

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 5 Amperes

FEATURES

- Low Forward Voltage Drop
- Soft, Fast Switching Capability
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

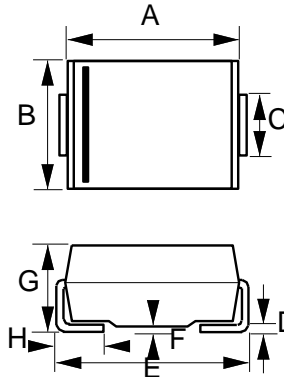
APPLICATION

- AC-DC adaptors
- DC to DC converters

MECHANICAL DATA

- Package: JEDEC DO-214AA
- 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
- Polarity: Cathode Band
- Weight: 0.102 grams (Approximate)
- Marking code: G5E100B

SMB



SMB		
DIM	MIN	MAX
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52

All dimension in millimeter

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	@ $T_C=125^\circ\text{C}$ $I_{(AV)}$	5	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.	I_{FSM}	80	A
Non repetitive peak reverse current	@ $T_p=2\mu\text{s}$ I_{RSM}	4	A
Operating junction and Storage Temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=5\text{A}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	V_F	-- 0.56	0.66 --	V
Reverse Leakage current	$V_R=100\text{V}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	-- 4.8	50 15	μA mA
Typical junction capacitance (Note 5)		C_J	460		pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJ_C} R_{thJ_L}	6 10	°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 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on P.C.B (15mm x 15mm)

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**RATING AND CHARACTERISTIC CURVES
G5E100B**

