

MBR10150CT – MBR10200CT(LS)

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE – 150 to 200 Volts
FORWARD CURRENT – 10 Amperes

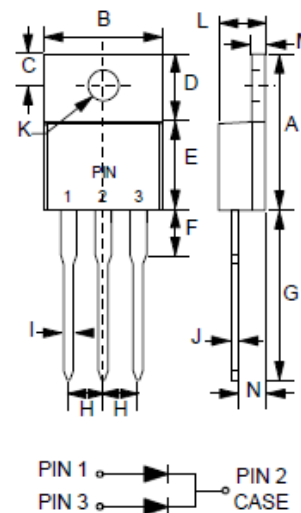
FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- IEC 61000-4-2, level 4 (ESD), >15KV (air)
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: TO-220AB molded plastic
- Polarity: AS marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	6.35
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.30	0.64
K	3.53 \varnothing	4.09 \varnothing
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92

All Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	MBR10150CT	MBR10200CT	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	150	200	V
Maximum RMS Voltage	V_{RMS}	105	140	V
Maximum DC Blocking Voltage	V_{DC}	150	200	V
Maximum Average Forward Rectified Current (See Fig.1) @ $T_C=105^\circ\text{C}$	$I_{(AV)}$	10		A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	120		A
Voltage Rate of Change (Rated V_R)	dv/dt	10000		V/us
Maximum Forward Voltage (Note 4)	V_F	$I_F=5\text{A}$ @ $T_J=25^\circ\text{C}$ 0.92 $I_F=5\text{A}$ @ $T_J=125^\circ\text{C}$ 0.75 $I_F=10\text{A}$ @ $T_J=25^\circ\text{C}$ 1.00 $I_F=10\text{A}$ @ $T_J=125^\circ\text{C}$ 0.85		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	@ $T_J=25^\circ\text{C}$ 8 @ $T_J=125^\circ\text{C}$ 2		μA mA
Typical Thermal Resistance (Note 5)	$R_{\theta JC}$	3.0		$^\circ\text{C}/\text{W}$
Typical Junction Capacitance per Element (Note 6)	C_J	300		pF
Operating Temperature Range	T_J	-65 to +175		$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175		$^\circ\text{C}$

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. 300us pulse width, 2% duty cycle.
5. Thermal Resistance Junction to Case.
6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

