



# MBR2045S

## 主要参数 MAIN CHARACTERISTICS

$I_F$ (AV)	20 (2×10) A
$V_{RRM}$	45 V
$T_j$	150 °C
$V_F$ (max)	0.56V (@ $T_j=125^\circ\text{C}$ )

### 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

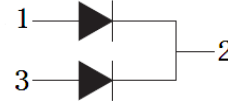
### APPLICATIONS

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

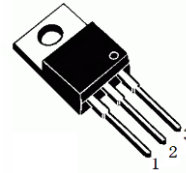
### FEATURES

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

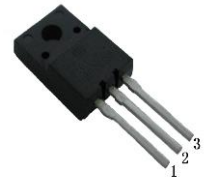
## 封装 Package



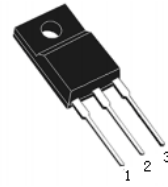
TO-220



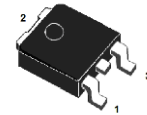
TO-220HF



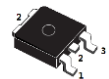
TO-220MF-K1



TO-263



DPAKM



## 订货信息 ORDER MESSAGE

订货型号 Order codes				印 记 Marking	封 装 Package
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		
MBR2045S-CA-B	MBR2045S-CA-BR	N/A	N/A	MBR2045S	TO-220
MBR2045S-FA-B	MBR2045S-FA-BR	N/A	N/A	MBR2045S	TO-220HF
MBR2045S-F1-B	MBR2045S-F1-BR	N/A	N/A	MBR2045S	TO-220MF-K1
MBR2045S-S-B	MBR2045S-S-BR	MBR2045S-S-A	MBR2045S-S-AR	MBR2045S	TO-263
N/A	N/A	MBR2045S-RM-A	MBR2045S-RM-AR	MBR2045S	DPAKM



**绝对最大额定值 ABSOLUTE RATINGS (T<sub>C</sub>=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	T <sub>C</sub> =125℃ (TO-220/ TO-263/DPAK M)	I <sub>F(AV)</sub>	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	0.63	V
	T <sub>j</sub> =125℃			0.49	0.56	V

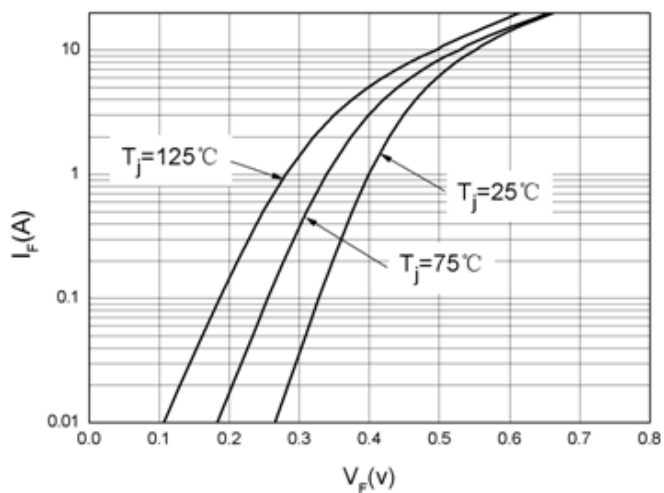
**热特性 THERMAL CHARACTERISTICS**

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	TO-220	R <sub>th(j-c)</sub>		1.9	℃/W
	TO-220HF			3.5	
	TO-220MF-K1			3.5	
	TO-263			1.9	
	DPAKM			2.3	

