

# MBR20H100CT

## SCHOTTKY BARRIER RECTIFIERS

**REVERSE VOLTAGE – 100 Volts**  
**FORWARD CURRENT – 20 Amperes**

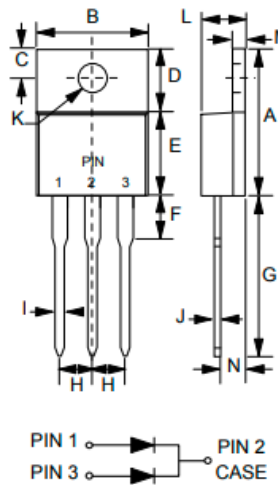
### FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- Low leakage current
- 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
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free"
- Terminals: Finish – Matte Tin Plated Leads Ⓢ
- Polarity: AS marked on the body
- Weight: 0.08 ounces, 2.24 grams (Approximate)
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

### TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	4.20
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	MBR20H100CT	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	V
Maximum RMS Voltage	$V_{RMS}$	70	V
Maximum DC Blocking Voltage	$V_{DC}$	100	V
Maximum Average Forward Rectified Current (See Fig.1) @ $T_C=125^\circ\text{C}$	$I_{(AV)}$	20	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250	A
Voltage Rate of Change (Rated $V_R$ )	dv/dt	10000	V/us
Maximum Forward Voltage (Note 4)	$V_F$	0.77 0.64 0.88 0.73	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	5 5	$\mu\text{A}$ mA
Typical Thermal Resistance (Note 5)	$R_{\theta JC}$	1.4	$^\circ\text{C/W}$
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**  
**MBR20H100CT**

