# SB53-C THRU SB54-C

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE:30 TO 40V** **CURRENT: 5.0A**

GULF SEMI

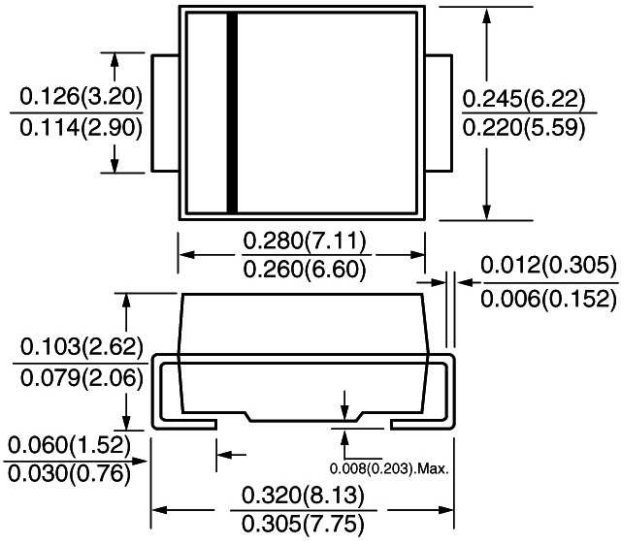
## FEATURE

Plastic package has Underwriters Laboratory Flammability Classification 94V-0
For surface mounted applications
Low profile package
Built-in strain relief
Low power loss, high efficiency
High current capability, low forward voltage drop
High surge capability
For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
Guarding for over voltage protection

## MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
High temperature soldering guaranteed:
250°C /10 seconds at terminals
**Polarity:** Color band denotes cathode end
**Weight:** 0.007 ounce, 0.25gram

**SMC/DO--214AB**




Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated, for capacitive load, derate current by 20%)

| | SYMBOL | SB53-C | SB54-C | units |
|---|---|---|---|---|
| Device marking code | | SB53 | SB54 | |
| Maximum Recurrent Peak Reverse Voltage | Vrrm | 30 | 40 | V |
| Maximum RMS Voltage | Vrms | 21 | 28 | V |
| Maximum DC blocking Voltage | Vdc | 30 | 40 | V |
| Maximum Average Forward Rectified Current 3/8'lead length at $T_L$ (See Fig.1) | If(av) | 5.0 | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | Ifsm | 175.0 | | A |
| Maximum Forward Voltage at rated Forward current at 5.0A $T_J$ =25°C (Note 1) | Vf | 0.50 | | V |
| Maximum DC Reverse Current $T_J$ =25°C | Ir | 0.7 | 0.5 | mA |
| at rated DC blocking voltage $T_J$ =125°C | | 65 | 60 | |
| Typical Thermal Resistance (Note 2) | R(ja)<br>R(jl) | 60.0<br>20.0 | | °C /W |
| Storage and Operating Temperature Range | Tstg | -50 to +150 | | °C |

**NOTES:**

(1) Pulse test: 300μs pulse width, 1% duty cycle
(2) Aluminum substrate mounted

[2]

Fig. 1 – Forward Current Derating Curve

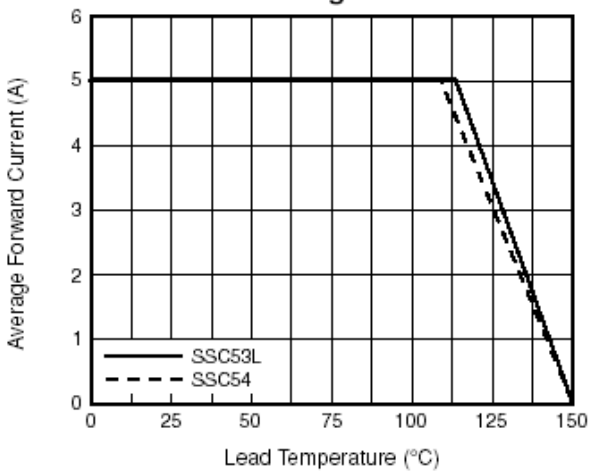



Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

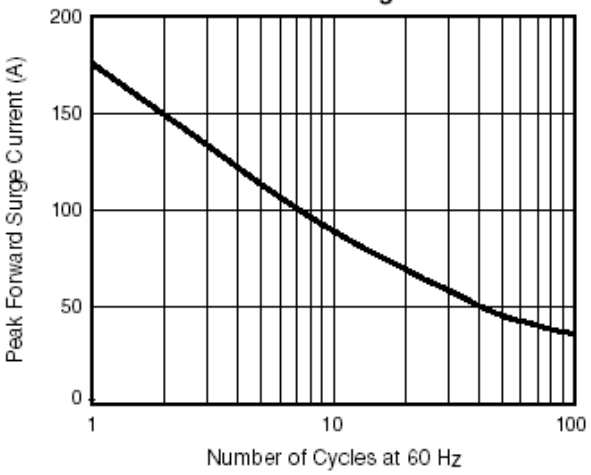



Fig. 3 – Typical Instantaneous Forward Characteristics

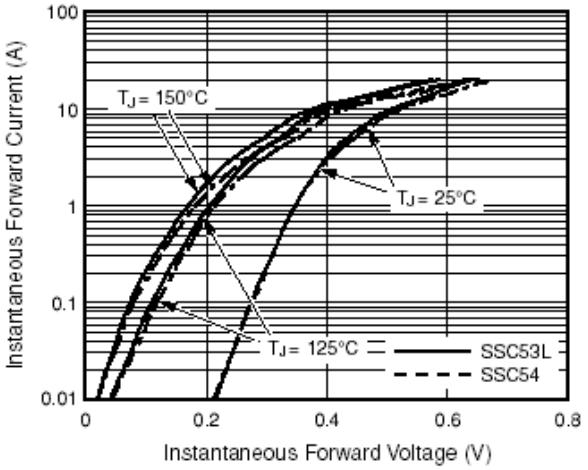



Fig. 4 – Typical Reverse Characteristics

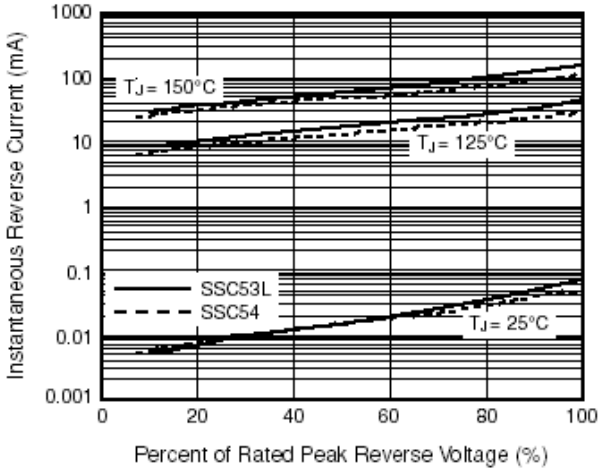



Fig. 5 – Typical Junction Capacitance