B	S3B	100V	70V	100V
S3D	S3D	200V	140V	200V
S3G	S3G	400V	280V	400V
S3J	S3J	600V	420V	600V
S3K	S3K	800V	560V	800V
S3M	S3M	1000V	700V	1000V

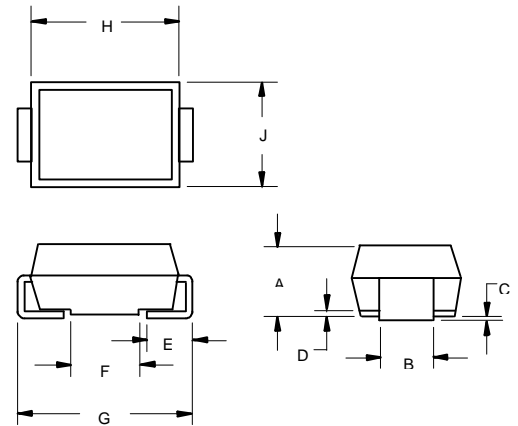
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3.0A	$T_J = 120^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.20V	$I_{FM} = 3.0A$; $T_J = 25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	10 μA 250 μA	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	2.5 μs	$I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$
Typical Junction Capacitance	C_J	60pF	Measured at 1.0MHz, $V_R=4.0V$

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

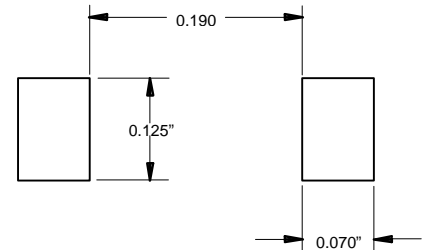
3 Amp Silicon Rectifier 50 to 1000 Volts

DO-214AB (SMCJ)



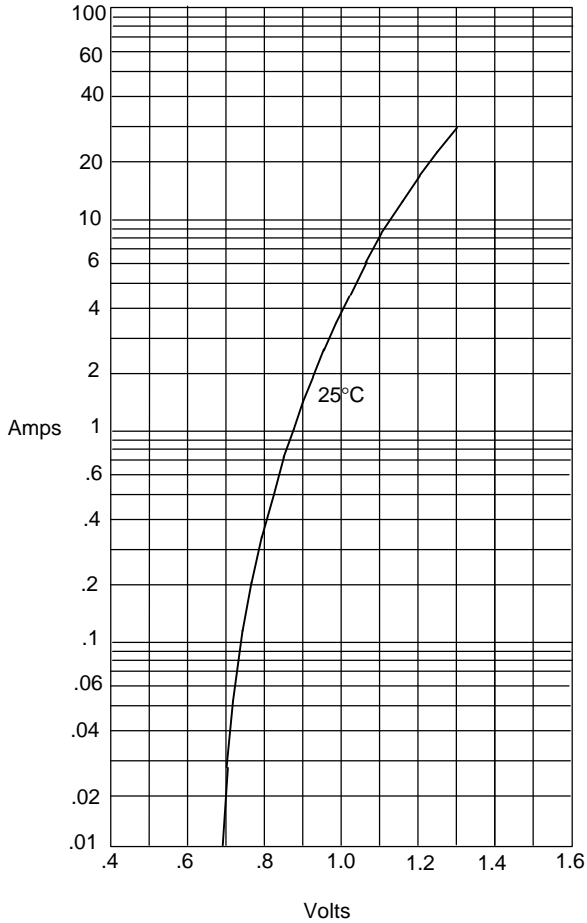
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.075	.095	1.90	2.41	
B	.115	.121	2.92	3.07	
C	.004	.008	.10	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F					
G	.305	.320	7.75	8.13	
H	.260	.280	6.60	7.11	
J	.220	.245	5.59	6.22	

