

**SCHOTTKY
SURFACE BRIDGE RECTIFIER**

**REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 2.0 Amperes**

FEATURES

- Rating to 100V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Qualified according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

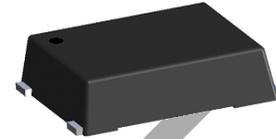
APPLICATION

- Energy saving Lamps
- Mobile Battery chargers

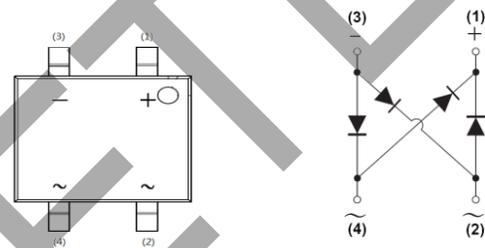
MECHANICAL DATA

- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity: Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 92.3 mg (Approximate)
- Marking code: B2100

HDS



Pin Assignment



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum DC blocking voltage	V_{DC}	100	V
Maximum Average rectified output current	$I_{(AV)}$	2.0	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.	I_{FSM}	50	A
I^2t Rating for fusing (1ms<t<8.3ms)	I^2t	10.4	A ² S
Operating junction and Storage Temperature range	T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=2.0A$ $T_J=25^\circ C$ $T_J=125^\circ C$	V_F	--	0.85 0.70	V
Leakage current	$V_R=100V$ $T_J=25^\circ C$ $T_J=100^\circ C$	I_R	--	50 5	μA mA
Typical junction capacitance (Note 5)		C_J		75	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6)	R_{thJC}	6	°C/W
	R_{thJL}	18	°C/W

Notes :

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0VDC.
6. Thermal resistance test performed in accordance with JESD-51. Unit mounted on glass-epoxy substrate with 1oz/ft² 13mm x 13 mm copper pad.

