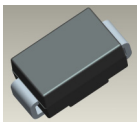
3.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

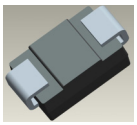
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 4)**

Mechanical Data

- Case: SMA
- Case Material: Molded Plastic. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.064 grams (approximate)



Top View



Bottom View

Maximum Ratings @T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

Characteristic	Symbol	B320A	B330A	B340A	B350A	B360A	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	50	60	V
Average Rectified Output Current @ T_T =100°C	I_O	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	80					A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	25	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 2)	$R_{\theta JA}$	100	°C/W
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	B320A, B330A, B340A B350A, B360A	V_F	- -	- -	0.50 0.70	V	I_F = 3.0A, T_A = 25°C
Leakage Current (Note 3)		I_R	- -	- -	0.5 20	mA	@ Rated V_R, T_A = 25°C @ Rated V_R, T_A = 100°C
Total Capacitance		C_T	-	-	200	pF	V_R = 4V, f = 1MHz

Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/quality/lead_free.html.
2. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad.
3. Short duration pulse test used to minimize self-heating effect.
4. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.

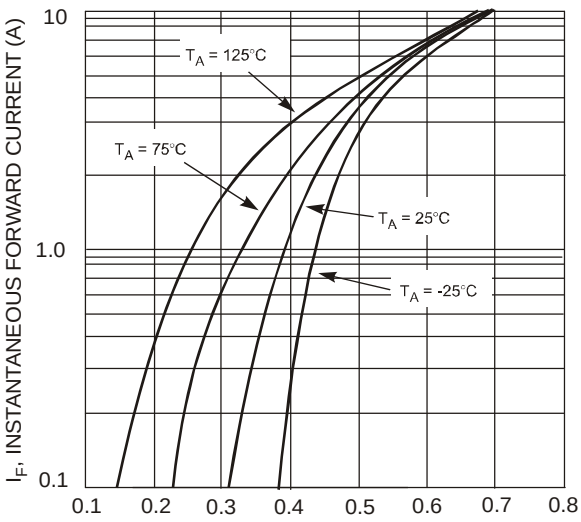


Fig. 1 Typical Forward Characteristics - B320A thru B340A

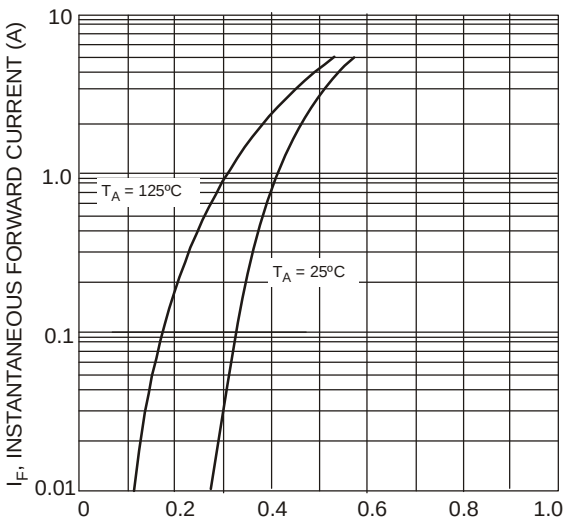


Fig. 2 Typ. Forward Characteristics - B350A thru B360A

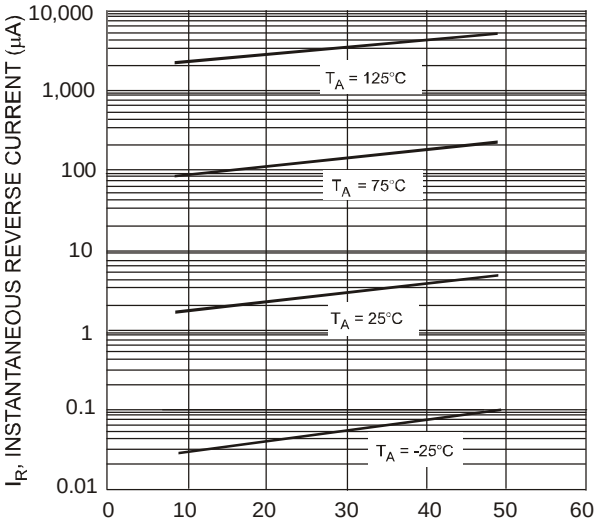


Fig. 3 Typical Reverse Characteristics, B320A thru B340A

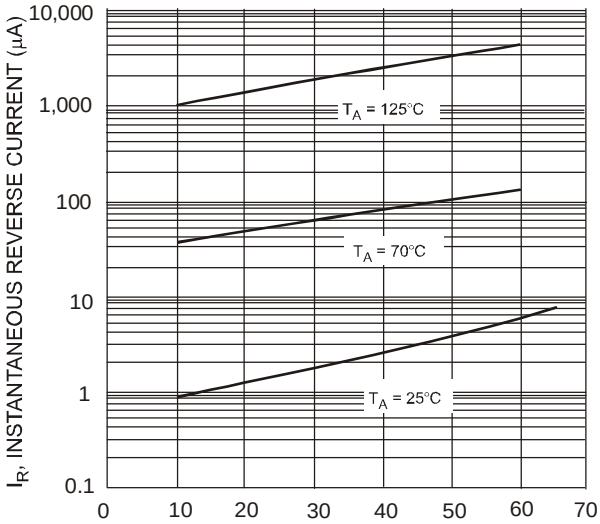


Fig. 4 Typical Reverse Characteristics, B350A thru B360A

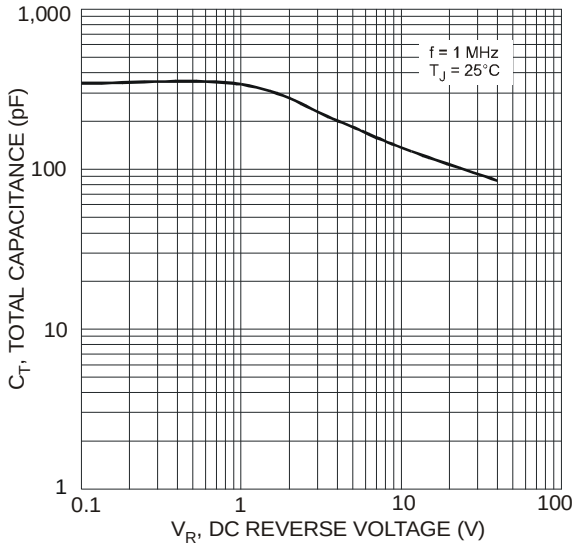


Fig. 5 Total Capacitance vs. Reverse Voltage

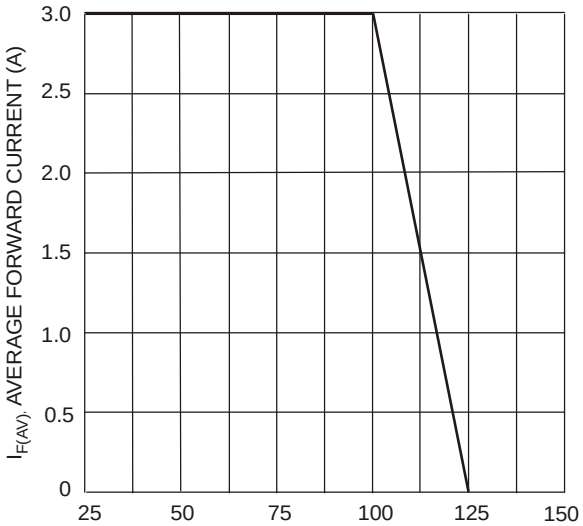


Fig. 6 Forward Current Derating Curve

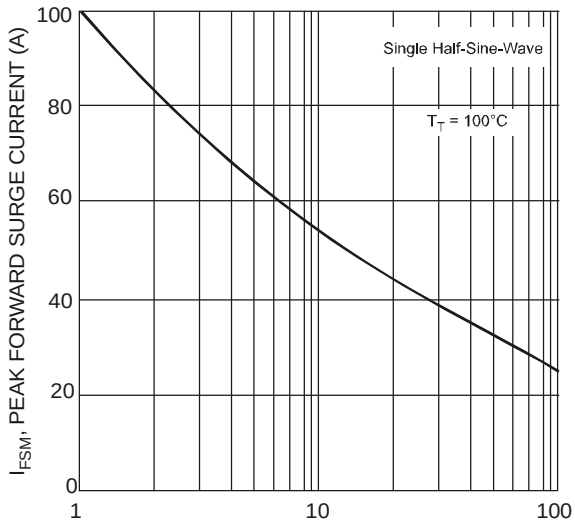


Fig. 7 Max Non-Repetitive Peak Fwd Surge Current

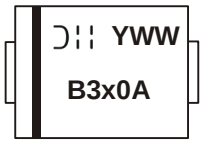
Ordering Information (Note 5)

Part Number*	Case	Packaging
B3XXA-13-F	SMA	5000/Tape & Reel

* xx = Device type, e.g. B320A-13-F (SMA package).

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

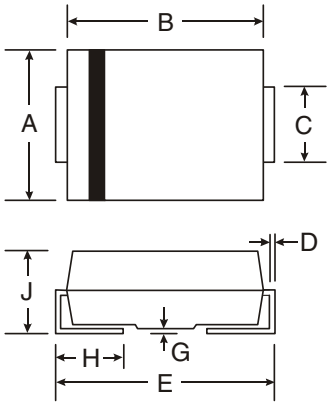
Marking Information (Note 6)



B3x0A = Product type marking code, ex: B320A
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year (ex: 2 for 2002)
WW = Week code 01 to 52

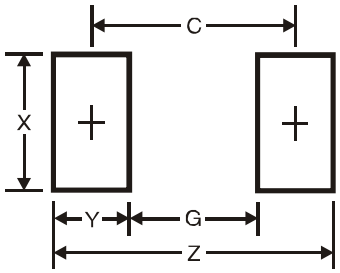
Notes: 6. Device has a cathode band (as shown above) and may also have a cathode notch.

Package Outline Dimensions



SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.5
G	1.5
X	1.7
Y	2.5
C	4.0