

**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIERS**

**REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 5.0 Amperes**

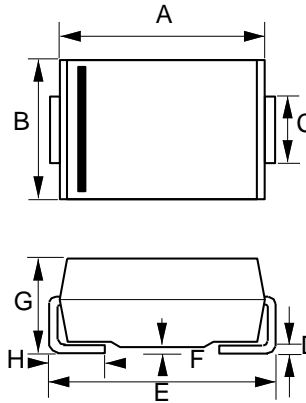
FEATURES

- For surface mounted applications
- Metal-Semiconductor junction with guard ring
- Epitaxial construction
- Very Low forward voltage drop
- High current capability
- Qualification is according to AEC-Q101 Rev_C
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection application
- **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: 0.007 ounces, 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	B5100C	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum DC Blocking Voltage	VDC	100	V
Maximum Average Forward Rectified Current @TC=100°C @TL=75°C	I_{AV}	5.0	A
Peak Forward Surge Current 8.3ms single half sine-wave @TA=25°C	I_{FSM}	100	A
Maximum Forward Voltage at 5.0A DC	V_F	0.85	V
Maximum DC Reverse Current at Rated DC Blocking Voltage @Tj=25°C @Tj=100°C	I_R	0.02 1	mA
Typical Junction Capacitance (Note 4)	C_j	300	pF
Typical Thermal Resistance (Note 5, 6)	$R_{\theta JC}$ $R_{\theta JL}$ $R_{\theta JA}$	12 17 55	°C/W
Operating Junction Temperature Range	T_j	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Note:

REV.-8, Sept-2021, KSHC05

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.

