

3.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

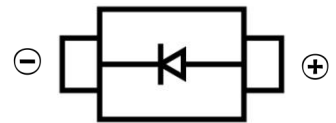
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 125A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish/RoHS Compliant (Note 4)**

Mechanical Data

- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band



SMB



Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

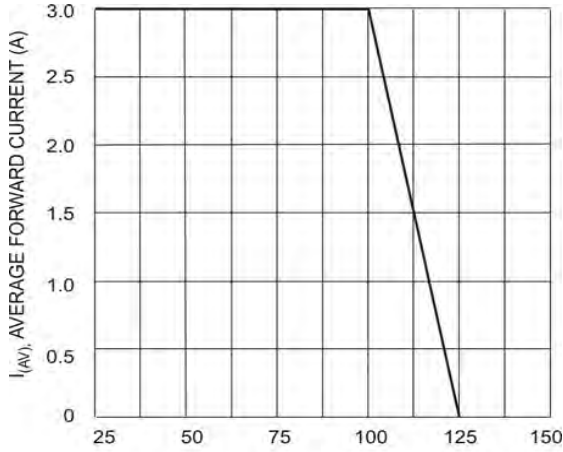
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	B320B	B330B	B340B	B350B	B360B	Unit	
Peak Repetitive Reverse Voltage	V_{RRM}							
Working Peak Reverse Voltage	V_{RWM}	20	30	40	50	60	V	
DC Blocking Voltage	V_R							
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V	
Average Rectified Output Current @ $T_T = 100^\circ\text{C}$	I_O	3.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125						A
Forward Voltage (Note 3) @ $I_F = 3.0\text{A}$	V_{FM}	0.50			0.70		V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 3) @ $T_A = 100^\circ\text{C}$	I_{RM}	0.5			20		mA	
Typical Capacitance (Note 2)	C_T	200					pF	
Typical Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	25					$^\circ\text{C/W}$	
Typical Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	95					$^\circ\text{C/W}$	
Operating Temperature Range	T_j	-55 to +125					$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-55 to +150					$^\circ\text{C}$	

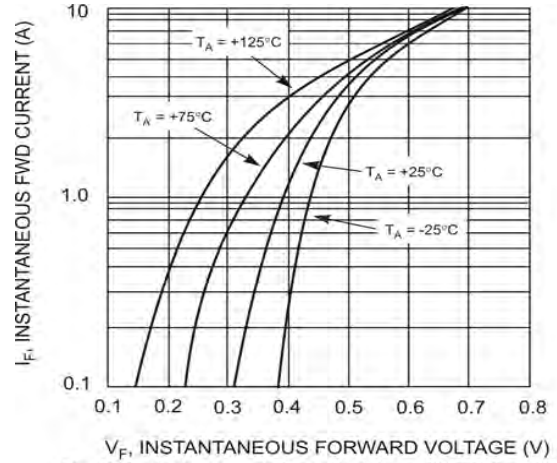
- Notes:
1. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Short duration test pulse used to minimize self-heating effect.
 4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.

SCHOTTKY BARRIER DIODE

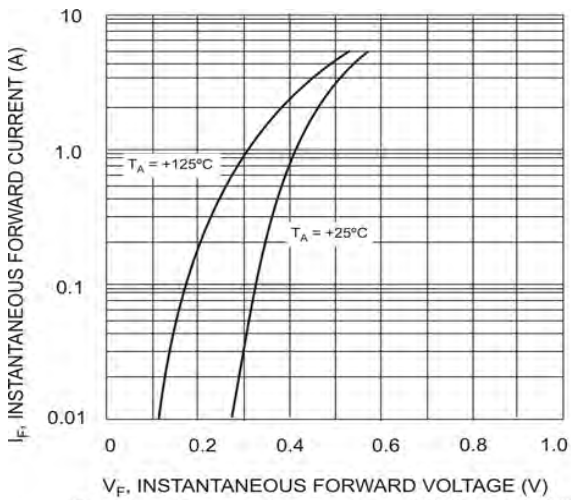
Typical Characteristics



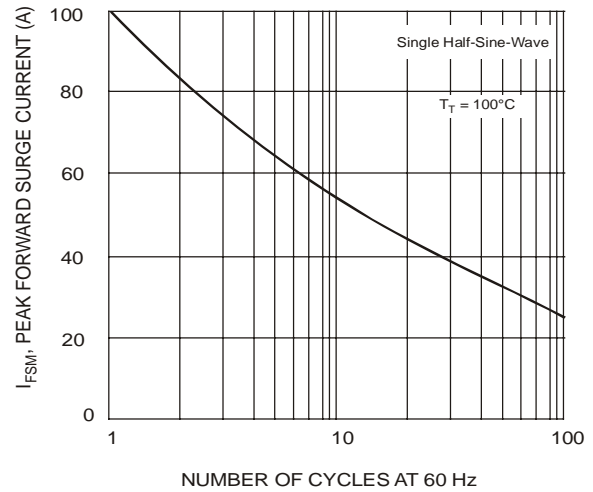
T_T, TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