FIG.1 - FORWARD CURRENT DERATING CURVE

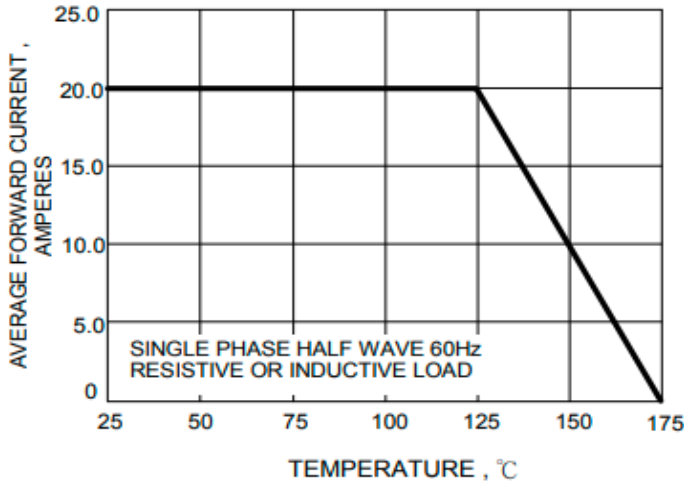


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

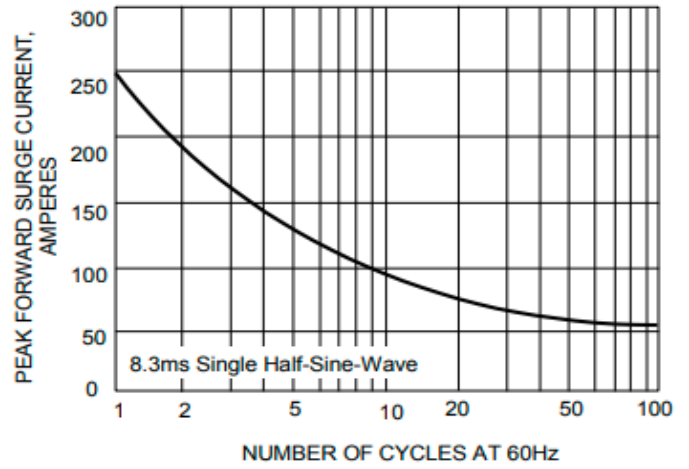


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

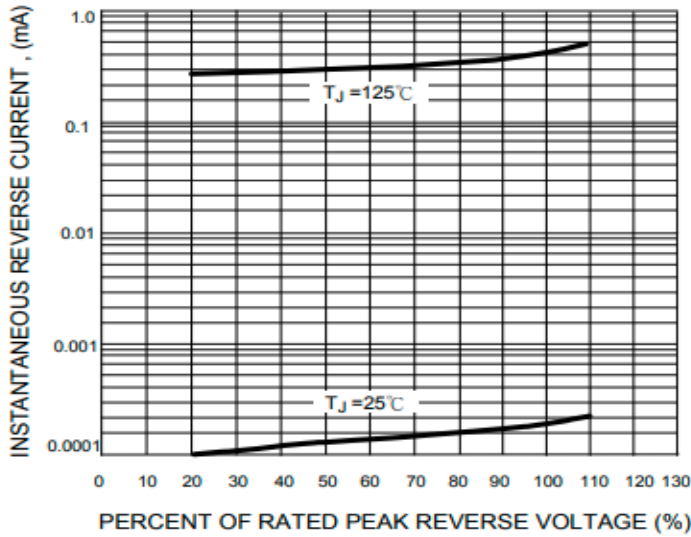


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

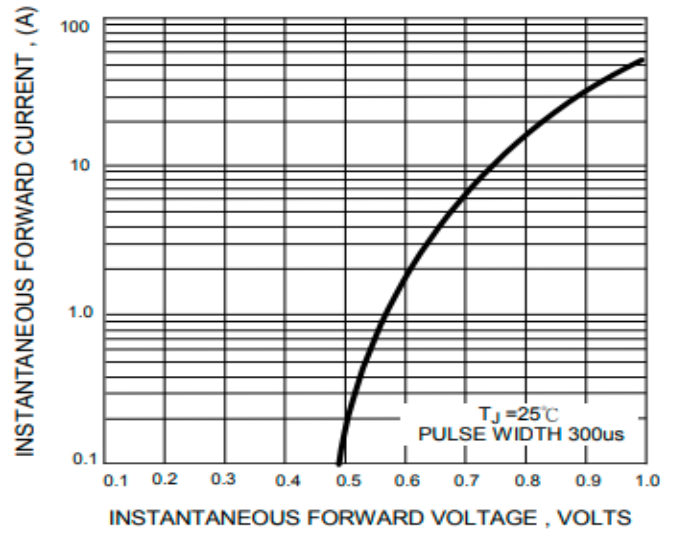
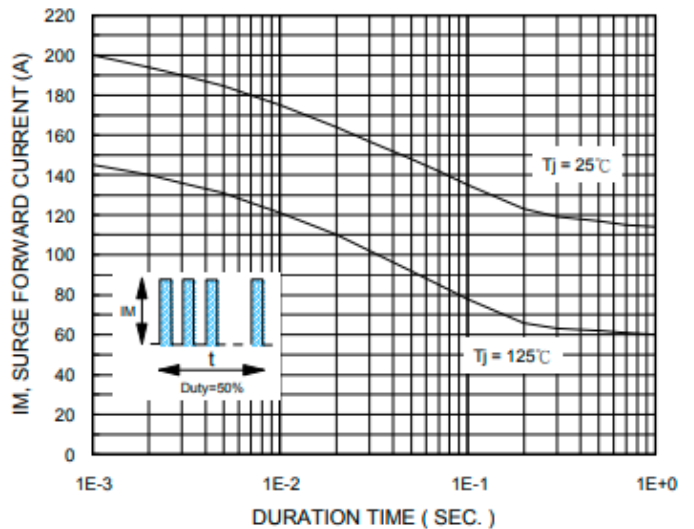
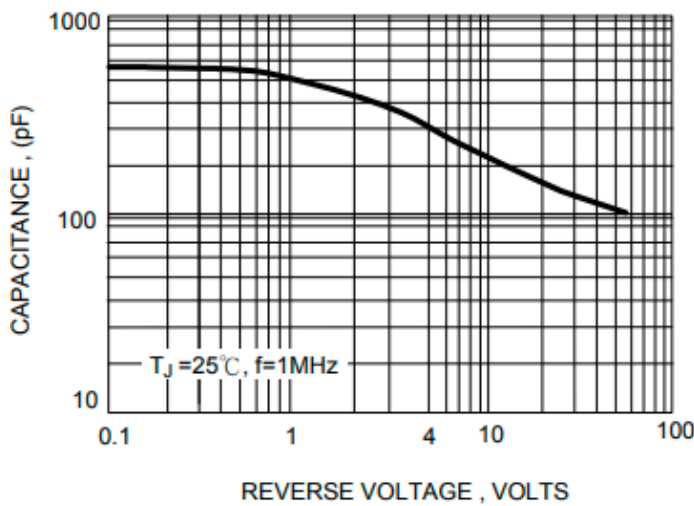