SUGGESTED SOLDER PAD LAYOUT



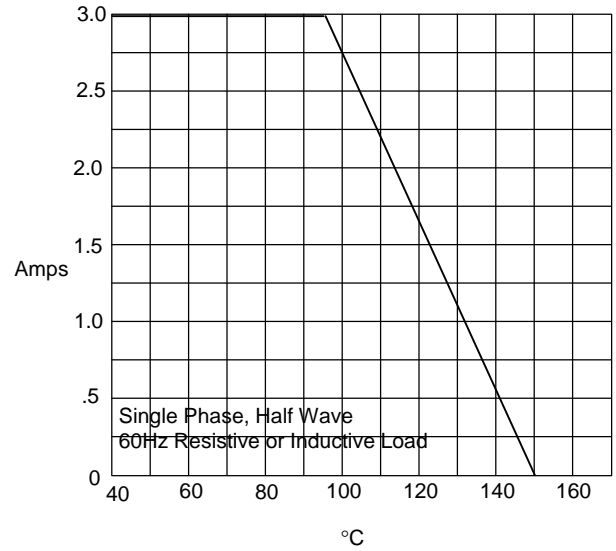
S3A thru S3M

Figure 1
Typical Forward Characteristics



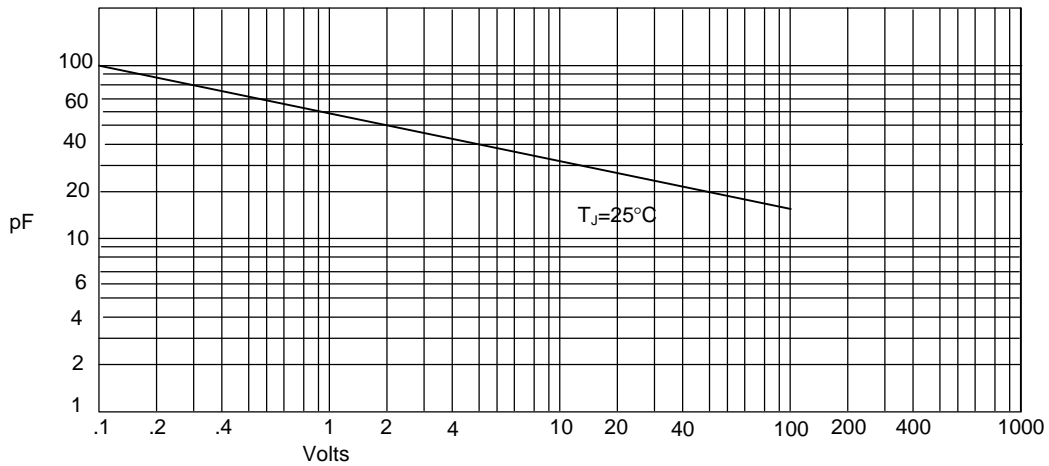
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

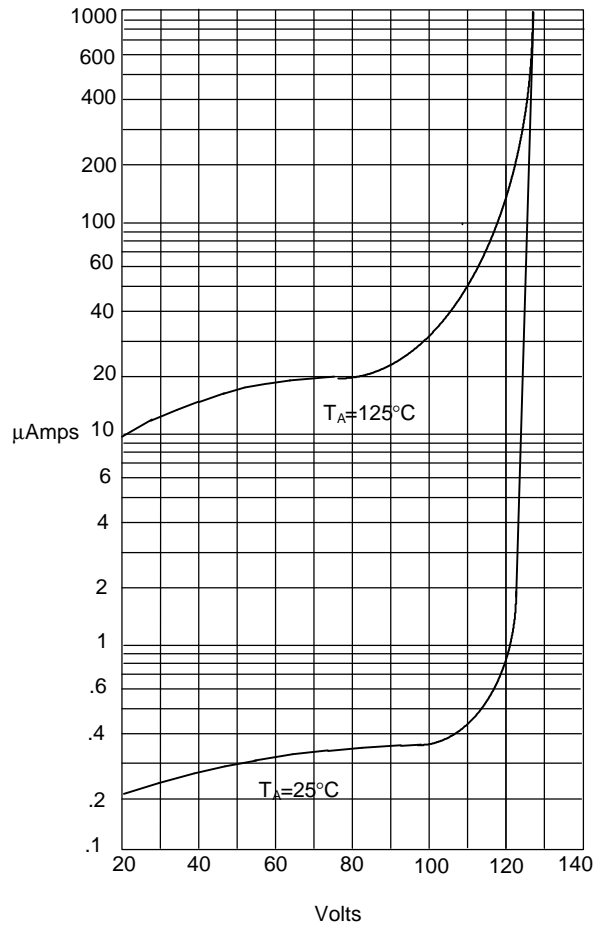
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

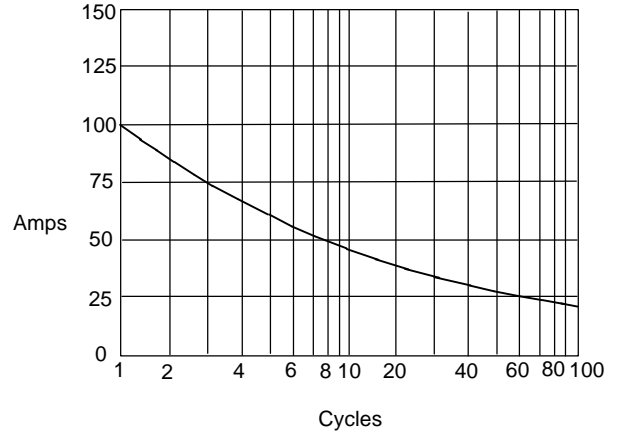
S3A thru S3M

Figure 4
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles