



# MBR2045

## 主要参数 MAIN CHARACTERISTICS

$I_F$ (AV)	20 (2×10) A
$V_{RRM}$	45 V
$T_j$	150 °C
$V_F$ (max)	0.54V (@ $T_j=125^\circ\text{C}$ )

### 用途

- 高频开关电源
- 低压续流电路和保护电路

### 产品特性

- 共阴结构
- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保 (RoHS) 产品

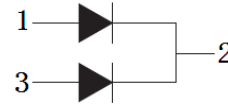
### APPLICATIONS

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

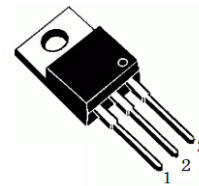
### FEATURES

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

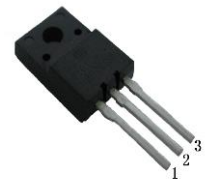
## 封装 Package



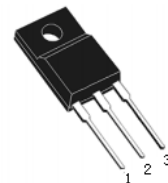
TO-220



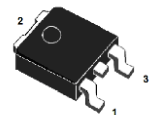
TO-220HF



TO-220MF-K1



TO-263



## 订货信息 ORDER MESSAGE

### 订货型号 Order codes

有卤-条管 Halogen-Tube	无卤-条管 Halogen Free-Tube	有卤-编带 Halogen-Reel	无卤-编带 Halogen Free-Reel	印 记 Marking	封 装 Package
MBR2045-CA-B	MBR2045-CA-BR	N/A	N/A		
MBR2045-FA-B	MBR2045-FA-BR	N/A	N/A	MBR2045	TO-220HF
MBR2045-F1-B	MBR2045-F1-BR	N/A	N/A	MBR2045	TO-220MF-K1
MBR2045-S-B	MBR2045-S-BR	MBR2045-S-A	MBR2045-S-AR	MBR2045	TO-263



**绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)**

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
最大反向重复峰值电压 Repetitive peak reverse voltage	V <sub>RRM</sub>	45	V
最大直流阻断电压 Maximum DC blocking voltage	V <sub>DC</sub>	45	V
正向平均整流电流 Average forward current	I <sub>F(AV)</sub>	T <sub>C</sub> =125℃ (TO-220, TO-263) 20	A
		T <sub>C</sub> =100℃ (TO-220HF/22 0MF-K1) 10	
正向峰值浪涌电流 Surge non repetitive forward current (额定负载 8.3ms 半正弦波—按 JEDEC 方法) 8.3 ms single half-sine-wave (JEDEC Method)	I <sub>FSM</sub>	150	A
最高结温 Maximum junction temperature	T <sub>j</sub>	150	℃
储存温度 Storage temperature range	T <sub>STG</sub>	-40~+150	℃

**电特性 ELECTRICAL CHARACTERISTICS**

项 目 Parameter	测 试 条 件 Tests conditions		最 小 值 Value(min)	典 型 值 Value(typ)	最 大 值 Value(max)	单 位 Unit
I <sub>R</sub>	T <sub>j</sub> =25℃	V <sub>R</sub> =V <sub>RRM</sub>			50	μA
	T <sub>j</sub> =125℃				50	mA
V <sub>F</sub>	T <sub>j</sub> =25℃	I <sub>F</sub> =10A		0.55	0.6	V
	T <sub>j</sub> =125℃			0.48	0.54	V

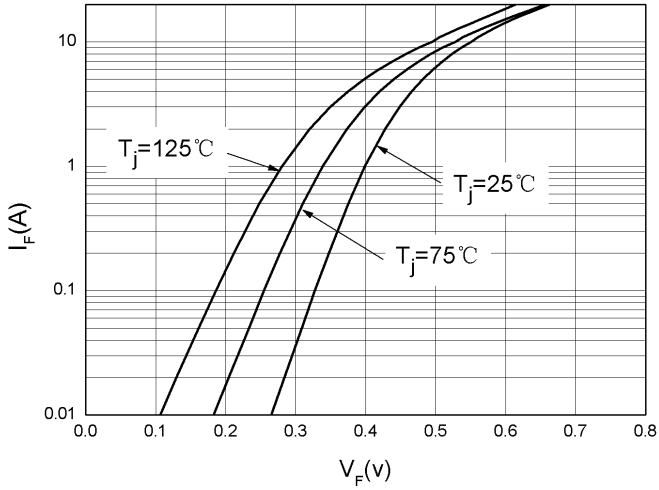
**热特性 THERMAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	最 小 值 Value(min)	最 大 值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	R <sub>th(j-c)</sub>	TO-220	1.9	℃/W
		TO-263	1.9	
		TO-220HF	3.5	
		TO-220MF-K1	3.5	