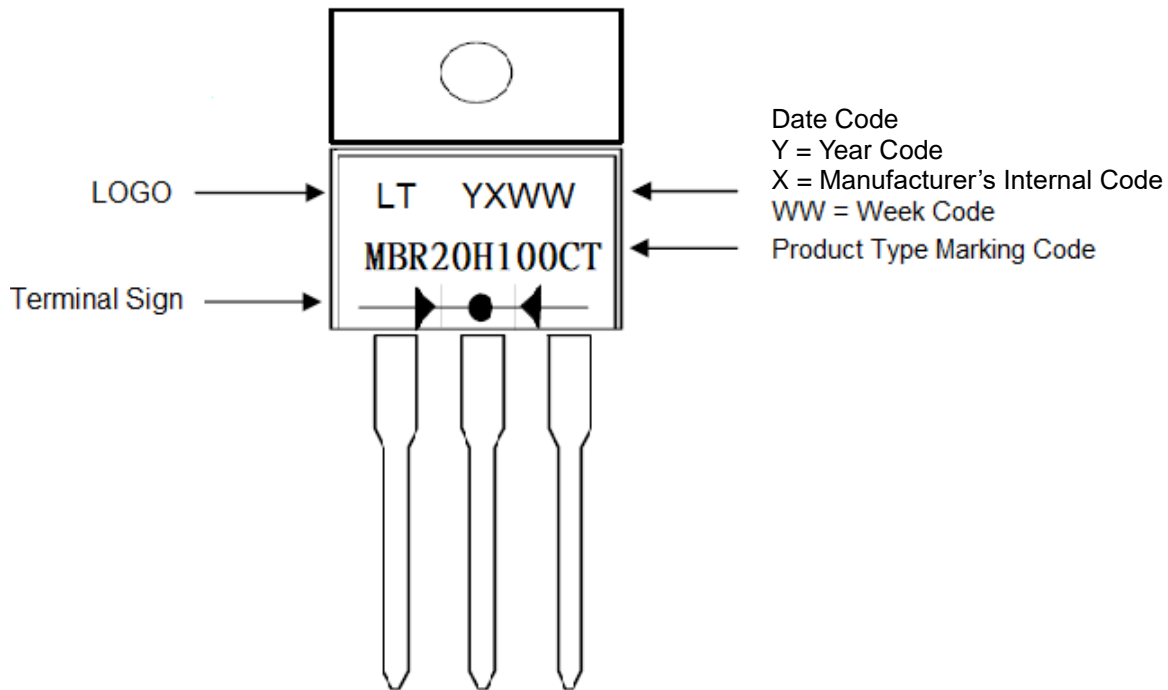
FIG.5 - TYPICAL JUNCTION CAPACITANCE



### Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
MBR20H100CT	TO-220AB	50 pcs	Tube

### Marking Information:



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