FIG.1 FORWARD CURRENT DERATING CURVE

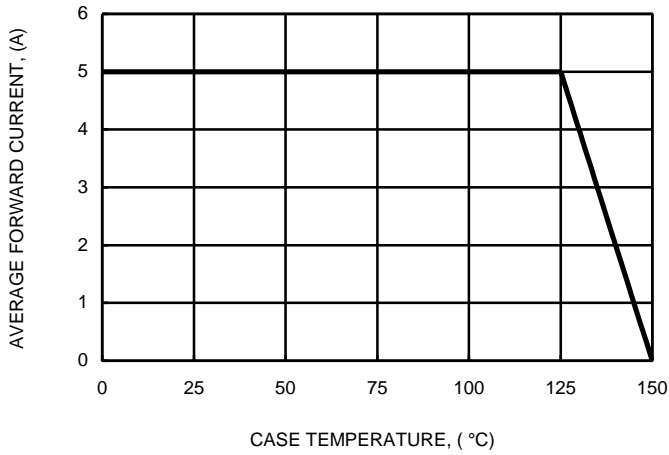


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

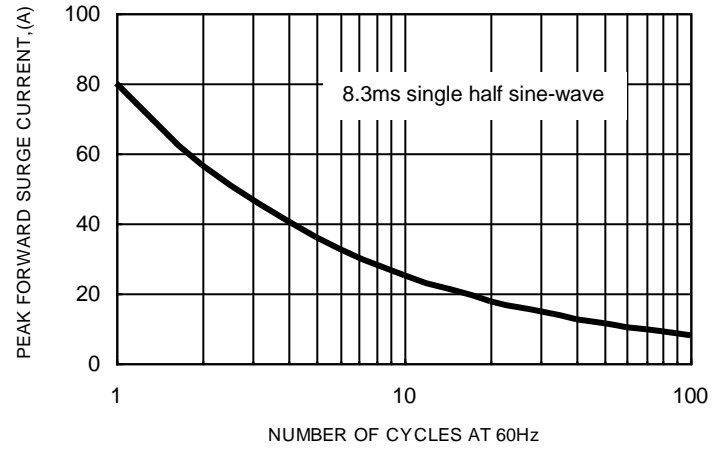


FIG.3 TYPICAL FORWARD CHARACTERISTICS

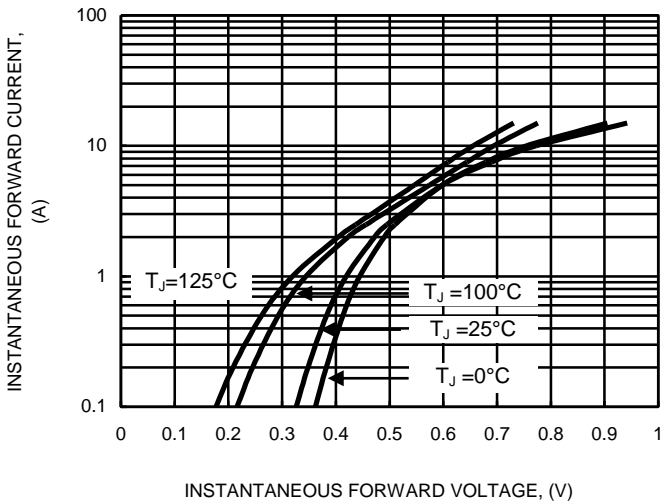


FIG.4 TYPICAL JUNCTION CAPACITANCE

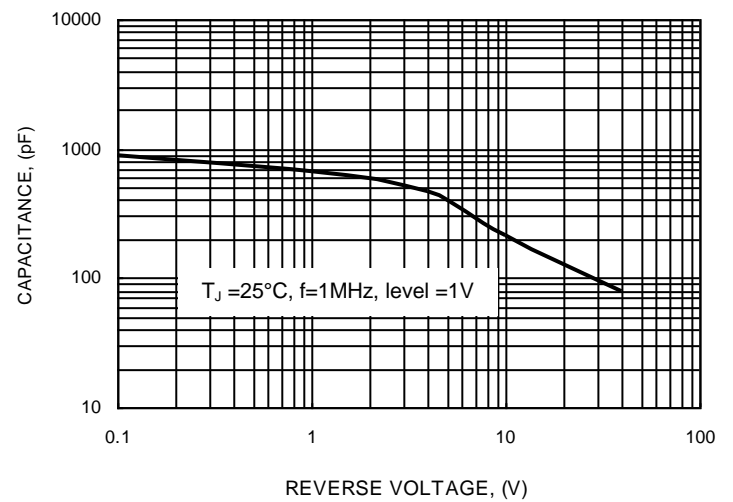
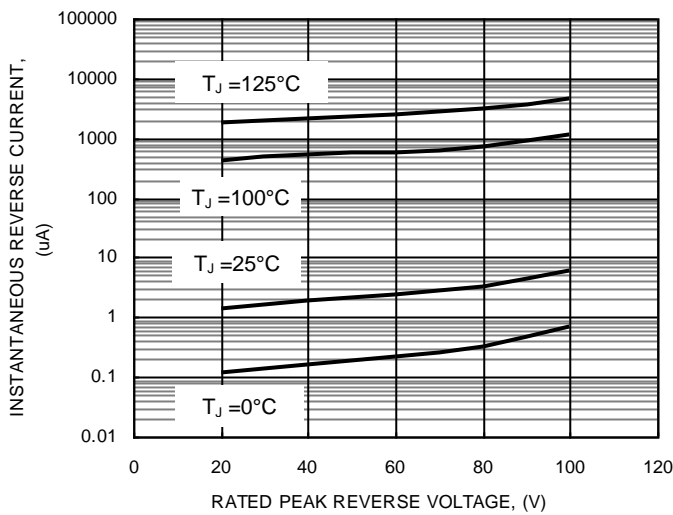


