



## High-Current Density Surface Mount Schottky 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
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS  
COMPLIANT

## TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

## MECHANICAL DATA

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

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), 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

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	V
Maximum DC blocking voltage	$V_{DC}$	40	V
Max. 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	A
Voltage rate of change (rated $V_R$ )	$dV/dt$	10 000	V/μs
Operating junction temperature range	$T_J$	- 65 to + 150	°C
Storage temperature range	$T_{STG}$	- 65 to + 150	°C

## New Product

# B340LB

Vishay General Semiconductor



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

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

**Notes:**

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

(2) Pulse test: Pulse width  $\leq 40$  ms

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

PARAMETER	SYMBOL	B340LB	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta,JA}$ $R_{\theta,JL}$	70 25	$^\circ\text{C/W}$

**Note:**

(1) Aluminum substrate mounted

### ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
B340LB-E3/52T	0.096	52T	750	7" diameter plastic tape and reel
B340LB-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel

### RATINGS AND CHARACTERISTICS CURVES

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

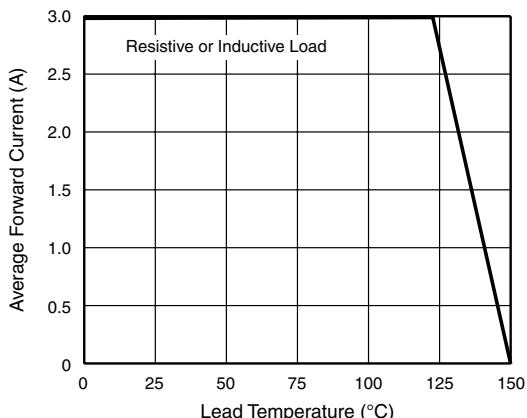


Figure 1. Forward Current Derating Curve

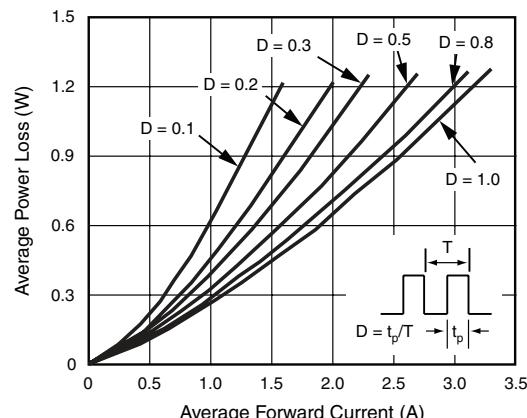


Figure 2. Forward Power Loss Characteristics

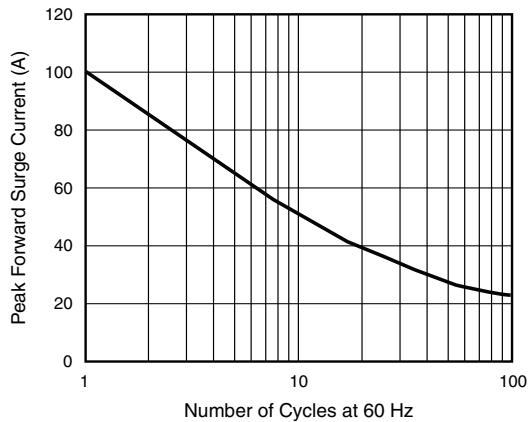


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

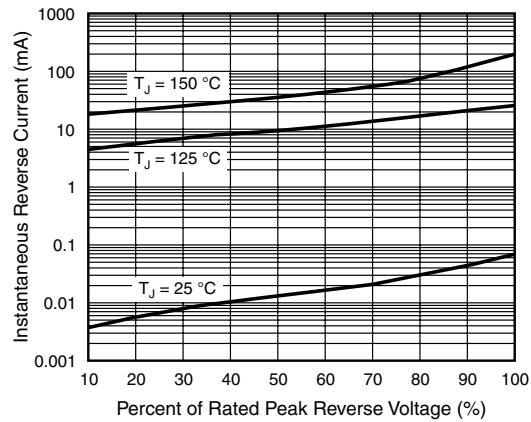


Figure 5. Typical Reverse Characteristics

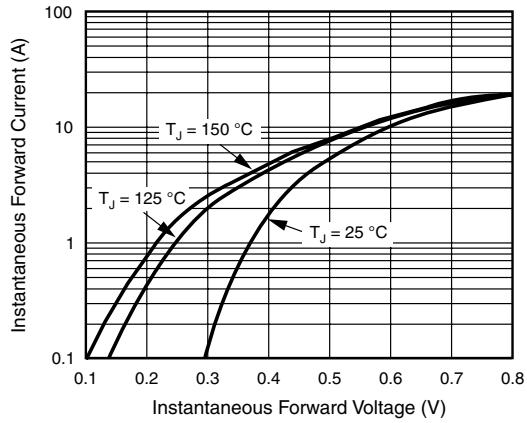


Figure 4. Typical Instantaneous Forward Characteristics

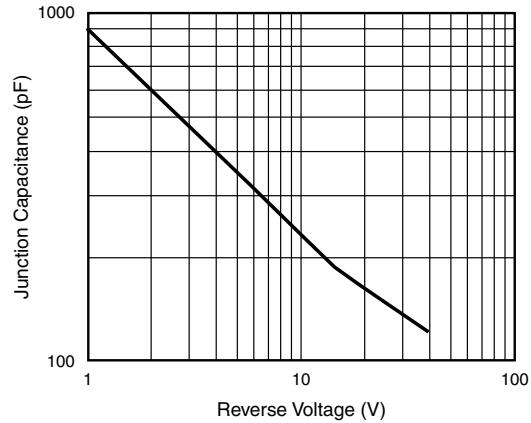
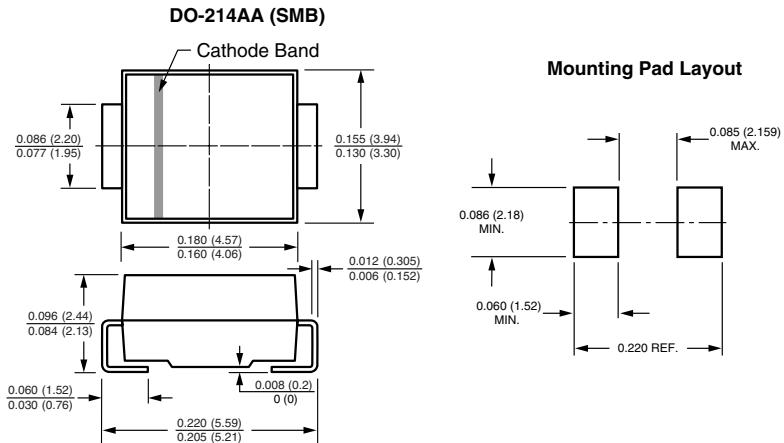


Figure 6. Typical Junction Capacitance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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