RATING AND CHARACTERISTIC CURVES

MBRF10150CT - MBRF10200CT

FIG.1 - FORWARD CURRENT DERATING CURVE

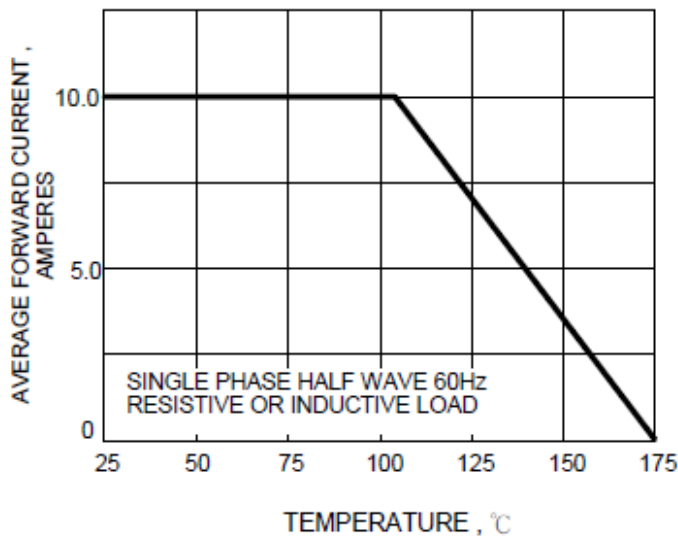


FIG.2 - MAXIMUM NONREPETITIVE SURGE CURRENT

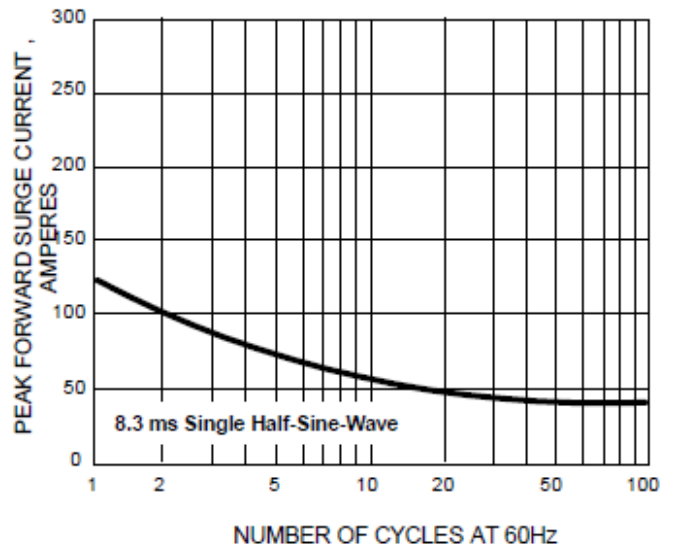


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

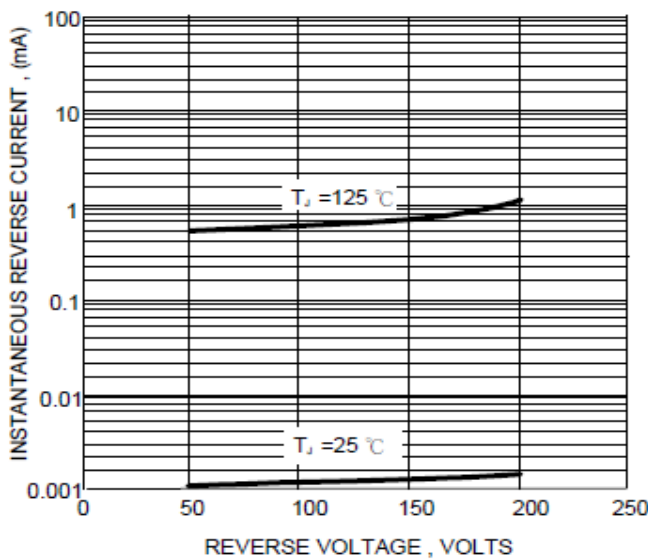


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

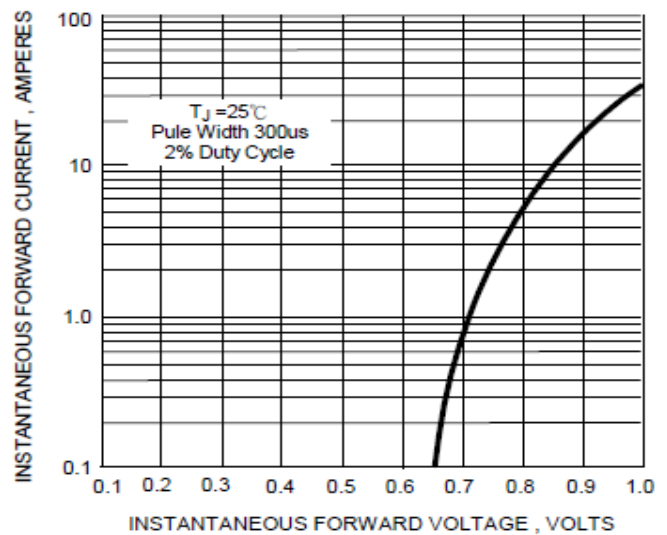
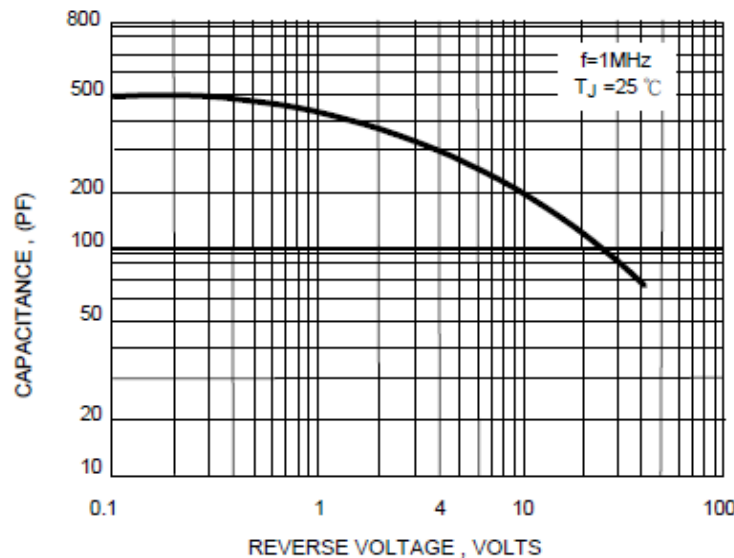


