

MBR30100CT(LS)

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 30 Amperes

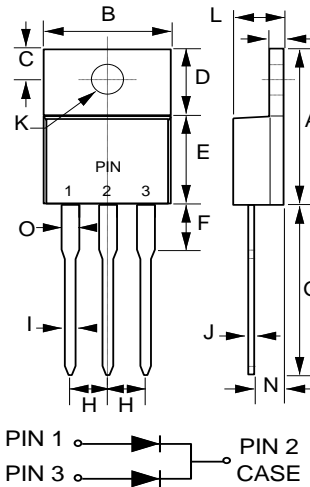
FEATURES

- 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
- **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"
- Polarity: As marked on the body
- Weight: 0.072 ounces, 2.0275 grams (Approximate)
- Mounting Position: Any
- Marking Code: MBR30100CT
- 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	3.53φ	4.09φ
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.70

All dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum RMS voltage	V_{RMS}	70	V
Maximum DC blocking voltage	V_{DC}	100	V
Maximum average rectified output current	$I_{(AV)}$	30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	250	A
Voltage rate of charge (Rated V_R)	dV/dt	10000	V/μS
Operating and storage temperature range	T_J, T_{STG}	-65 to +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT	
Forward voltage (Note 4)	$I_F = 15A$	V_F	$T_J = 25^\circ C$	0.80	V
			$T_J = 125^\circ C$	0.67	
	$I_F = 30A$	$T_J = 25^\circ C$	0.93		
			$T_J = 125^\circ C$	0.80	
Leakage current	$V_R = 100V$	I_R	100	μA	
			5	mA	
Typical junction capacitance (Note 5)		C_j	300	pF	

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	R_{thJC}	2	°C/W
	R_{thJA}	7	
	R_{thJL}	1	

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 4.0 V_{DC} .
6. Thermal Resistance Junction to Case.
7. The unit mounted on copper plate (75x75x15) mm heatsink.