RATING AND CHARACTERISTIC CURVES
BHDS2100

FIG.1 FORWARD CURRENT DERATING CURVE

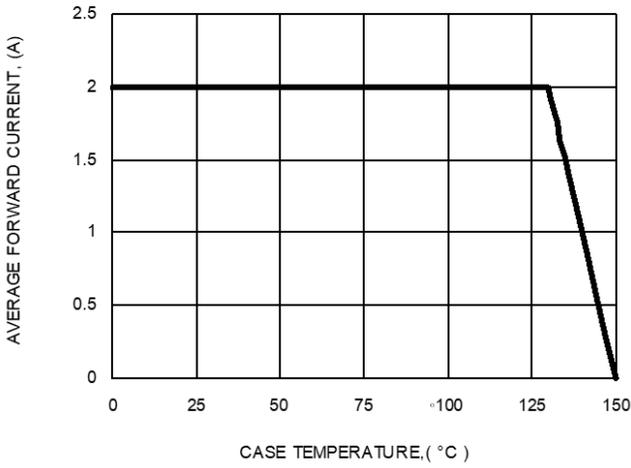


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

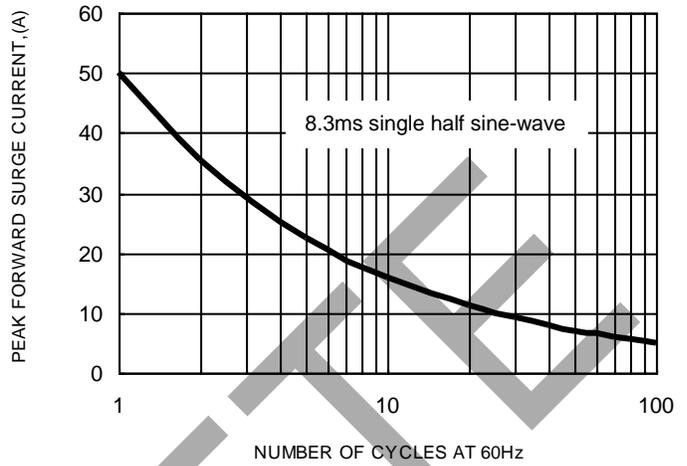


FIG.3- TYPICAL FORWARD CHARACTERISTICS

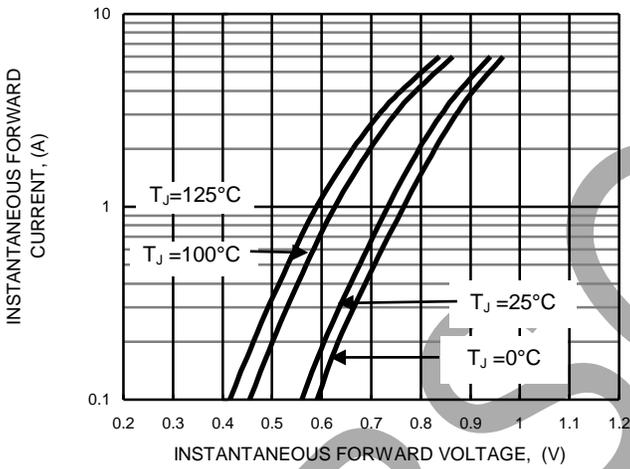


FIG.4- TYPICAL JUNCTION CAPACITANCE

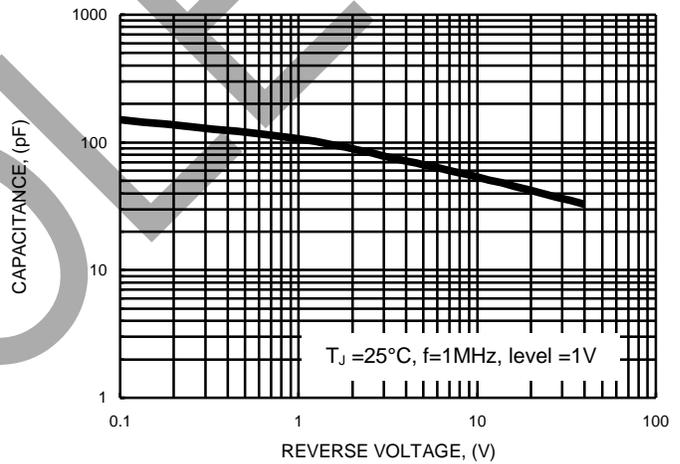
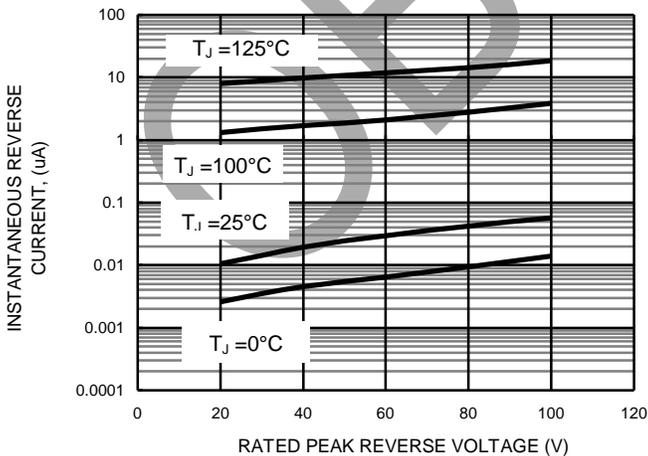


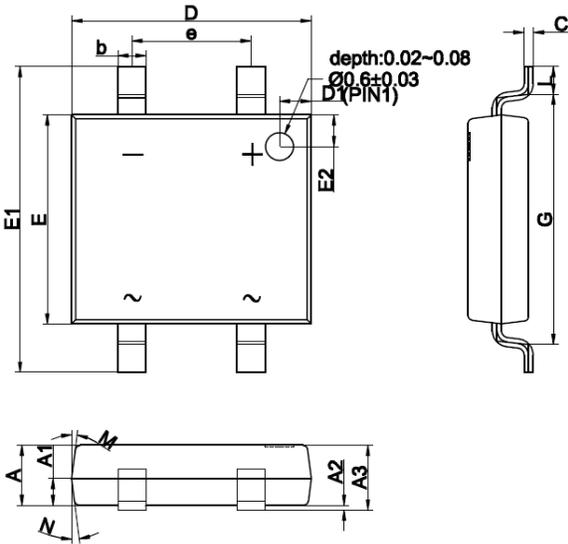
FIG.5- TYPICAL REVERSE CHARACTERISTICS



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**MECHANICAL INFORMATION
BHDS2100**

