NOT RECOMMENDED FOR NEW DESIGN
CONTACT US

BABS140

SCHOTTKY SURFACE BRIDGE RECTIFIER

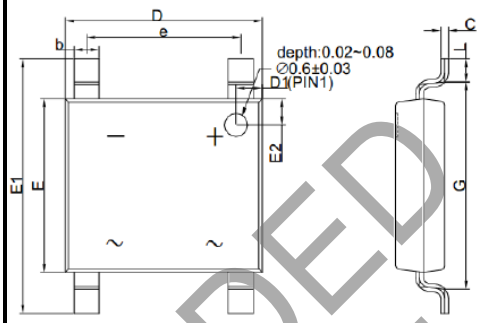
REVERSE VOLTAGE – 40 Volts
FORWARD CURRENT – 1.0 Amperes

FEATURES
- Rating to 40V 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 charger

MECHANICAL DATA
- Package Material: "Green" molding compound, UL flammability classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 98 grams (Approximate)
- Marking Code: BABS140

ABS



ABS		
DIM.	MIN.	MAX.
A	1.20	1.30
A1	0.43	0.63
A2	0.00	0.15
A3	1.20	1.40
b	0.50	0.80
C	0.10	0.30
D	4.85	5.25
D1	0.45	0.85
e	3.80	4.20
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 Dimensions in millimetres.		

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}	40	V
Maximum DC blocking voltage		V_{DC}	40	V
Maximum average rectified output current	@T_C=110°C	$I_{(AV)}$	1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.		I_{FSM}	25	A
I^2t Rating for fusing (1ms<t<8.3ms)		I^2t	2.6	A^2s
Operating junction and storage temperature range		T_J, T_{STG}	-55 to +125	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	I_F=1.0A	T_J=25°C T_J=100°C	V_F	-- 0.40	0.50 --	V
Leakage current	V_R=40V	T_J=25°C T_J=100°C	I_R	-- 1.1	200 100	uA mA

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical junction capacitance (Note 5)	C_J	150	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$RthJ_C$ $RthJ_L$	14 20	°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.
7. The unit mounted on glass-epoxy substrate with 1oz/ft2_2.

