

Surface Mount Schottky Barrier Rectifier


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
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-214AB (SMC)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes the cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	4.0 A
V_{RRM}	20 V to 40 V
I_{FSM}	150 A
V_F	0.31 V, 0.35 V
$T_J \text{ max.}$	125 °C

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SL42	SL43	SL44	UNIT
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 (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

Note:

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

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	SL42	SL43	SL44	UNIT
Maximum instantaneous forward voltage at ⁽¹⁾	$I_F = 4.0\text{ A}$	V_F				V
	$T_A = 125\text{ }^\circ\text{C}$					
	$I_F = 4.0\text{ A}$					
	$T_A = 25\text{ }^\circ\text{C}$					
	$I_F = 8.0\text{ A}$	$T_A = 125\text{ }^\circ\text{C}$	0.31	0.35		
	$I_F = 8.0\text{ A}$	$T_A = 25\text{ }^\circ\text{C}$	0.42	0.44		
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾		I_R		0.5	35	mA
		$T_A = 100\text{ }^\circ\text{C}$				

Note:

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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SL42	SL43	SL44	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$		50		$^\circ\text{C/W}$
	$R_{\theta JL}$		14		

Note:

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SL43-E3/57T	0.235	57T	850	7" diameter plastic tape and reel
SL43-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel
SL43HE3/57T ⁽¹⁾	0.235	57T	850	7" diameter plastic tape and reel
SL43HE3/9AT ⁽¹⁾	0.235	9AT	3500	13" diameter plastic tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

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

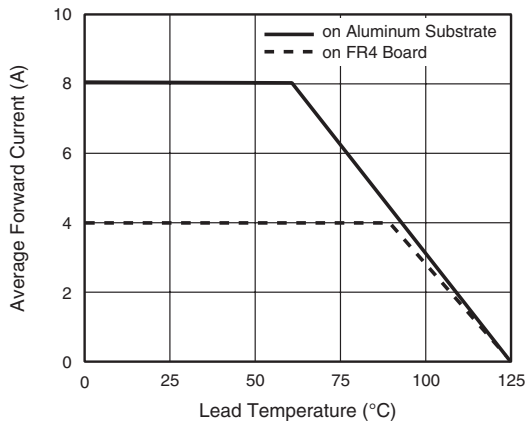


Figure 1. Forward Current Derating Curve

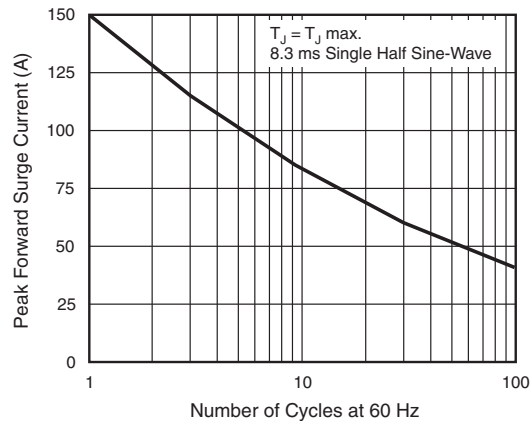


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

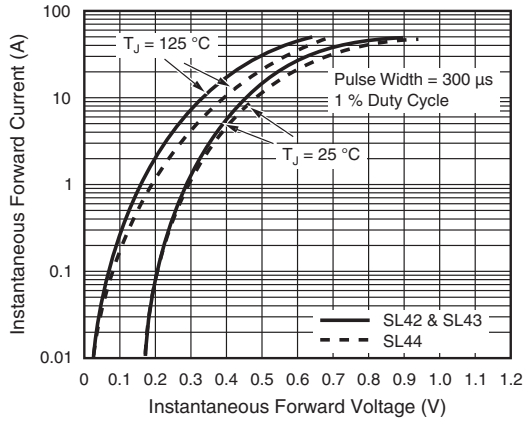


Figure 3. Typical Instantaneous Forward Characteristics

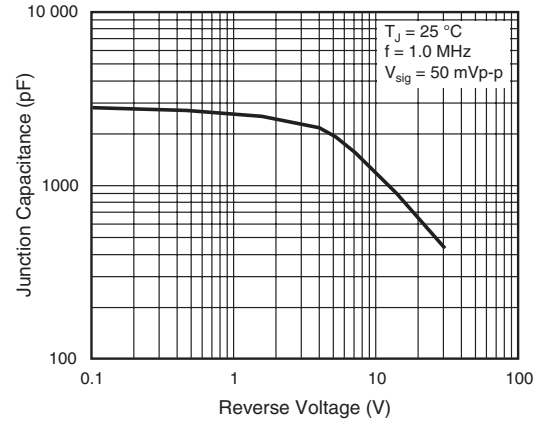


Figure 5. Typical Junction Capacitance

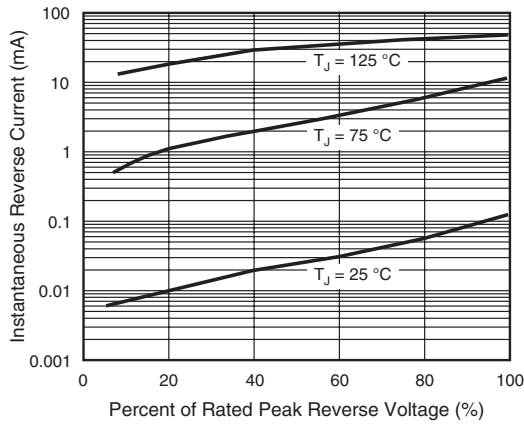
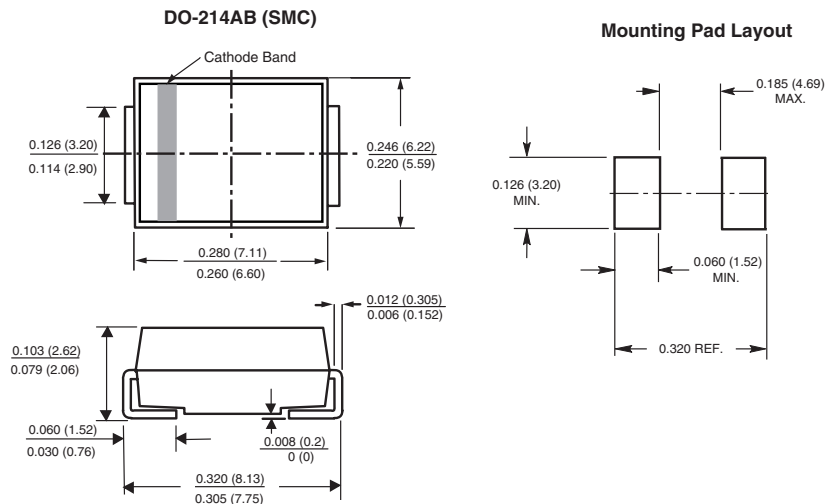


Figure 4. Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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