

VISHAY

New Product

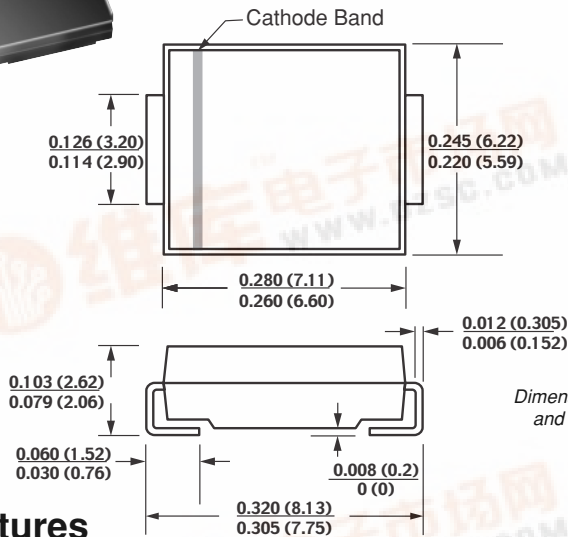
SSC53L and SSC54

Vishay Semiconductors  
formerly General Semiconductor

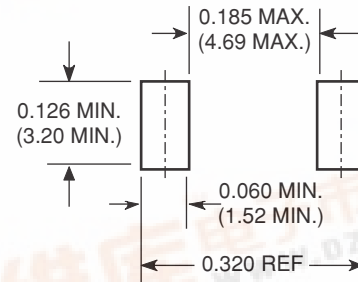
## High-Current Density Surface Mount Schottky Rectifier



DO-214AB (SMC)

Reverse Voltage 30 & 40V  
Forward Current 5.0A

Mounting Pad Layout



## Features

- Low power loss, high efficiency
- Low profile surface mount package
- Built-in strain relief
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0

## Mechanical Data

**Case:** JEDEC DO-214AB molded plastic body**Terminals:** Solder plated, solderable per MIL-STD750, Method 2026

High temperature soldering guaranteed: 250°C/10 seconds at terminals

**Polarity:** Color band denotes cathode end**Weight:** 0.007 oz., 0.25 g

## Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

| Parameter                                                                                        | Symbol                               | SSC53L      | SSC54 | Unit |
|--------------------------------------------------------------------------------------------------|--------------------------------------|-------------|-------|------|
| Device marking code                                                                              |                                      | 53L         | S54   |      |
| Maximum repetitive 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 at T <sub>L</sub> (See Fig. 1)                         | I <sub>F(AV)</sub>                   | 5.0         |       | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                     | 175         |       | A    |
| Typical thermal resistance <sup>(2)</sup>                                                        | R <sub>θJA</sub><br>R <sub>θJL</sub> | 60<br>20    |       | °C/W |
| Voltage rate of change (rated V <sub>R</sub> )                                                   | dv/dt                                | 10,000      |       | V/μs |
| Operating junction temperature range                                                             | T <sub>J</sub>                       | -65 to +150 |       | °C   |
| Storage temperature range                                                                        | T <sub>STG</sub>                     | -65 to +150 |       | °C   |

## Electrical Characteristics (TA = 25°C unless otherwise noted)

| Parameter                                                              | Symbol         | Typ. | Max. | Typ. | Max. | Unit |
|------------------------------------------------------------------------|----------------|------|------|------|------|------|
| Maximum instantaneous Forward voltage at 5.0A <sup>(1)</sup>           | V <sub>F</sub> | 0.42 | 0.45 | 0.45 | 0.49 | V    |
| Forward voltage at 5.0A <sup>(1)</sup>                                 |                | 0.33 | 0.38 | 0.36 | 0.42 |      |
| Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup> | I <sub>R</sub> | —    | 0.7  | —    | 0.5  | mA   |
|                                                                        |                | 45   | 65   | 40   | 60   |      |

