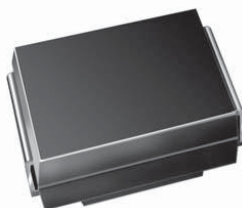


## Surface Mount Schottky Barrier Rectifier


**DO-214AA (SMB)**

### 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](http://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-214AA (SMB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

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

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes the cathode end

### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	2.0 A
$V_{RRM}$	20 V to 30 V
$I_{FSM}$	100 A
$V_F$	0.32 V
$T_J \text{ max.}$	125 °C

### MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SL22	SL23	UNIT
Device marking code		SL2	SL3	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	V
Maximum RMS voltage	$V_{RMS}$	14	21	V
Maximum DC blocking voltage	$V_{DC}$	20	30	V
Maximum average forward rectified current at $T_L$ (fig.1)	$I_{F(AV)}$	2.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	100		A
Voltage rate of change (rated $V_R$ )	$dV/dt$	10 000		V/ $\mu$ s
Operating junction temperature range	$T_J$	- 55 to + 125		°C
Storage temperature range	$T_{STG}$	- 55 to + 150		°C

ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	SL22	SL23	UNIT
Maximum instantaneous forward voltage at <sup>(1)</sup>	IF = 1.0 A	TA = 125 °C	VF	0.280		V
		TA = 25 °C		0.395		
	IF = 2.0 A	TA = 125 °C		0.320		
		TA = 25 °C		0.440		
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>			IR	0.4		mA
				10		

**Note**
<sup>(1)</sup> Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	SL22	SL23	UNIT
Maximum thermal resistance <sup>(1)</sup>	RθJA	75		°C/W
	RθJL	17		

**Note**
<sup>(1)</sup> P.C.B. mounted 0.55" x 0.55" (14 mm 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
SL23-E3/52T	0.096	52T	750	7" diameter plastic tape and reel
SL23-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel
SL23HE3/52T <sup>(1)</sup>	0.096	52T	750	7" diameter plastic tape and reel
SL23HE3/5BT <sup>(1)</sup>	0.096	5BT	3200	13" diameter plastic tape and reel

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

**RATINGS AND CHARACTERISTICS CURVES**

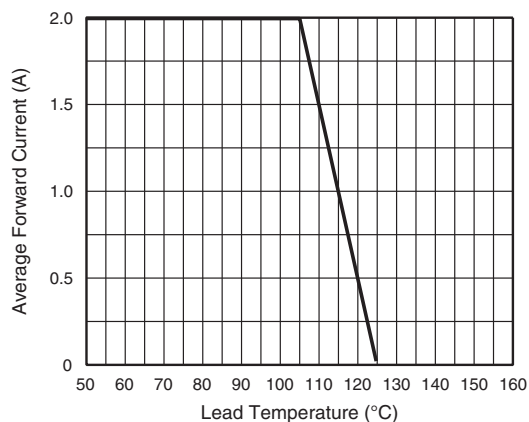
( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Derating Curve

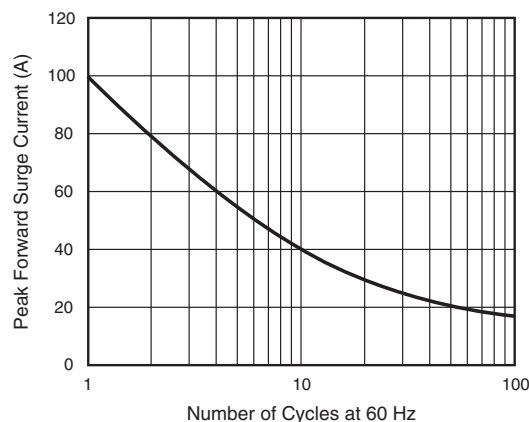


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

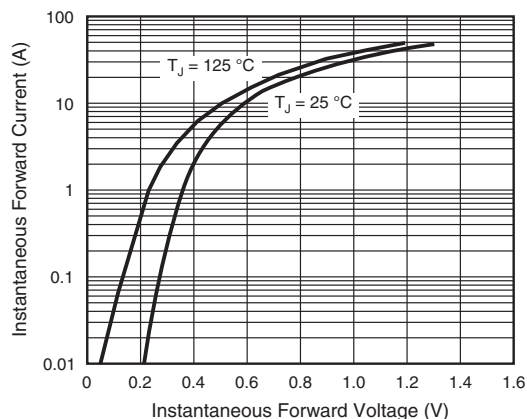


Fig. 3 - Typical Instantaneous Forward Characteristics

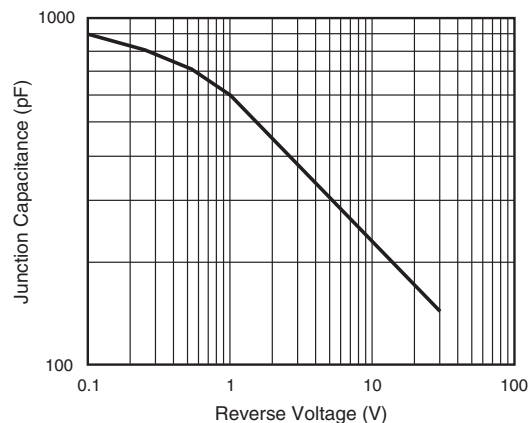


Fig. 5 - Typical Junction Capacitance

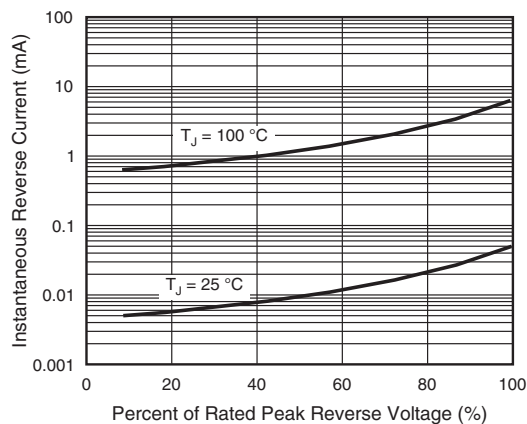
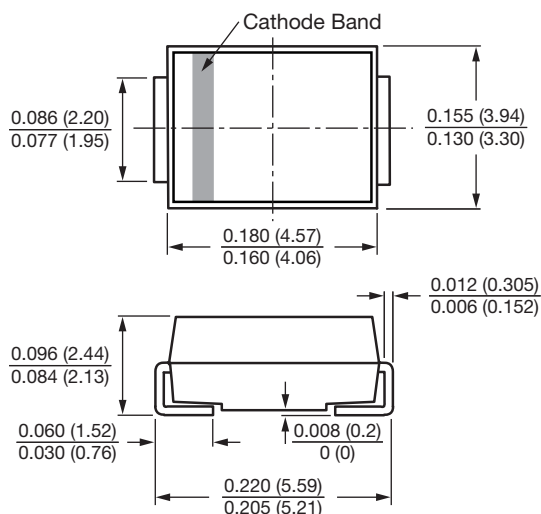


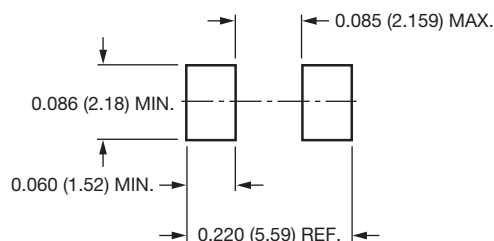
Fig. 4 - Typical Reverse Current Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-214AA (SMB)



### Mounting Pad Layout





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