

Surface Mount Schottky Barrier Rectifier



DO-214AC (SMA)

FEATURES

- Low profile package
- Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- 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-214AC (SMA)

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

Polarity: Color band denotes the cathode end

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	3 A
V_{RRM}	50 V, 60 V
I_{FSM}	50 A
V_F at $I_F = 3.0$ A	0.55 V
T_J max.	150 °C

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

PARAMETER	SYMBOL	B350A	B360A	UNIT
Device marking code		B35	B36	V
Maximum repetitive peak reverse voltage	V_{RRM}	50	60	V
Maximum average forward rectified current (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}	50		A
Voltage rate of change (rated V_R)	dV/dt	10 000		V/ μ s
Operating junction temperature range	T_J, T_{STG}	- 55 to + 150		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.
Maximum instantaneous forward voltage ⁽¹⁾	$I_F = 3.0\text{ A}$	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	V_F	0.64 0.55	0.72 0.62
Maximum reverse current ⁽²⁾	rated V_R	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R	- 2.9	200 10
Typical junction capacitance	4.0 V, 1 MHz		C_J	145	-
					UNIT
					V
					μA mA
					pF

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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	B350A	B360A	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	72 12		$^{\circ}\text{C/W}$

Note:(1) P.C.B. mounted with 0.32 x 0.32" (8 x 8 mm) copper pad areas. T_L measure at lead terminal mount.

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
B360A-E3/61T	0.064	61T	1800	7" diameter plastic tape and reel
B360A-E3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel

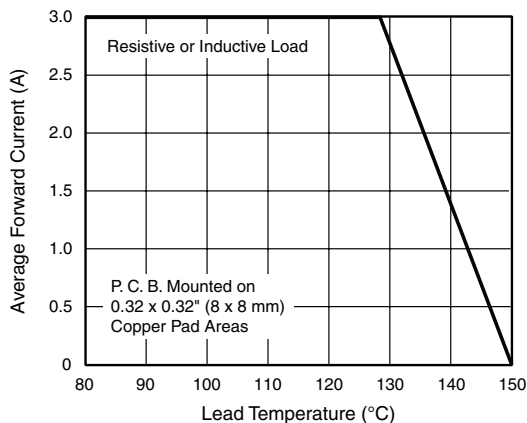
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve

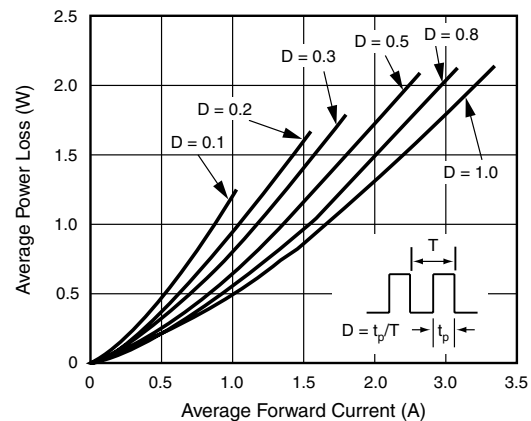


Figure 2. Forward Power Loss Characteristics

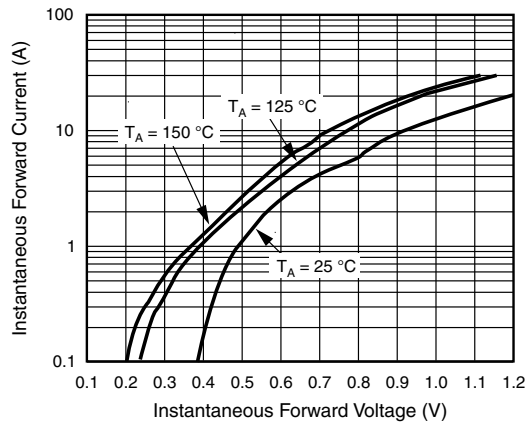


Figure 3. Typical Instantaneous Forward Characteristics

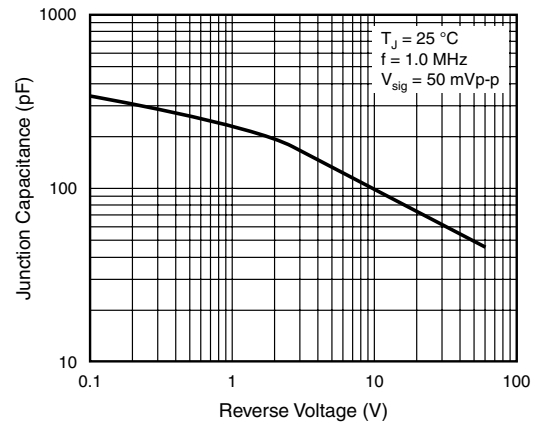


Figure 5. Typical Junction Capacitance

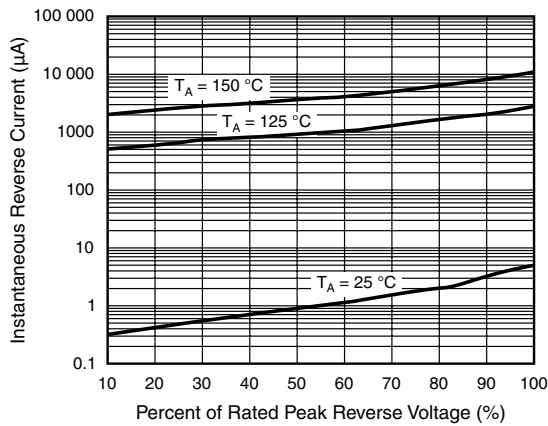
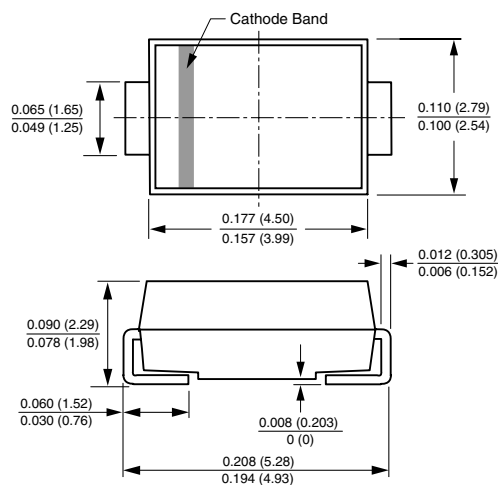


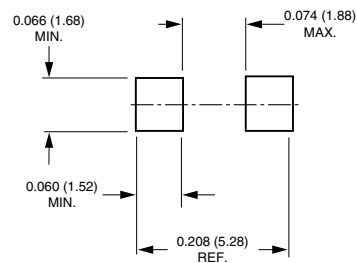
Figure 4. Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)



Mounting Pad Layout





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