

**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIERS**

REVERSE VOLTAGE – 40 Volts
FORWARD CURRENT – 5.0 Amperes

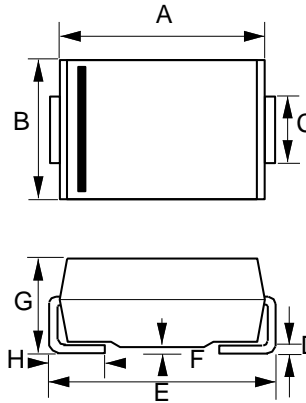
FEATURES

- For surface mounted applications
- Metal-Semiconductor junction with guard ring
- Epitaxial construction
- Very Low forward voltage drop
- High current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection application
- IEC 61000-4-2, level 4 (ESD), > 15KV (air)
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Case: Molded plastic
- Case Material: Molding compound, UL Flammability classification 94V-0, "Halogen-free".
- Polarity: Color band denotes cathode
- Weight: 0.21 grams

SMC



SMC		
DIM.	MIN.	MAX.
A	6.60	7.11
B	5.59	6.22
C	2.92	3.18
D	0.15	0.31
E	7.75	8.13
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	540C	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS Voltage	V_{RMS}	28	V
Maximum DC Blocking Voltage	VDC	40	V
Maximum Average Forward Rectified Current @ $T_L=85^\circ\text{C}$	I_{AV}	5.0	A
Peak Forward Surge 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125	A
Maximum Forward Voltage at 5.0A DC	V_F	0.55	V
Maximum DC Reverse Current @ $T_j=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_j=100^\circ\text{C}$	I_R	0.15 20	mA
Typical Junction Capacitance (Note 4)	C_j	300	pF
Typical Thermal Resistance (Note 5, 6)	$R_{\theta JL}$	14	$^\circ\text{C/W}$
Typical Thermal Resistance (Note 6, 7)	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_j	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

- (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) Measured at 1.0MHz and applied reverse voltage of 4.0V DC...
- (5) Thermal Resistance Junction to Lead
- (6) Thermal Resistance Junction to Ambient
- (7) Unit mounted on glass epoxy substrate 1oz/ft2 35x35 mm copper pad.

REV.-9, Oct-2021, KSHC10

RATING AND CHARACTERISTIC CURVES
B540C(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