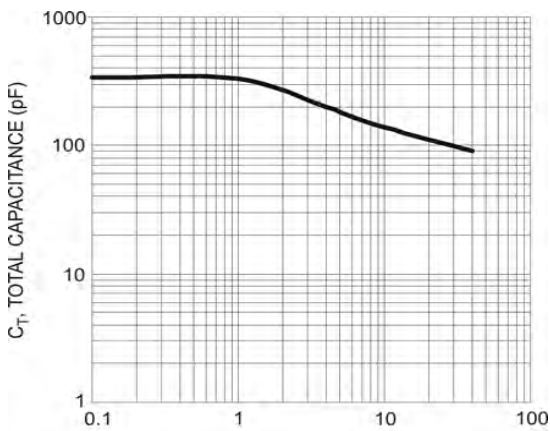
V_F, INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics - B320B thru B340B



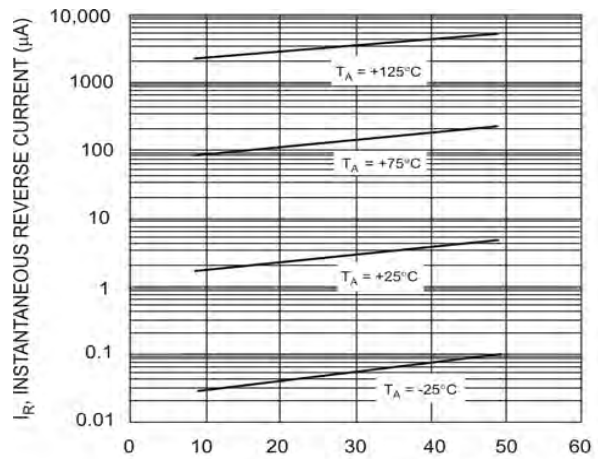
V_F, INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 3 Typ. Forward Characteristics - B350B thru B360B



NUMBER OF CYCLES AT 60 Hz
Fig. 4 Max Non-Repetitive Peak Forward Surge Current



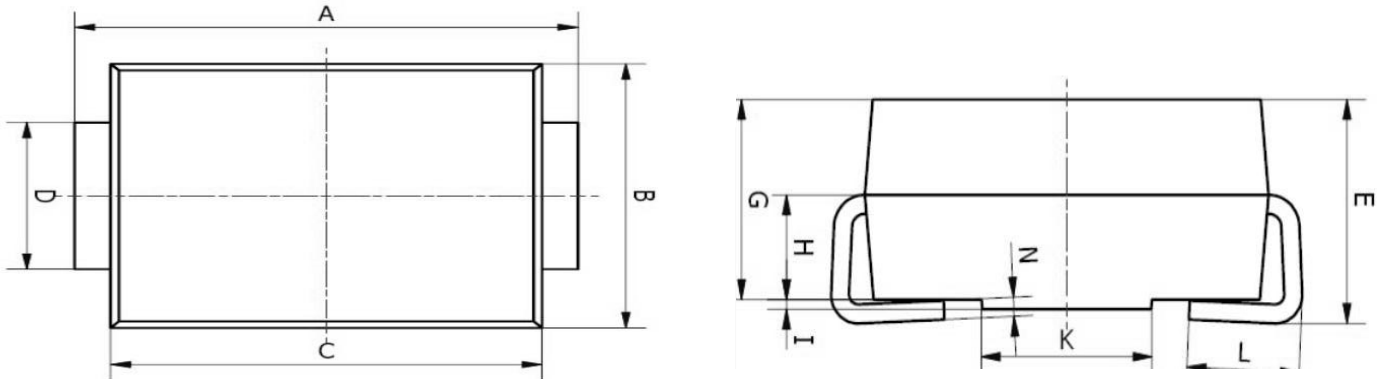
V_R, REVERSE VOLTAGE (V)
Fig. 5 Typical Capacitance



V_R, INSTANTANEOUS REVERSE VOLTAGE (V)
Fig. 6 Typical Reverse Characteristics, B320B thru B340B