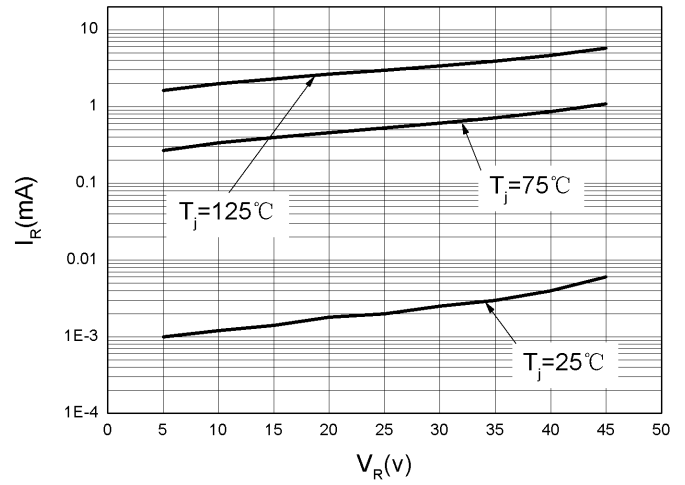


### 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

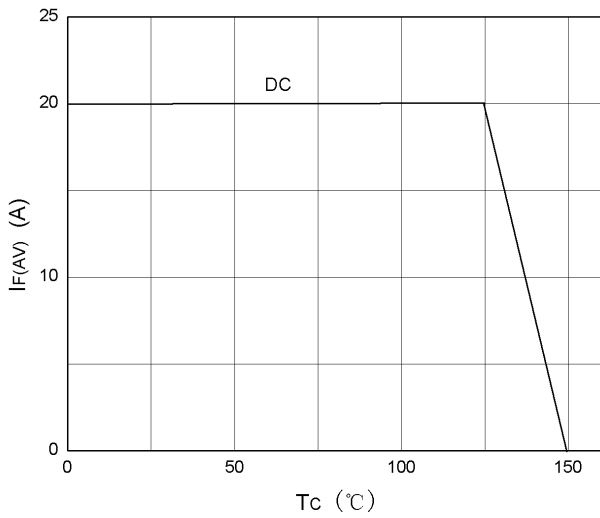
**$I_F$  vs  $V_F$**



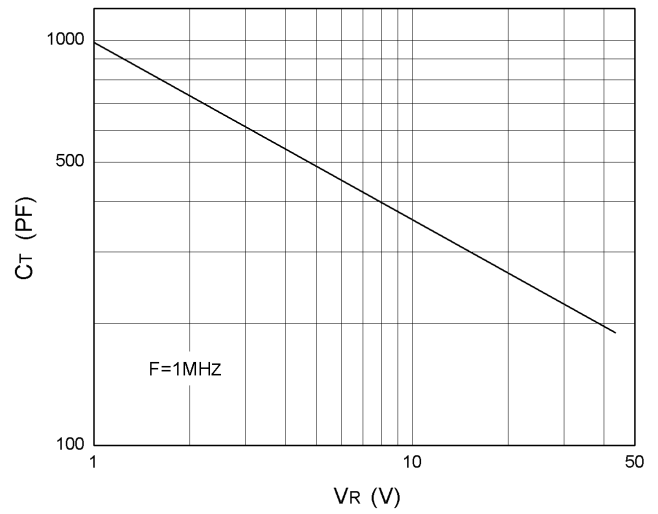
**$I_R$  vs  $V_R$**

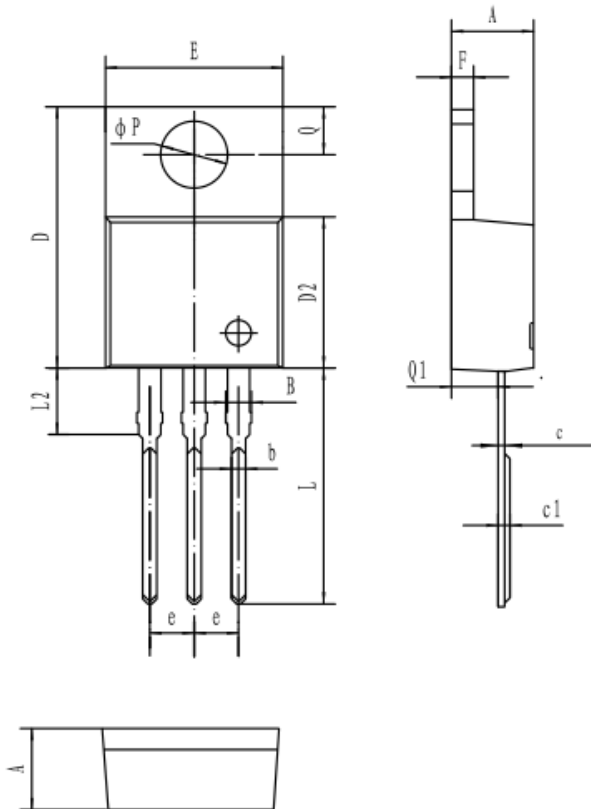


**$I_{F(AV)}$  vs  $T_c$**

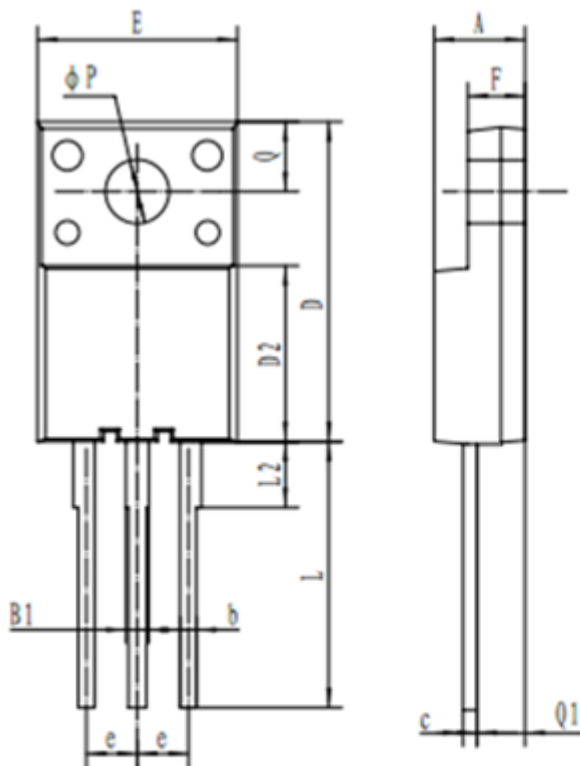


