

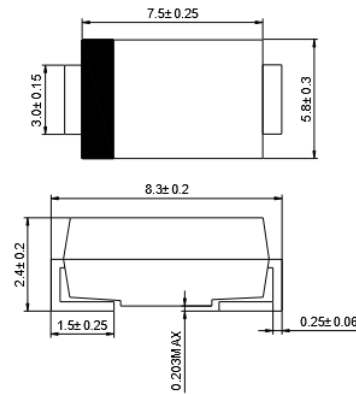
SS52-SS510

Surface Mount Schottky Barrier Rectifiers

REVERSE VOLTAGE: 20 --- 100 V
CURRENT: 5.0 A



SMC



Dimensions in millimeters

Features

- ◇ Plastic package has Underwriters Laboratory 1111 Flammability Classification 94V-0
- ◇ For surface mounted applications
- ◇ Low profile package
- ◇ Built-in strain relief
- ◇ Metal silicon junction, majority carrier conduction
- ◇ High surge capability
- ◇ High current capability, low forward voltage drop
- ◇ Low power loss, high efficiency
- ◇ For use in low voltage high frequency inverters, free wheeling and polarity protection applications
- ◇ Guardring for overvoltage protection
- ◇ High temperature soldering guaranteed: $250^{\circ}\text{C}/10$ seconds at terminals

Mechanical Data

- ◇ Case: JEDEC SMC, molded plastic over 11111 passivated chip
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.007 ounces, 0.21 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | | SS52 | SS53 | SS54 | SS55 | SS56 | SS58 | SS59 | SS510 | UNITS | |
|---|-----------------|--------------|------|------|------|------|------|------|-------|-----------------------------|----|
| Maximum recurrent peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 90 | 100 | V | |
| Maximum RMS voltage | V_{RWS} | 14 | 21 | 28 | 35 | 42 | 56 | 63 | 70 | V | |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 90 | 100 | V | |
| Maximum average forward rectified current at T_L (SEE FIG.1) (NOTE 2) | $I_{(AV)}$ | 5.0 | | | | | | | | A | |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 175 | | | | | | | | A | |
| Maximum instantaneous forward voltage at 5.0A (NOTE 1) | V_F | 0.55 | | | 0.70 | | 0.85 | | | V | |
| Maximum DC reverse current @ $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage (NOTE 1) @ $T_A=100^{\circ}\text{C}$ | I_R | 0.5 | | | | | 10 | | | | mA |
| Typical thermal resistance (NOTE 2) | $R_{\theta JA}$ | 55 | | | | | | | | $^{\circ}\text{C}/\text{W}$ | |
| | $R_{\theta JL}$ | 17 | | | | | | | | | |
| Operating junction temperature range | T_J | -55 --- +150 | | | | | | | | $^{\circ}\text{C}$ | |
| Storage temperature range | T_{STG} | -55 --- +150 | | | | | | | | $^{\circ}\text{C}$ | |

NOTE: 1. Pulse test: $300\mu\text{s}$ pulse width, 1% duty cycle

2. P.C.B. mounted with 0.55×0.55 (14.0X14.0mm²) copper pad areas

Ratings AND Characteristic Curves

FIG.1 – FORWARD DERATING CURVE

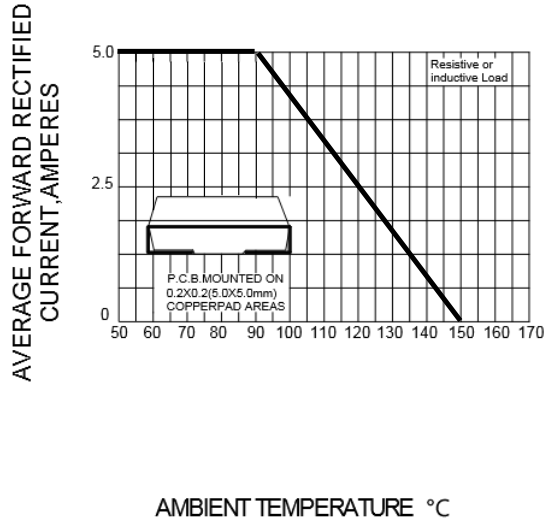


FIG.2– PEAK FORWARD SURGE CURRENT

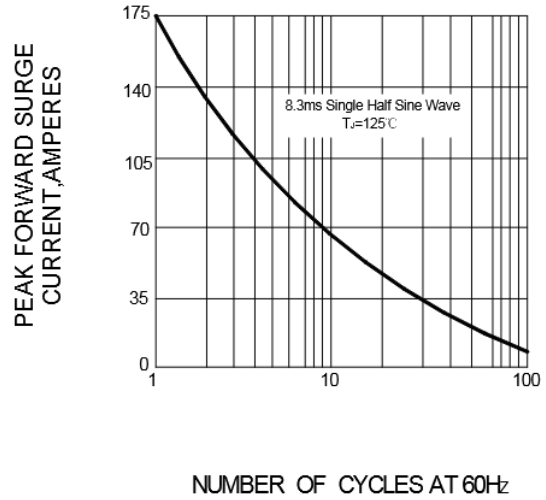


FIG.3 – TYPICAL FORWARD CHARACTERISTICS

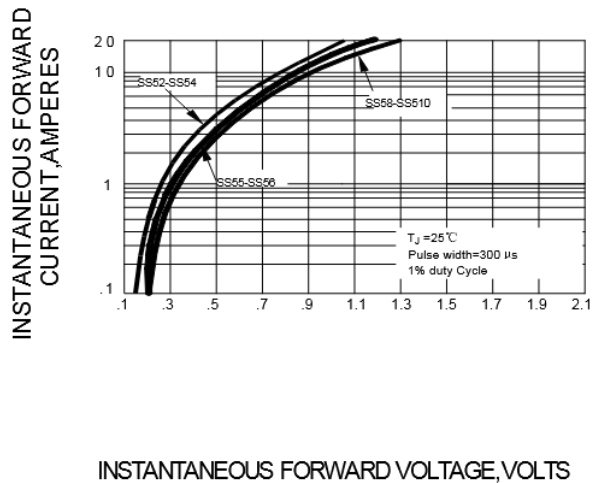


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

