

## Surface-Mount Schottky Barrier Rectifier


**SMC (DO-214AB)**

Cathode  Anode

### LINKS TO ADDITIONAL RESOURCES



### 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 available
  - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
Available

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** SMC (DO-214AB)

Molding compound meets UL 94 V-0 flammability rating  
 Base P/N-E3 - RoHS-compliant, commercial grade  
 Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade  
 Base P/NHE3\_X - RoHS-compliant and AEC-Q101 qualified  
 Base P/NHM3\_X - halogen-free, 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, M3, HE3, and HM3 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	SMC (DO-214AB)
Circuit configuration	Single

### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ 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 <sup>(1)</sup> at $T_L$ (fig. 1)	$I_{F(AV)}$	4.0		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**
<sup>(1)</sup> PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas,  $T_L = 90^\circ\text{C}$

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

PARAMETER	TEST CONDITIONS		SYMBOL	SL42	SL43	SL44	UNIT
Maximum instantaneous forward voltage at <sup>(1)</sup>	$I_F = 4.0 \text{ A}$	$T_A = 125^\circ\text{C}$	$V_F$	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 <sup>(1)</sup>		$T_A = 25^\circ\text{C}$	$I_R$	0.5			mA
		$T_A = 100^\circ\text{C}$		35			

**Note**

<sup>(1)</sup> Pulse test: 300  $\mu\text{s}$  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 <sup>(1)</sup>	$R_{\theta JA}$	50		14	°C/W
	$R_{\theta JL}$				

**Note**

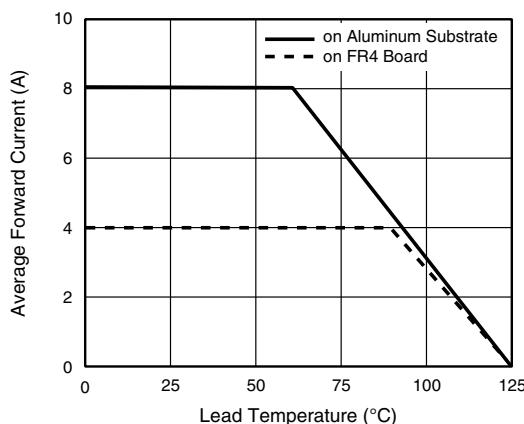
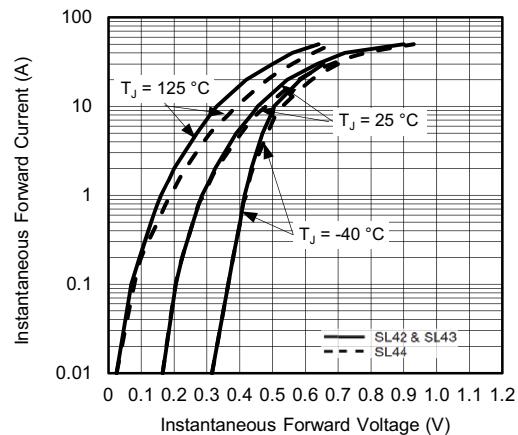
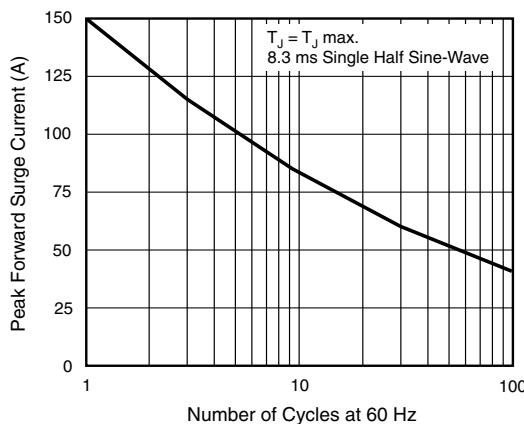
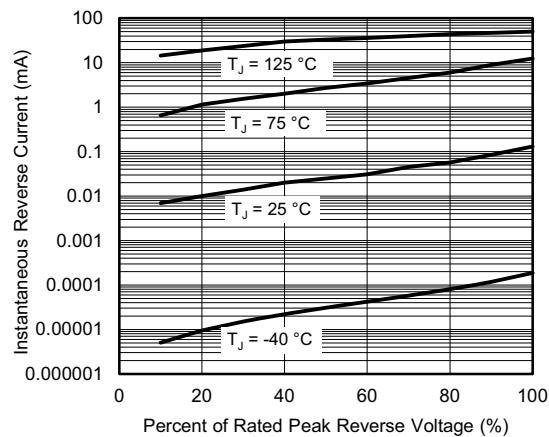
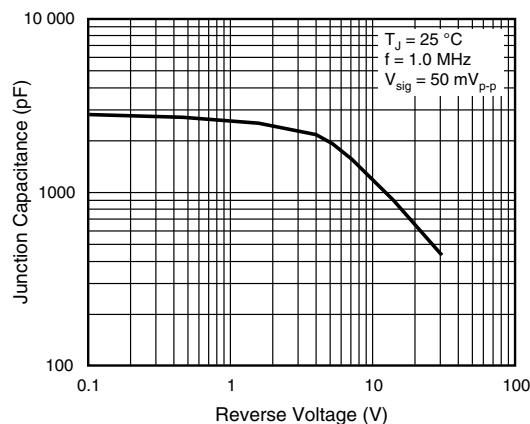
<sup>(1)</sup> PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas,  $T_L = 90^\circ\text{C}$