RATING AND CHARACTERISTIC CURVES
BABS140

FIG.1 FORWARD CURRENT DERATING CURVE

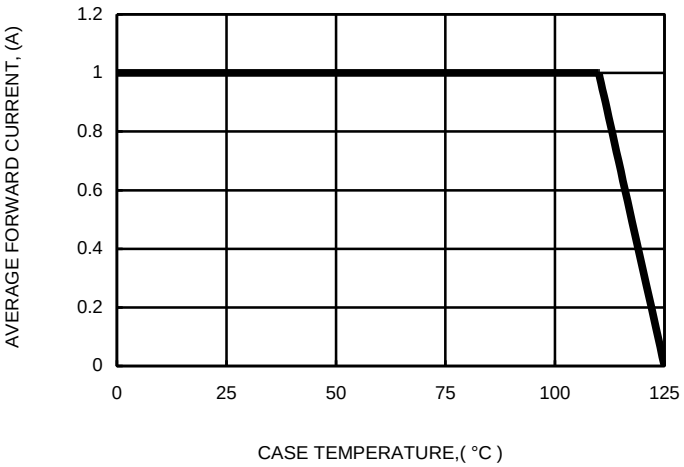


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

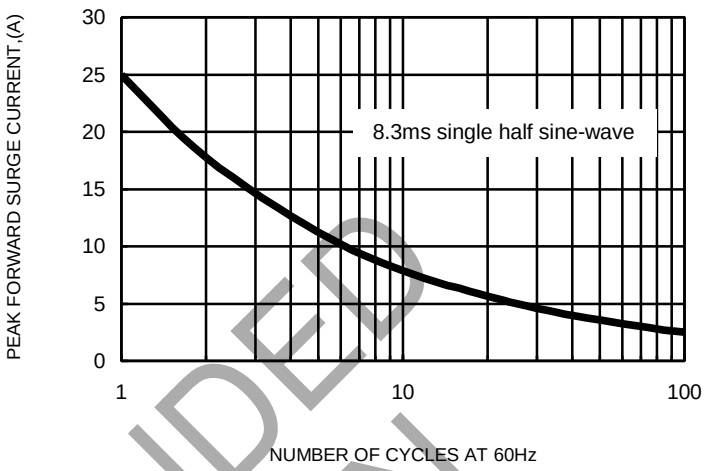


FIG.3 TYPICAL FORWARD CHARACTERISTICS

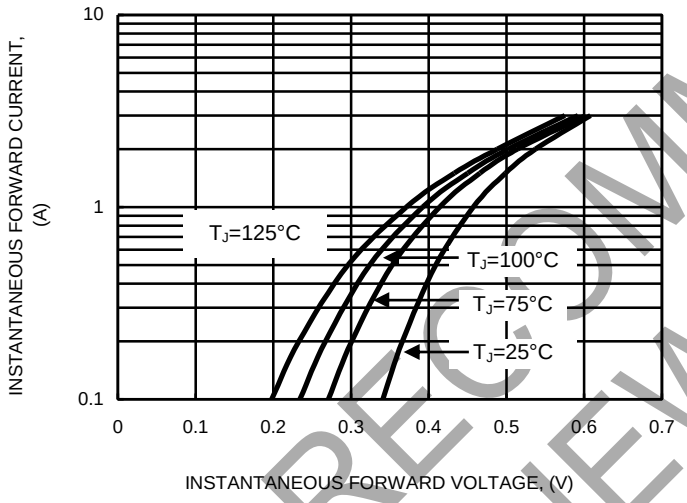


FIG.4 TYPICAL JUNCTION CAPACITANCE

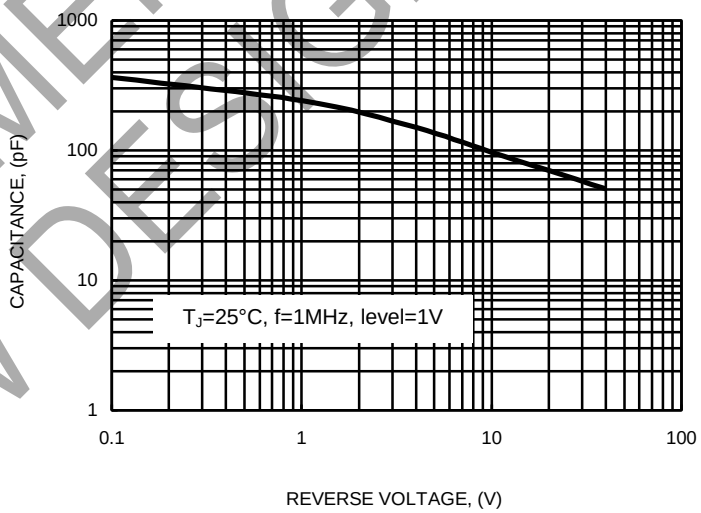
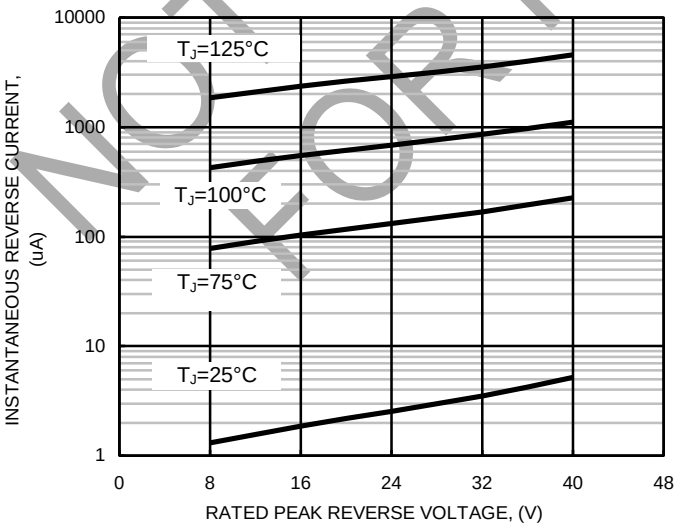