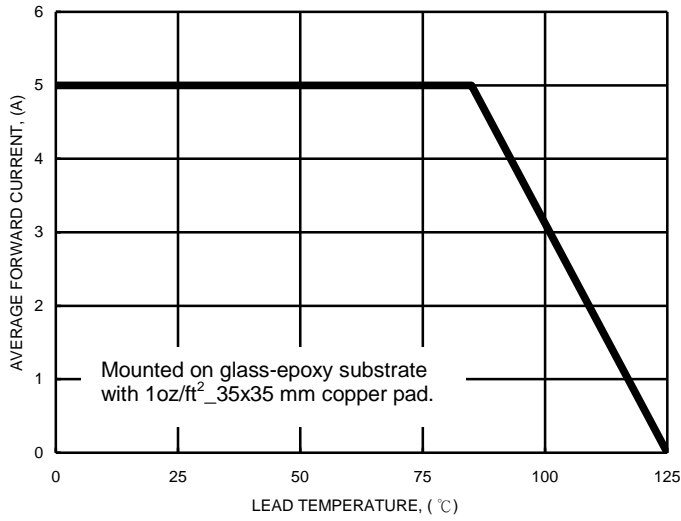


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

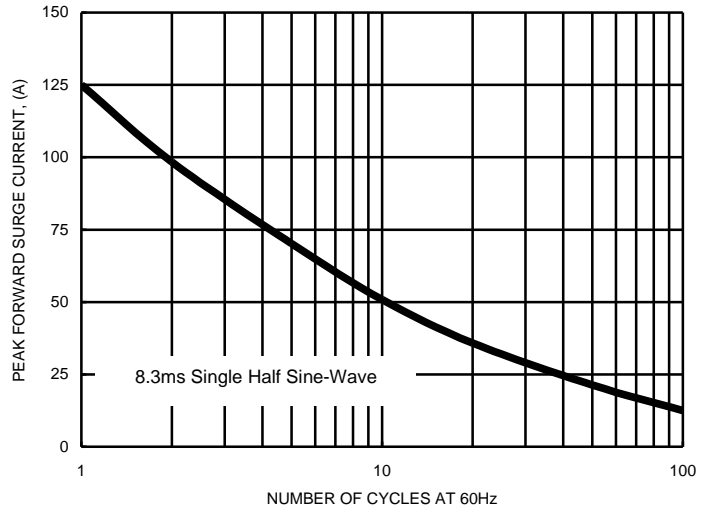


FIG.3- TYPICAL JUNCTION CAPACITANCE

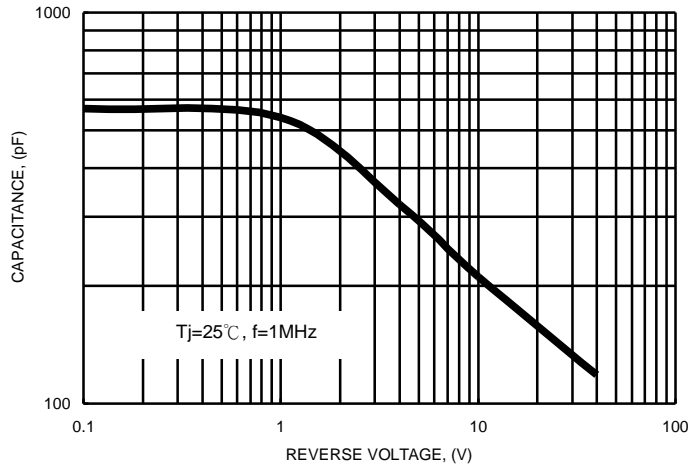


FIG.4- TYPICAL FORWARD CHARACTERISTICS

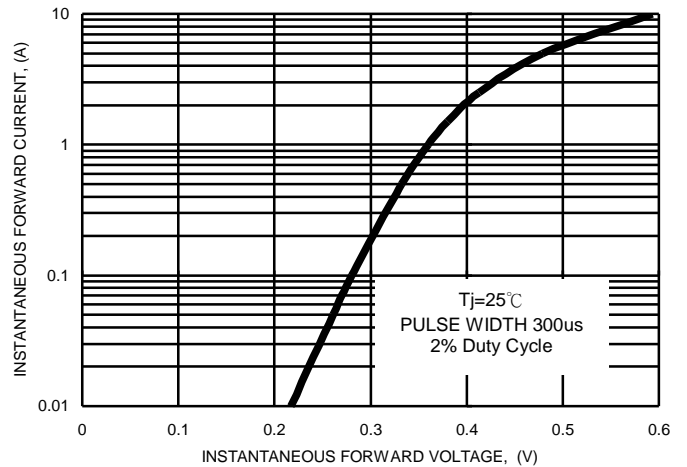


FIG.5- TYPICAL REVERSE CHARACTERISTICS

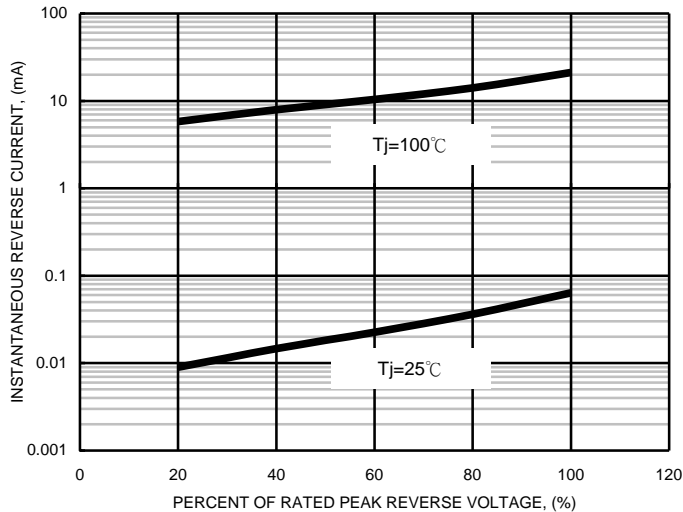
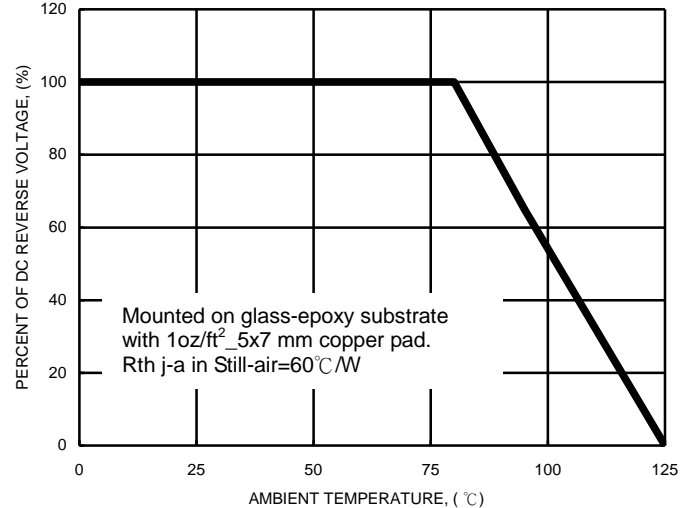
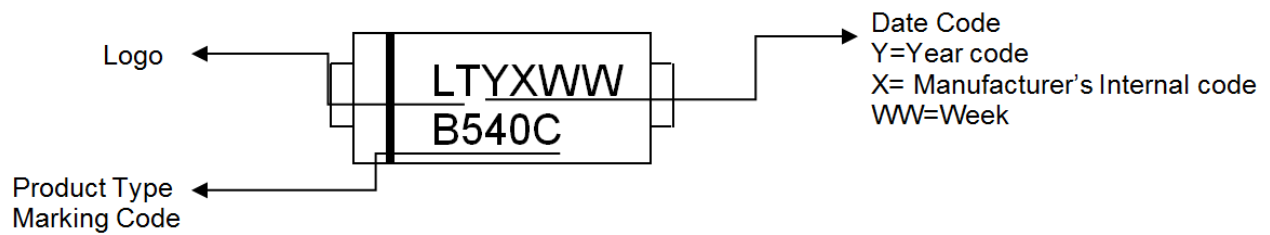


FIG.6- DC REVERSE VOLTAGE DERATING CURVE



Ordering Information :

Part Number	Case	Packaging
B540C-LS	SMC	3000 / Tape & Reel

Marking Information :

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