



# SS12 THRU SS100

## 1.0 AMP. SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS



### FEATURES

- \* For surface mounted application
- \* Metal to silicon rectifier, majority carrier conduction
- \* Low forward voltage drop
- \* Easy pick and place
- \* High surge current capability
- \* Plastic material used carries Underwriters Laboratory classification 94V-0
- \* Epitaxial construction
- \* Extremely Low Thermal Resistance

### MECHANICAL DATA

- \* CASE: Molded plastic
- \* Terminals: Solder plated
- \* Polarity: Indicated by cathode band
- \* Packaging: 12mm tape per EIA STD RS-481
- \* Weight: 0.091 grams (SMA/DO-214AC\*)  
0.064 grams (SMA/DO-214AC)

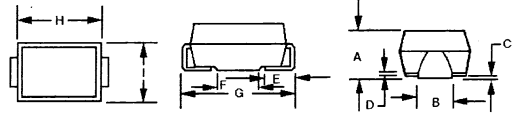
### VOLTAGE RANGE

20 to 100 Volts

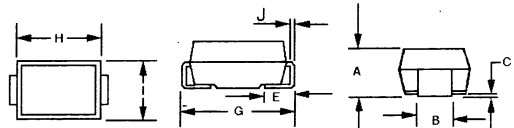
### CURRENT

1.0 Ampere

### SMA/DO-214AC\*



### SMA/DO-214AC



DIMENSIONS					
SMA/DO-214AC*			SMA/DO-214AC		
	inches	mm	inches	mm	
A	.078 to .090(L)	1.98 to 2.29(L)	.078 to .090	1.98 to 2.29	
A	.110 to .117(H)	2.80 to 2.98(H)			
B	.067 to .088	1.7 to 2.24	.062 to .058	1.32 to 1.47	
C	.008MAX	0.2MAX	.008MAX	0.2MAX	
D	.02MAX	.51MAX			
E	.030 to .060	.76 to 1.52	.030 to .050	.76 to 1.27	
F	.067 to .094	1.68 to 2.39			
G	.204 to .220	5.21 to 5.59	.194 to .208	4.93 to 5.28	
H	.180 to .179	4.06 to 4.55	.157 to .177	3.99 to 4.50	
I	.101 to .112	2.56 to 2.85	.100 to .110	2.54 to 2.79	
J			.006 to .012	.152 to .305	

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

TYPE NUMBER	SYMBOLS	SS12	SS13	SS14	SS15	SS16	SS18	SS100	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	V
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current T <sub>L</sub> = 90°C (NOTE 2)	I <sub>F(AV)</sub>	1.0							A
Peak Forward Surge Current, 8.3ms half sine	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage @ 1.0A(NOTE 1)	V <sub>F</sub>	0.55			0.70		0.85		V
Maximum D. C Reverse Current @ T <sub>A</sub> = 25°C at Rated D. C. Blocking Voltage @ T <sub>A</sub> = 100°C	I <sub>R</sub>	0.5 20							mA
Typical Thermal Resistance (NOTE 2)	R <sub>θJL</sub>	35							°C/W
Typical Junction Capacitance (NOTE 3)	C <sub>J</sub>	130							pF
Operating and Storage Temperature Range	T <sub>J</sub> / T <sub>STG</sub>	- 65 to + 125 / - 65 to + 150							°C

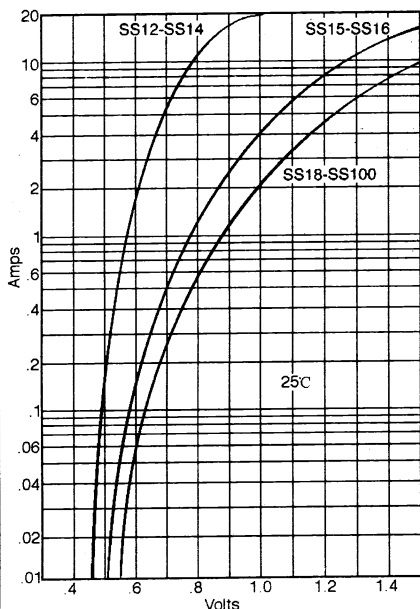
NOTE 1. Pulse test width 300  $\mu\text{sec}$ , Duty cycle 2%

2. P. C. B mounted with 0.2 x 0.2" (5 x 5mm) copper pad areas

3. Measured at 1MHz and applied  $V_R = 4.0\text{V D. C.}$

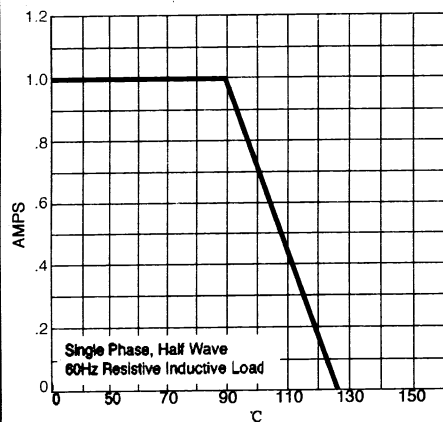
## RATINGS AND CHARACTERISTIC CURVES (SS12 THRU SS100)

Figure 1 – TYPICAL FORWARD CHARACTERISTICS



Instantaneous Forward Current-Amperes versus  
Instantaneous Forward Voltage-Volts

Figure 3 – FORWARD CURRENT DERATING CURVE



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

Figure 2 – TYPICAL JUNCTION CAPACITANCE

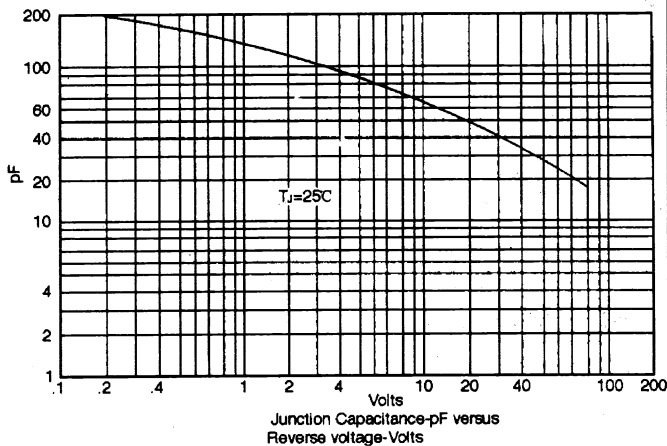
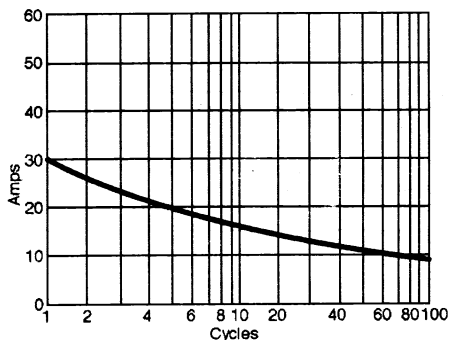


Figure 4 – MAXIMUM NON – REPETITIVE SURGE CURRENT



Peak Forward surge Current-Amperes versus  
Number of Cycles At 60Hz-Cycles

### SUGGESTED SOLDER PAD LAYOUT