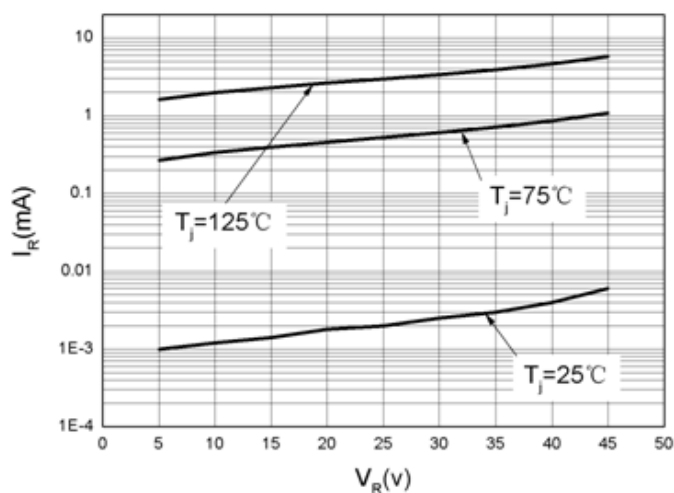


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

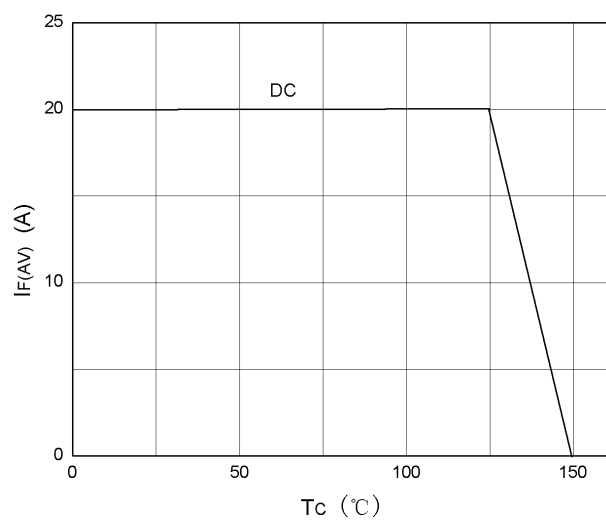
IF vs VF



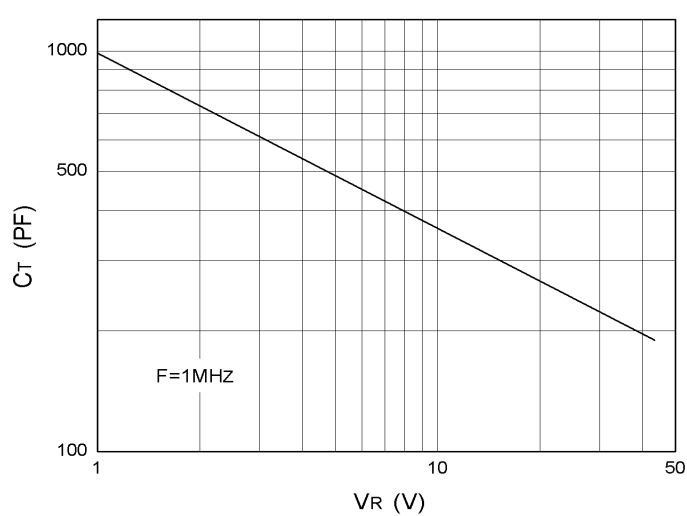
IR vs VR

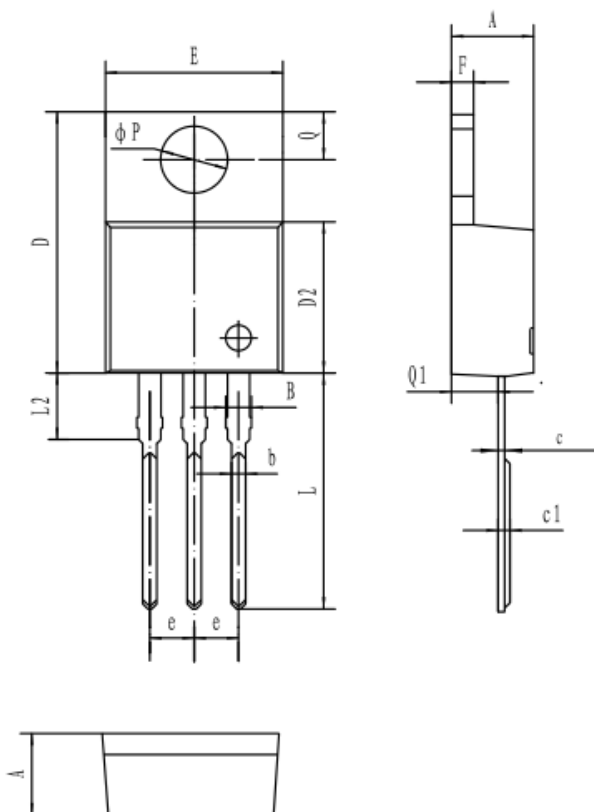


IF(AV) vs Tc