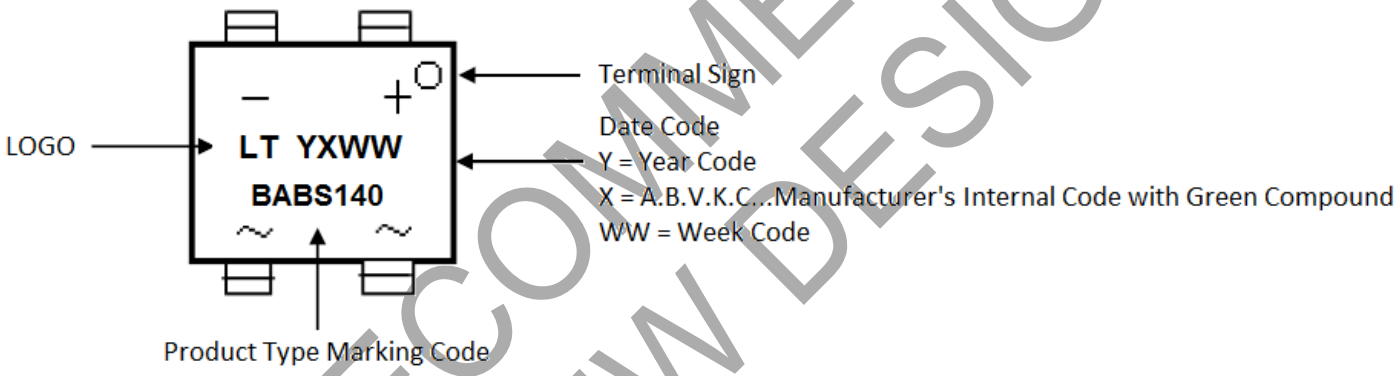
FIG.5 TYPICAL REVERSE CHARACTERISTICS



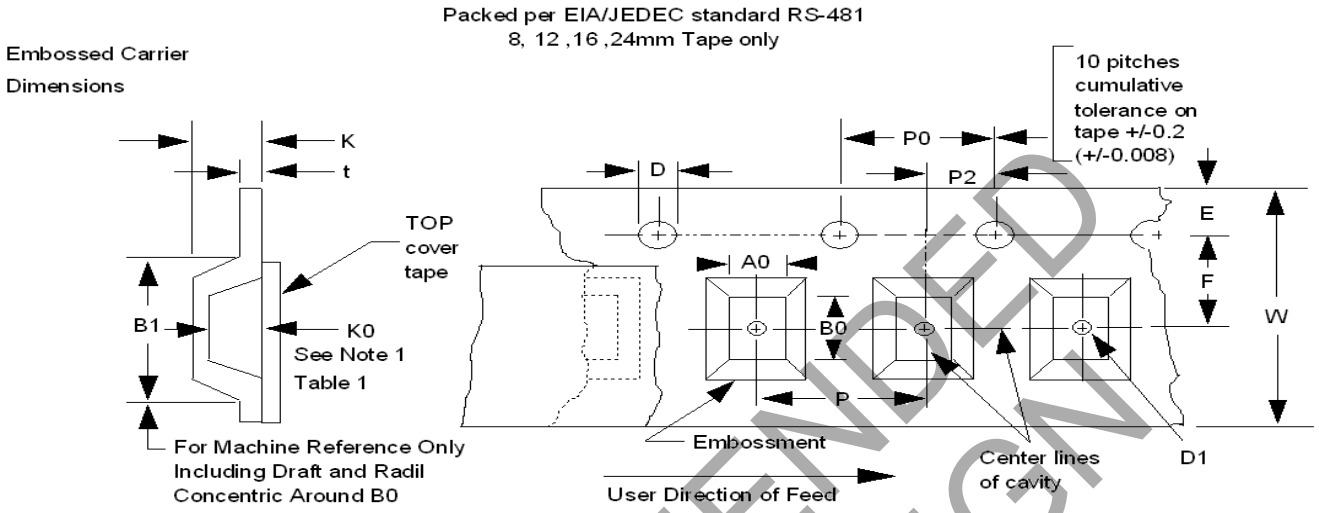
Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
BABS140	ABS	3000pcs	Tape & Reel

Marking Information:



Embossed Carrier Dimensions



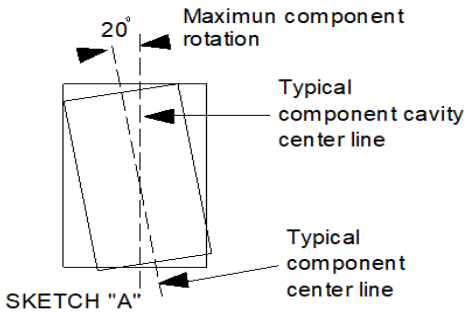
EMBOSSED TYPE **ALL DIMENSION IN MILLIMETERS AND (INCHES)**

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 1	

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+/-.10 (0.315+/-0.004)	

Note 1: 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.

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



PACKAGING INFORMATION
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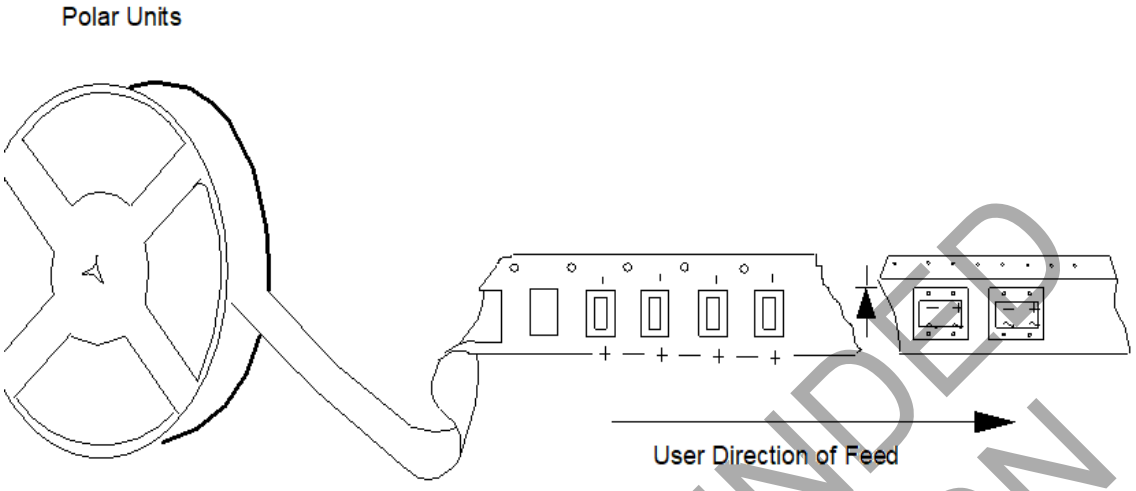