Package Dimension :



DIM	HDS	
	MIN	MAX
A	1.20	1.30
A1	0.43	0.63
A2	0.00	0.15
A3	1.20	1.40
b	0.45	0.75
C	0.10	0.30
D	4.85	5.25
D1	0.45	0.85
e	2.54 TYP.	
E	4.25	4.65
E1	6.40	6.80
E2	0.45	0.85
G	5.20	5.60
L	0.40	0.80
M	7° TYP.	
N	7° TYP.	
All dimension in millimeter		

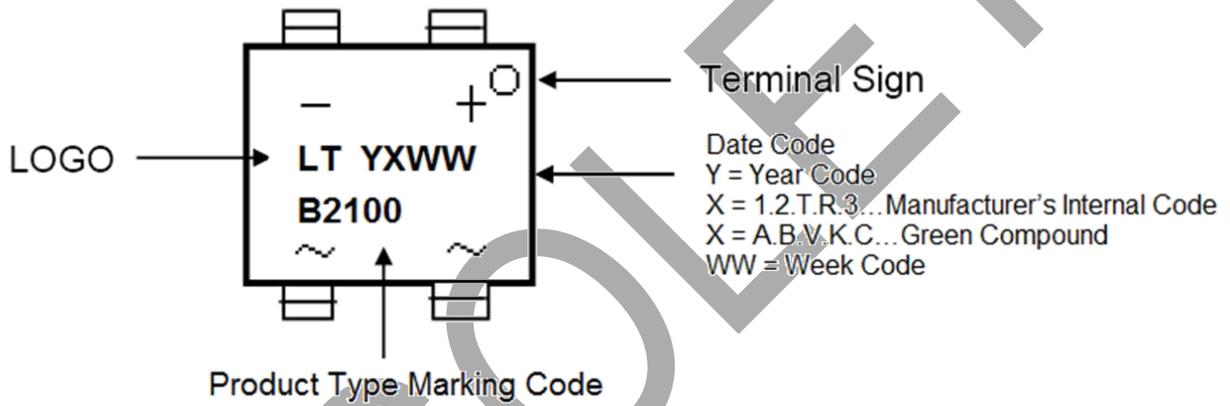
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Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
BHDS2100	HDS	3000pcs	Tape & Reel

Marking Information :



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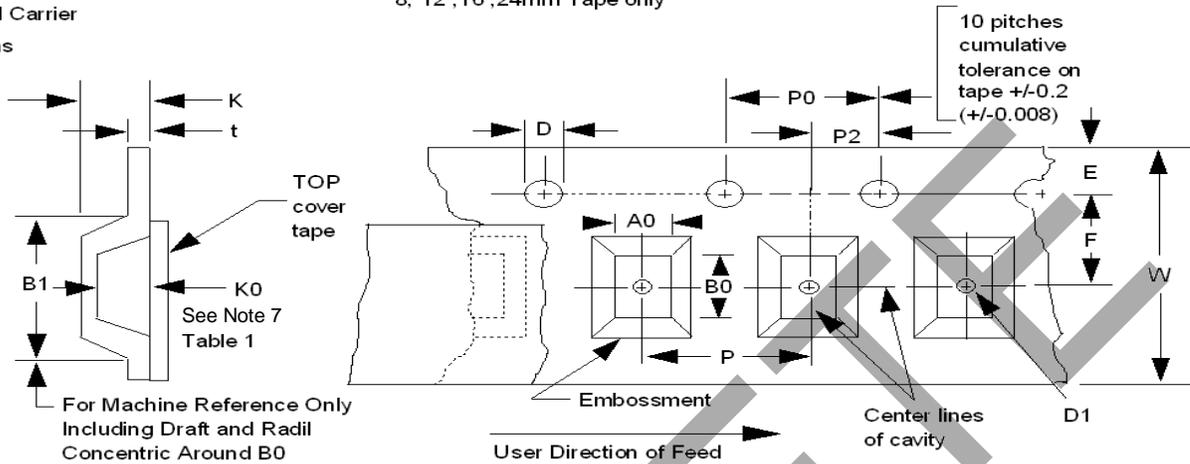
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PACKAGING INFORMATION
BHDS2100

