



Surface Mount Schottky Barrier Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	20 V to 60 V
I_{FSM}	40 A
V_F	0.50 V, 0.70 V
T_j max.	125 °C, 150 °C



DO-214AC (SMA)

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-214AC (SMA)

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes the cathode end

Typical Applications

For use in low voltage, high frequency inverters, free-wheeling, dc-to-dc converters, and polarity protection applications

Maximum Ratings

$T_A = 25\text{ °C}$ unless otherwise specified

Parameter	Symbol	SS12	SS13	SS14	SS15	SS16	Unit
Device marking code		S2	S3	S4	S5	S6	V
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V
Maximum average forward rectified current at T_L (See Fig. 1)	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	40					A
Voltage rate of change (rated V_R)	dv/dt	10000					°C
Operating junction temperature range	T_J	- 65 to + 125			- 65 to + 150		°C
Storage temperature range	T_{STG}	- 65 to + 150					°C

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified#

Parameter	Test condition	Symbol	SS12	SS13	SS14	SS15	SS16	Unit
Maximum instantaneous forward voltage	at 1.0 A ⁽¹⁾	V_F	0.50			0.75		V
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	$T_A = 25\text{ }^\circ\text{C}$	I_R	0.2				mA	
	$T_A = 100\text{ }^\circ\text{C}$		6.0		5.0			

Notes:

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

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	SS12	SS13	SS14	SS15	SS16	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	88				°C/W	
	$R_{\theta JL}$	28					

Notes:

(1) P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

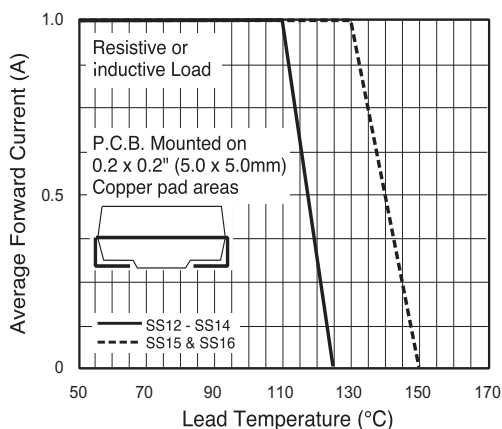


Figure 1. Forward Current Derating Curve

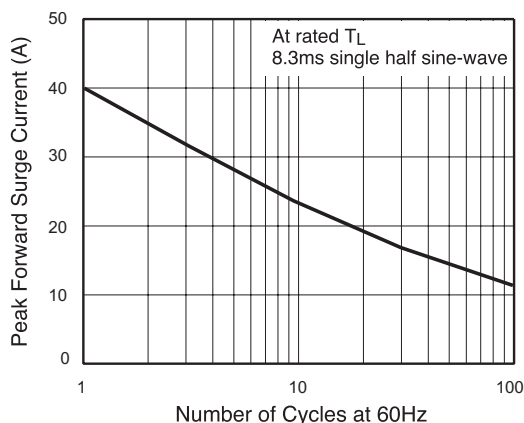


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

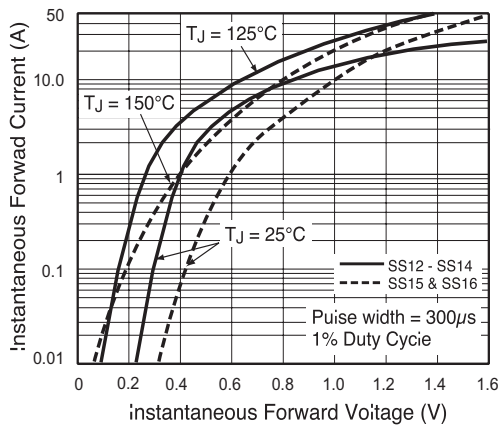


Figure 3. Typical Instantaneous Forward Characteristics

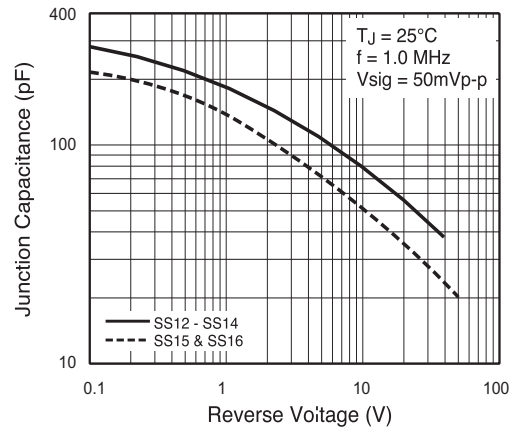


Figure 5. Typical Junction Capacitance

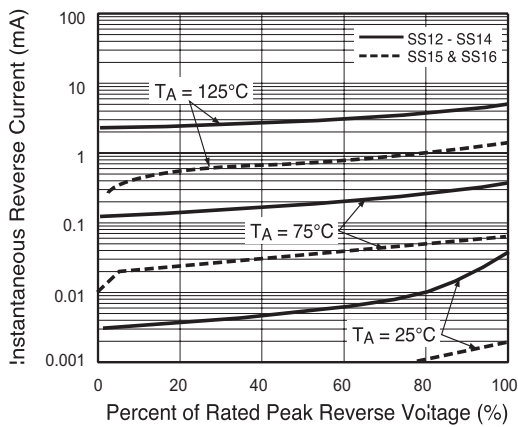


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)

