



HBR4045

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	40 (2×20) A
V_{RRM}	45 V
T_j	175 °C
$V_{F(max)}$	0.58V (@ $T_j=125^{\circ}C$)

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

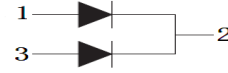
APPLICATIONS

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

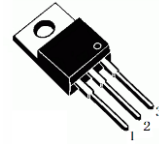
FEATURES

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

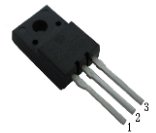
封装 Package



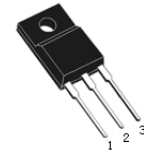
TO-220



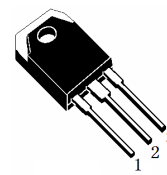
TO-220HF



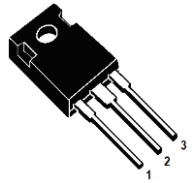
TO-220MF-K1



TO-3PB



TO-247



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		
HBR4045-CA-B	HBR4045-CA-BR	N/A	N/A	HBR4045	TO-220
HBR4045-FA-B	HBR4045-FA-BR	N/A	N/A	HBR4045	TO-220HF
HBR4045A-F1-B	HBR4045A-F1-BR	N/A	N/A	HBR4045A	TO-220MF-K1
HBR4045-GD-B	HBR4045-GD-BR	N/A	N/A	HBR4045	TO-3PB
HBR4045-GE-B	HBR4045-GE-BR	N/A	N/A	HBR4045	TO-247

绝对最大额定值 ABSOLUTE RATINGS (T_c=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 _{RRM}	45	V
最大直流阻断电压 Maximum DC blocking voltage		V _{DC}	45	V
正向平均整流电流 Average forward current	T _c =150℃ (TO-220, TO-3PB,TO-247)	I _{F(AV)}	40	A
	T _c =125℃ (TO-220HF/220MF-K1)		20	
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 _{FSM}	300	A
最高结温 Maximum junction temperature		T _j	175	℃
储存温度 Storage temperature range		T _{STG}	-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 _R	T _j =25℃	V _R =V _{RRM}			30	μA
	T _j =125℃				20	mA
V _F	T _j =25℃	I _F =10A		0.52	0.57	V
	T _j =125℃			0.44	0.48	V
	T _j =25℃	I _F =20A		0.59	0.67	V
	T _j =125℃			0.54	0.58	V

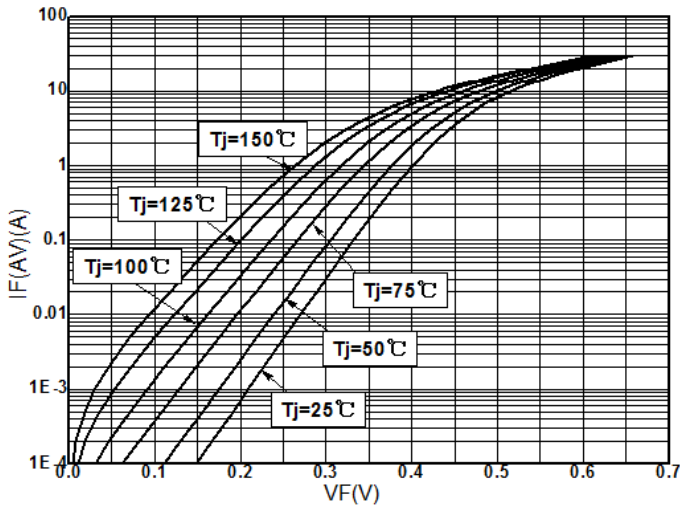
热特性 THERMAL CHARACTERISTICS

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 _{th(j-c)}		1.7	℃/W
	TO-3PB			1.9	
	TO-247			1.9	
	TO-220HF			2.4	
	TO-220MF-K1			3.5	

