

# MBRF10100CT(LS)

## SCHOTTKY BARRIER RECTIFIER

**REVERSE VOLTAGE - 100 Volts  
FORWARD CURRENT - 10 Amperes**

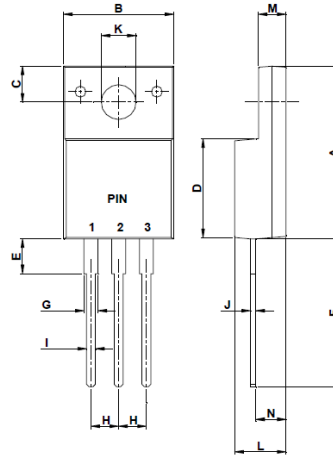
### FEATURES

- 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
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- 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

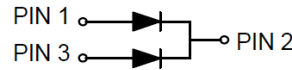
- Package: ITO-220AB molded plastic
- Polarity: AS marked on the body
- Weight: 0.06 ounces, 1.70 grams
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

### ITO-220AB



ITO-220AB		
DIM	MIN	MAX
A	15.50	16.50
B	10.00	10.40
C	3.00	3.50
D	9.00	9.30
E	2.90	3.60
F	13.46	14.22
G	1.15	1.70
H	2.40	2.70
I	0.75	1.00
J	0.45	0.70
K	3.00 Ø	3.30 Ø
L	4.36	4.77
M	2.48	2.80
N	2.50	2.80

All dimension in millimeter



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Recurrent Peak Reverse Voltage	@IR=100uA $V_{RRM}$	100	V
Maximum RMS Voltage	@IR=100uA $V_{RMS}$	70	V
Maximum DC Blocking Voltage	@IR=100uA $V_{DC}$	100	V
Maximum Average Forward Rectified Current at $T_C=120^\circ\text{C}$ (See Fig.4)	$I_{(AV)}$	10	A
Peak Forward Surge Current 8.3ms single half sine-wave	@ $T_J=25^\circ\text{C}$ $I_{FSM}$	120	A
Peak Repetitive Reverse Current $t_p=2\mu\text{s}$ , square F=1KHz	@ $T_J=25^\circ\text{C}$ $I_{RRM}$	1	A
Voltage Rate of Change (Rated VR)	$dv/dt$	10000	V/us
Maximum Forward Voltage (Note 4)	@IF=5A $T_J=25^\circ\text{C}$ @IF=5A $T_J=125^\circ\text{C}$ @IF=10A $T_J=25^\circ\text{C}$ @IF=10A $T_J=125^\circ\text{C}$ $V_F$	0.85 0.75 0.95 0.85	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$ $I_R$	0.01 15	mA
Typical Junction Capacitance per element (Note 5)	$C_J$	180	pF
Typical Thermal Resistance (Note 6)	$R_{\theta JC}$	3.0	$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +175	$^\circ\text{C}$
Dielectric Strength from terminals to case, AC with $t=1$ minute, RH<30%	$V_{dis}$	2000	V

### 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. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal Resistance Junction to Case. Device mounted on 135mm x 135mm x 8mm Al Plate.