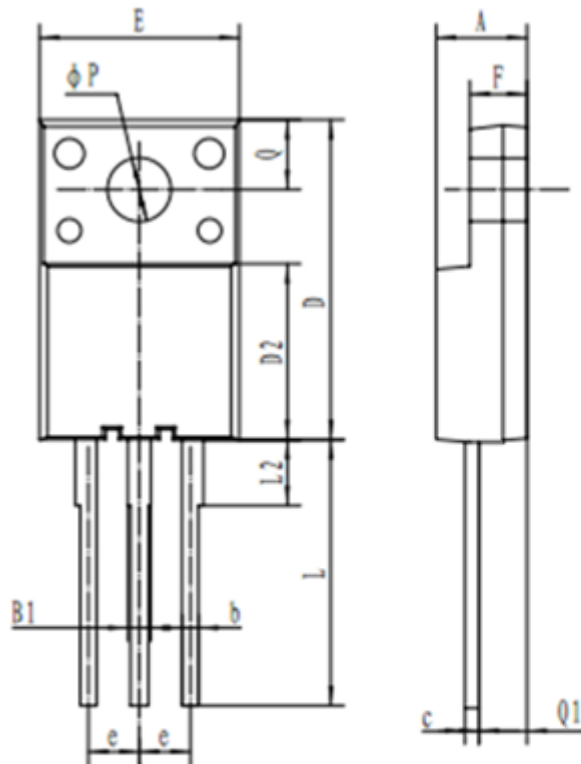


CT vs VR





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



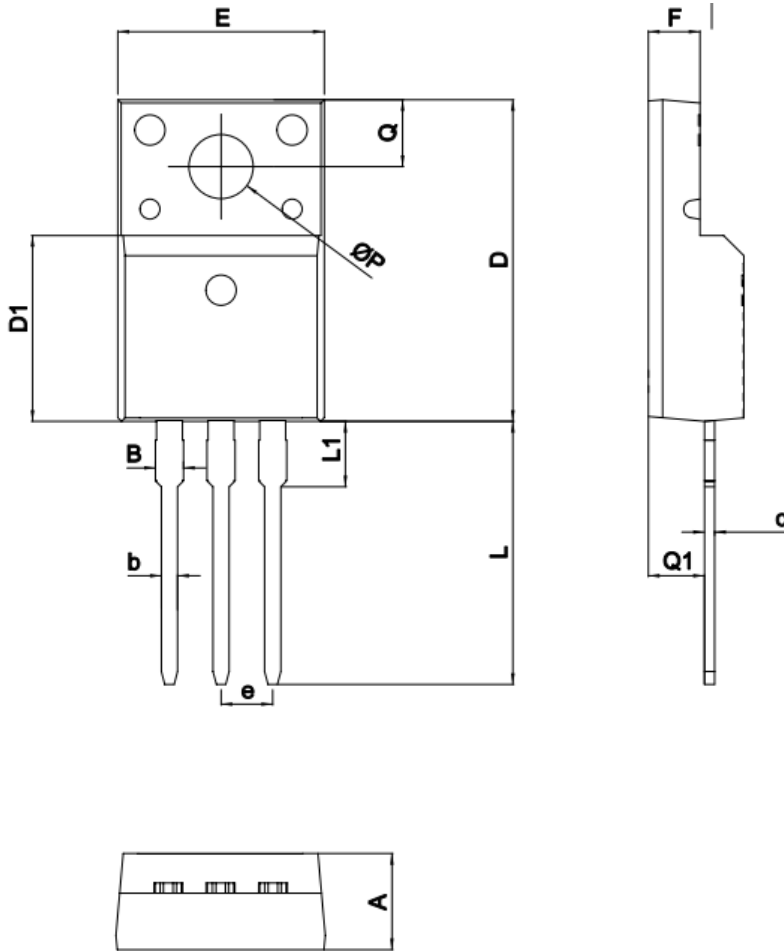
符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
phi p	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