**$C_T$  vs  $V_R$**



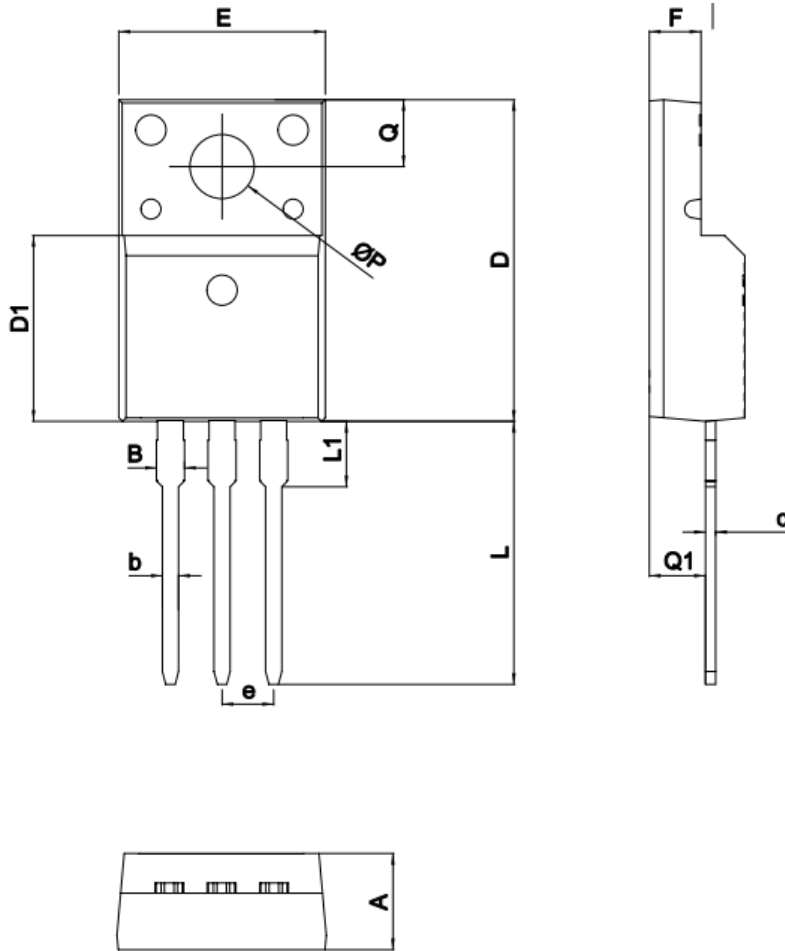


符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	0.48
c1	0.32	0.52
D	14.45	16.00
D2	8.20	9.20
E	9.60	10.40
e	2.39	2.69
F	1.20	1.35
L	13.05	14.05
L2	3.70	3.90
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00

