

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
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified ("_X" denotes revision code e.g. A, B,)

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 2 whisker test, HE3 suffix 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, 30 V, 40 V
I_{FSM}	150 A
V_F	0.31 V, 0.35 V
T_J max.	125 °C
Package	DO-214AB
Diode variations	Single

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 ⁽¹⁾ at T_L (fig. 1)	$I_{F(AV)}$	4.0		A		
		8.0				
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⁾ PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas, $T_L = 90$ °C

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

Note

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

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ 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⁾ PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas, $T_L = 90^\circ\text{C}$

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_A/H ⁽¹⁾	0.235	H	850	7" diameter plastic tape and reel
SL43HE3_A/I ⁽¹⁾	0.235	I	3500	13" diameter plastic tape and reel

Note

⁽¹⁾ AEC-Q101 qualified

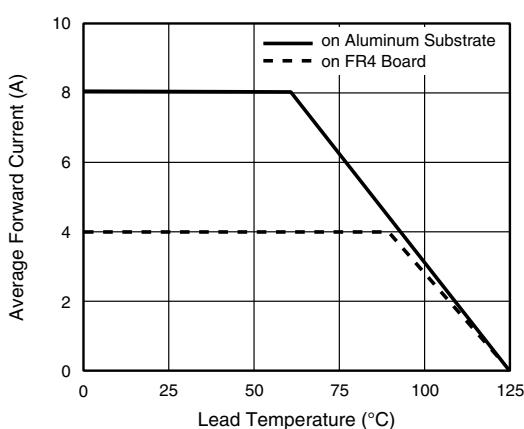
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

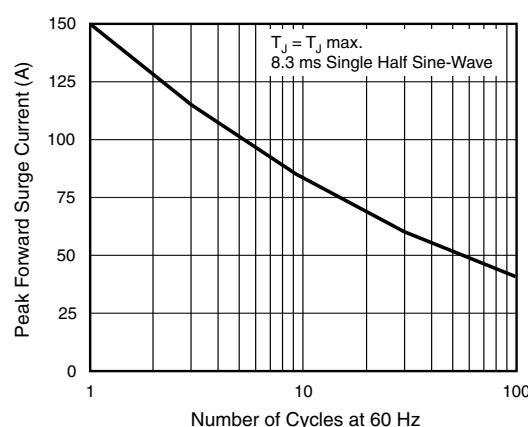


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

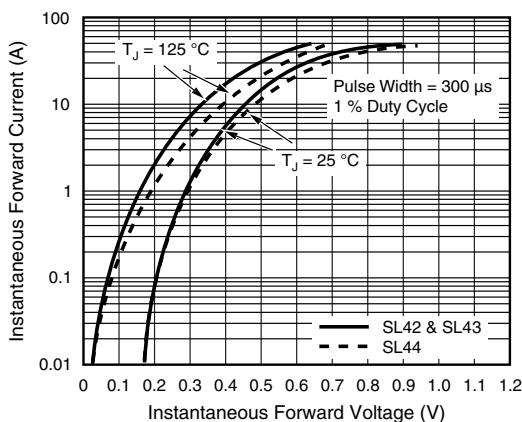


Fig. 3 - Typical Instantaneous Forward Characteristics

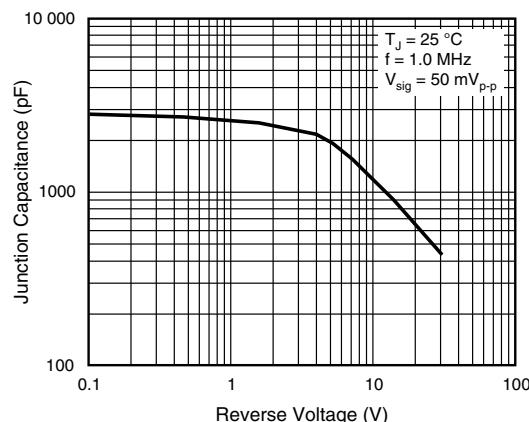


Fig. 5 - Typical Junction Capacitance

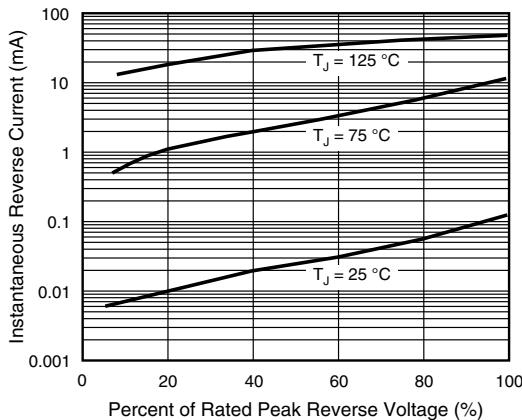
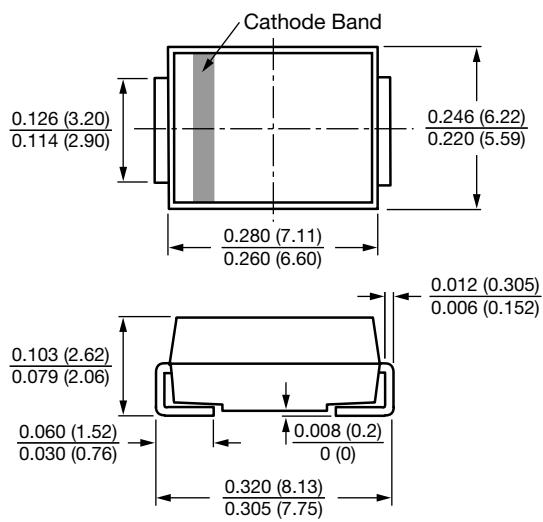


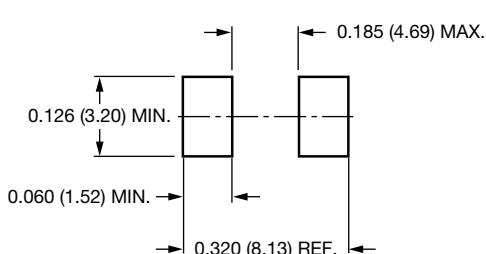
Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AB (SMC)



Mounting Pad Layout



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