CUMSUMI®

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# 5.0 AMPS. Surface Mount Schottky Barrier Rectifiers

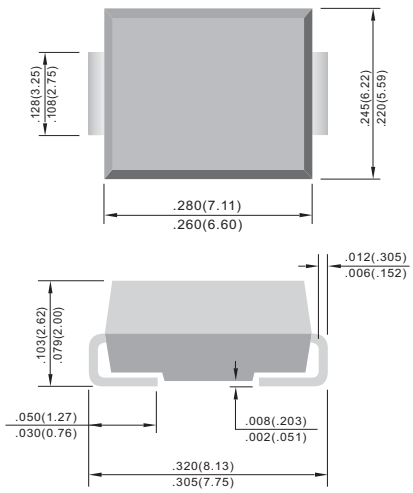
## Features

- ✧ 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 carriers Underwriters Laboratory Classification 94V-0
- ✧ Epitaxial construction
- ✧ High temperature soldering: 260°C / 10 seconds at terminals

## Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 16mm tape per EIA STD RS-481
- ✧ Weight: 0.1 gram

**SMC/DO-214AB** Unit: inch (mm)




## 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 | Symbol | SS 52 | SS 53 | SS 54 | SS 55 | SS 56 | SS 510 | SS 515 | SS 520 | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | 50 | 60 | 100 | 150 | 200 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | 35 | 42 | 70 | 105 | 140 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | 50 | 60 | 100 | 150 | 200 | V |
| Maximum Average Forward Rectified Current at $T_L$(See Fig. 1) | $I_{(AV)}$ | 5.0 | | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 120 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 5.0A | $V_F$ | 0.55 | | | 0.75 | | 0.85 | 0.95 | | V |
| Maximum DC Reverse Current (Note 1) @ $T_A$ =25 °C at Rated DC Blocking Voltage | $I_R$ | 0.5 | | | | | 0.3 | | | mA |
| @ $T_A$=125 °C | | 20 | | | 10 | | 5.0 | | | mA |
| Typical Thermal Resistance ( Note 2 ) | $R_{\theta JL}$<br>$R_{\theta JA}$ | 17<br>75 | | | | | | | | °C/W |
| Operating Temperature Range | $T_J$ | -55 to +125 | | | -55 to +150 | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | | °C |

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
2. Measured on P.C.Board with 0.6" x 0.6"(16mm x 16mm) Copper Pad Areas.

## RATINGS AND CHARACTERISTIC CURVES ( SS52 THRU SS520)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

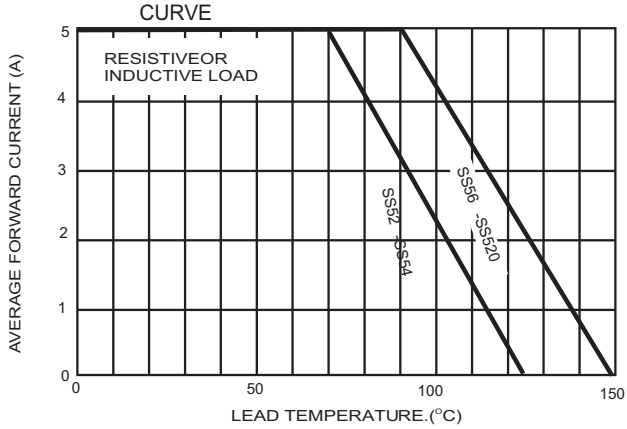



FIG.2-MAXIMUM NON-REPETIVE PEAK FORWARD SURGE CURRENT

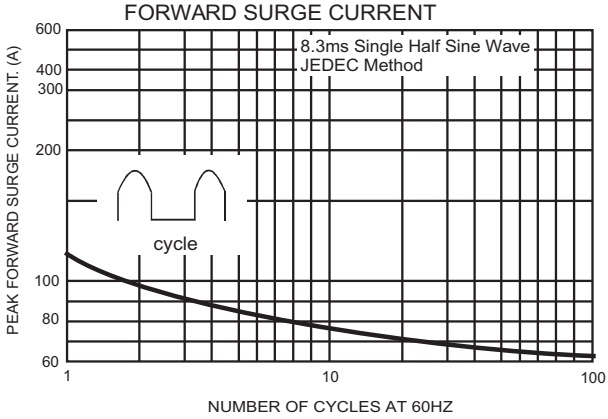



FIG.3-TYPICAL FORWARD CHARACTERISTICS

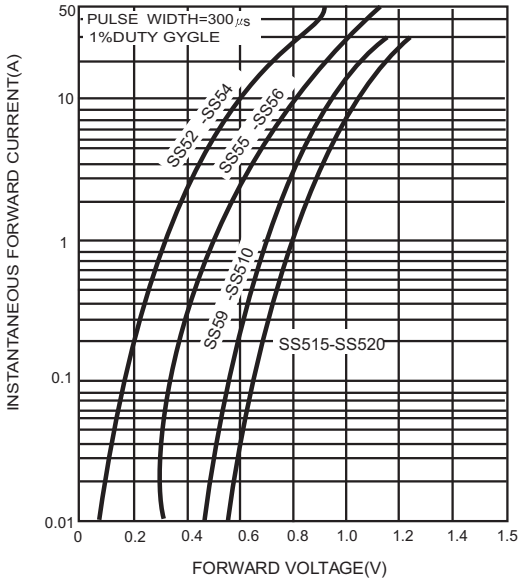



FIG.4-TYPICAL REVERSE CHARACTERISTICS

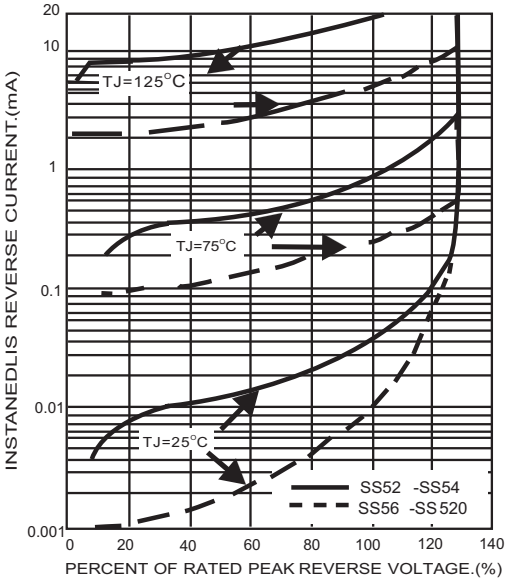



FIG.5-TYPICAL JUNCTION CAPACITANCE

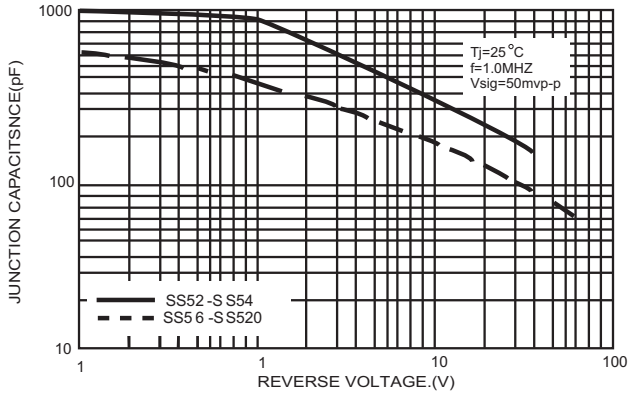



FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS