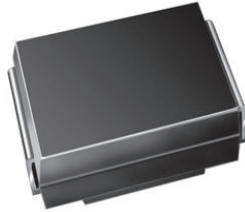


# High Current Density Surface Mount Schottky Rectifier


**SMB (DO-214AA)**


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

## FEATURES

- Guardring for overvoltage protection
- Low profile package
- Ideal for automated placement
- Low power loss, high efficiency
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

## TYPICAL APPLICATIONS

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

## MECHANICAL DATA

**Case:** SMB (DO-214AA)

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

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

E3 and M3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	40 V
$I_{FSM}$	100 A
$V_F$ at $I_F = 3.0$ A	0.34 V
$T_J$ max.	150 °C
Package	SMB (DO-214AA)
Diode variations	Single

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	B340LB	UNIT
Device marking code		B34	
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	V
Maximum RMS voltage	$V_{RMS}$	28	
Maximum DC blocking voltage	$V_{DC}$	40	
Maximum average forward rectified current at $T_L$ (fig. 1)	$I_{F(AV)}$	3.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	100	
Voltage rate of change (rated $V_R$ )	dV/dt	10 000	V/ $\mu$ s
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150	°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	TEST CONDITIONS	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage	$V_F^{(1)}$	3.0 A	$T_J = 25\text{ }^\circ\text{C}$	0.43	0.45	V
			$T_J = 125\text{ }^\circ\text{C}$	0.34	0.38	
Maximum reverse current at	$I_R^{(2)}$	Rated $V_R$	$T_J = 25\text{ }^\circ\text{C}$	-	0.4	mA
			$T_J = 125\text{ }^\circ\text{C}$	26	40	

**Notes**

- (1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width  $\leq 40\text{ ms}$

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	B340LB	UNIT
Typical thermal resistance	$R_{\theta JA}$	70	$^\circ\text{C/W}$
	$R_{\theta JL}$	25	

<b>ORDERING INFORMATION</b> (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
DO-214AA (SMB)	B340LB-E3/52T	0.096	52T	750	7" diameter tape and reel
DO-214AA (SMB)	B340LB-E3/5BT	0.096	5BT	3200	13" diameter tape and reel