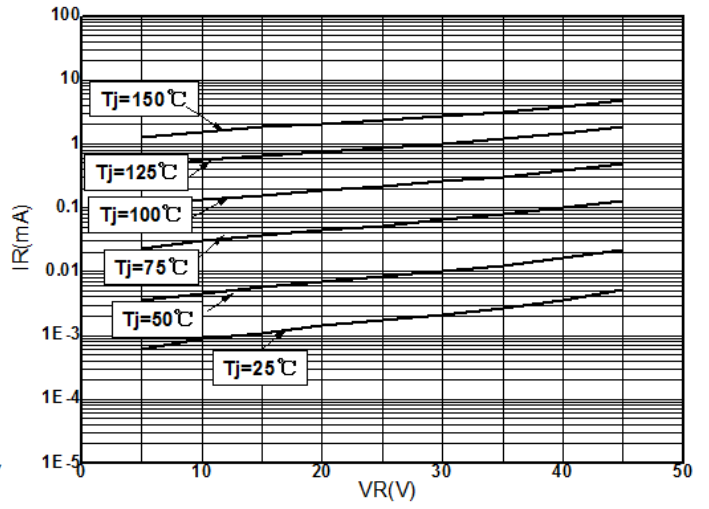


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

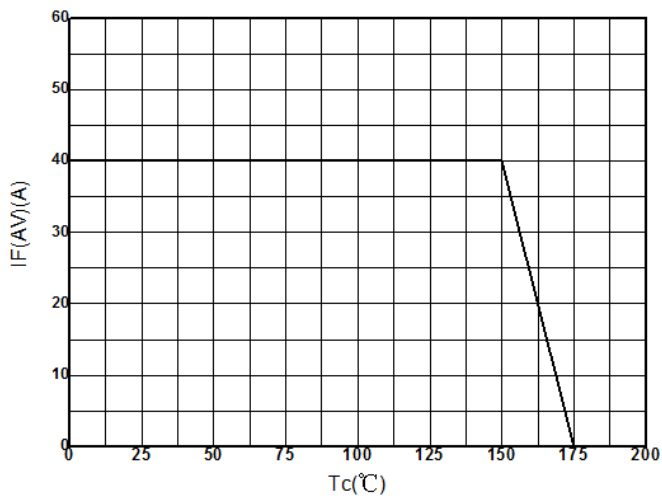
IF vs VF



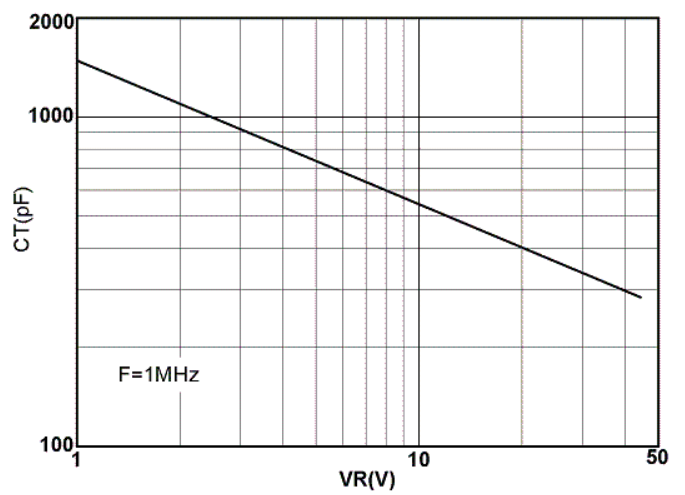
IR vs VR



IF(AV) vs Tc



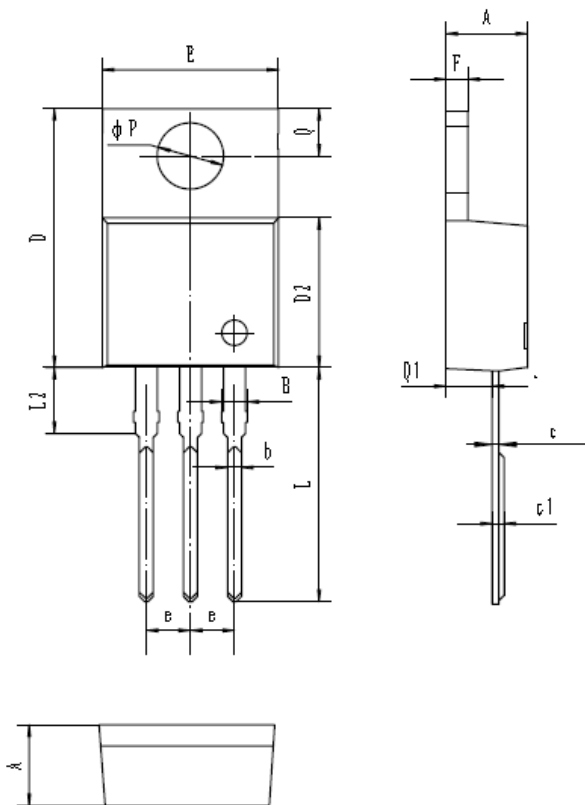
CT vs VR





外形尺寸 PACKAGE MECHANICAL DATA
TO-220

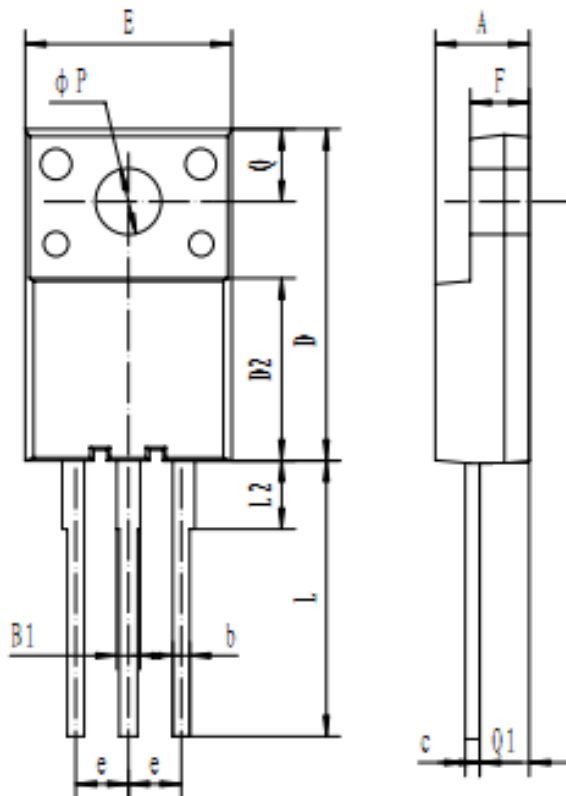
单位 Unit : mm



