



E502650

Features

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

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value							Unit
		SDB 101	SDB 102	SDB 103	SDB 104	SDB 105	SDB 106	SDB 107	
Peak Repetitive Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V _{RWM}								
DC Blocking Voltage	V _R								
RMS Reverse Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ T _A =40°C	I _{F(AV)}	1							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I _{FSM}	30							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60							
Current Squared Time @1ms≤t≤8.3ms	I ² t	3.735							A ² s

Marking Code

Part Number	Marking Code
SDB101	SDB101
SDB102	SDB102
SDB103	SDB103
SDB104	SDB104
SDB105	SDB105
SDB106	SDB106
SDB107	SDB107

Internal Structure

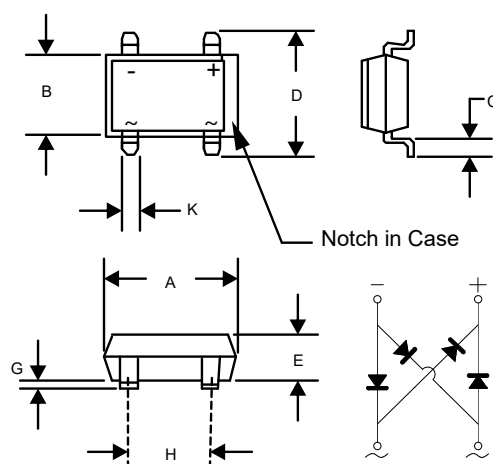
Simplified Outline	Graphic Symbol
<p>XXXX = Marking Code</p>	

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 7a.

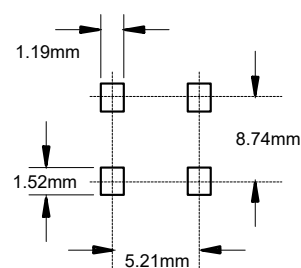
1 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

SDB-1



DIM	INCHES		MM		NOTE
	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



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		15		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		40		°C/W

Note:

1. Device mounted on P.C.B with 35mm*25mm*1.7mm.

Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=0.5A; T_J=25^{\circ}C$			1.0	V
Reverse Current	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	μA
Junction Capacitance	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		12		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

