

Surface Mount Schottky Barrier Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	4.0 A
V_{RRM}	20 V to 40 V
I_{FSM}	100 A
V_F	0.31 V, 0.35 V
T_j max.	125 °C



DO-214AB (SMC)

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Very low forward voltage drop
- High surge capability
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-214AB (SMC)

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

$T_A = 25$ °C unless otherwise specified

Parameter	Symbols	SL42	SL43	SL44	Units
Device marking code		SL2	SL3	SL4	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Maximum average forward rectified current ⁽¹⁾ at T_L (see fig. 1)	$I_{F(AV)}$	4.0 8.0			A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150			A
Operating junction temperature range	T_J	- 55 to + 125			°C
Storage temperature range	T_{STG}	- 55 to + 150			°C

Notes:

(1) P.C.B. mounted 0.55 x 0.55" (14 x 14 mm) copper pad areas, $T_L = 90$ °C

Electrical Characteristics

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

Parameter	Test condition	Symbols	SL42	SL43	SL44	Units
Maximum instantaneous forward voltage at ⁽¹⁾	$I_F = 4.0\text{ A}$, $T_A = 125\text{ }^\circ\text{C}$	V_F	0.31	0.35	0.35	V
	$I_F = 4.0\text{ A}$, $T_A = 25\text{ }^\circ\text{C}$					
	$I_F = 8.0\text{ A}$, $T_A = 125\text{ }^\circ\text{C}$					
	$I_F = 8.0\text{ A}$, $T_A = 25\text{ }^\circ\text{C}$					
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	I_R	0.5 35			mA

Notes:

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

Thermal Characteristics

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

Parameter	Symbols	SL42	SL43	SL44	Units
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	50			$^\circ\text{C/W}$
	$R_{\theta JL}$	14			

Notes:

(1) P.C.B. mounted 0.55 x 0.55" (14 x 14 mm) copper pad areas, $T_L = 90\text{ }^\circ\text{C}$

Ratings and Characteristics Curves

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

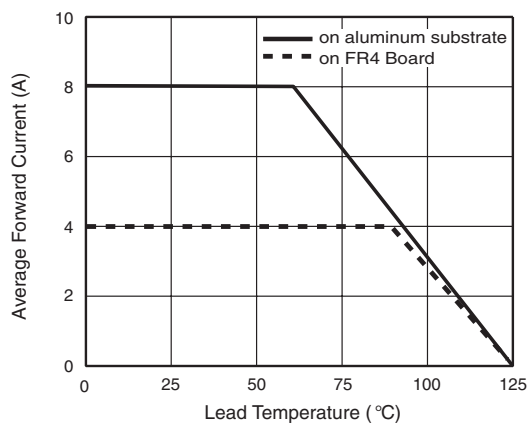


Figure 1. Forward Current Derating Curve

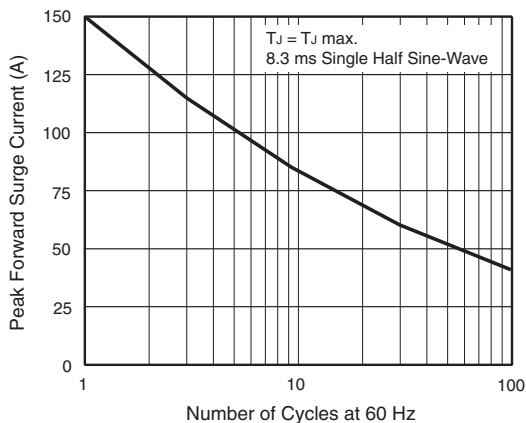


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

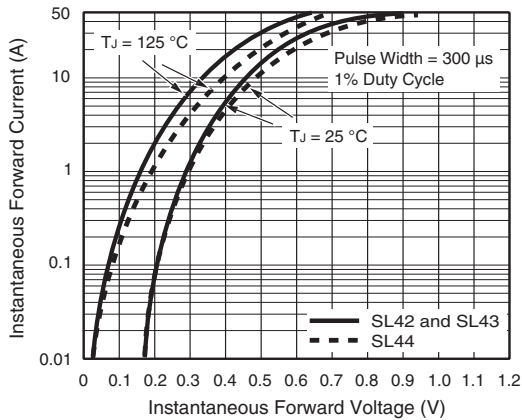


Figure 3. Typical Instantaneous Forward Characteristics

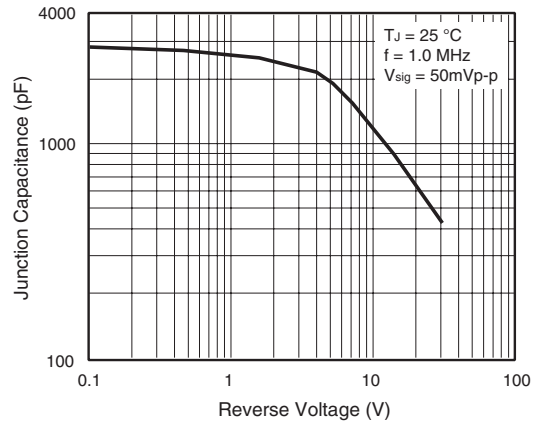


Figure 5. Typical Junction Capacitance

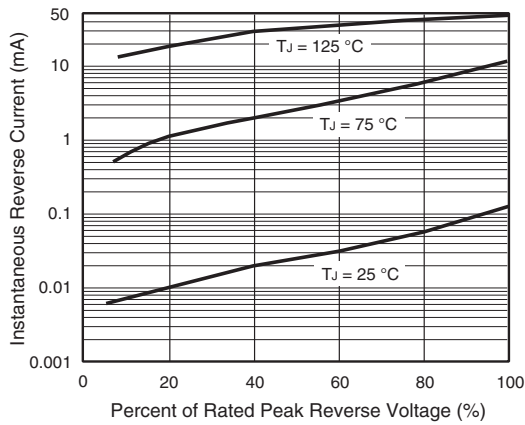
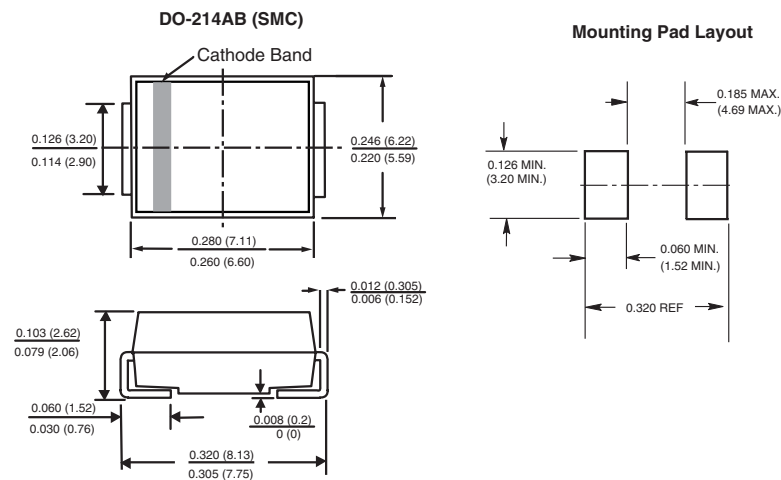


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)





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