RATING AND CHARACTERISTIC CURVES
MBR30100CT

FIG.1- FORWARD CURRENT DERATING CURVE

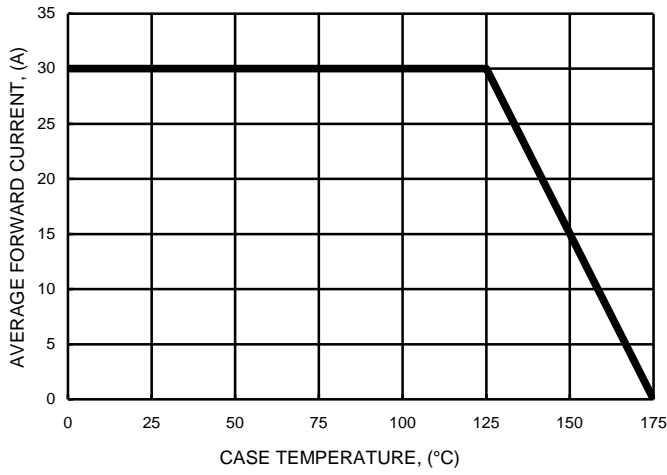


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

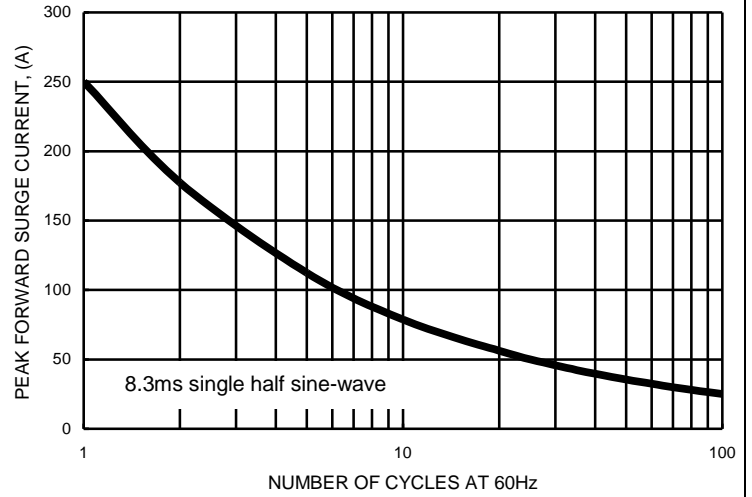


FIG.3- TYPICAL FORWARD CHARACTERISTICS

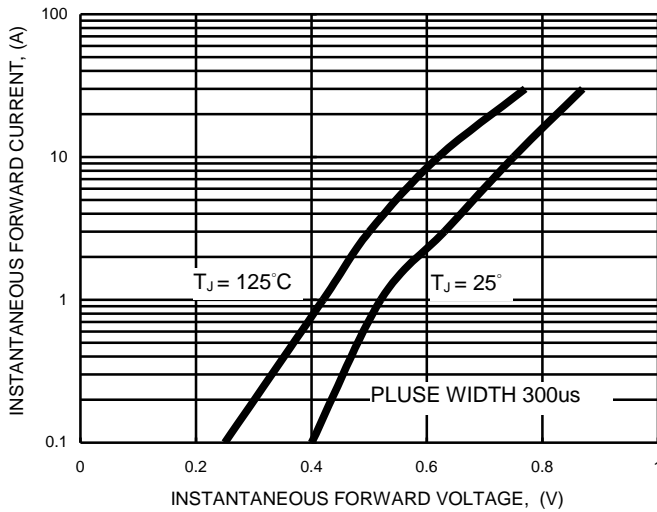


FIG.4- TYPICAL JUNCTION CAPACITANCE

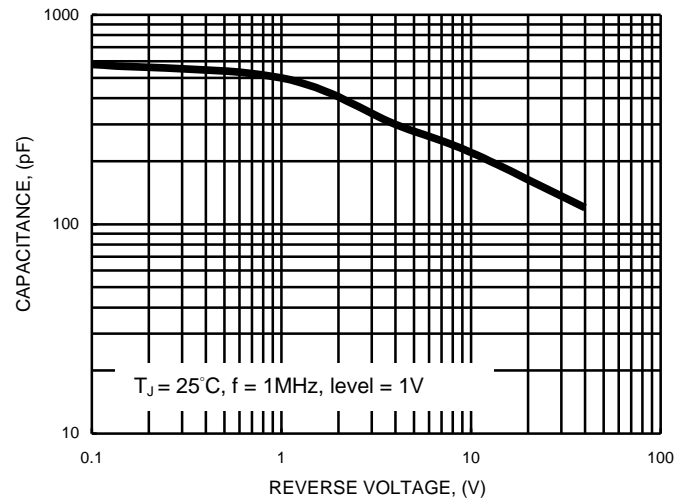
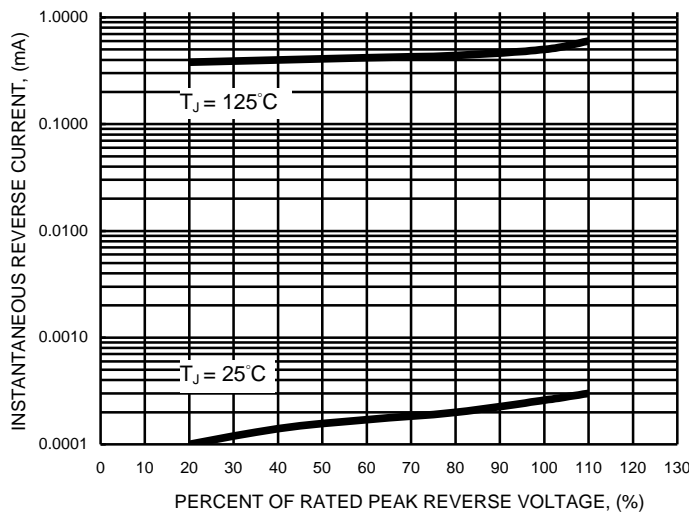


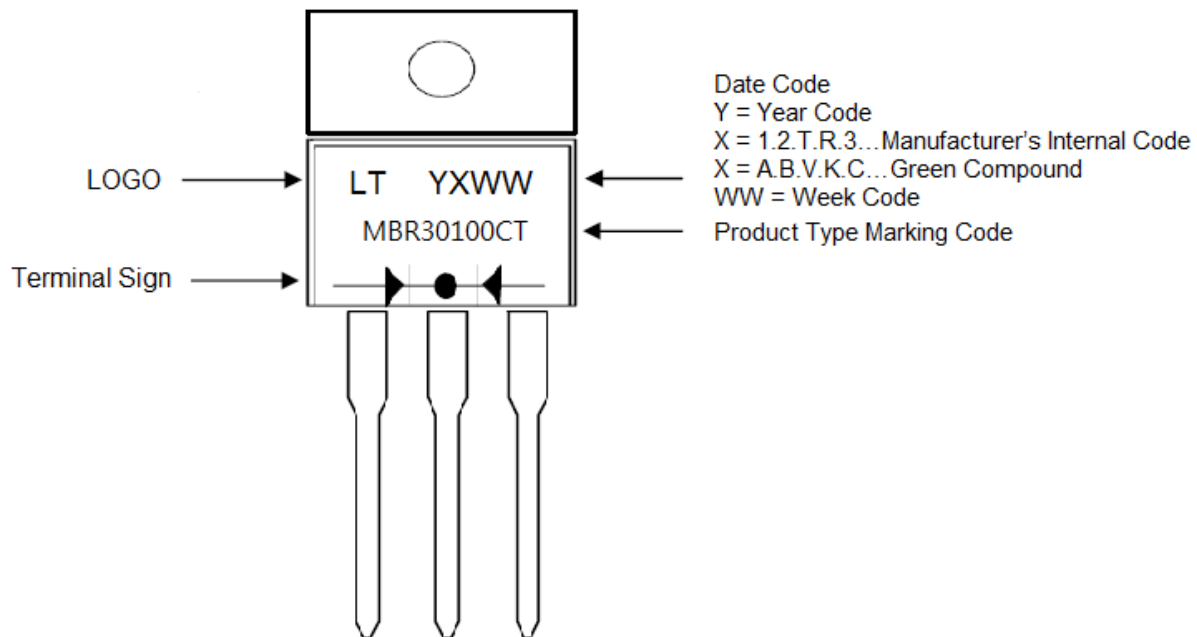
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
MBR30100CT	TO-220AB	50 pcs	Tube

Marking Information:



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