Embossed Carrier Dimensions

Packed per EIA/JEDEC standard RS-481
8, 12, 16, 24mm Tape only

Embossed Carrier
Dimensions



EMBOSSED TYPE

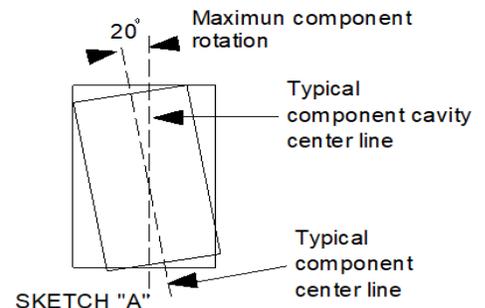
ALL DIMENSION IN MILLIMETERS AND (INCHES)

TAPE SIZE	D	E	PO	t (MAX)	A0B0K0	CONSTANT DIMENSION
12mm	1.55+0.10/-0.0 (0.059 +0.004 -0.00)	1.75+/-0.10 (0.069+/-0.004)	4.0+/-0.10 (0.157+/-0.004)	0.6 (0.024)	SEE NOTE 7	

TAPE SIZE	B1 MAX	D1 MIN	F	K MAX	P2	R	W	P	VARIABLE DIMENSIONS
12mm	8.2 (0.323)	1.5 (0.59)	5.5+/-0.05 (2.17+/-0.002)	4.5 (0.117)	2.0+/-0.05 (0.079+/-0.002)	30 (1.181)	12.0+/-0.30 (0.472+/-0.012)	8.0+/-0.10 (0.315+/-0.004)	

Note 7: A0B0K0 are determined by component size. The clearance between the component and the cavity must be within 0.05 min. to 0.50 max. for 8 mm tape. 0.05 min. to 0.65 max. for 12mm tape. 0.15 min. to 0.90 max. for 16mm tape and 0.05 min. to 1.00 max. for 24 mm tape and larger. the component cannot rotate more than 20 within the determined cavity. see sketch "A" below.

