LITE-ON SEMICONDUCTOR

MBR20120CTW

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 120 Volts
FORWARD CURRENT – 20 Amperes

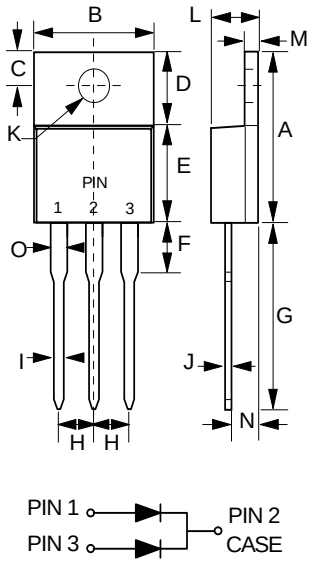
FEATURES

- 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

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
- Wight : 1.927grams(Approximate)
- Lead free finish, RoHS compliant
- Mounting position : Any
- Marking :MBR20120CTW
- 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	3.53φ	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℃ ambient temperature unless otherwis e specified.

ABSOLUTE RATINGS

PARAMETER		SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	120	V
Maximum DC blocking voltage		V_{DC}	120	V
Maximum Average rectified output current	@ T_C = 110℃	$I_{(AV)}$	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.		I_{FSM}	180	A
Operating and Storage temperature range		T_J ,T_{STG}	-55 to +150	℃

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION		SYMBOL	MAX	UNIT
Forward voltage (Note1)	I_F=10A	T_J=25℃ T_J =125℃	V_F	0.88 0.72	V
Leakage current	V_R=120V	T_J =25℃ T_J =125℃	I_R	10 10	uA mA
Typical junction capacitance (Note2)			C_j	240	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note3,4)	$RthJ_c$ $RthJ_L$ $RthJ_A$	2.0 3.0 10	℃/W

Note :

(1) 300us pulse width, 2% duty cycle.
(2) Measured at 1.0MHz and applied reverse voltage of 4.0 V_{DC}
(3) Thermal Resistance Junction to Case, Lead and Ambient
(4) The unit mounted on 100 x 100 x 2 mm copper plate heatsink

REV. 2 May.-2015, KTHC102

RATING AND CHARACTERISTIC CURVES
MBR20120CTW

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FIG.1- FORWARD CURRENT DERATING CURVE