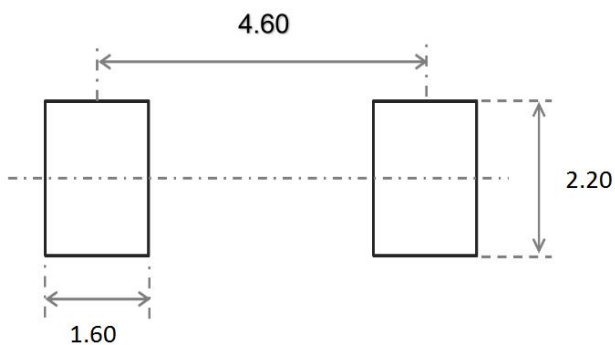
SCHOTTKY BARRIER DIODE

SMB Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	5.00	5.45	0.197	0.215
B	3.20	4.00	0.126	0.157
C	4.30	4.70	0.169	0.185
D	1.80	2.20	0.071	0.087
E	2.20	2.50	0.087	0.098
G	1.90	2.30	0.075	0.090
H	0.95	1.25	0.037	0.049
I	0.05	0.15	0.002	0.006
K	1.70	2.10	0.067	0.083
L	0.90	1.60	0.035	0.063
N	0.10	0.30	0.004	0.012

SMB Suggested Pad Layout



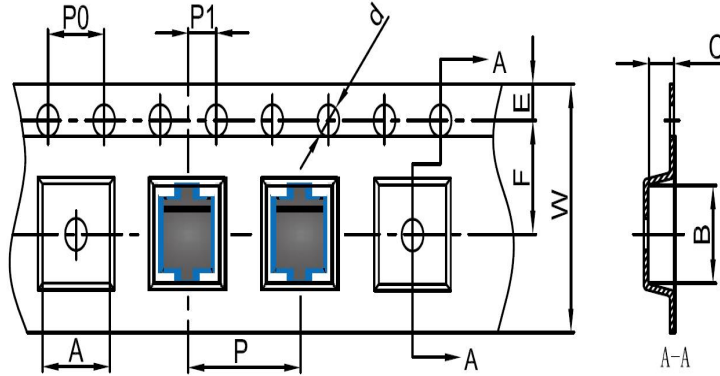
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SCHOTTKY BARRIER DIODE

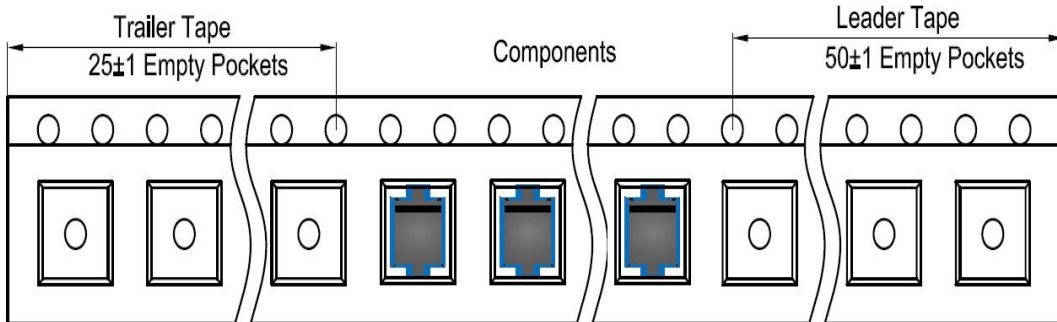
SMB Tape and Reel

SMB Embossed Carrier Tape

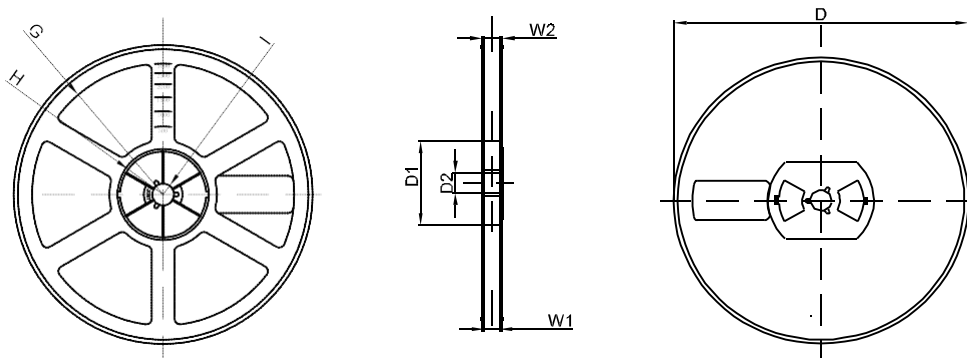


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMB	4.10	5.50	2.58	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMB Tape Leader and Trailer



SMB Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	75.0	13.00	R165	R37.50	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1