

MBR20100CT(LS)

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 20 Amperes

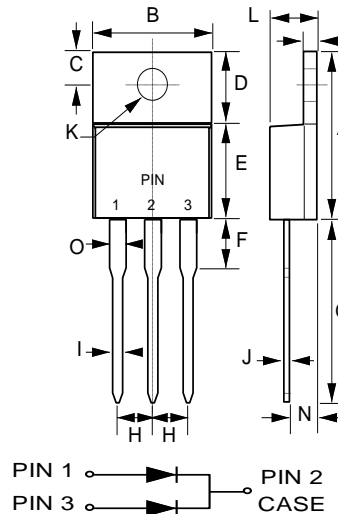
FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- 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

- Case :TO-220AB molded plastic
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free"
- Polarity : As marked on the body
- Weight : 2.0275grams(Approximate)
- Lead free finish, RoHS compliant
- 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 ϕ	4.09 ϕ
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	MBR20100CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum DC blocking voltage	V_{DC}	100	V
Maximum Average rectified output current @ $T_C = 120^\circ\text{C}$	$I_{(AV)}$	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	150	A
Voltage Rate of Change (Rated VR)	dV/dt	10000	V/ μS
Operating temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +175	$^\circ\text{C}$

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage (Note4)	$I_F = 10\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	0.85	V
			0.75	
	$I_F = 20\text{A}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	0.95	
			0.85	
Maximum DC reverse current at Rated Blocking voltage	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_R	0.01	mA
			10	
Typical junction capacitance (Note5)		C_j	250	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note6,7)	R_{thJc}	2	$^\circ\text{C}/\text{W}$
	R_{thJL}	1	
	R_{thJa}	7	

Note:

