

High Current Density Surface Mount Schottky Rectifier


SMB (DO-214AA)

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

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/μs
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage	V_F ⁽¹⁾	3.0 A	$T_J = 25^\circ\text{C}$	0.43	0.45
			$T_J = 125^\circ\text{C}$	0.34	0.38
Maximum reverse current at	I_R ⁽²⁾	Rated V_R	$T_J = 25^\circ\text{C}$	-	0.4
			$T_J = 125^\circ\text{C}$	26	40

Notes

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

(2) Pulse test: Pulse width ≤ 40 ms

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

PARAMETER	SYMBOL	B340LB	UNIT
Typical thermal resistance	$R_{\theta JA}$	70	$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	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

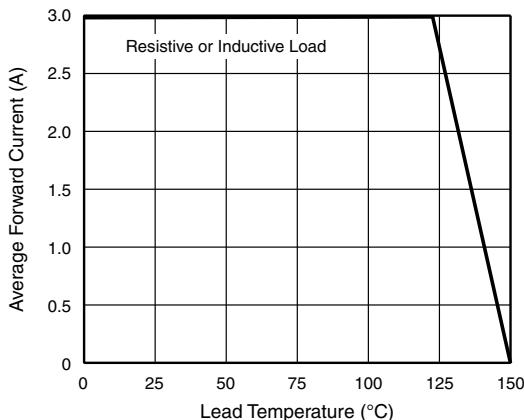
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

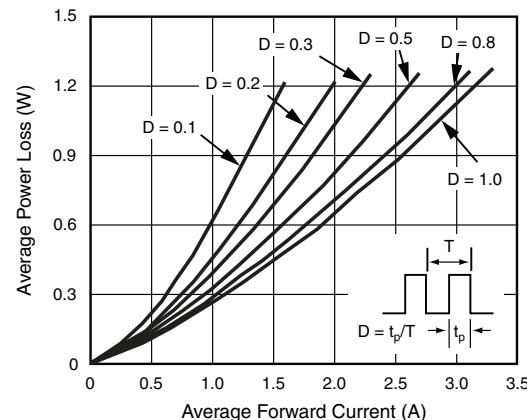


Fig. 2 - Forward Power Loss Characteristics

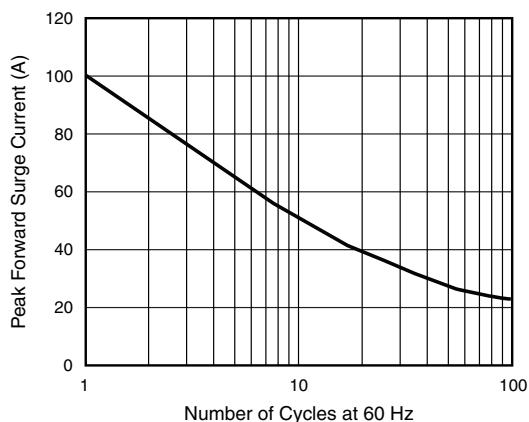


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

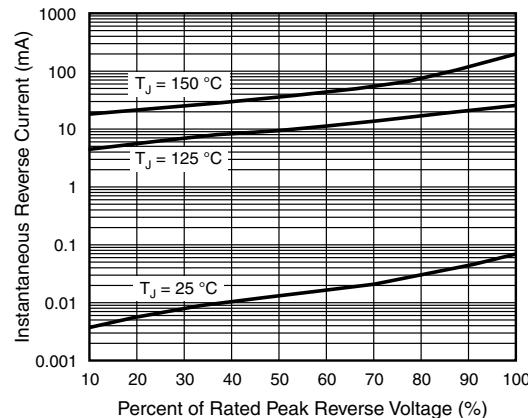


Fig. 5 - Typical Reverse Characteristics

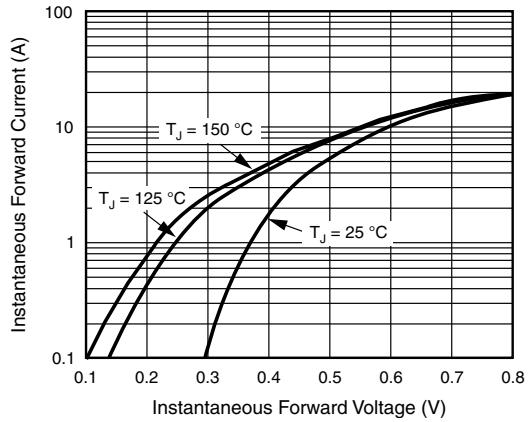


Fig. 4 - Typical Instantaneous Forward Characteristics

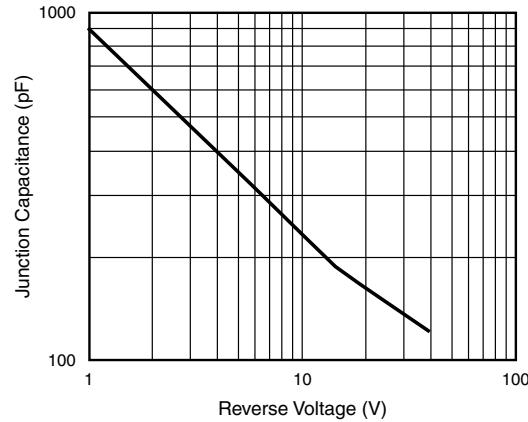
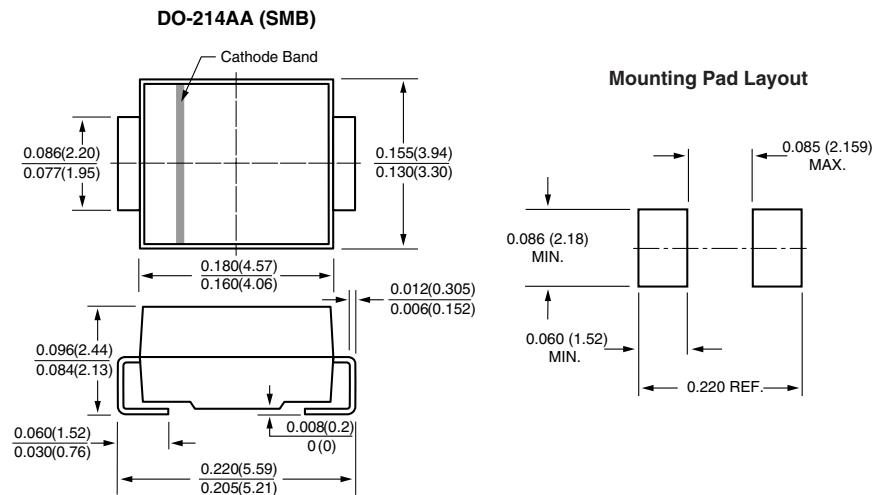


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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