**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SL44-E3/57T	0.235	57T	850	7" diameter plastic tape and reel
SL44-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel
SL44HE3_B/H <sup>(1)</sup>	0.235	H	850	7" diameter plastic tape and reel
SL44HE3_B/I <sup>(1)</sup>	0.235	I	3500	13" diameter plastic tape and reel
SL44-M3/57T	0.235	57T	850	7" diameter plastic tape and reel
SL44-M3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel
SL44HM3_A/H <sup>(1)</sup>	0.235	H	850	7" diameter plastic tape and reel
SL44HM3_A/I <sup>(1)</sup>	0.235	I	3500	13" diameter plastic tape and reel

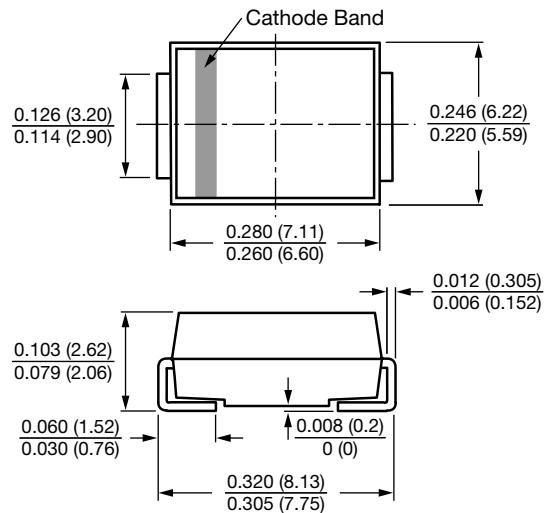
**Note**

<sup>(1)</sup> AEC-Q101 qualified

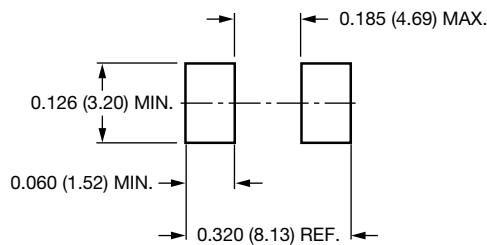
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig. 1 - Forward Current Derating Curve**

**Fig. 3 - Typical Instantaneous Forward Characteristics**

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

**Fig. 4 - Typical Reverse Characteristics**

**Fig. 5 - Typical Junction Capacitance**

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

SMC (DO-214AB)



## Mounting Pad Layout



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