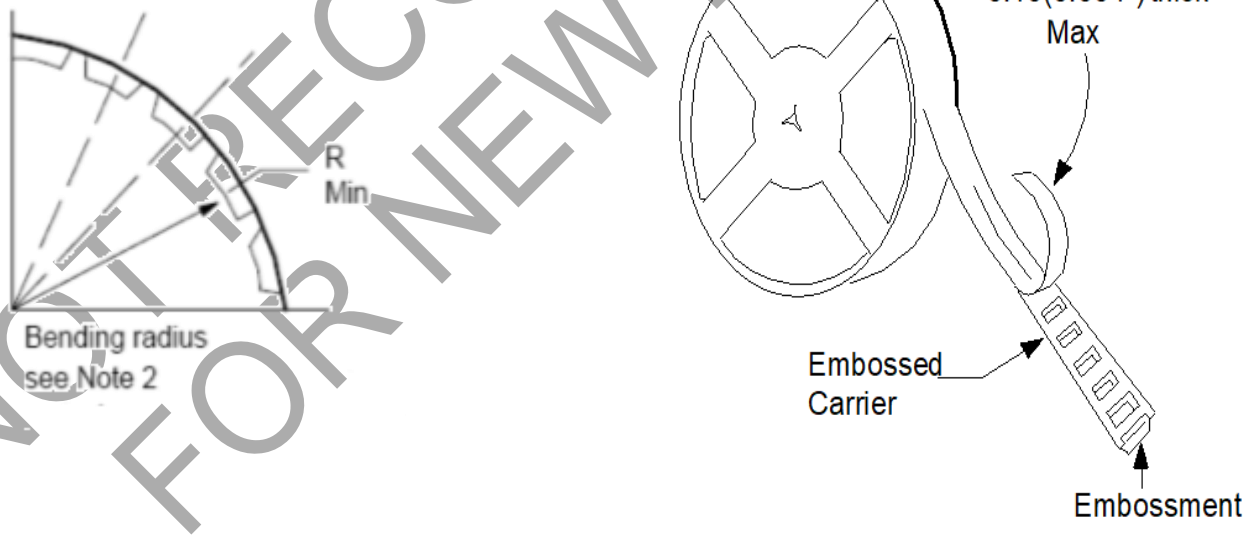

PACKAGING INFORMATION
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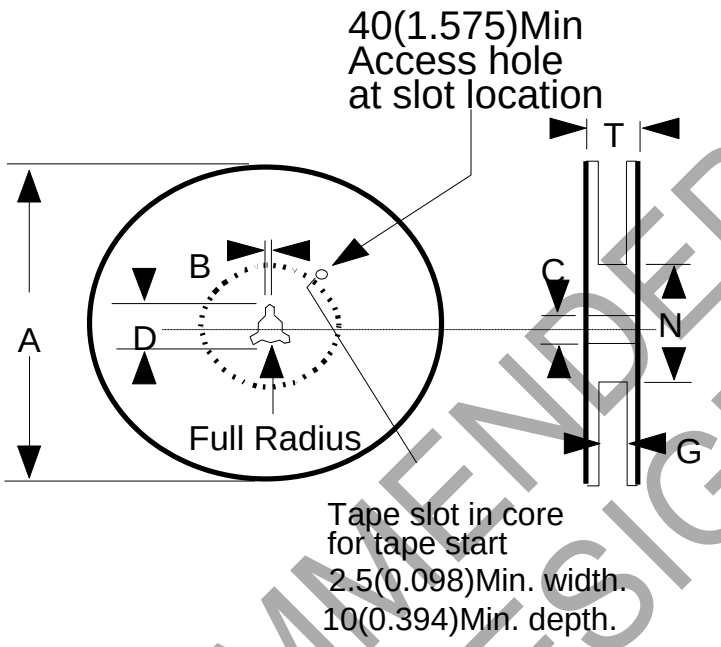

REEL DIMENSIONS

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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