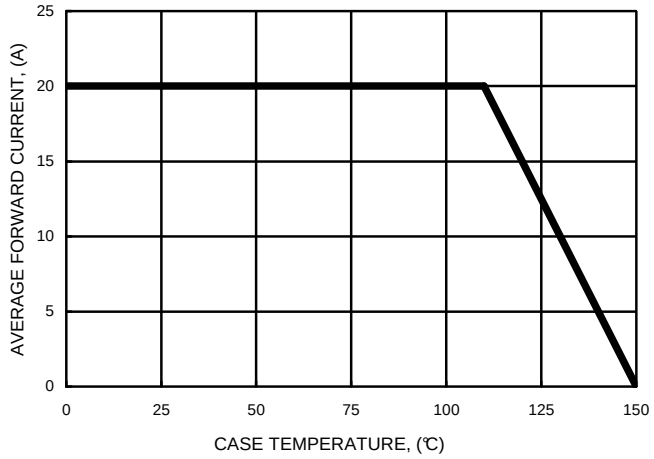


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

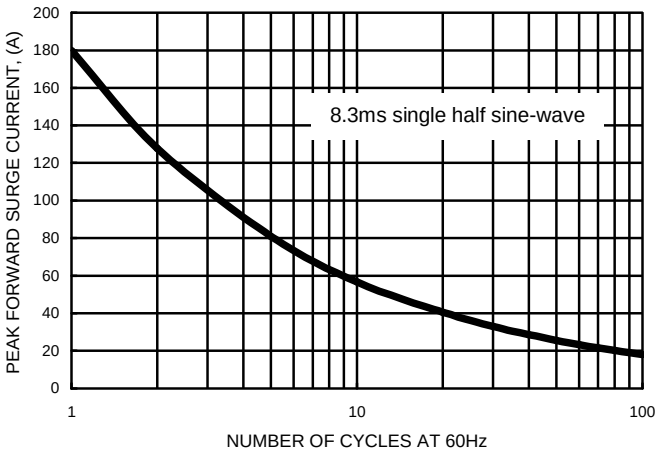


FIG.3- TYPICAL FORWARD CHARACTERISTICS

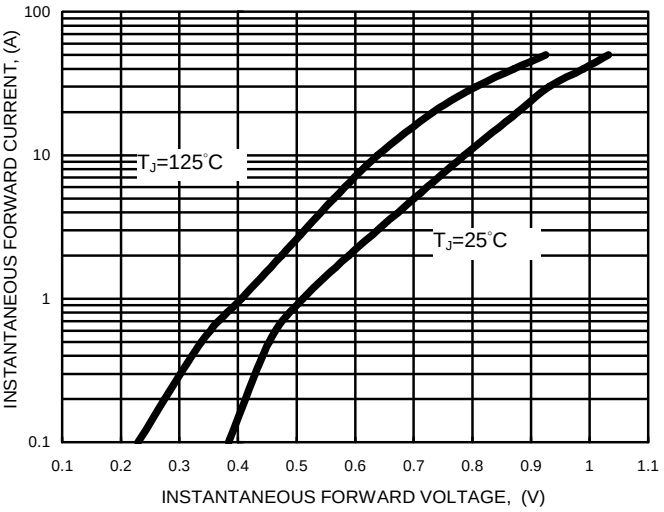


FIG.4- TYPICAL JUNCTION CAPACITANCE

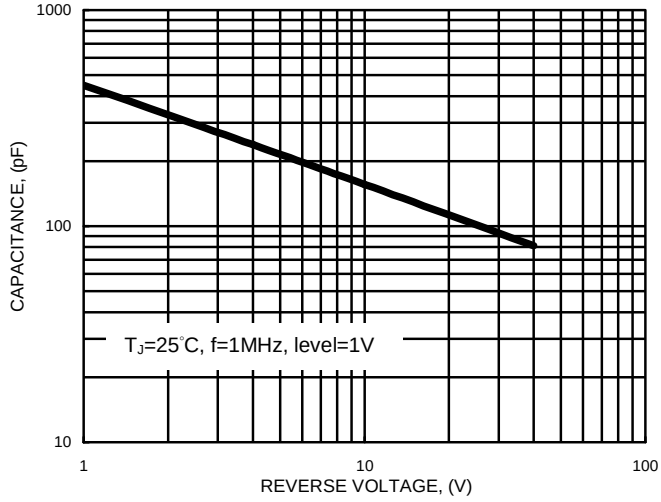
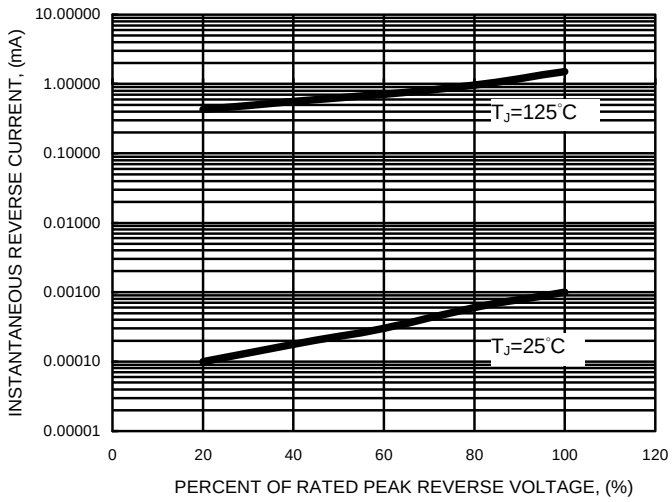


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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