

## High-Current Density Surface Mount Schottky Rectifier



DO-214AC (SMA)

### FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Compliant to RoHS directive 2002/95/EC and in accordance to 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.

#### Note

- These devices are not AEC-Q101 qualified

### MECHANICAL DATA

**Case:** DO-214AC (SMA)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS compliant, commercial grade

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

E3 suffix meets JESD 201 class 1A whisker test

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

### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	2.0 A
$V_{RRM}$	30 V, 40 V
$I_{FSM}$	50 A
$V_F$	0.50 V, 0.55 V
$T_J$ max.	150 °C

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

PARAMETER	SYMBOL	B230LA	B240A	UNIT
Device marking code		B23	B24	
Maximum repetitive peak reverse voltage	$V_{RRM}$	30	40	V
Maximum RMS voltage	$V_{RMS}$	21	28	V
Maximum DC blocking voltage	$V_{DC}$	30	40	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	$I_{FSM}$	50		A
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

**B230LA, B240A**

Vishay General Semiconductor

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

PARAMETER	TEST CONDITIONS		SYMBOL	B230LA	B240A	UNIT
Maximum instantaneous forward voltage	2.0 A	$T_J = 25^\circ\text{C}$	$V_F$ <sup>(1)</sup>	0.5	0.55	V
Maximum reverse current at rated $V_R$		$T_J = 25^\circ\text{C}$	$I_R$ <sup>(2)</sup>	0.5	0.5	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	B230LA	B240A	UNIT
Typical thermal resistance	$R_{\theta JA}$ <sup>(1)</sup>	110		$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$ <sup>(1)</sup>	28		

**Note**

(1) Aluminum substrate mounted

**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
B230LA-E3/61T	0.064	61T	1800	7" diameter plastic tape and reel
B230LA-E3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel

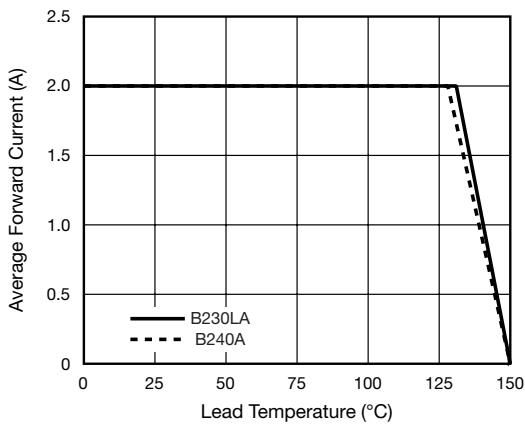
**RATINGS AND CHARACTERISTICS CURVES** $(T_A = 25^\circ\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

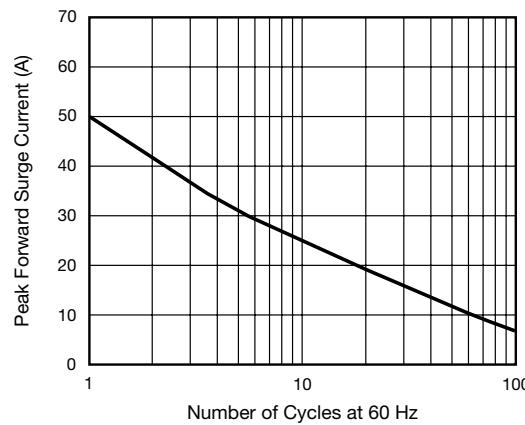


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

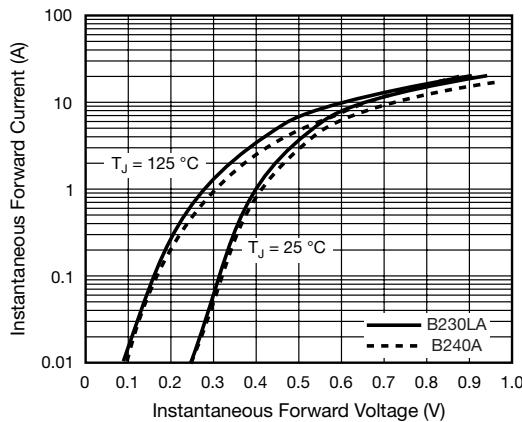


Fig. 3 - Typical Instantaneous Forward Characteristics

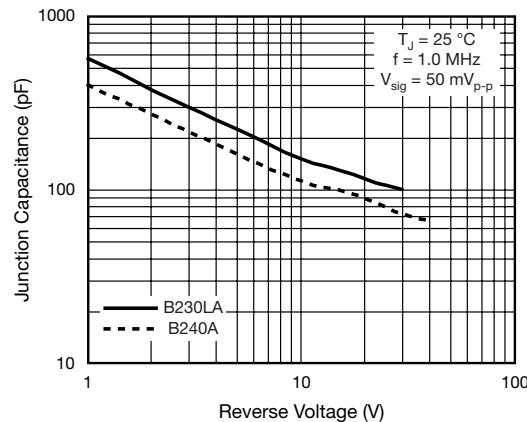


Fig. 5 - Typical Junction Capacitance

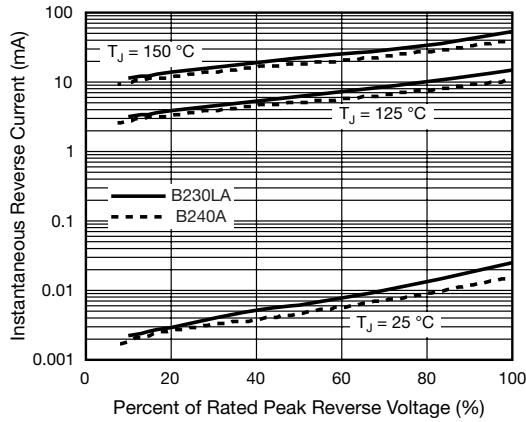
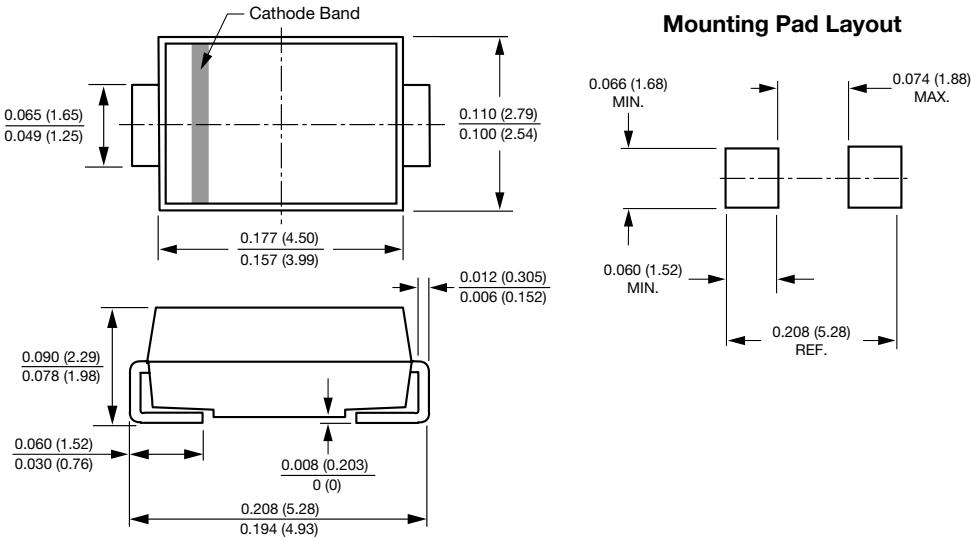


Fig. 4 - Typical Reverse Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)  
**DO-214AC (SMA)**



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