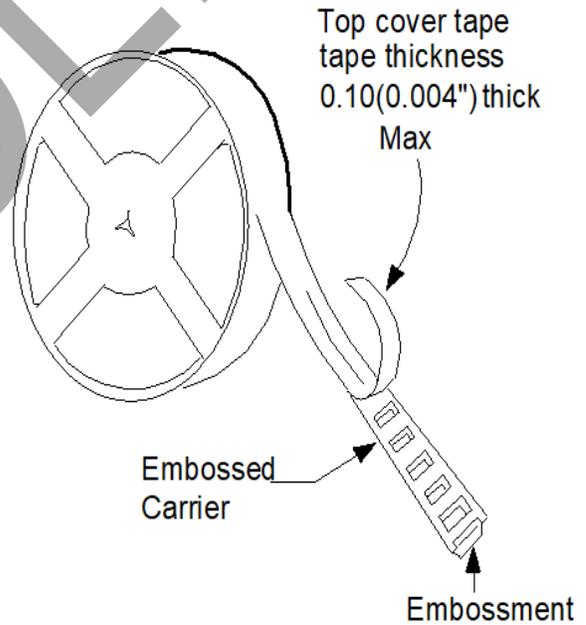
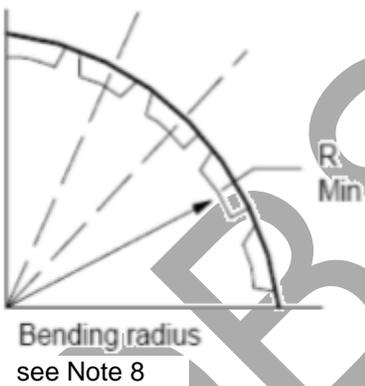
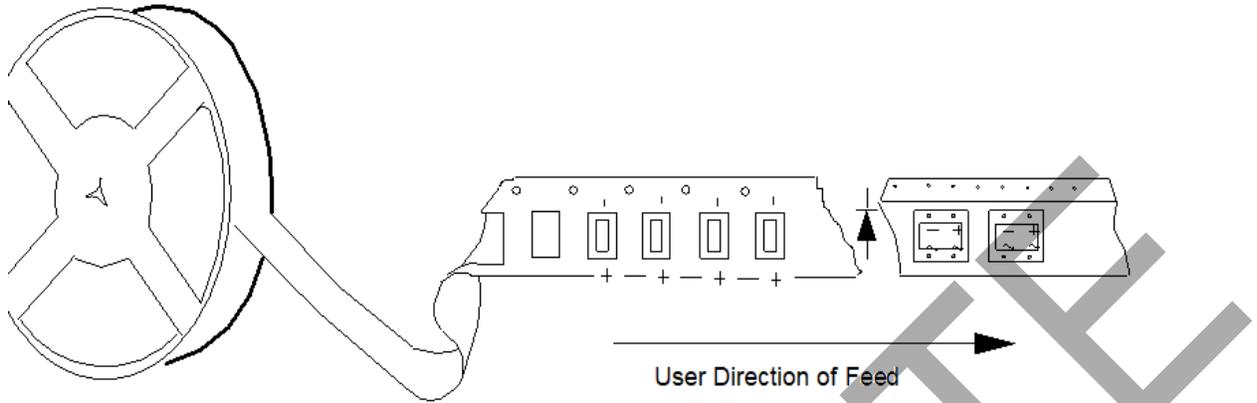
8: Tape and component shall pass around radius "R" without damage



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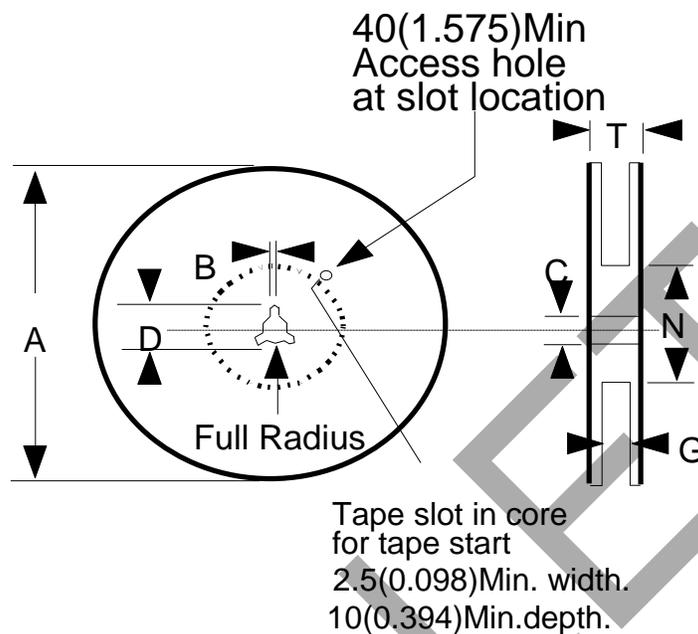
Polar Units



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PACKAGING INFORMATION

BHDS2100



REEL DIMENSIONS

TAPE SIZE	A MAX	B MAX	C	D MIN	N MIN	G	T MAX
12mm	330 (13.0)	1.5 (0.06)	13.0+/-0.5 (0.512+/-0.020)	20.2 (0.80)	7.5 (2.952)	12.4+2.0/-0.0 (0.488+0.078/-0.0)	18.4 (0.724)

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