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

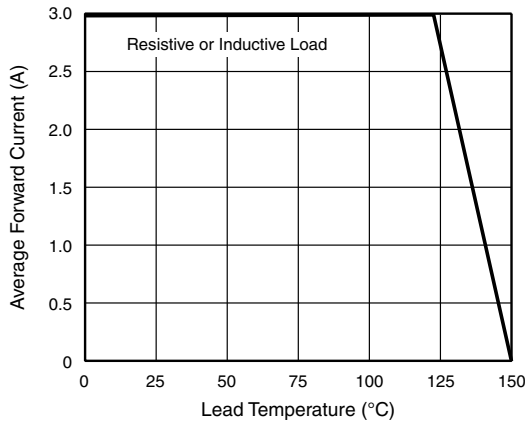


Fig. 1 - Forward Current Derating Curve

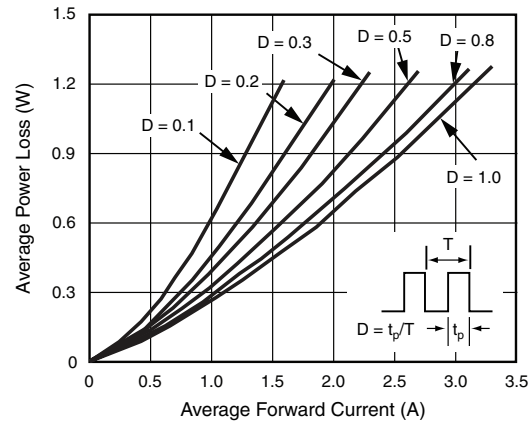


Fig. 2 - Forward Power Loss Characteristics

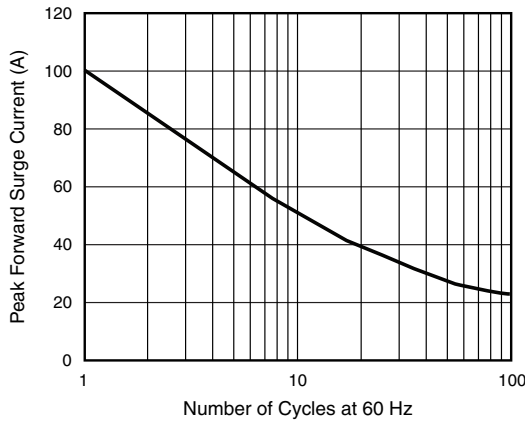


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

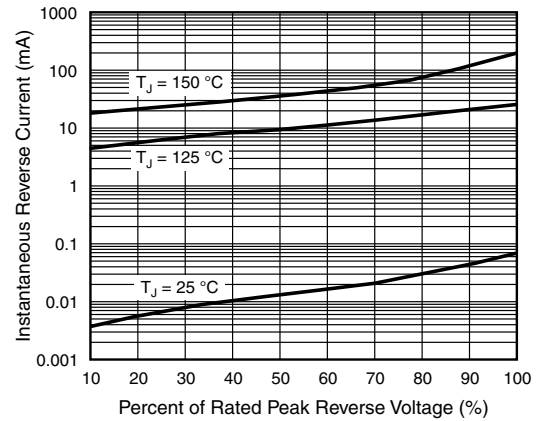


Fig. 5 - Typical Reverse Characteristics

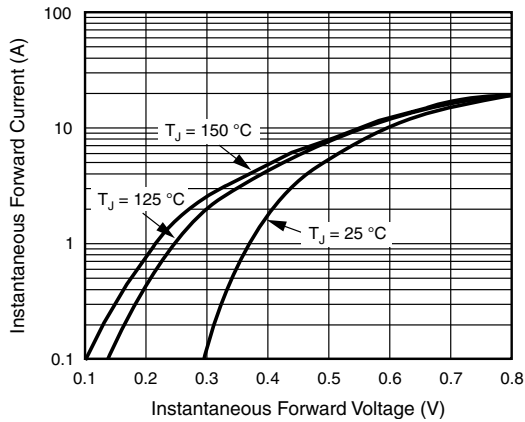


Fig. 4 - Typical Instantaneous Forward Characteristics

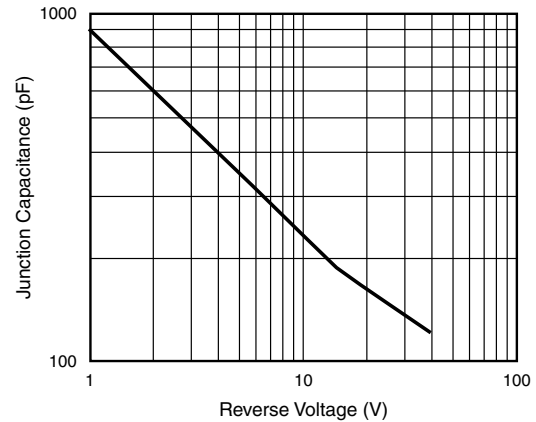
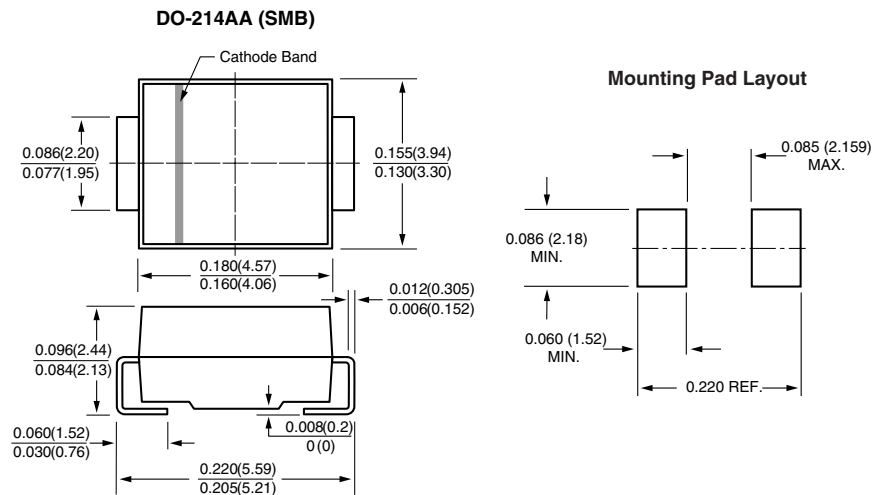


Fig. 6 - Typical Junction Capacitance

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





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