Notes: (1) Pulse test: 300μs pulse width, 1% duty cycle

(2) Aluminum substrate mounted

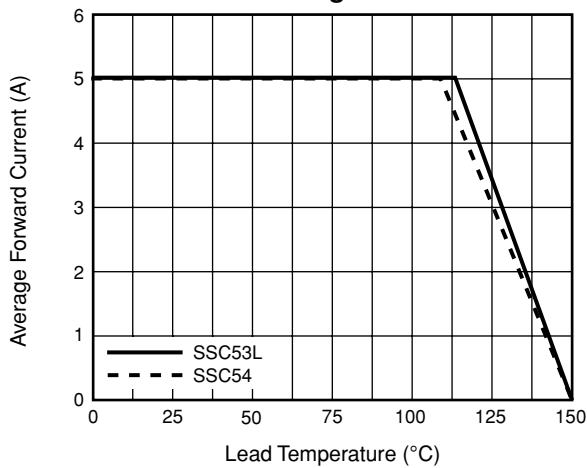
# SSC53L and SSC54

Vishay Semiconductors  
formerly General Semiconductor

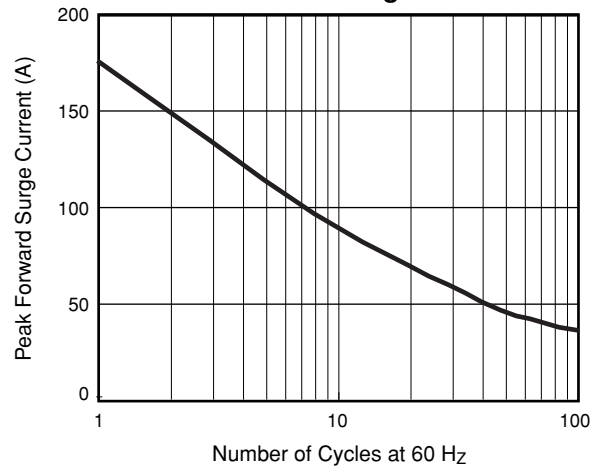


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

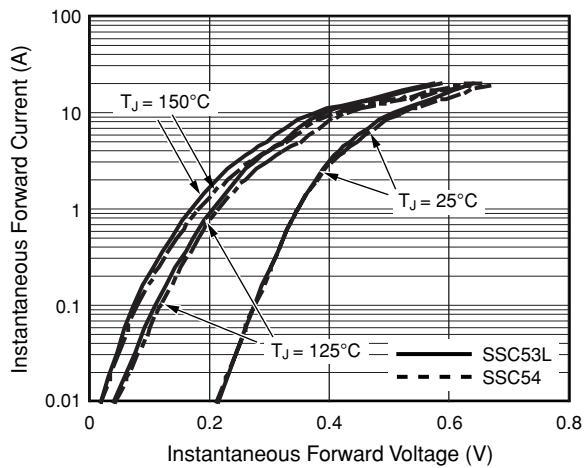
**Fig. 1 – Forward Current  
Derating Curve**



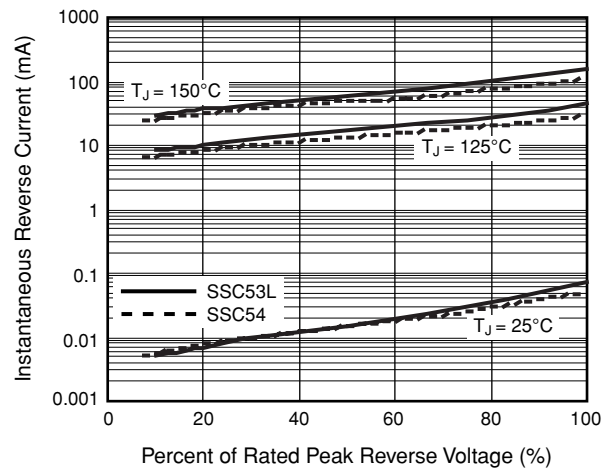
**Fig. 2 – Maximum Non-Repetitive  
Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous  
Forward Characteristics**



**Fig. 4 – Typical Reverse  
Characteristics**



**Fig. 5 – Typical Junction  
Capacitance**