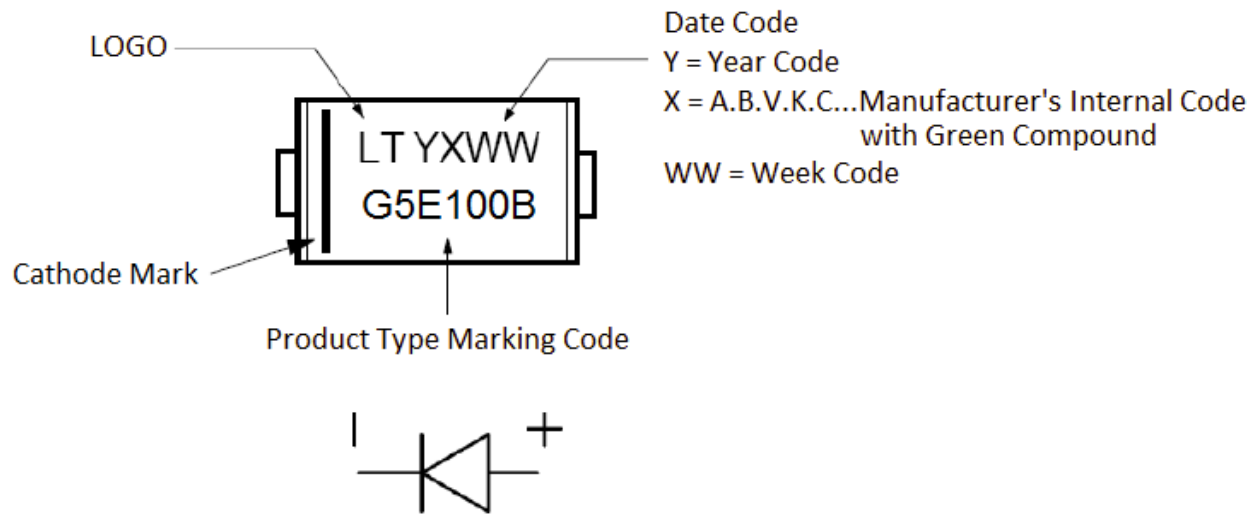
FIG.5 TYPICAL REVERSE CHARACTERISTICS



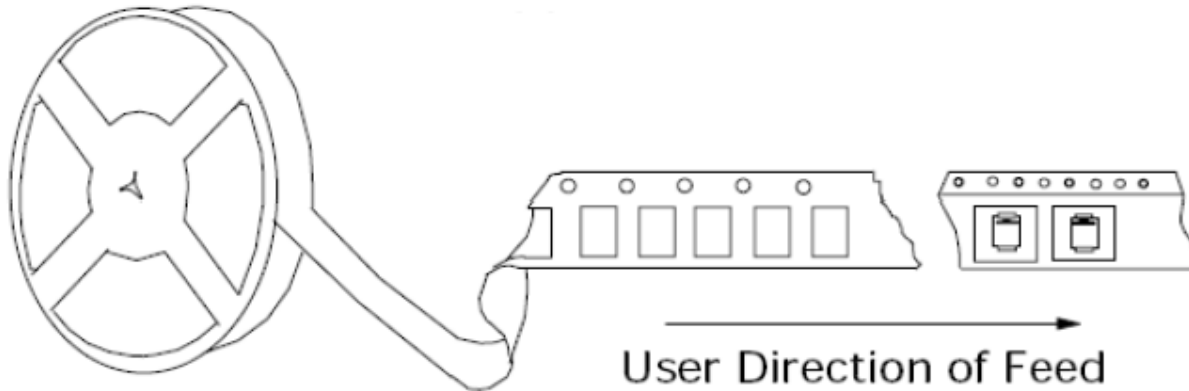
Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G5E100B	SMB	3000	Tape & Reel

Marking Information:

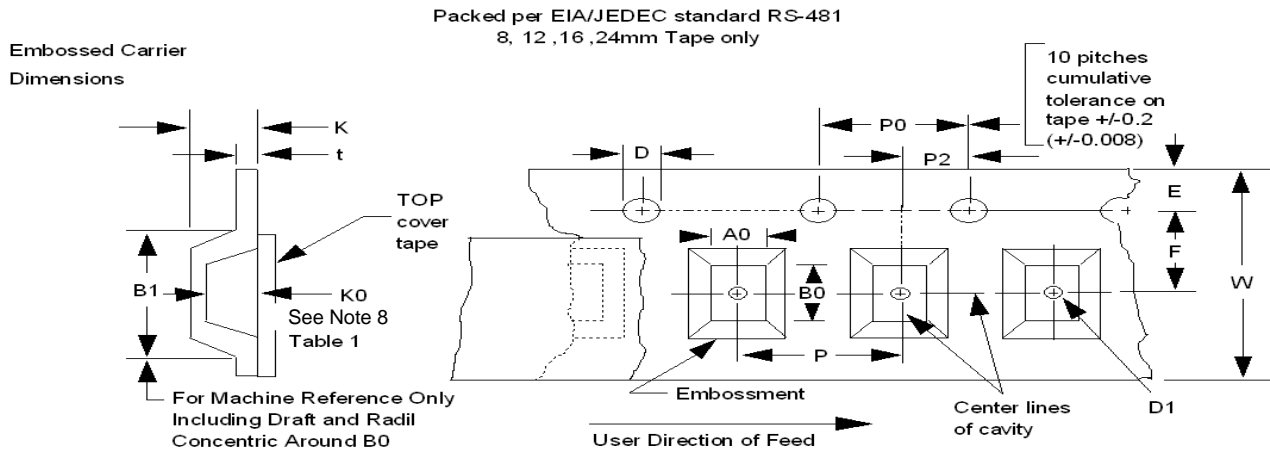


Packaging Information :



DEVICE	Q'TY/REEL (PCS)	REEL DIA. (mm)	BOX SIZE (mm)	Q'TY/BOX (PCS)	CARTON SIZE (mm)	Q'TY/CARTON (PCS)
G5E100B	3K	330	334X334X21	3K	350X350X340	36K
	0.5K	178	184X184X72	2K	380X380X360	32K