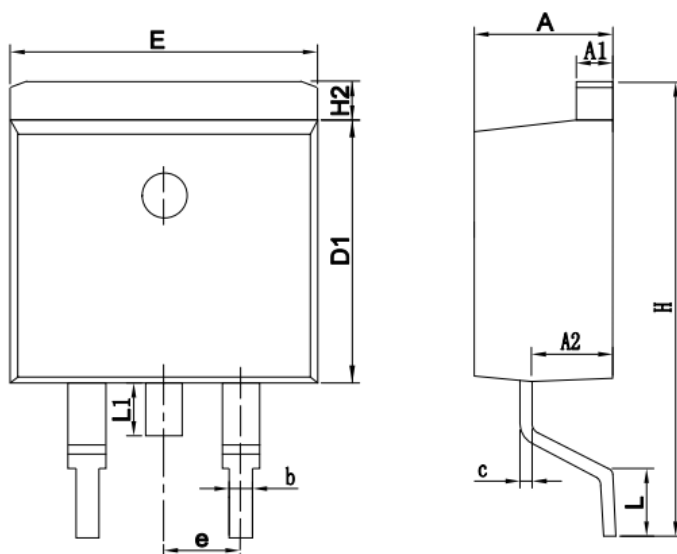


外形尺寸 PACKAGE MECHANICAL DATA  
TO-220MF-K1

单位 Unit : mm

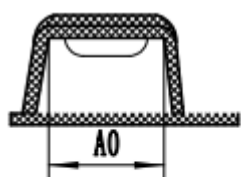
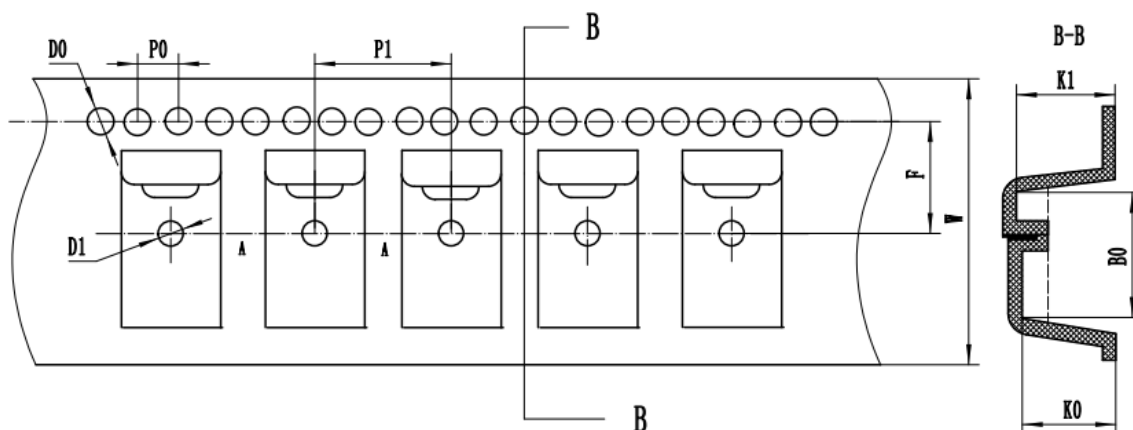


SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5



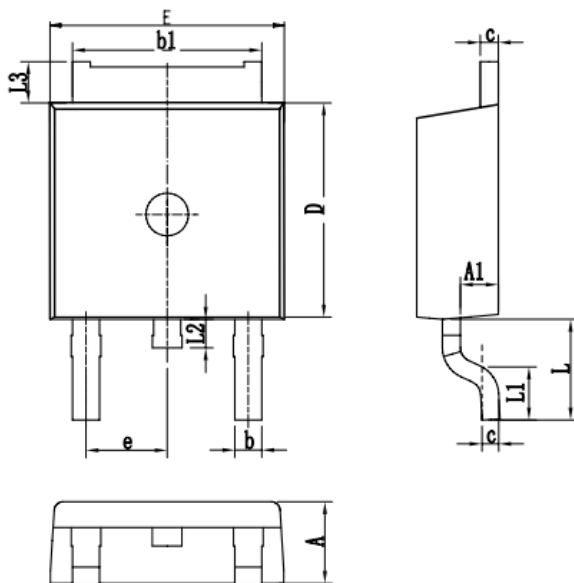
SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

编带 REEL



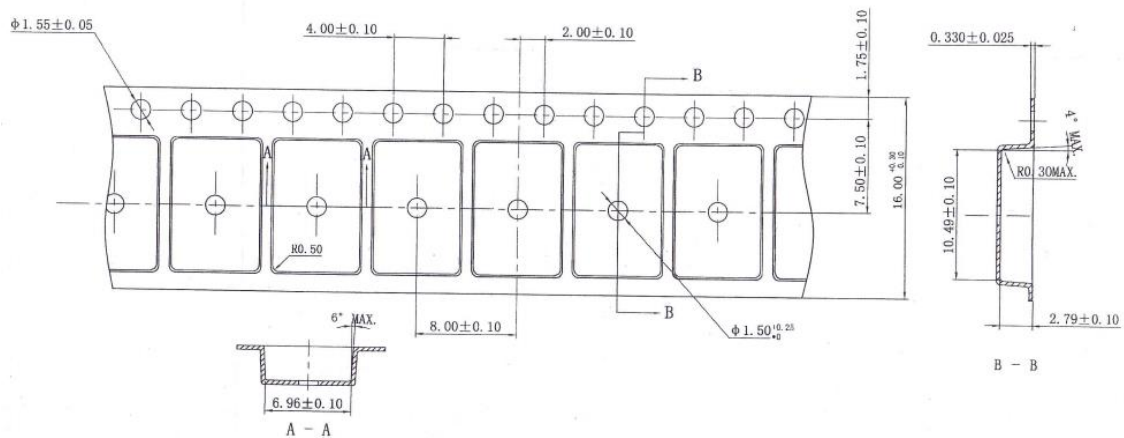
A-A

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



SYMBOL	mm	
	MIN	MAX
A	2.10	2.50
A1	0.80	1.20
b	0.66	0.96
b1	5.10	5.50
c	0.40	0.62
D	5.85	6.45
E	6.30	6.90
e	2.286BSC	
L	2.40	3.00
L1	0.85	1.45
L2	0.60	1.10
L3	0.67	1.07

编带 REEL







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