

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 70 to 100 Volts
FORWARD CURRENT – 20 Amperes

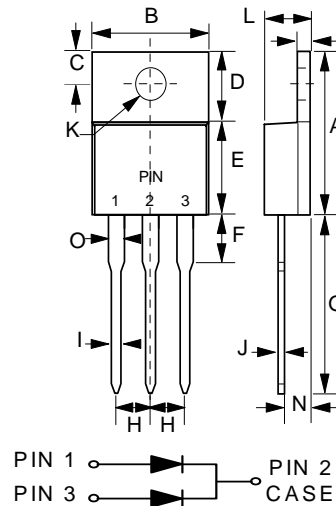
FEATURES

- 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

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 : 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	3.53φ	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	MBR2070CT	MBR2090CT	MBR20100CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	70	90	100	V
Maximum DC blocking voltage	V_{DC}	70	90	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/uS
Operating temperature range	T_J	-55 to +150			°C
Storage temperature range	T_{STG}	-55 to +175			°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage (Note1)	$I_F=10\text{A}$	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	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 (Note2)		C_j	250	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note3,4)	R_{thJc}	2	°C/W
	R_{thJl}	1	
	R_{thJa}	7	

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
- (4) The unit mounted on copper plate (75x75x15)mm heatsink

RATING AND CHARACTERISTIC CURVES
MBR2070 thru MBR20100CT



FIG.1- FORWARD CURRENT DERATING CURVE

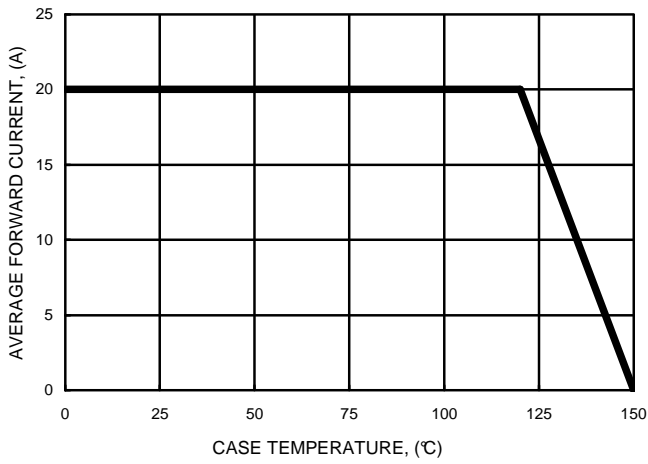


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

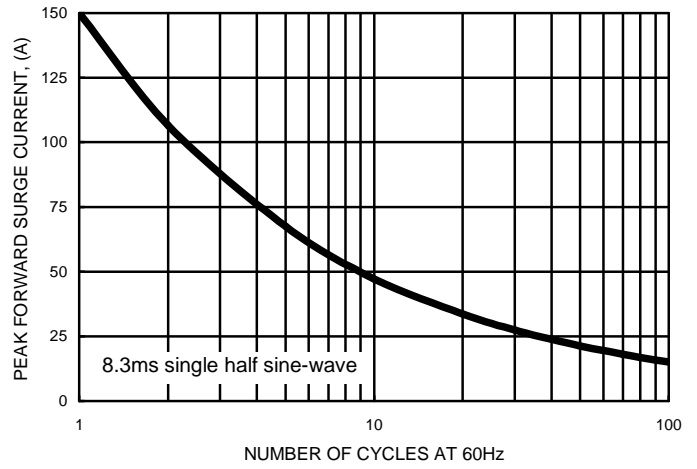


FIG.3- TYPICAL FORWARD CHARACTERISTICS

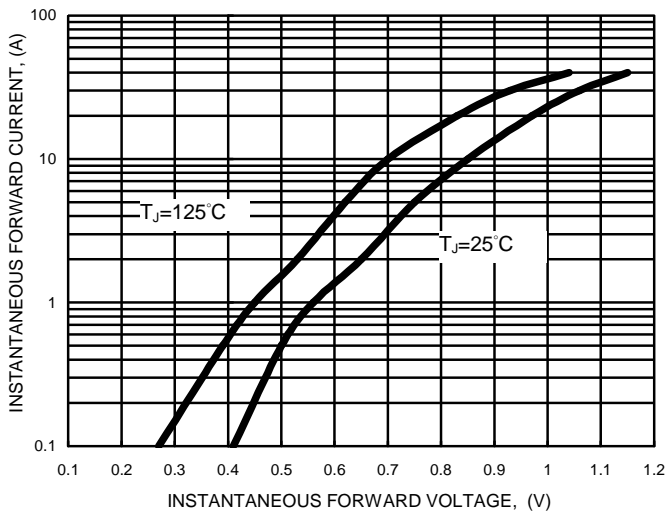


FIG.4- TYPICAL JUNCTION CAPACITANCE

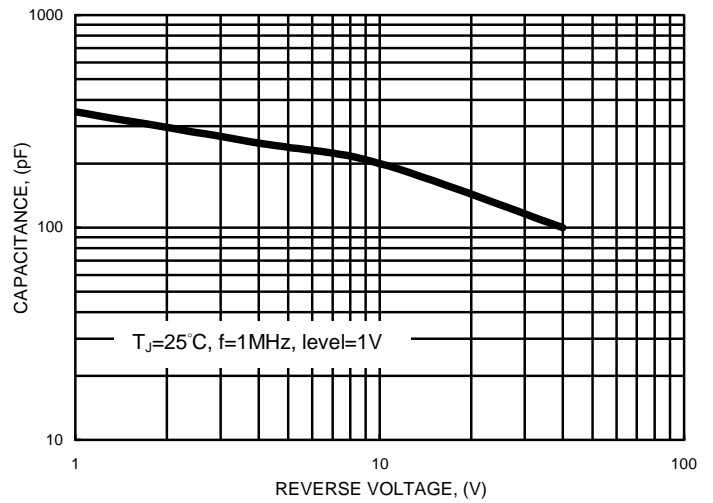


FIG.5- TYPICAL REVERSE CHARACTERISTICS

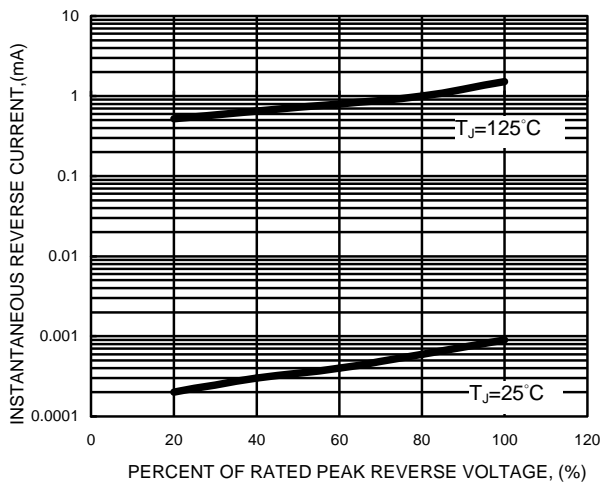
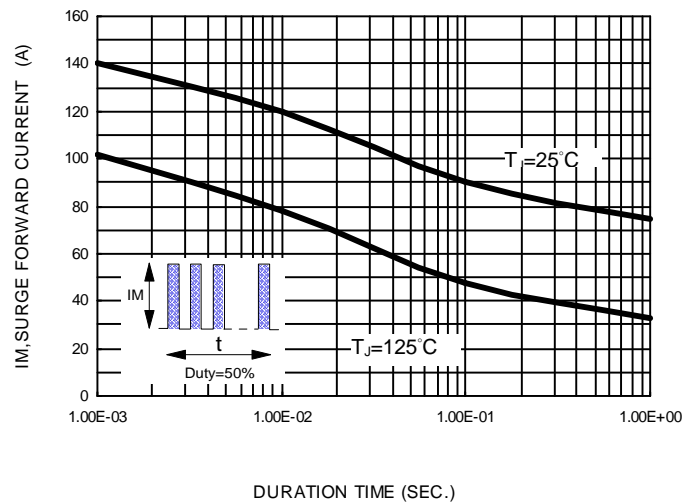


FIG.6- MAXIMUM NON REPETITIVE PEAK FORWARD CURRENT
VERSUS OVERLOAD DURATION PER DIODE



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