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

外形尺寸 PACKAGE MECHANICAL DATA
TO-220HF

单位 Unit : mm



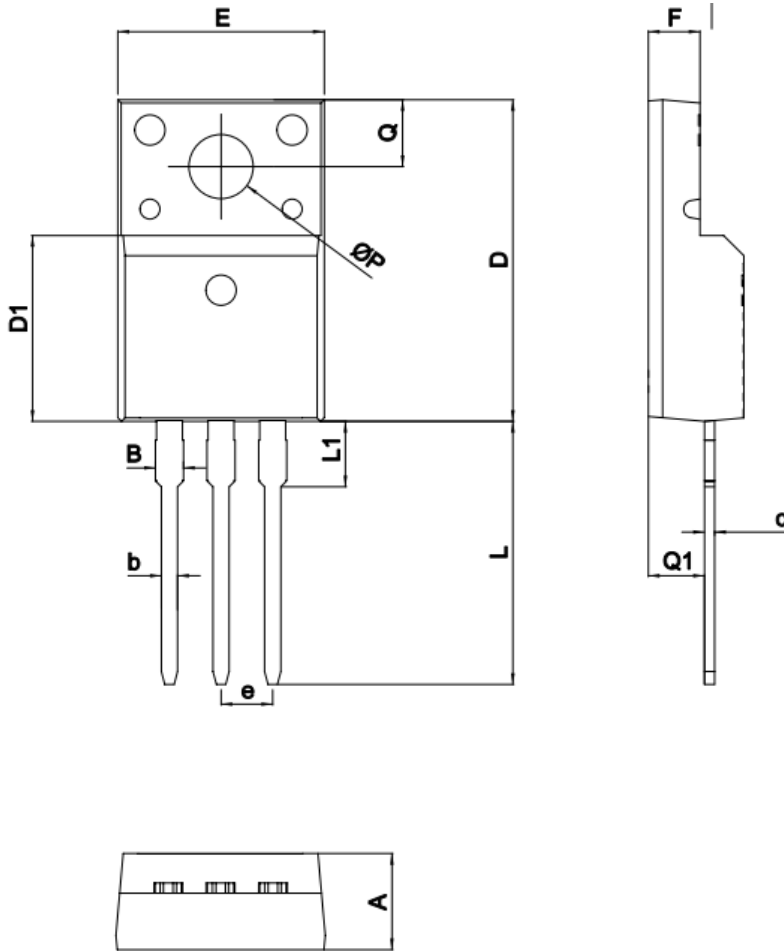
符号 Symbol	Min	Max
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.70
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54(typ)	
F	2.3	3.3
L	12.0	14.0
L2	3.1	3.5
ϕP	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



