

**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIER**

**REVERSE VOLTAGE – 90 Volts  
FORWARD CURRENT – 1 Amperes**

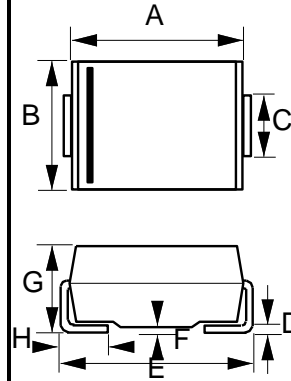
**FEATURES**

- For surface mounted application
- Metal-semiconductor junction with guardring
- Epitaxial construction
- Very low forward voltage drop
- High current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

**MECHANICAL DATA**

- Package: Molded plastic
- Package Material: Molding compound, UL Flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads  $\text{e3}$
- Polarity: Indicated by cathode band
- Weight: 0.093 grams (Approximate)

**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 dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	B190LB	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	90	V
Maximum RMS Voltage	$V_{RMS}$	63	V
Maximum DC blocking voltage	$V_{DC}$	90	V
Average rectified Output Current @ $T_L=120^\circ\text{C}$ @ $T_L=100^\circ\text{C}$	$I_{(AV)}$	1.0 2.0	A
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD)	$I_{FSM}$	50	A
Maximum Forward Voltage at 1.0A DC $T_J=25^\circ\text{C}$	$V_F$	0.75	V
Maximum DC Reverse Current at rated DC blocking voltage $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$I_R$	0.5 15.0	mA
Typical Junction Capacitance (Note 4)	$C_J$	80	pF
Typical thermal resistance junction to Lead (Note 5)	$R_{\theta JL}$	15	$^\circ\text{C}/\text{W}$
Operating junction temperature	$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

**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. Measured at 1.0MHz and applied voltage of 4.0V DC.
5. Thermal Resistance Junction to Lead.