**RATING AND CHARACTERISTIC CURVES**  
**MBRF10100CT**

FIG.1 - FORWARD CURRENT DERATING CURVE

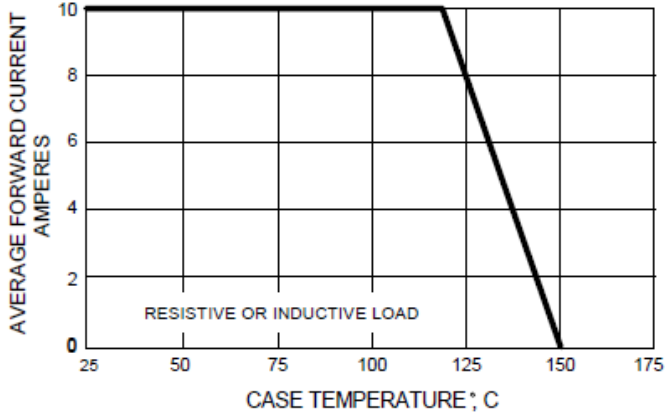


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

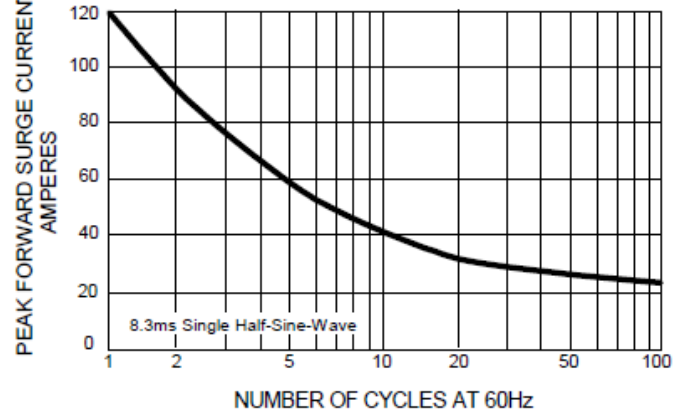


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

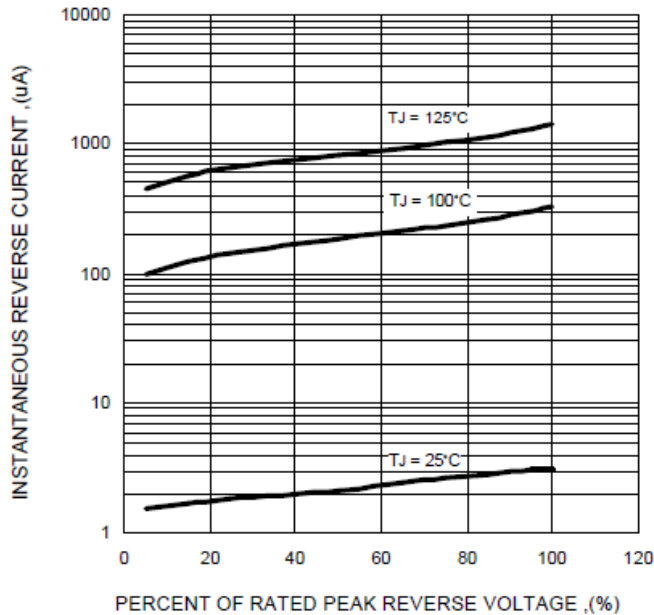


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

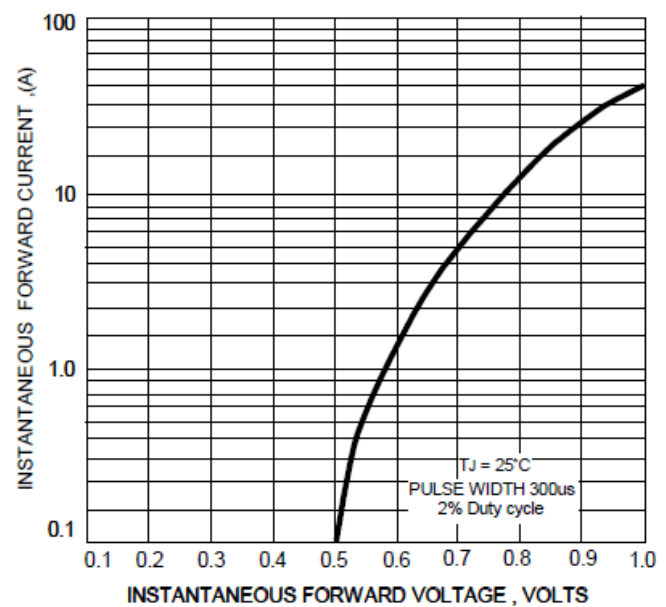
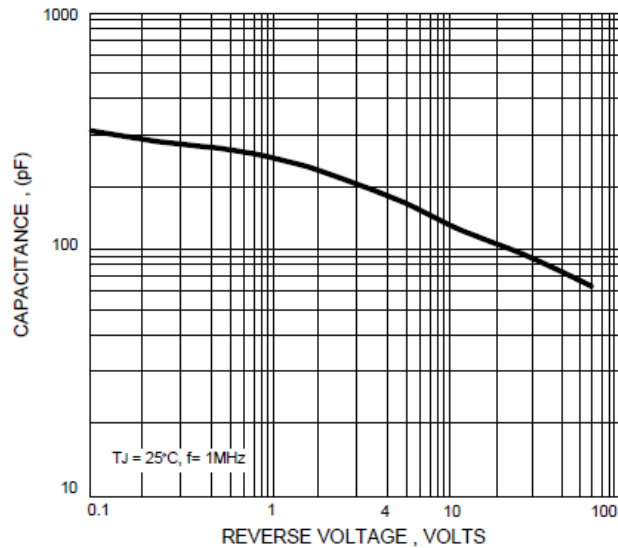


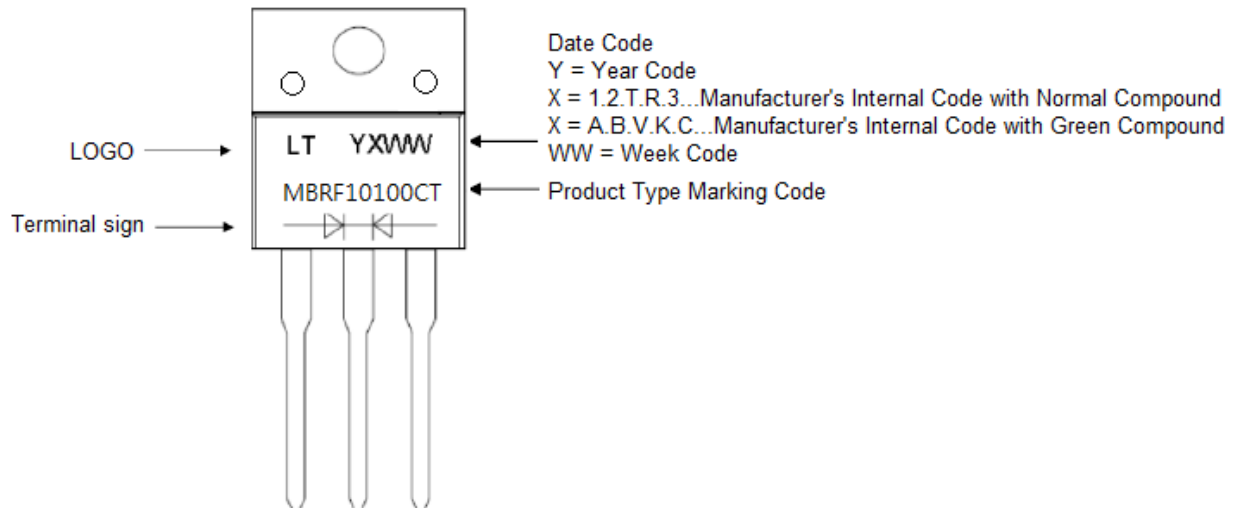
FIG.5 - TYPICAL JUNCTION CAPACITANCE



### Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
MBRF10100CT-LS	ITO-220AB	50pcs	Tube

### Marking Information :



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