RATING AND CHARACTERISTIC CURVES
B5100C

FIG.1 - FORWARD CURRENT DERATING CURVE

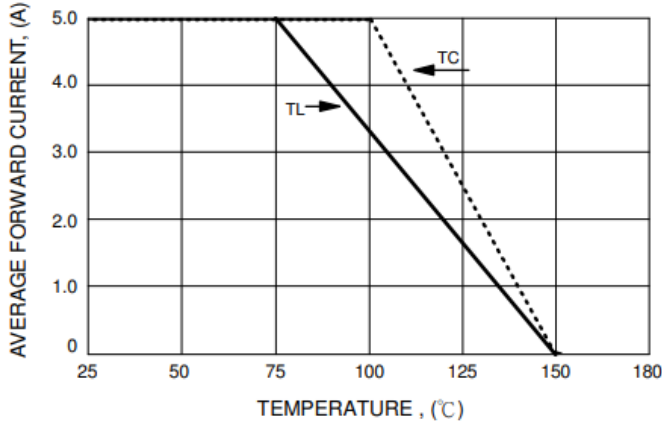


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

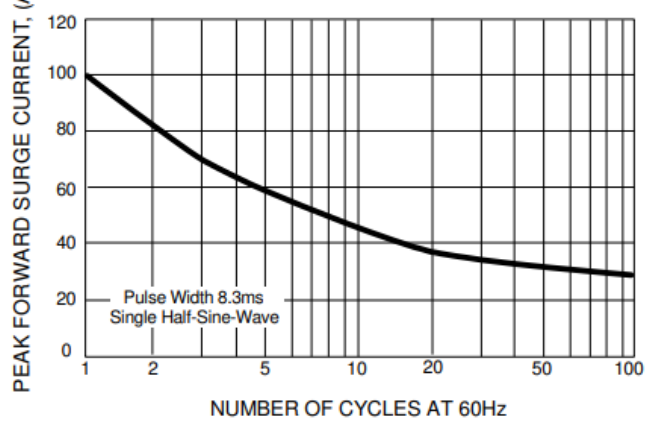


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

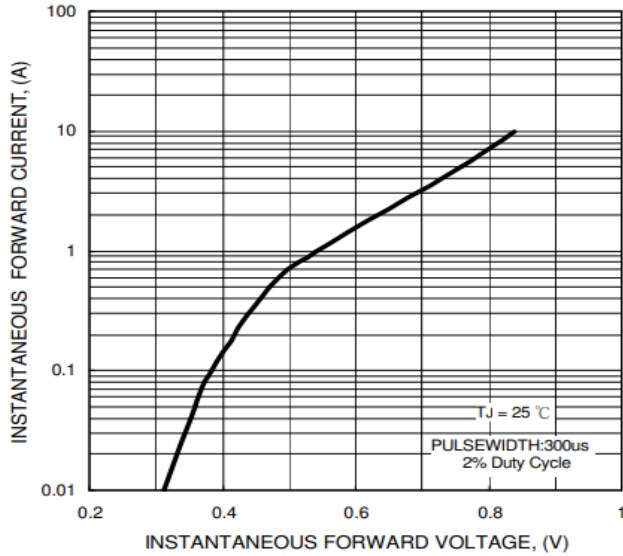


FIG.4 - TYPICAL JUNCTION CAPACITANCE

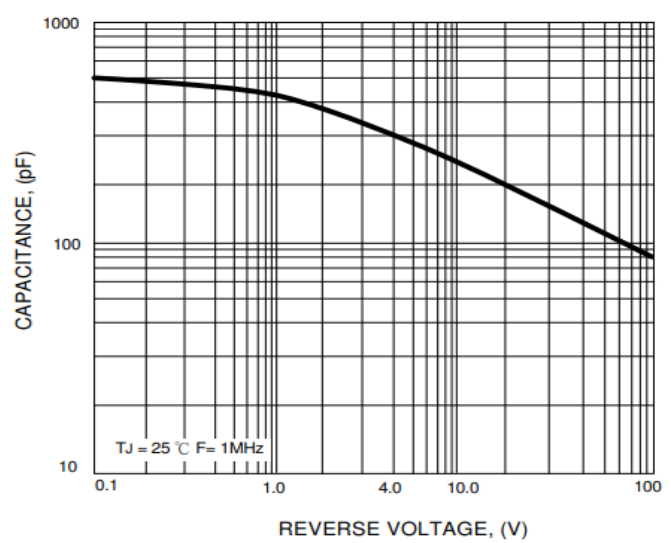
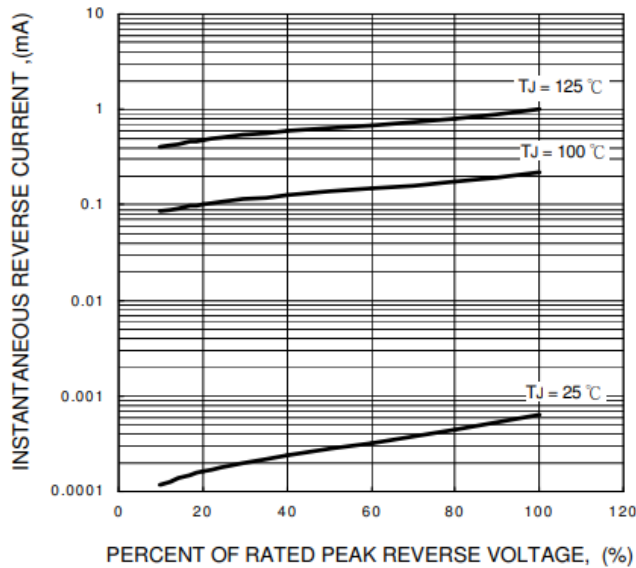


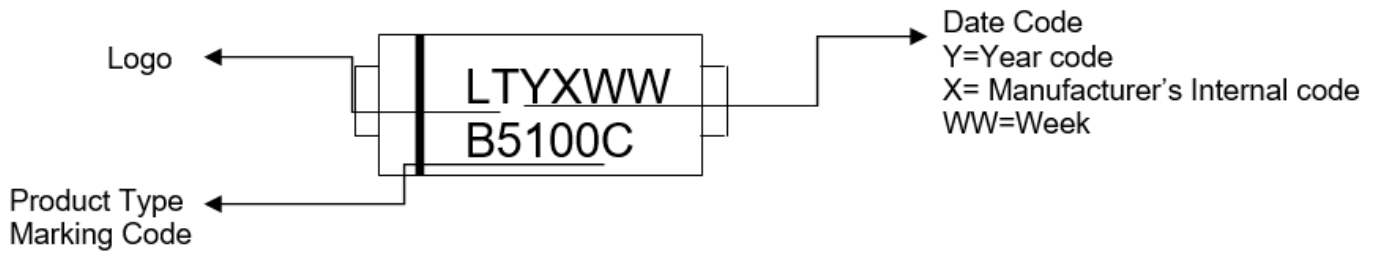
FIG.5 - TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Case	Packaging
B5100C	SMC	3000/Tape & Reel

Marking Information :



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