



MBR1045CT

SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

The MBR1045CT is a Schottky Barrier Rectifier with high efficiency, low power dissipation and high current capacity. It can be applied in high frequency, low voltage inverters, polarity protection and free wheeling applications.

FEATURE

- * High surge capability
- * High efficiency, low power dissipation, high current capability, low forward voltage drop
- * Guardring for overvoltage protection

MARKING

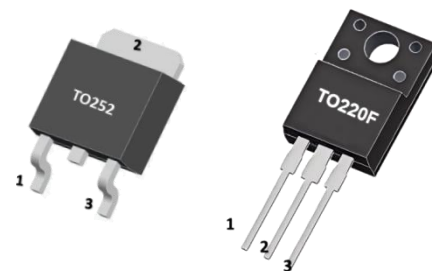


HY : HY LOGO

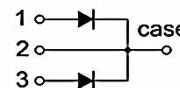
MBR1045CT=Device Code

XXXX=Date Code

Solid Dot=Green molding compound



1. ANODE
2. CATHODE
3. ANODE



ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		V _{RM}	45	V
Working Peak Reverse Voltage		V _{RWM}	45	V
Peak Repetitive Reverse Voltage		V _{RRM}	45	V
RMS Reverse Voltage		V _{R(RMS)}	31.5	V
Average Rectified Output Current (T _C =105°C)	Per Leg	I _O	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I _{FSM}	100*2	A
Operating Junction Temperature		T _J	+150	°C
Storage Temperature		T _{STG}	-55 ~ +150	°C

Note: 1. Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

2. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

3. Thermal resistance junction to case mounted on heatsink.



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THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220F	θ_{JA}	60	$^{\circ}\text{C/W}$
	TO-252		110	$^{\circ}\text{C/W}$
Junction to Case	TO-220F	θ_{JC}	4	$^{\circ}\text{C/W}$
	TO-252		6	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=5\text{A}$			0.55	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}$			200	μA

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

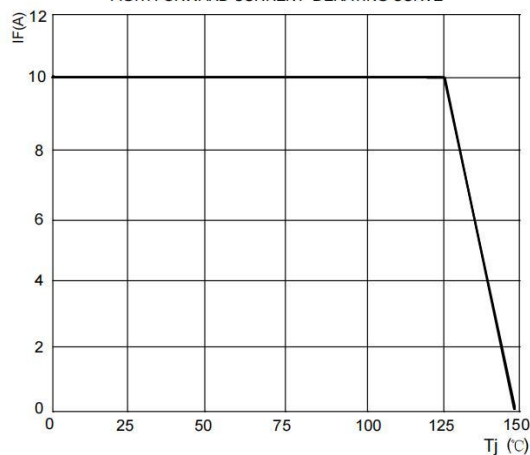


FIG.2: TYPICAL FORWARD CHARACTERISTICS

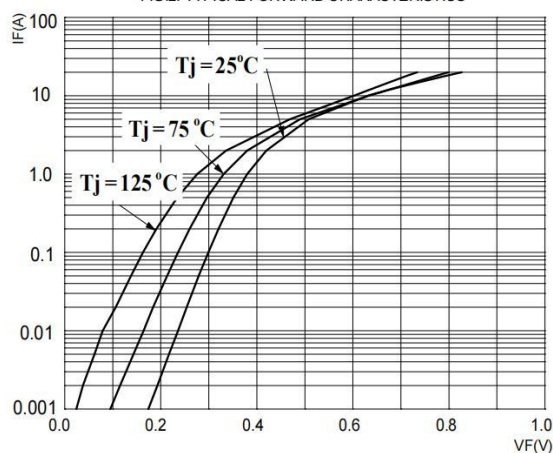


FIG.3: TOTAL CAPACITANCE DERATING CURVE

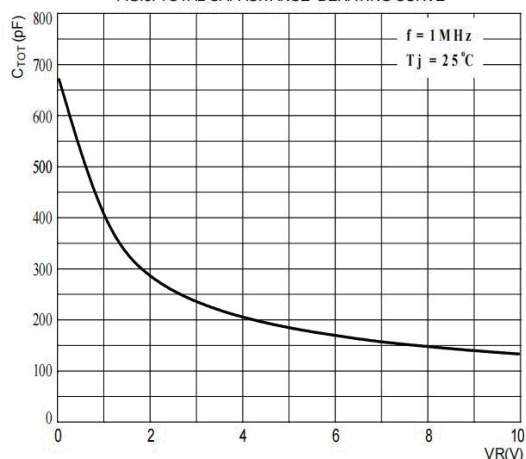
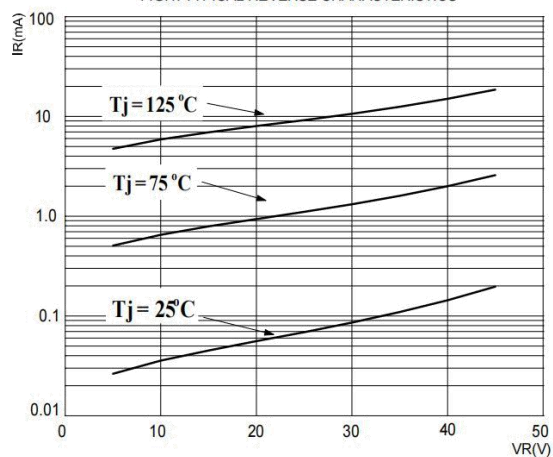


