

	<b>E502650</b>
---	----------------

**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

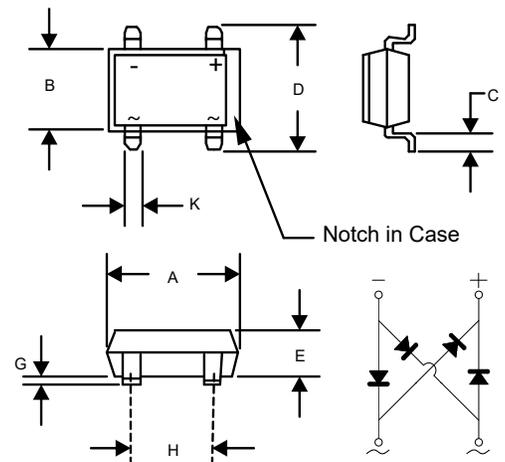
**Electrical Characteristics @ 25°C Unless Otherwise Specified**

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

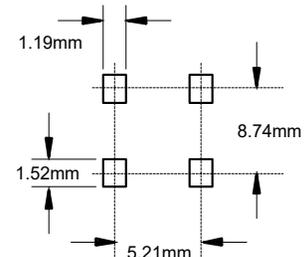
# 1.0 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

**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

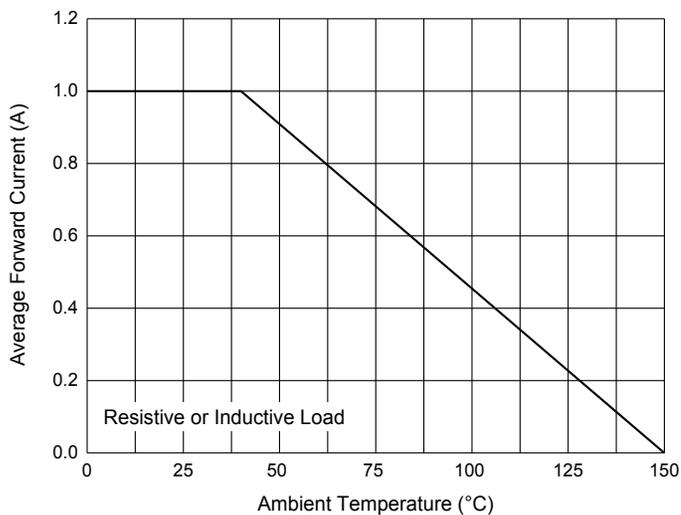


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

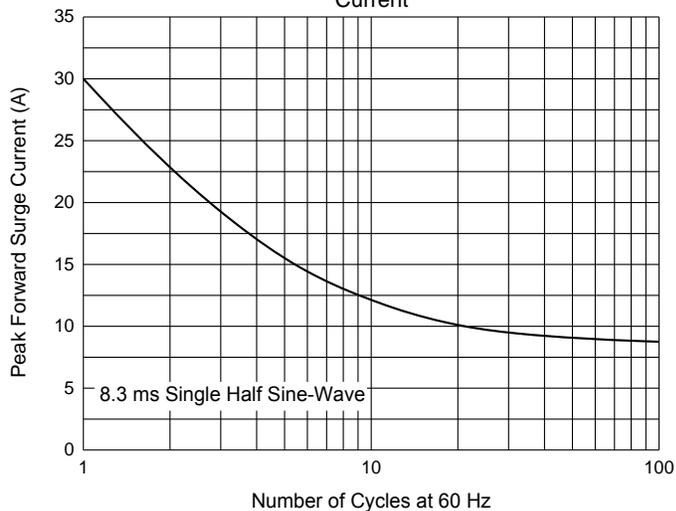


Fig. 3 - Typical Instantaneous Forward Characteristics

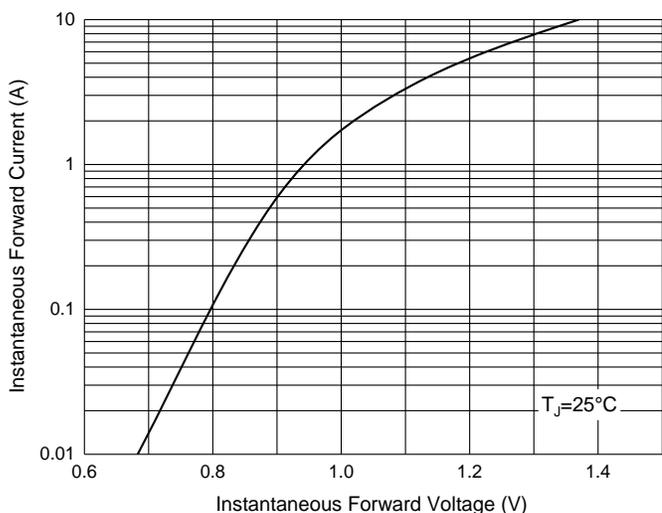
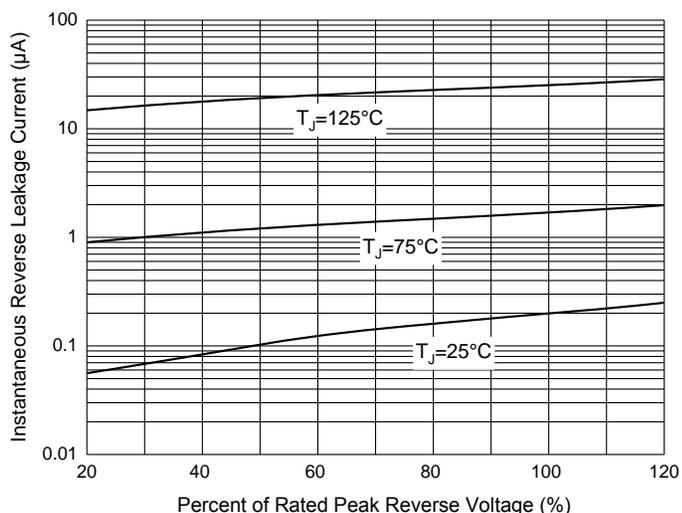


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:1.5Kpcs/Reel
Part Number-BP	Tube:50pcs/Tube,5K/Box,20K/Ctn;

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.