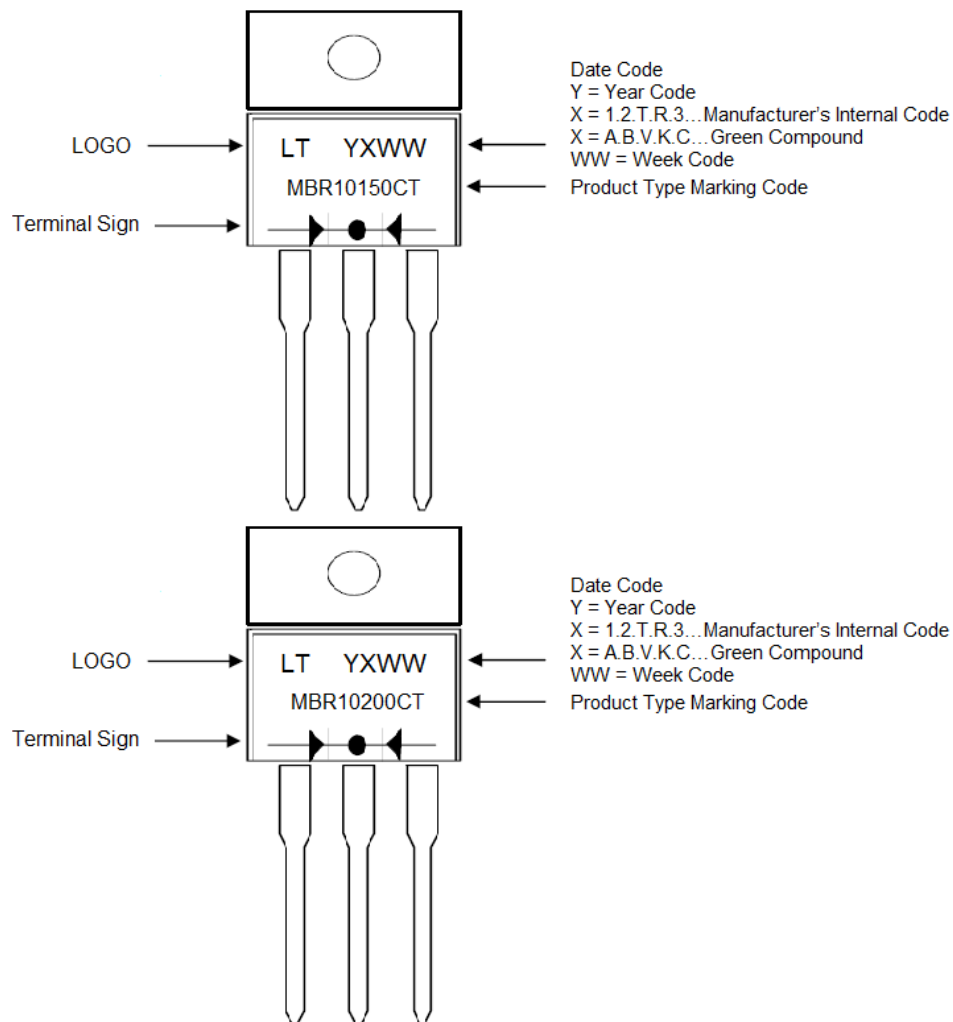
FIG.5 - TYPICAL JUNCTION CAPACITANCE



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
MBR10150CT-LS	TO-220AB	50 pcs	Tube
MBR10200CT-LS	TO-220AB	50 pcs	Tube

Marking Information:



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