REV. 17, Aug.-2021, KTHC09

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
MBR20100CT

FIG.1- FORWARD CURRENT DERATING CURVE

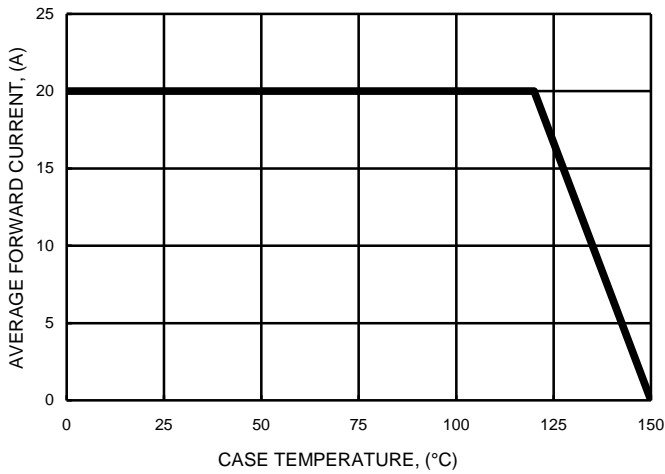


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

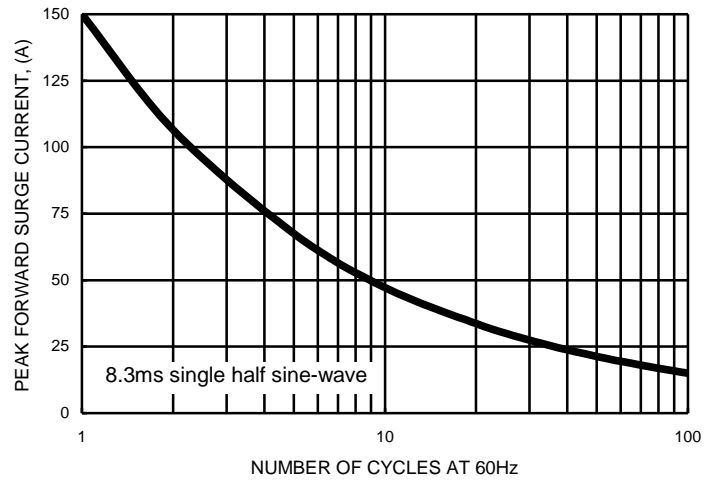


FIG.3- TYPICAL FORWARD CHARACTERISTICS

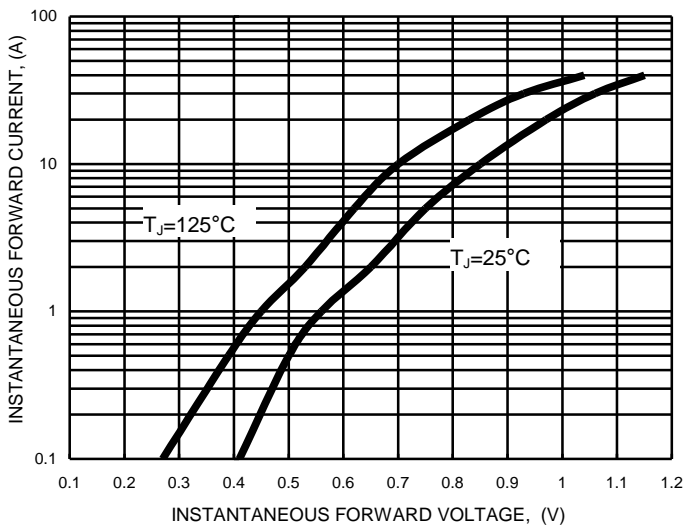


FIG.4- TYPICAL JUNCTION CAPACITANCE

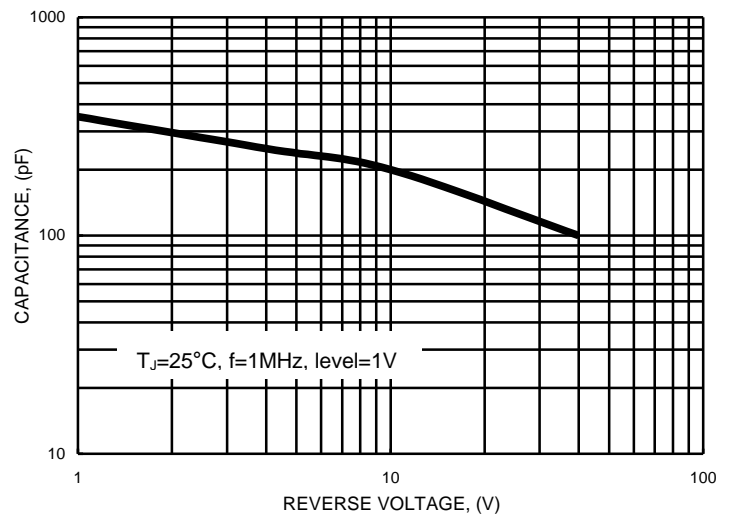


FIG.5- TYPICAL REVERSE CHARACTERISTICS

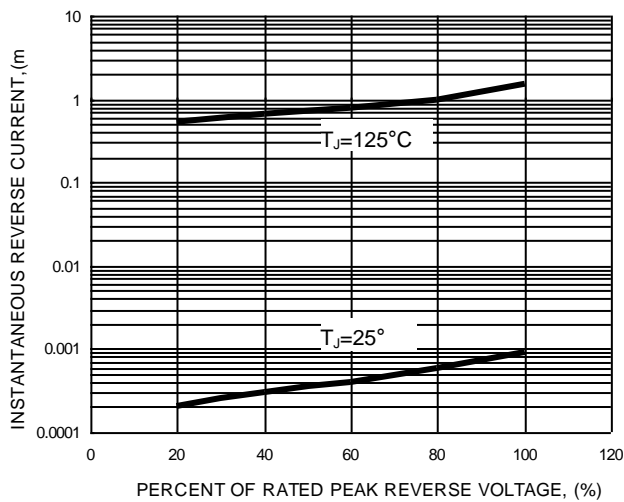
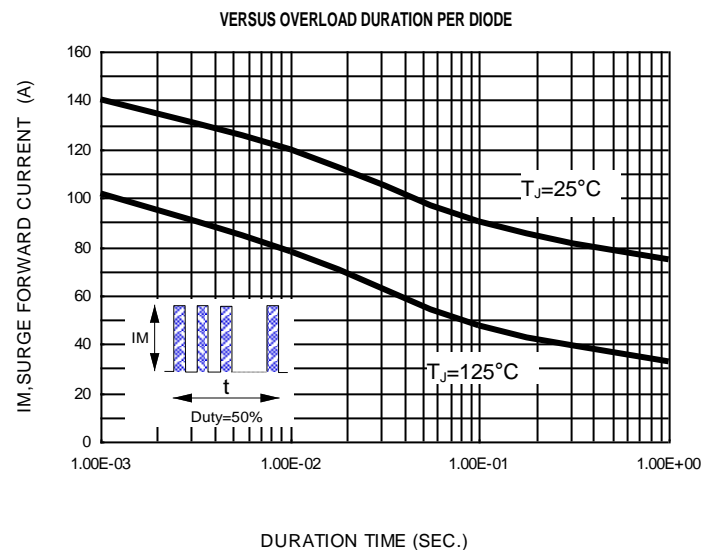


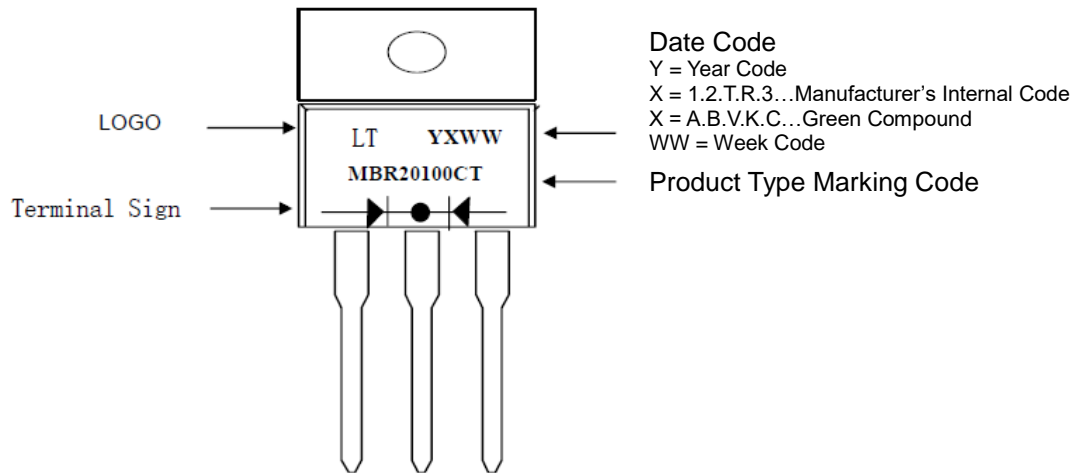
FIG.6- MAXIMUM NON REPETITIVE PEAK FORWARD CURRENT



Ordering Information :

Part Number	Case	Packaging
MBR20100CT-LS	TO-220AB	50 Pieces/Tube

Marking Information :



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