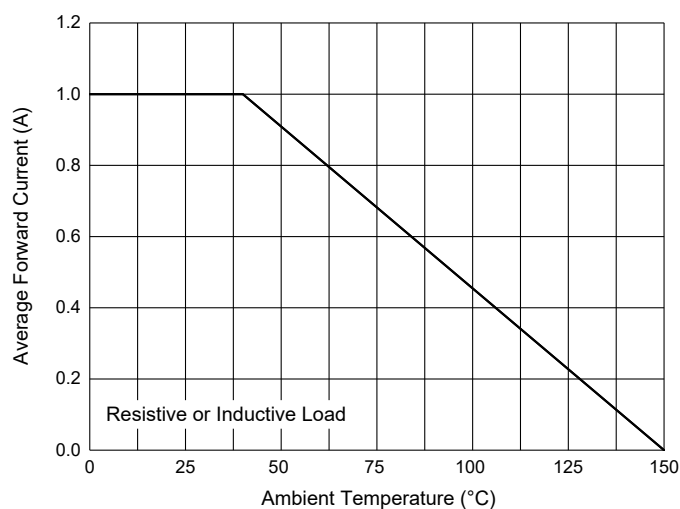


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

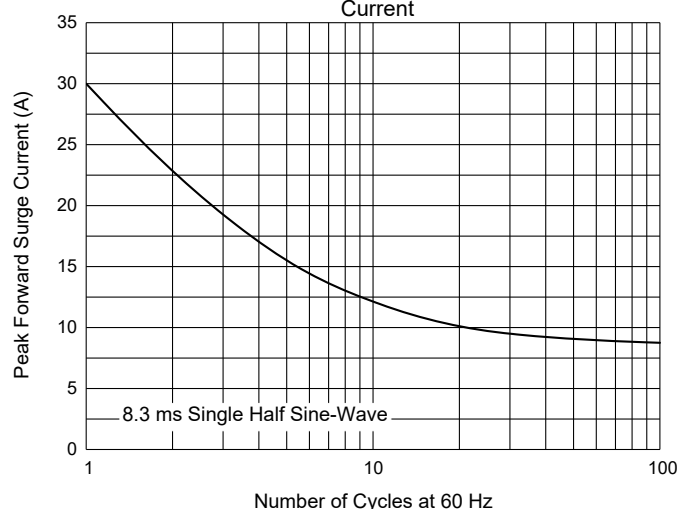


Fig. 3 - Typical Forward Characteristics

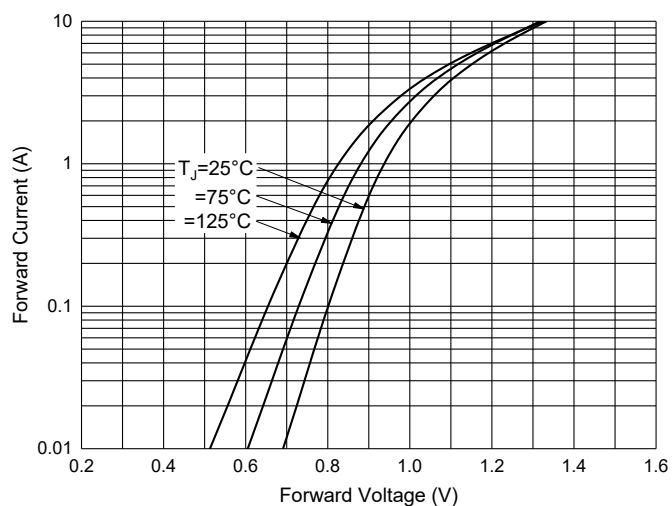


Fig. 4 - Typical Reverse Leakage Characteristics

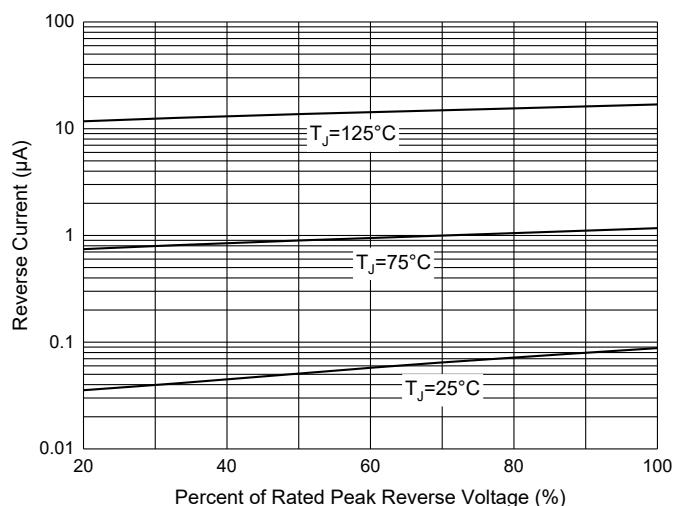
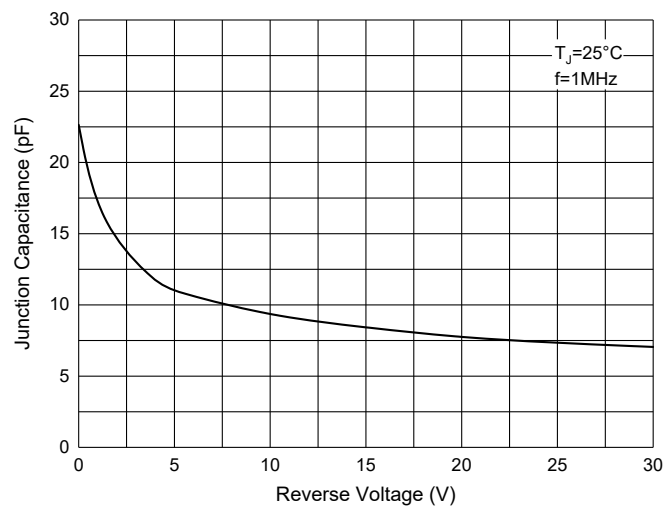


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

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

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