High Current Density Surface-Mount Schottky Rectifier

SMB (DO-214AA)

Cathode ○—▶|—○ Anode

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

RoHS COMPLIANT
HALOGEN FREE Available

LINKS TO ADDITIONAL RESOURCES

3D Models

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)
Circuit configurations	Single

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

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/µs
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS		TYP.	MAX.	UNIT
Maximum instantaneous forward voltage	V_F (1)	3.0 A	T_J = 25 °C	0.43	0.45	V
			T_J = 125 °C	0.34	0.38	
Maximum reverse current at	I_R (2)	Rated V_R	T_J = 25 °C	-	0.4	mA
			T_J = 125 °C	26	40	

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle
(2) Pulse test: Pulse width ≤ 40 ms

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THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**B340LB**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$	70	°C/W
	$R_{\theta JL}$	25	

ORDERING INFORMATION (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 °C unless otherwise noted)

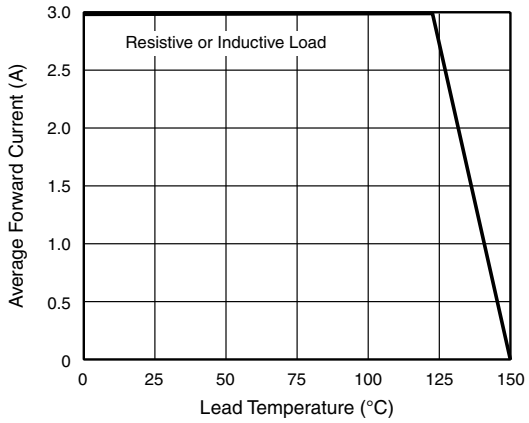

Fig. 1 - Forward Current Derating Curve

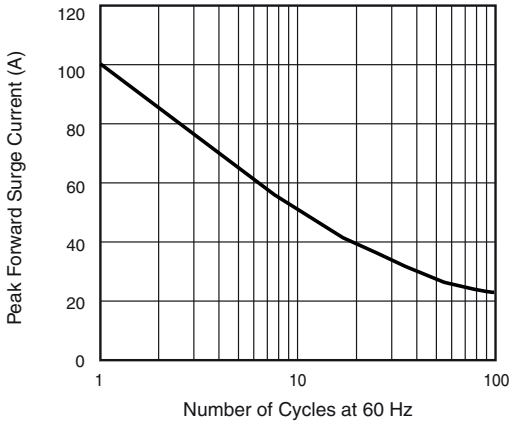

Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

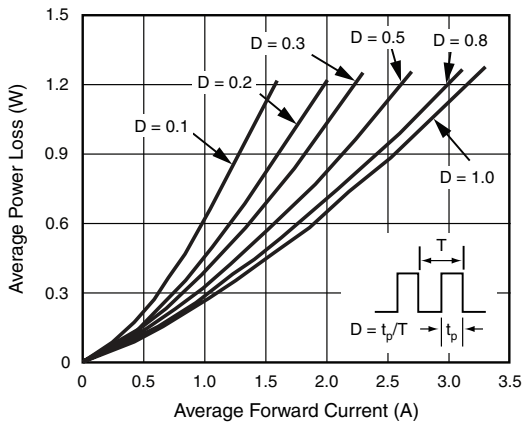

Fig. 2 - Forward Power Loss Characteristics

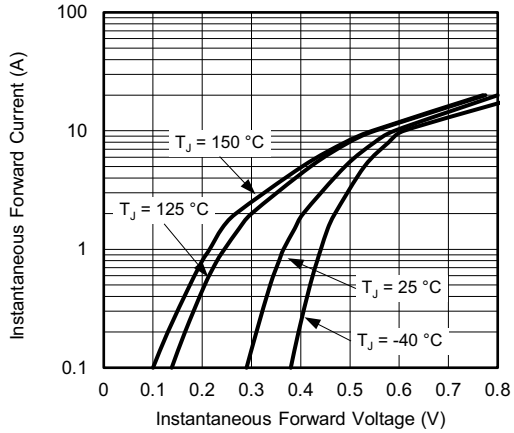

Fig. 4 - Typical Instantaneous Forward Characteristics

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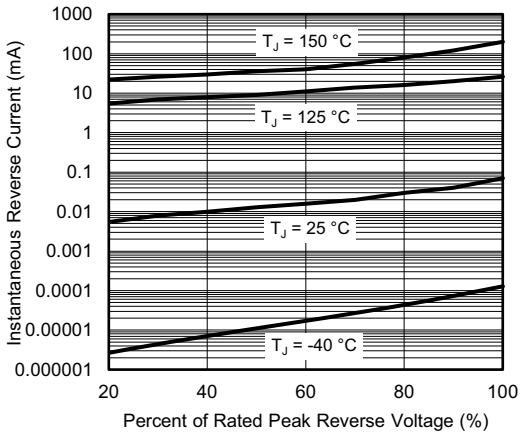


Fig. 5 - Typical Reverse Characteristics

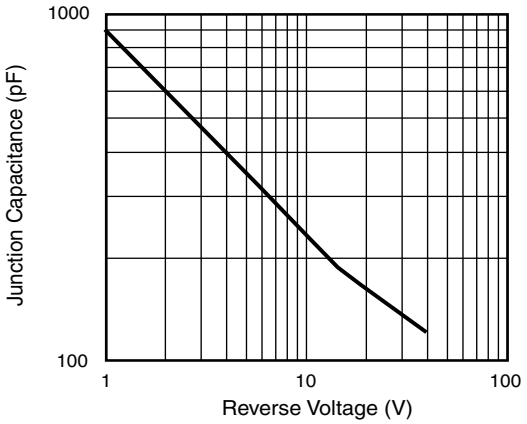
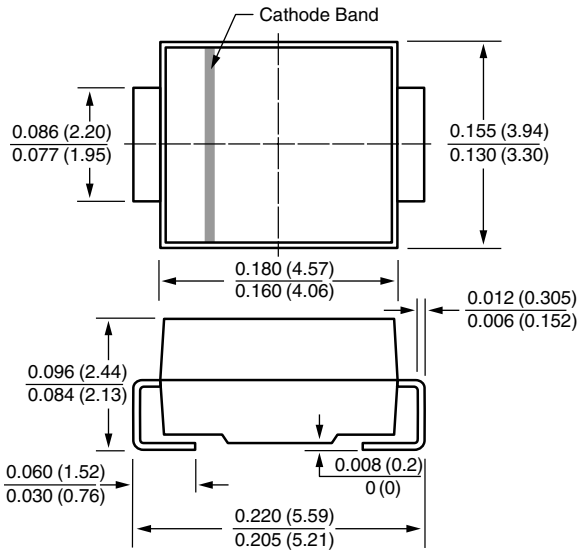


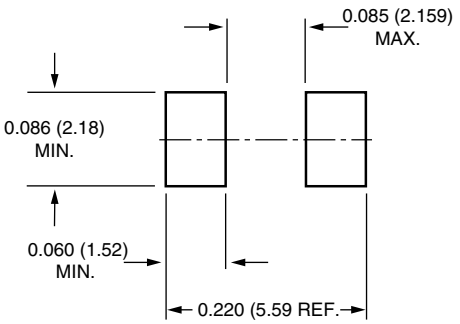
Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMB (DO-214AA)



Mounting Pad Layout



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