



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-O
- * 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)

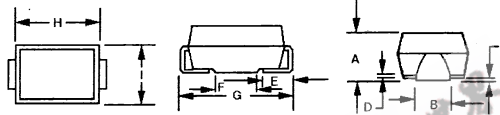
VOLTAGE RANGE

20 to 100 Volts

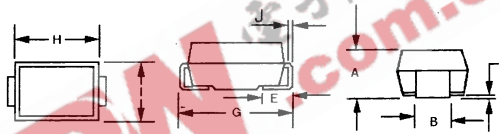
CURRENT

1.0 Ampere

SMA/DO-214AC*



SMA/DO-214AC



DIMENSIONS

| | SMA/DO-214AC* | | SMA/DO-214AC | |
|---|-----------------|-----------------|---------------|--------------|
| | inches | mm | inches | mm |
| A | .073 to .090(L) | 1.96 to 2.29(L) | .078 to .090 | 1.96 to 2.29 |
| A | .110 to .117(H) | 2.80 to 2.98(H) | | |
| B | .067 to .068 | 1.7 to 2.24 | 0.052 to .058 | 1.32 to 1.47 |
| C | .028MAX | 0.2MAX | .028MAX | 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 | | | | | | | $^\circ\text{C}/\text{W}$ |
| 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 0.2×0.2 " (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

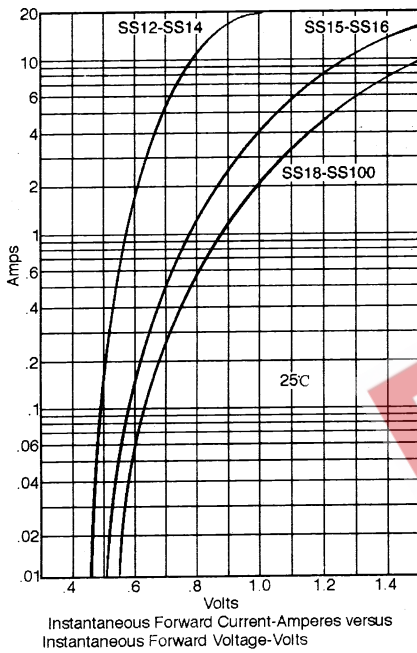


Figure 2 - TYPICAL JUNCTION CAPACITANCE

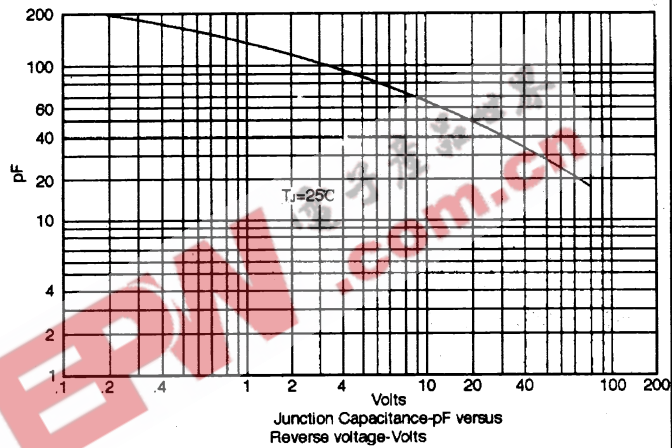


Figure 4 - MAXIMUM NON-REPETITIVE SURGE CURRENT

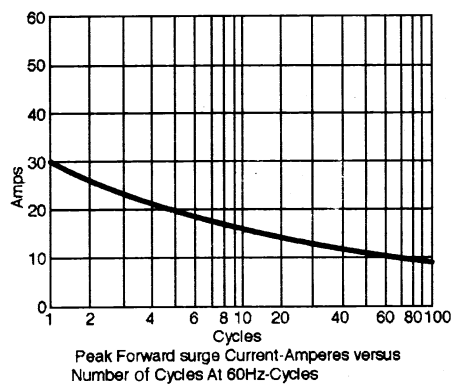
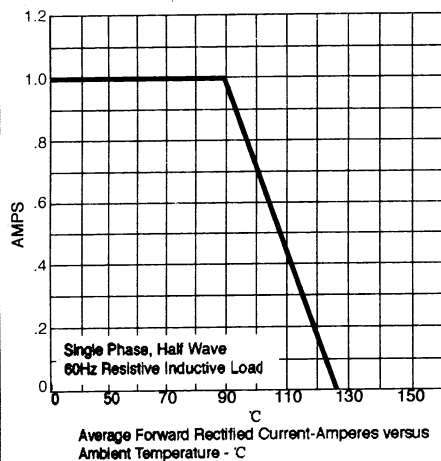


Figure 3 - FORWARD CURRENT DERATING CURVE



SUGGESTED SOLDER PAD LAYOUT