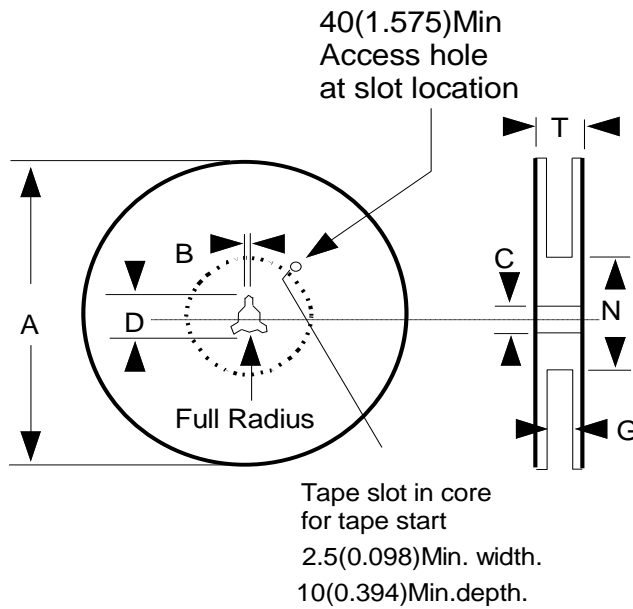
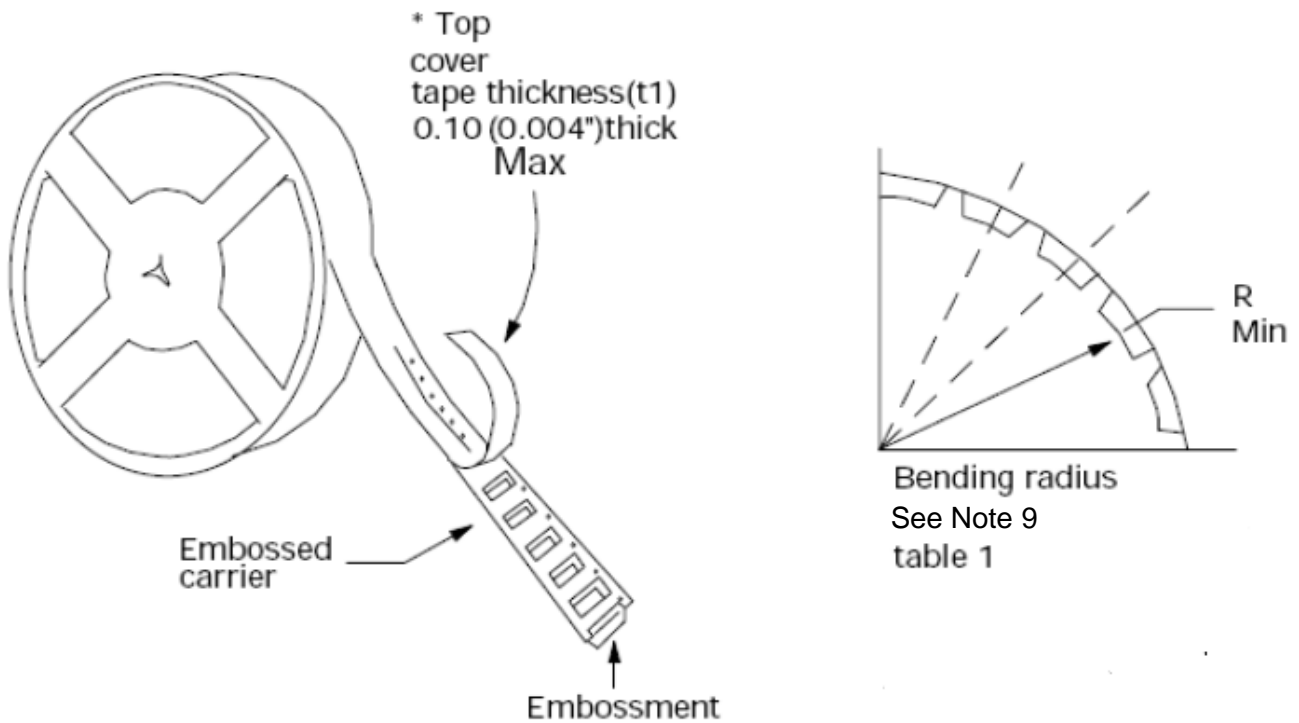
Embossed Carrier Dimensions Information :



TAPE SIZE	D	E	PO	t(MAX)	W	P	R	UNIT
12mm	1.55±0.10/-0.0	1.75±0.10	4.0±0.1	0.4	12.0±0.30	8.0±0.1	30	mm
	B1(MAX)	D1(MIN)	F	K(MAX)	P2	A0B0K0		
	8.2	1.5	5.5±0.05	4.5	2.0±0.05	SEE NOTE 8		

Note 8: 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

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



TAPE SIZE	A MAX	B MIN	C	D MIN	N MIN	G	T MAX	UNIT
12mm	178/330	1.5	13.0+/-0.5	20.2	75	12.4+2.0/-0.0	18.4	mm

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