

## 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-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



### MAJOR RATINGS AND 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
$T_j$ max.	125 °C

### TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, free-wheeling, 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-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

### MAXIMUM RATINGS ( $T_A = 25$ °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 <sup>(1)</sup> 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

**Note:**

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	SL42	SL43	SL44	UNIT
Maximum instantaneous forward voltage at <sup>(1)</sup>	$I_F = 4.0\text{ A}$ , $T_A = 125\text{ }^\circ\text{C}$	$V_F$	0.31		0.35	V
	$I_F = 4.0\text{ A}$ , $T_A = 25\text{ }^\circ\text{C}$		0.42		0.44	
	$I_F = 8.0\text{ A}$ , $T_A = 125\text{ }^\circ\text{C}$		0.37		0.41	
	$I_F = 8.0\text{ A}$ , $T_A = 25\text{ }^\circ\text{C}$		0.47		0.50	
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	$I_R$	0.5 35			mA

**Note:**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SL42	SL43	SL44	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	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,  $T_L = 90\text{ }^\circ\text{C}$

<b>ORDERING INFORMATION</b> (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 & Reel	
SL43-E3/9AT	0.235	9AT	3500	13" Diameter Plastic Tape & Reel	
SL43HE3/57T <sup>(1)</sup>	0.235	57T	850	7" Diameter Plastic Tape & Reel	
SL43HE3/9AT <sup>(1)</sup>	0.235	9AT	3500	13" Diameter Plastic Tape & Reel	

**Note:**

(1) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

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

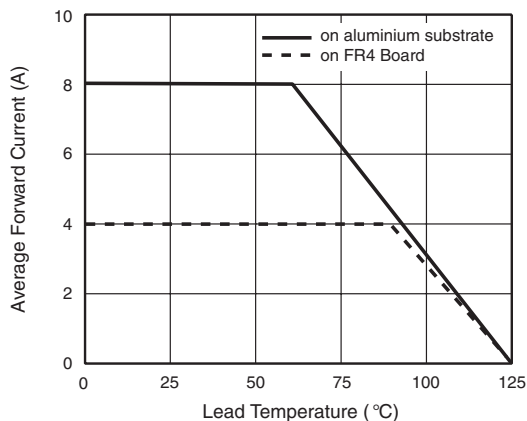


Figure 1. Forward Current Derating Curve

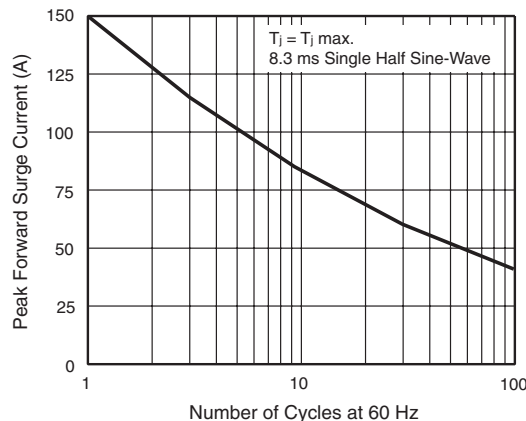


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

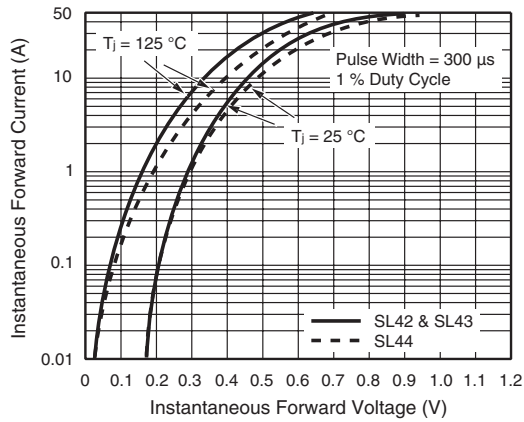


Figure 3. Typical Instantaneous Forward Characteristics

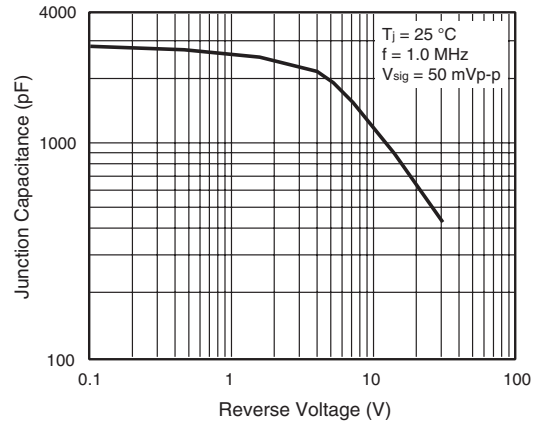


Figure 5. Typical Junction Capacitance

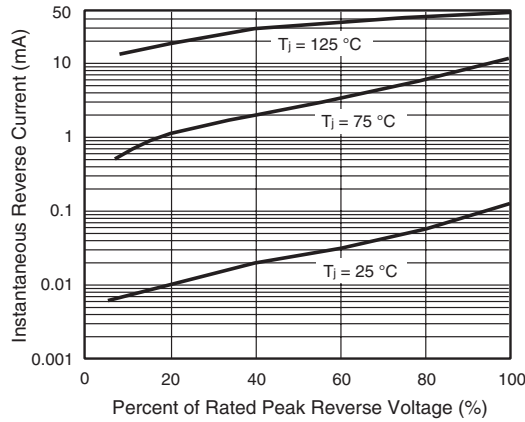
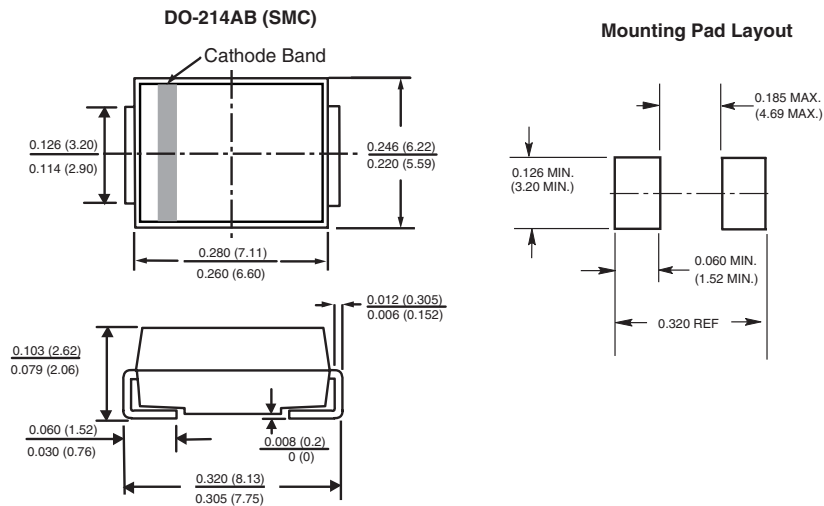


Figure 4. Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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