



MBR4045CT

SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

The MBR4045CT is a 40A schottky barrier rectifier, it uses our advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc. The MBR4045Ct is suitable for free wheeling and polarity protection, etc.

FEATURE

- *Guard Ring Die Construction for Transient Protection
- *Low Power Loss,High Efficiency
- *High Current Capability and Low Forward Voltage Drop

MARKING



: HY LOGO

MBR4045CT=Device Code

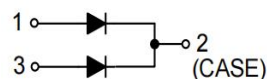
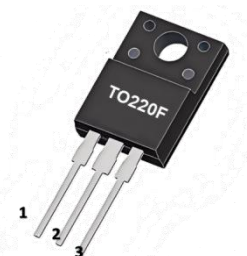
XXXX=Date Code

Solid Dot=Green molding compound

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

SYMBOL	PARAMETER		VALUE	UNIT
VRRM	Peak repetitive reverse voltage		45	V
VRWM	Working peak reverse voltage			V
VR	DC blocking voltage			V
VR(RMS)	RMS reverse voltage		31.5	V
IO	Average rectified output current	Per Leg	20	A
	Tc=105°C	Total	40	
IFSM	Non-Repetitive peak forward surge current(8.3ms half sine wave)		300*2	A
Tj	Junction temperature		150	°C
Tstg	Storage temperature		-55~+150	°C
RθJA	Thermal Resistance fromJunction to Ambient		62.5	°C/W
RθJc	Thermal Resistance From Junction To Case		2	°C/W

Notes: 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.





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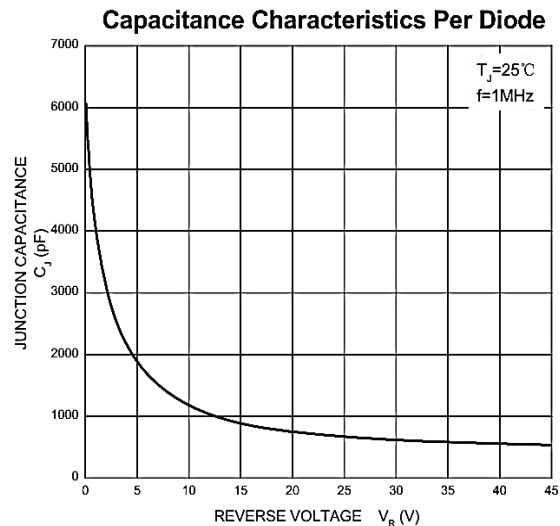
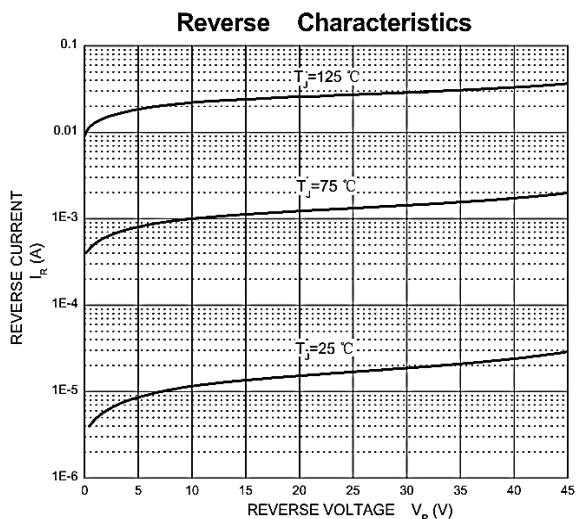
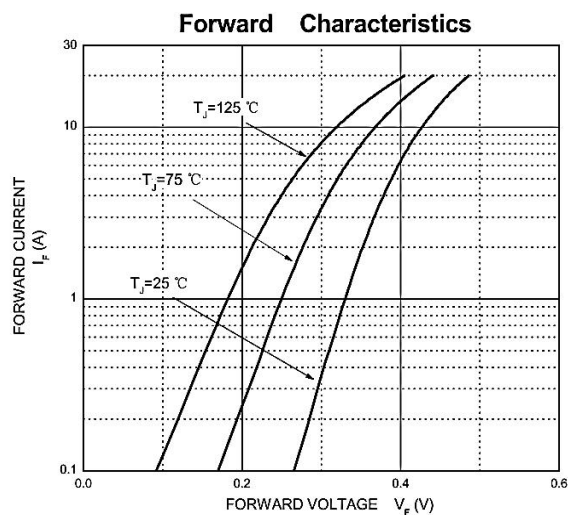
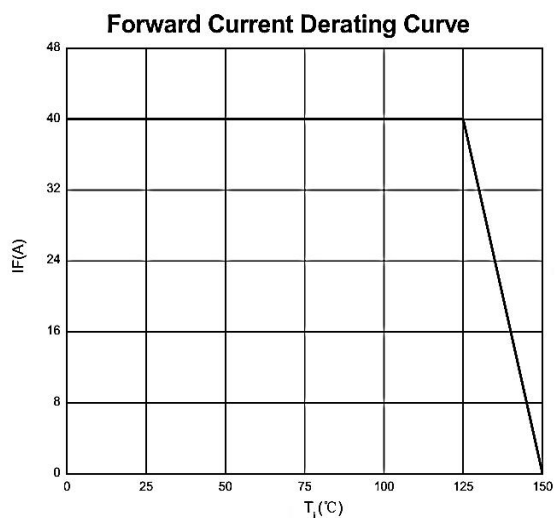
■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse voltage	$V_{(BR)}$	$I_R=1mA$	45			V
Reverse current	I_R	$V_R=60V$		$T_J=25^{\circ}C$	30	200
				$T_J=125^{\circ}C$	37	
Forward voltage	V_F	$I_F=10A$	$T_J=25^{\circ}C$	0.43		V
			$T_J=125^{\circ}C$	0.32		V
		$I_F=20A$	$T_J=25^{\circ}C$	0.48	0.55	V
			$T_J=125^{\circ}C$	0.41		V

Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC

2. Pulse test: pulse width $\leq 300\mu s$, duty cycles $\leq 2.0\%$.

■ TYPICAL CHARACTERISTICS

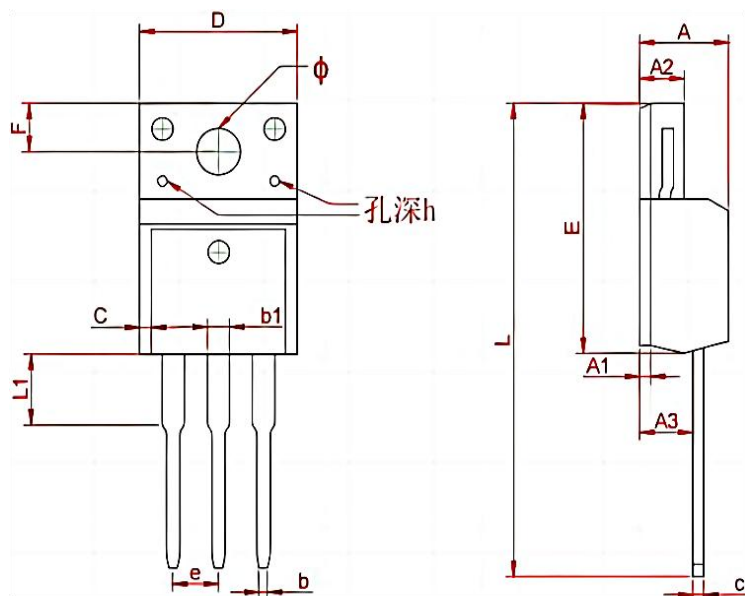




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TO - 220F Package Outline Dimensions



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