鼎德丰
DING DE FENG

MBRF2045CT

SCHOTTKY BARRIER RECTIFIER

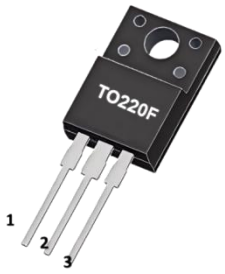
■ DESCRIPTION

The MBR2045CT meet the ROHS and Green Product requirement with full function reliability approved.

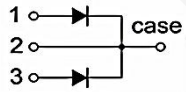
■ FEATURE

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

■



1. ANODE
2. CATHODE
3. ANODE



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM}	Peak repetitive reverse voltage	45	V
V_{RWM}	Working peak reverse voltage	45	V
V_R	DC blocking voltage	45	V
$V_{R(RMS)}$	RMS reverse voltage	31.5	V
I_O	Averagerectifiedoutputcurrent	20（10*2）	A
I_{FSM}	Non-Repetitive peak forward surge current(8.3ms half sine wave)	150*2	A
T_j	Junction temperature	150	℃
T_{stg}	Storage temperature	-55~+150	℃
$R_{\theta JA}$	Thermal Resistance fromJunction to Ambient	58	℃/W
$R_{\theta JC}$	Thermal Resistance From Junction To Case	3	℃/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=0.1mA		45			V
Reverse current	I_R	V_R=45V	Tj=25℃			40	μA
			Tj=125℃		10		mA
Forward voltage	V_{F1}	I_F=5A	Tj=25℃		0.5	0.55	V
			Tj=125℃		0.44		V
	V_{F2}	I_F=10A	Tj=25℃		0.60	0.64	V
			Tj=125℃		0.56		V

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

■ TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

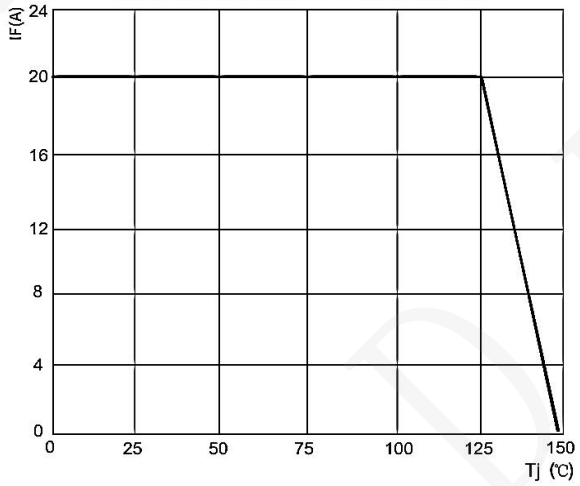


FIG.2: TYPICAL FORWARD CHARACTERISTICS

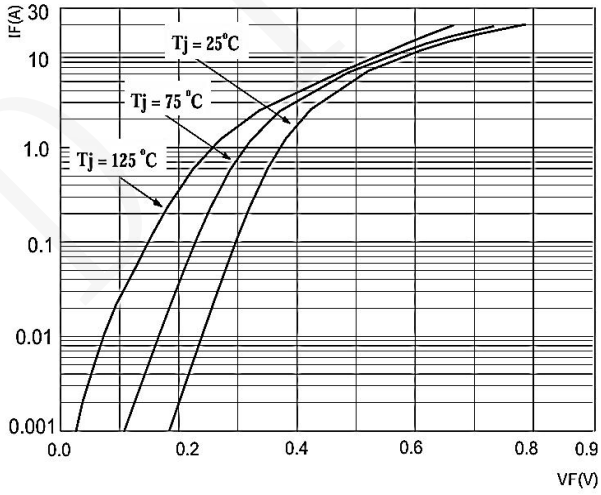


FIG.3: TOTAL CAPACITANCE DERATING CURVE

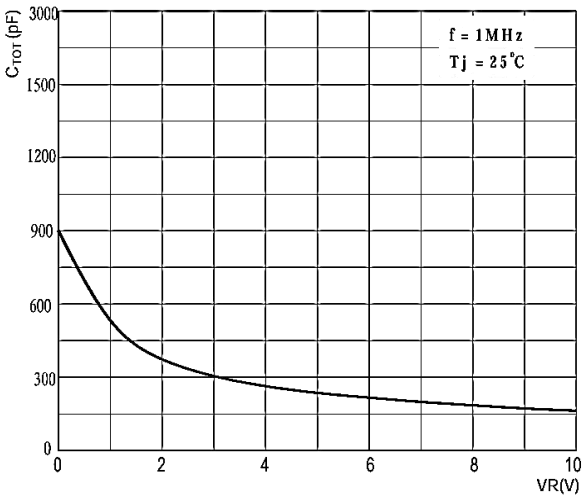
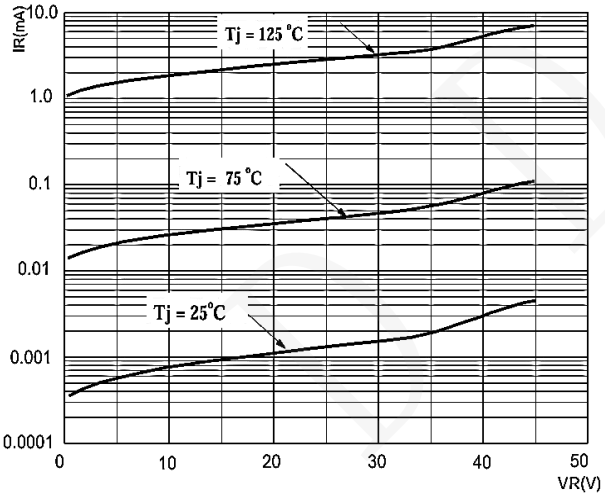
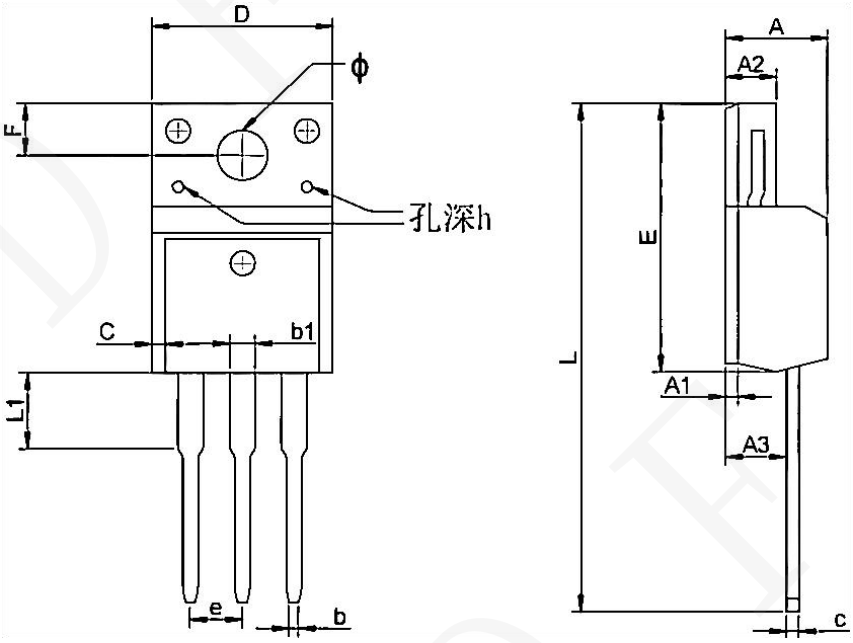


FIG.4: TYPICAL REVERSE CHARACTERISTICS



■ 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