LITE-ON SEMICONDUCTOR

MBR1030CT thru 1060CT

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE **- 30** to **60** Volts
FORWARD CURRENT **- 10** Amperes

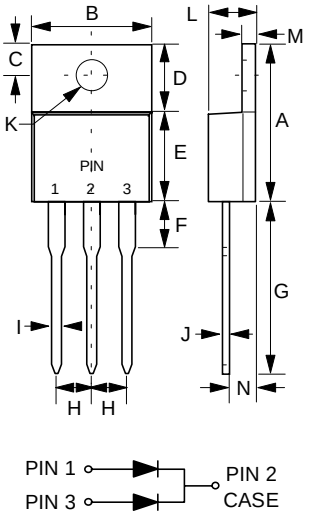
FEATURES

- Metal of silicon rectifier,majority carrier conducton
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage,high frequency inverters,free whelling,and polarity protection applications

MECHANICAL DATA

- Case : TO-220AB molded plastic
- Polarity : As marked on the body
- Weight : 0.08 ounces, 2.24 grams
- Mounting position : Any

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	3.53 ∅	4.09 ∅
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	MBR 1030CT	MBR 1035CT	MBR 1040CT	MBR 1045CT	MBR 1050CT	MBR 1060CT	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	30	35	40	45	50	60	V
Maximum RMS Voltage	V_{RMS}	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	V_{DC}	30	35	40	45	50	60	V
Maximum Average Forward RectifiedCurrent at TC=105℃ (See Fig.1)	$I_{(AV)}$	10						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	I_{FSM}	125						A
Voltage Rate of Change (Rated VR)	dv/dt	10000						V/us
Maximum Forward Voltage, (Note 1) @I_F=5A T_J=125℃ @I_F=5A T_J=25℃ @I_F=10A T_J=125℃	V_F	0.57 0.70 0.84				0.65 0.80 0.90		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @T_J=25℃ @T_J=125℃	I_R	0.1 15						mA
Typical Junction Capacitance, per element (Note 2)	C_J	170				220		pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3.0						℃/W
Operating Temperature Range	T_J	-55 to +150						℃
Storage Temperature Range	T_{STG}	-55 to +175						℃

REV. 0, 04-Mar-2002, KTHC12

NOTES : 1. 300us Pulse Width, 2% Duty Cycle.
2. Thermal Resistance Junction to Case.
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

FIG.1 - FORWARD CURRENT DERATING CURVE

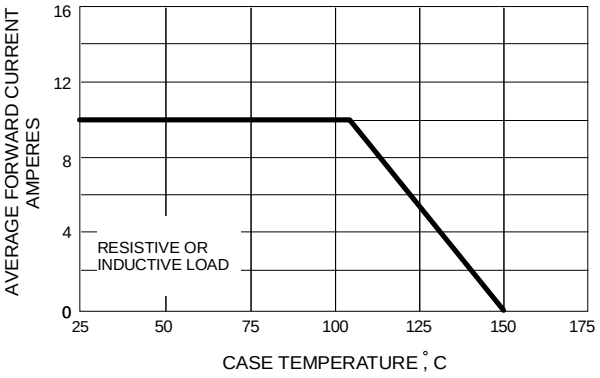


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

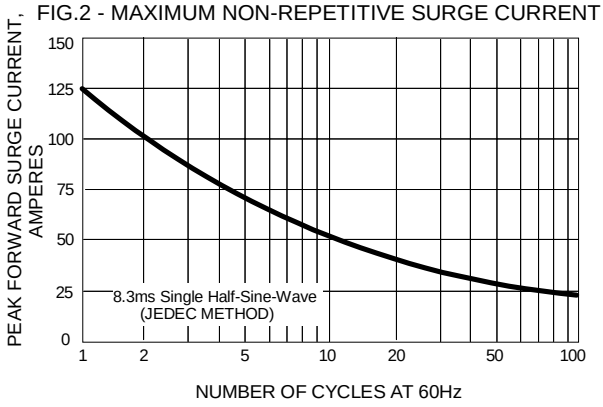


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

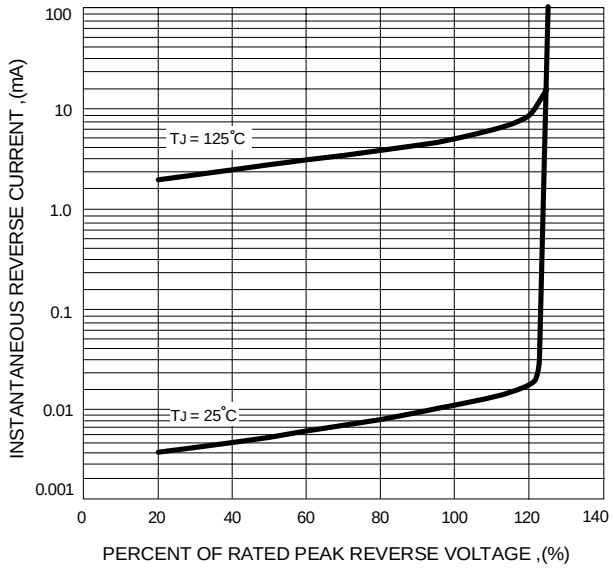


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

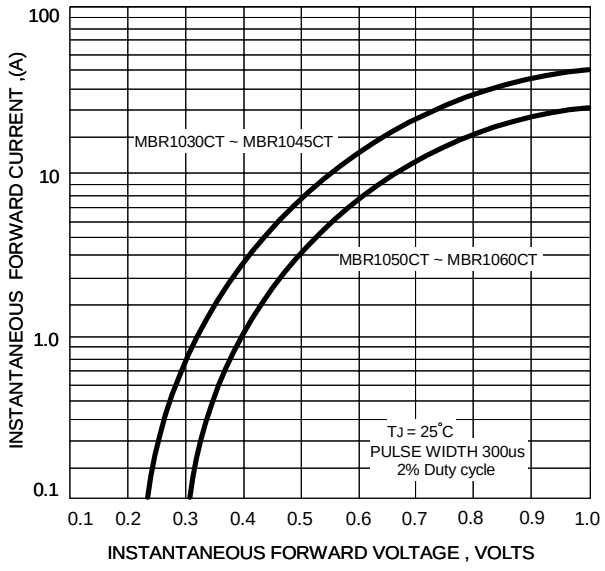


FIG.5 - TYPICAL JUNCTION CAPACITANCE