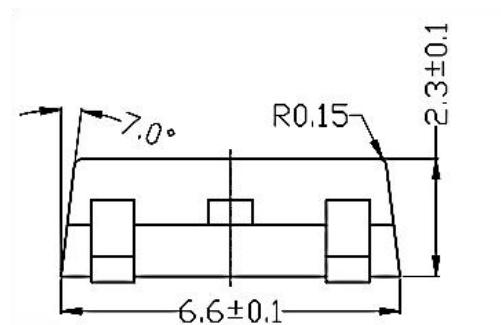
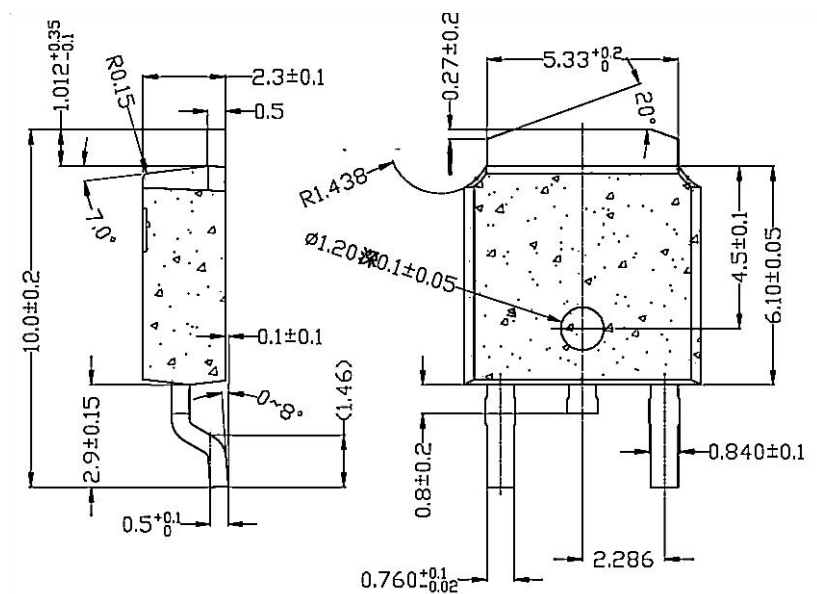
FIG.4: TYPICAL REVERSE CHARACTERISTICS



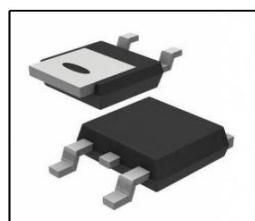
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■ TO - 252 Package Outline Dimensions



■ TO - 252 Packing Information



2500PC
S/reel



2 Reel/BOX



5 Inner
Box



Inner box

Outer box

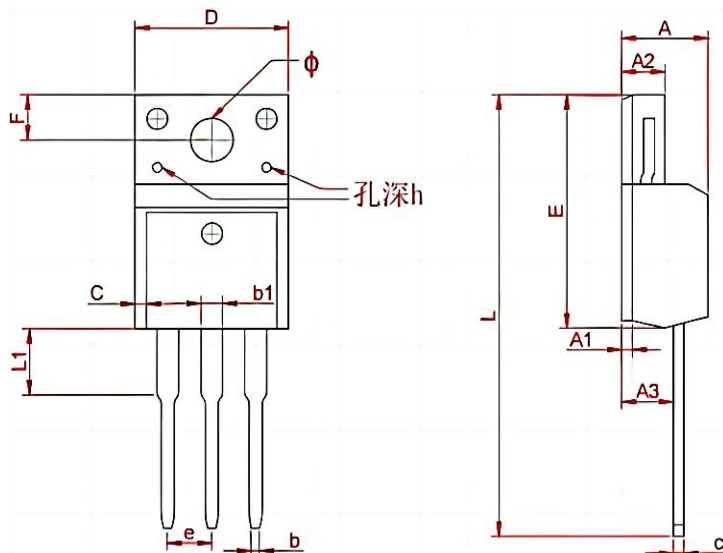
Package version	Reel dimensions $\Phi \times H$ (mm)	Per Reel (pcs)	Reels per box	Inner box dimensions $L \times W \times H$ (mm)	Outer box (pcs)	Outer box dimensions $L \times W \times H$ (mm)
T0-252	$\Phi 330 \times 20$	2500	2	360*340*50	25000	375*375*280



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TO - 220F Package Outline Dimensions

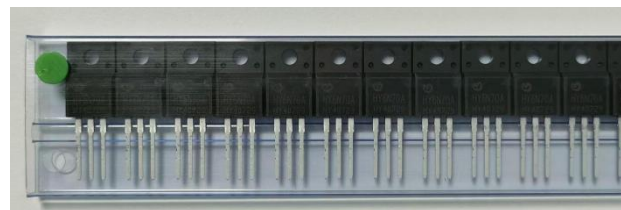


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max	Min	Max
A	4.300	4.750	0.169	0.185
A1	1.830 REF		0.072 REF	
A2	2.300	2.850	0.090	0.112
A3	2.500	2.900	0.098	0.114
b	0.400	0.420	0.016	0.016
b1	1.220	1.280	0.048	0.050
C	0.690	0.720	0.027	0.028
c	0.490	0.510	0.019	0.020
D	9.960	10.200	0.392	0.400
E	15.000	15.950	0.588	0.625
e	2.574 TYP		0.101TYP	
F	3.470 REF		0.136 REF	
y	3.200 REF		0.125 REF	
h	0.000	0.300	0.000	0.012
L	28.780	28.900	1.128	1.133
L1	2.990	3.100	0.117	0.122

TO - 220F Packing Information



50PCS



20 Tube



Outer Box

5 Inner
Box



Inner Box

Package version	Tube dimensions LxWxH (mm)	Per Tube (pcs)	Tube per box	Inner box dimensions LxWxH (mm)	PCS/ Inner box	Outer box dimensions LxWxH(mm)	PCS/ Outer box
TO-220F	530*32*7	50	20	580*155*50	1000	602*277*188	5000