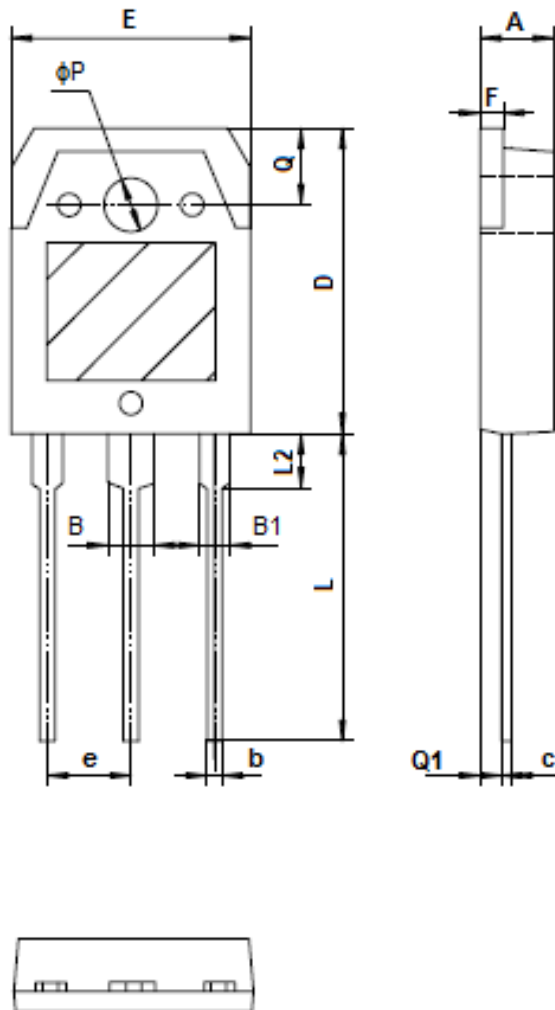


外形尺寸 PACKAGE MECHANICAL DATA
TO-220MF-K1

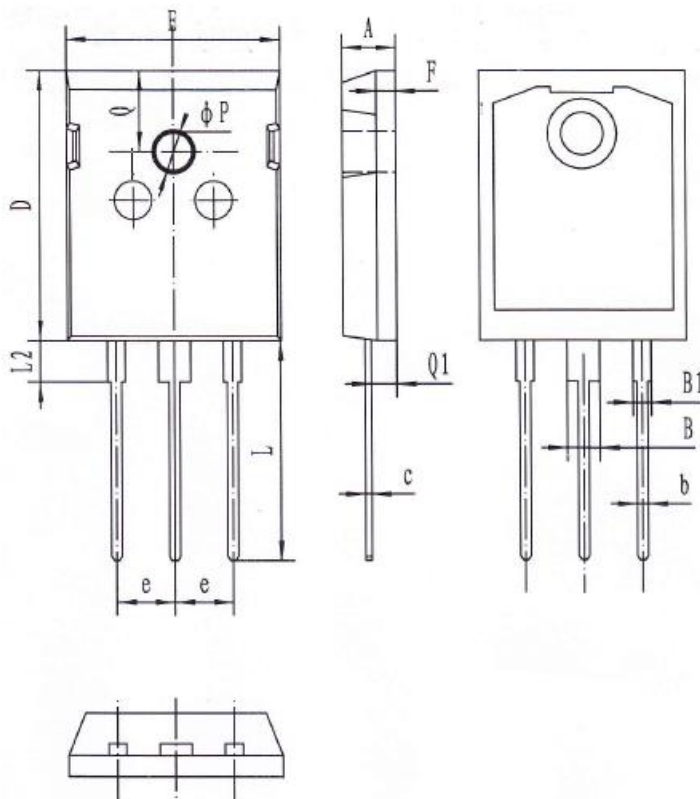
单位 Unit : mm



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



符号 Symbol	MIN	MAX
A	4.60	5.00
B	2.90	3.20
B1	1.90	2.20
b	0.90	1.10
c	0.50	0.70
D	19.40	20.40
E	15.40	15.80
e	5.45(TYP)	
F	1.40	1.60
L	19.50	20.50
L2	3.30	3.70
Q	4.90	5.10
Q1	1.30	1.50
P	3.10	3.50



符号 symbol	MIN	MAX
A	4.90	5.10
B	2.85	3.11
B1	1.95	2.05
b	1.15	1.25
c	0.60TYP	
D	20.77	21.07
E	15.77	16.03
e	5.32	5.58
F	1.92	2.08
L	20.05	20.31
L2	4.22	4.32
Q	6.00	6.20
Q1	2.33	2.43
P	3.65	3.75



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