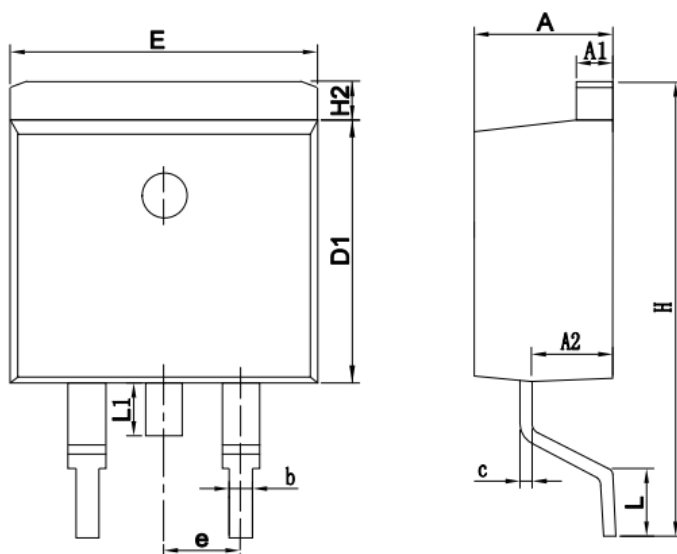


符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
$\phi p$	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



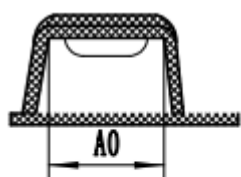
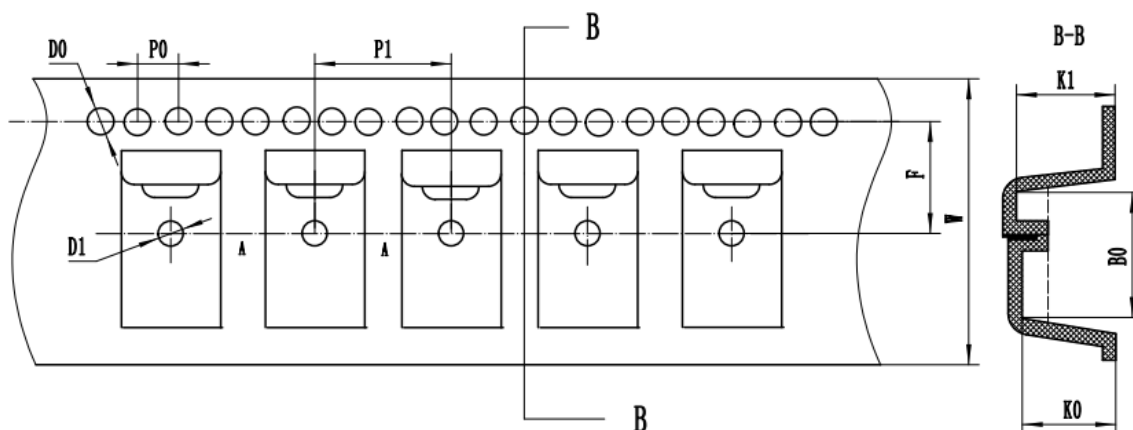


SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5



SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

编带 REEL



A-A

Symbol	标准范围 (mm)
A0	10.60 ± 0.20
B0	16.10 ± 0.20
D0	1.55 ± 0.10
D1	1.50 ± 0.15
F	11.50 ± 0.20
K0	4.85 ± 0.20
K1	5.26 ± 0.20
P0	4.00 ± 0.20
P1	16.00 ± 0.20
W	24.00 ± 0.40



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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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### 联系方式

#### 吉林华微电子股份有限公司

公司地址：吉林省吉林市深圳街 99 号

邮编：132013

总机：86-432-64678411

传真：86-432-64665812

网址：[www.hwdz.com.cn](http://www.hwdz.com.cn)

### CONTACT

#### JILIN SINO-MICROELECTRONICS CO., LTD.

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64678411

Fax: 86-432-64665812

Web Site: [www.hwdz.com.cn](http://www.hwdz.com.cn)