



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)

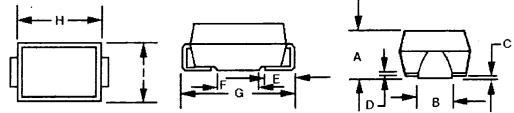
VOLTAGE RANGE

20 to 100 Volts

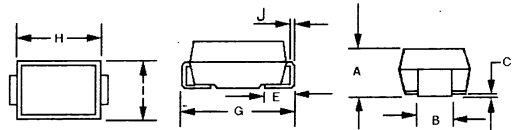
CURRENT

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							$^\circ\text{C/W}$	
Typical Junction Capacitance (NOTE 3)	C_J	130							pF	
Operating and Storage Temperature Range	T_J / T_{STG}	-65 to +125 / -65 to +150								$^\circ\text{C}$

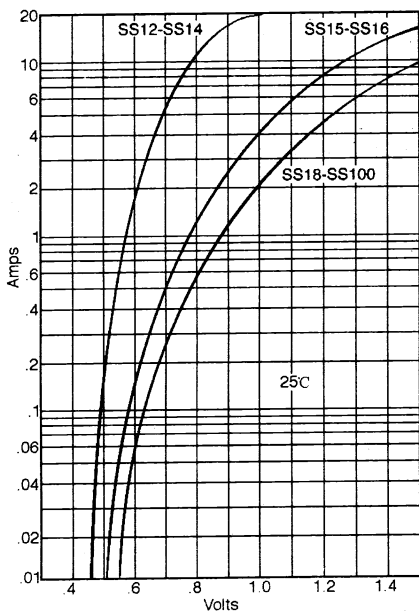
NOTE 1. Pulse test width 300 μsec , Duty cycle 2%

2. P. C. B mounted with $0.2 \times 0.2'' (5 \times 5\text{mm})$ copper pad areas

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

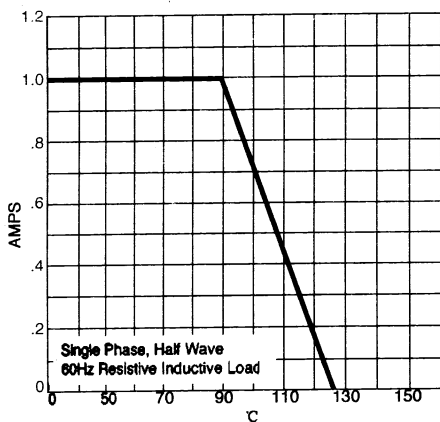
RATINGS AND CHARACTERISTIC CURVES (SS12 THRU SS100)

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

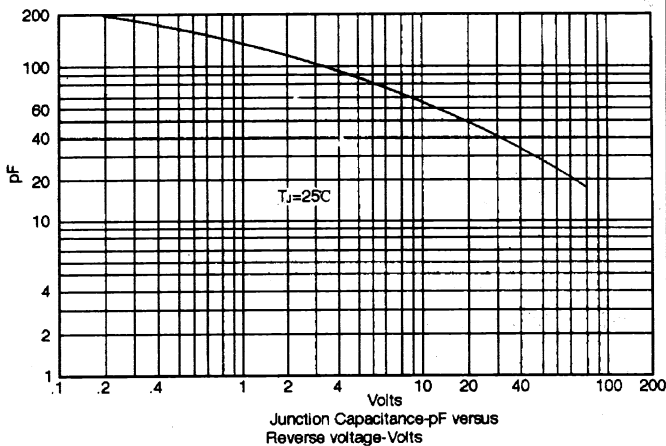
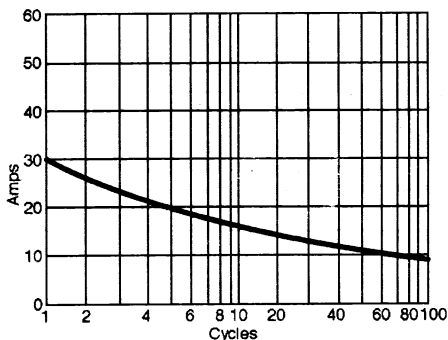


Figure 4 – MAXIMUM NON-REPETITIVE SURGE CURRENT



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

SUGGESTED SOLDER PAD LAYOUT

