

	<b>E502650</b>
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### Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Surface Mount Package
- Low Profile Package

### Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance(Note 3): 15°C/W Junction to Lead
- Typical Thermal Resistance(Note 3): 40°C/W Junction to Ambient

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SDB101	SDB101	50V	35V	50V
SDB102	SDB102	100V	70V	100V
SDB103	SDB103	200V	140V	200V
SDB104	SDB104	400V	280V	400V
SDB105	SDB105	600V	420V	600V
SDB106	SDB106	800V	560V	800V
SDB107	SDB107	1000V	700V	1000V

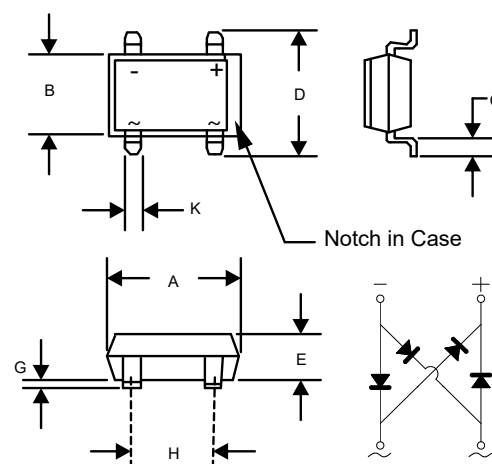
### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_A = 40^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, Half Sine
Current Squared Time	$I^2t$	3.7A <sup>2</sup> S	1ms ≤ t ≤ 8.3ms
Maximum Instantaneous Forward Voltage	$V_F$	1.1V	$I_{FM} = 1.0A$ $T_J = 25^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	10μA 0.5mA	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	25pF	Measured at 1.0MHz, $V_R = 4.0V$

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
 2. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7a.  
 3. Units Mounted on P.C.B with 0.51x0.51"(13x13mm) Copper Pads

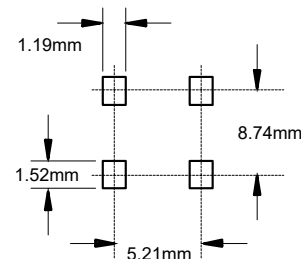
# 1.0 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

## SDB-1



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.316	0.335	8.05	8.51	
B	0.245	0.255	6.20	6.50	
C	0.040	0.060	1.02	1.50	
D	0.360	0.410	9.40	10.40	
E	0.102	0.130	2.60	3.30	
G	0.003	0.013	0.076	0.33	
H	0.195	0.205	5.00	5.20	
K	0.038	0.047	1.00	1.20	

### Suggested Solder Pad Layout



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

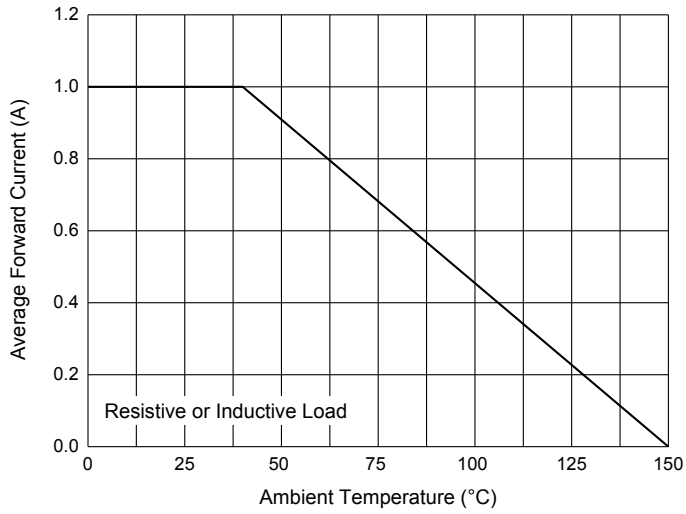


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

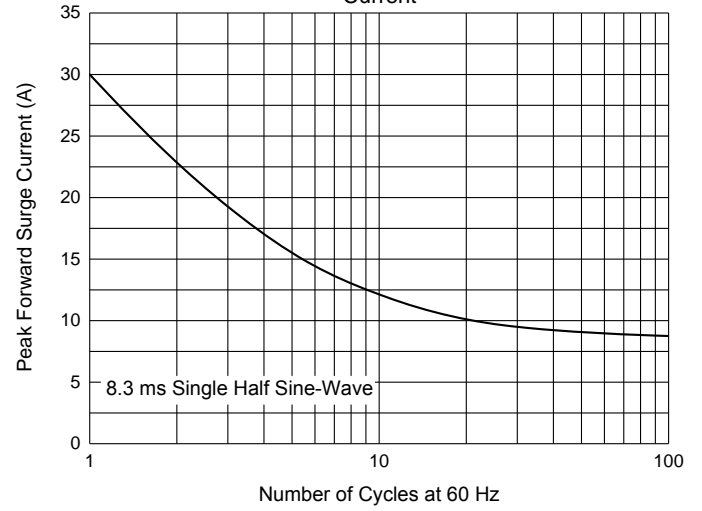


Fig. 3 - Typical Instantaneous Forward Characteristics

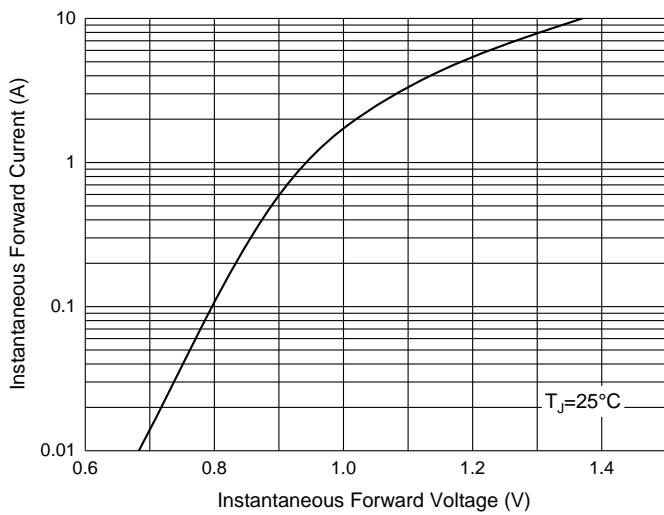


Fig. 4 - Typical Reverse Leakage Characteristics

