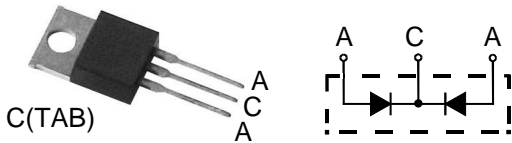


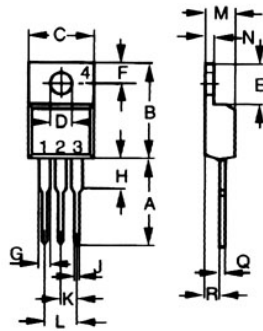
# MBR1030CT thru MBR1045CT

Wide Temperature Range and High  $T_{jm}$  Schottky Barrier Rectifiers



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-220AB



Dim.	Inches		Millimeter	
	Min.	Max.	Min.	Max.
A	0.500	0.550	12.70	13.97
B	0.580	0.630	14.73	16.00
C	0.390	0.420	9.91	10.66
D	0.139	0.161	3.54	4.08
E	0.230	0.270	5.85	6.85
F	0.100	0.125	2.54	3.18
G	0.045	0.065	1.15	1.65
H	0.110	0.230	2.79	5.84
J	0.025	0.040	0.64	1.01
K	0.100	BSC	2.54	BSC
M	0.170	0.190	4.32	4.82
N	0.045	0.055	1.14	1.39
Q	0.014	0.022	0.35	0.56
R	0.090	0.110	2.29	2.79

	$V_{RRM}$	$V_{RMS}$	$V_{DC}$
	V	V	V
MBR1030CT	30	21	30
MBR1035CT	35	24.5	35
MBR1040CT	40	28	40
MBR1045CT	45	31.5	45

Symbol	Characteristics	Maximum Ratings	Unit	
$I_{AV}$	Maximum Average Forward Rectified Current @ $T_c=105^\circ\text{C}$	10	A	
$I_{FSM}$	Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	125	A	
$dv/dt$	Voltage Rate Of Change (Rated $V_R$ )	10000	V/us	
$V_F$	Maximum Forward Voltage (Note 1)	$I_F=5\text{A}$ @ $T_J=25^\circ\text{C}$ $I_F=5\text{A}$ @ $T_J=125^\circ\text{C}$ $I_F=10\text{A}$ @ $T_J=125^\circ\text{C}$	0.57 0.70 0.84	V
$I_R$	Maximum DC Reverse Current At Rated DC Blocking Voltage	@ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$	0.1 15	mA
$R_{\theta JC}$	Typical Thermal Resistance (Note 2)	3.0	$^\circ\text{C/W}$	
$C_J$	Typical Junction Capacitance Per Element (Note 3)	170	pF	
$T_J$	Operating Temperature Range	-55 to +150	$^\circ\text{C}$	
$T_{STG}$	Storage Temperature Range	-55 to +175	$^\circ\text{C}$	

NOTES: 1. 300us Pulse Width, Duty Cycle 2%.  
2. Thermal Resistance Junction To Case.  
3. Measured At 1.0MHz And Applied Reverse Voltage Of 4.0V DC.

## FEATURES

- \* Metal of silicon rectifier, majority carrier conducton
- \* 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 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



# MBR1030CT thru MBR1045CT

## Wide Temperature Range and High $T_{jm}$ Schottky Barrier Rectifiers

FIG.1 - FORWARD CURRENT DERATING CURVE

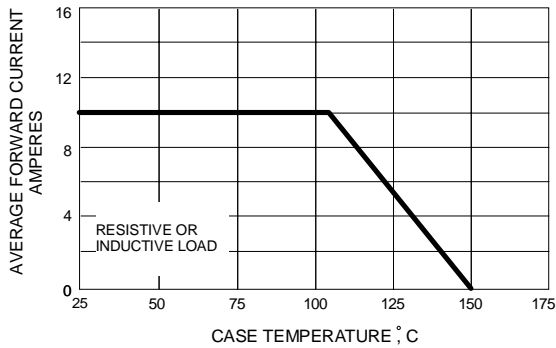


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

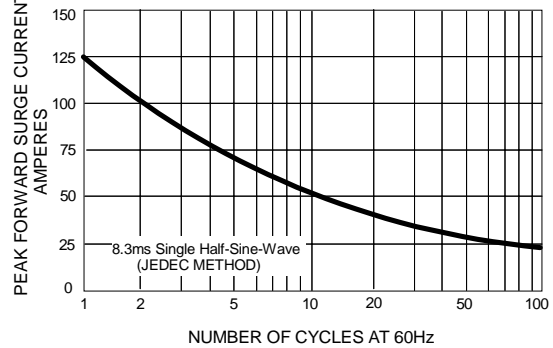


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

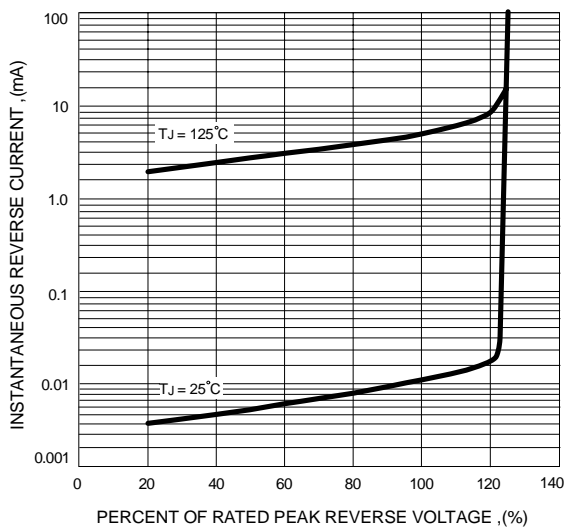


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

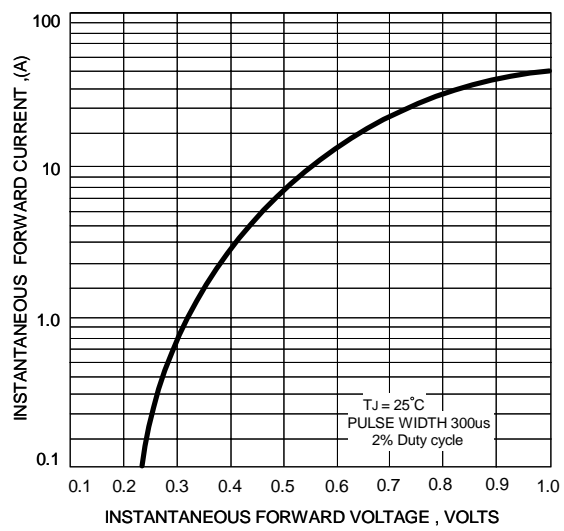


FIG.5 - TYPICAL JUNCTION CAPACITANCE