**RATING AND CHARACTERISTIC CURVES**

**B190LB**

FIG.1 - FORWARD CURRENT DERATING CURVE

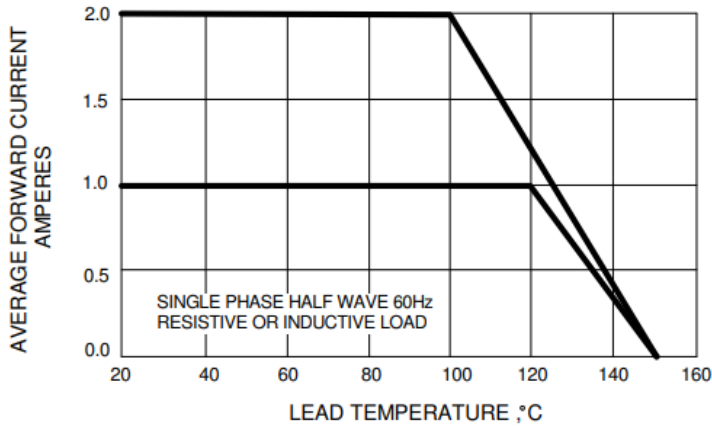


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

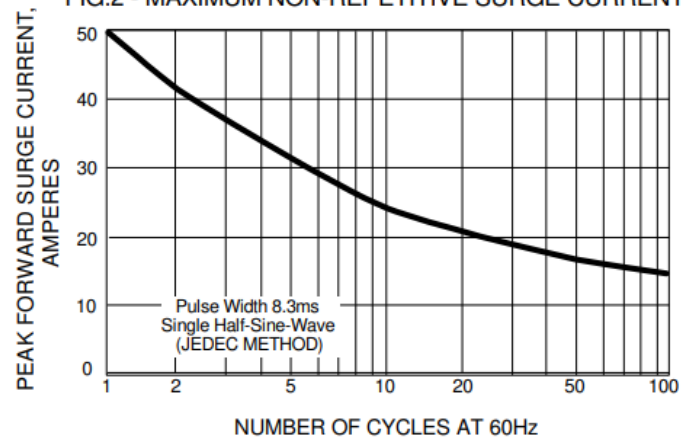


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

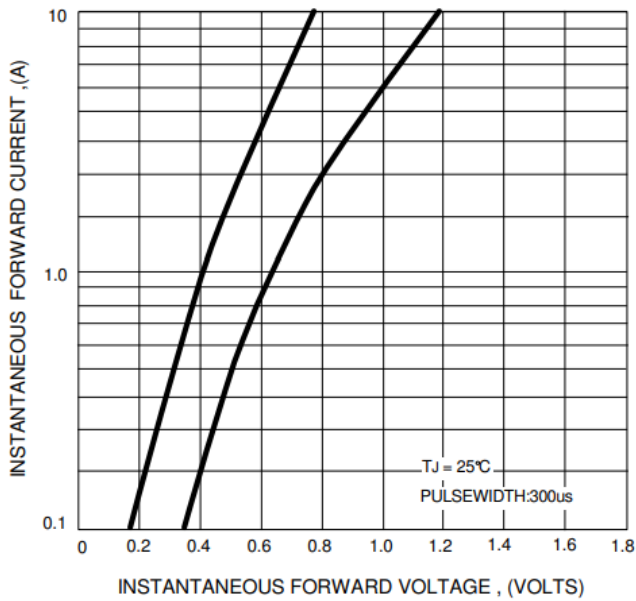


FIG.4 - TYPICAL JUNCTION CAPACITANCE

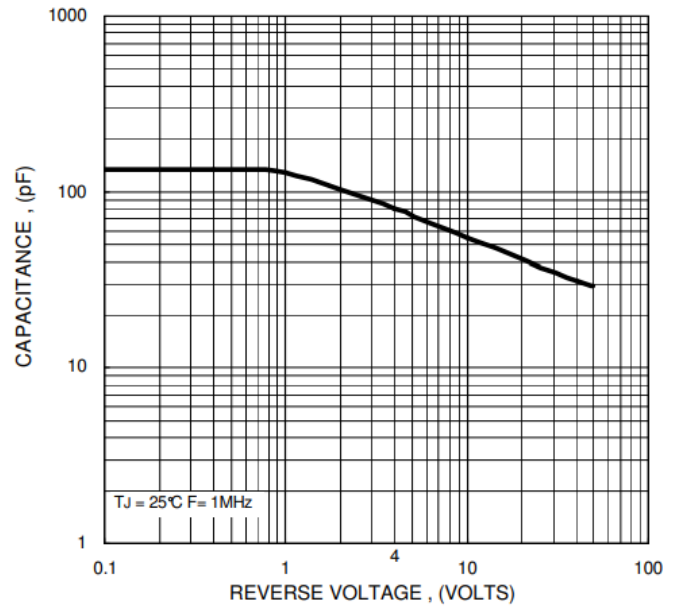
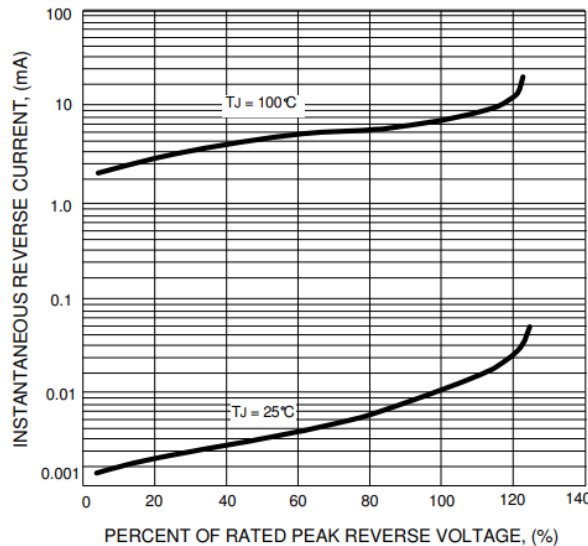


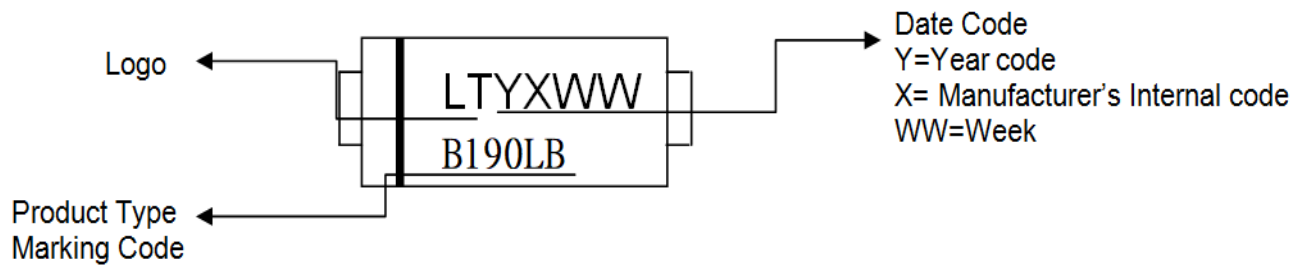
FIG.5 - TYPICAL REVERSE CHARACTERISTICS



**Ordering Information:**

Part Number	Package	Packing	
		Qty.	Carrier
B190LB	SMB	3000	Tape & Reel

**Marking Information:**



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