



# 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)

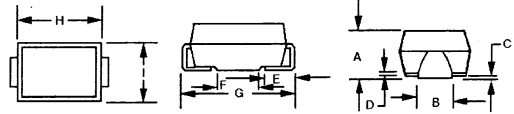
### VOLTAGE RANGE

20 to 100 Volts

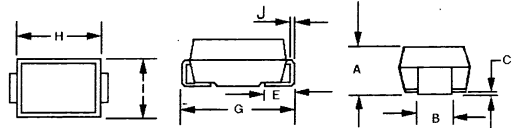
CURRENT

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	0.052 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	1.65 to 2.39		
G	.204 to .220	5.21 to 5.59	.194 to .208	4.93 to 5.28
H	.160 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	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	70	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current $T_L = 90^\circ\text{C}$ (NOTE 2)	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current, 8.3ms half sine	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage @ 1.0A (NOTE 1)	$V_F$	0.55		0.70		0.85			V
Maximum D. C Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated D. C. Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$					0.5 20			mA
Typical Thermal Resistance (NOTE 2)	$R_{\theta JL}$	35							°C/W
Typical Junction Capacitance (NOTE 3)	$C_J$	130							pF
Operating and Storage Temperature Range	$T_J / T_{STG}$	-65 to +125 / -65 to +150							°C

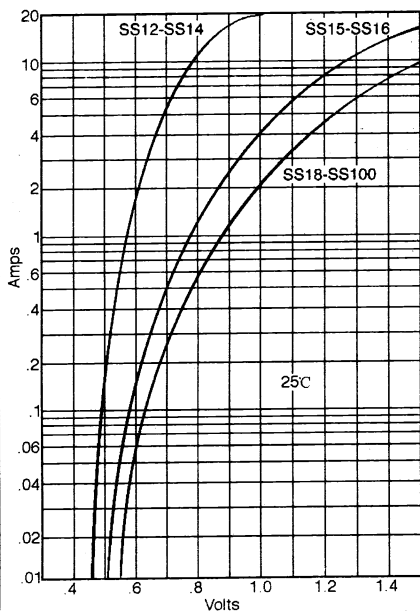
NOTE 1. Pulse test width 300  $\mu\text{sec}$ , Duty cycle 2%

2. P. C. B mounted with  $0.2 \times 0.2''$  (5x5mm) copper pad areas

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

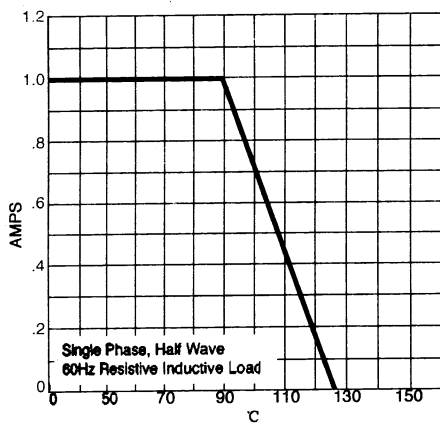
## RATINGS AND CHARACTERISTIC CURVES (SS12 THRU SS100)

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

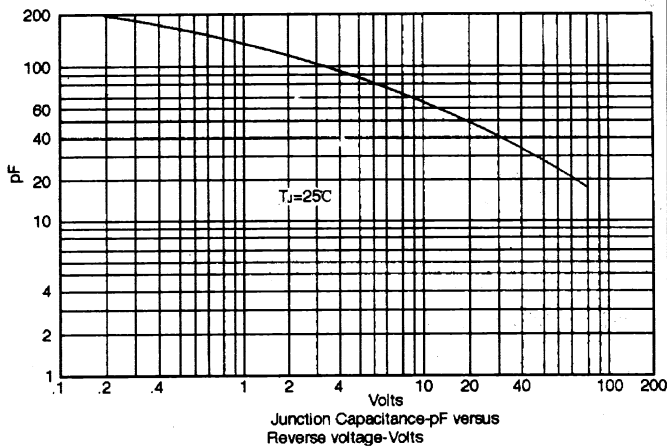
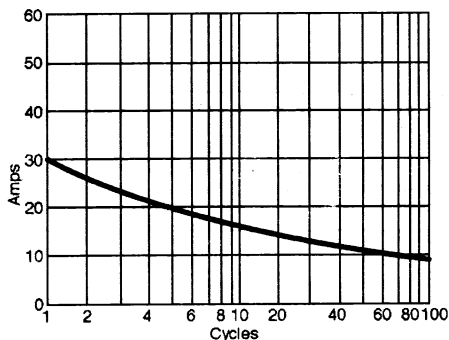


Figure 4 – MAXIMUM NON-REPETITIVE SURGE CURRENT



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

### SUGGESTED SOLDER PAD LAYOUT

