



HBR3060

主要参数 MAIN CHARACTERISTICS

I_F (AV)	30 (2×15) A
V_{RRM}	60 V
T_j	175 °C
V_F (max)	0.68V (@ $T_j=125^{\circ}\text{C}$)

用途

- 高频开关电源
- 低压续流电路和保护电路

APPLICATIONS

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

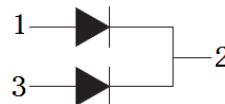
产品特性

- 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

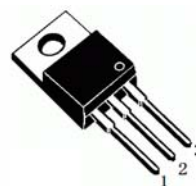
FEATURES

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

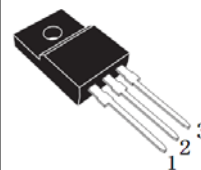
封装 Package



TO-220



TO-220F



TO-3PB



TO-220HF



订货信息 ORDER MESSAGE

订货型号 Order codes	印记 Marking	封装 Package	无卤素 Halogen Free	包装 Packaging	器件重量 Device Weight
HBR3060Z	HBR3060	TO-220	否 NO	条管 Tube	1.98 g(typ)
HBR3060ZR	HBR3060	TO-220	是 YES	条管 Tube	1.98 g(typ)
HBR3060F	HBR3060	TO-220F	否 NO	条管 Tube	1.70 g(typ)
HBR3060FR	HBR3060	TO-220F	是 YES	条管 Tube	1.70 g(typ)
HBR3060HF	HBR3060	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
HBR3060HFR	HBR3060	TO-220HF	是 YES	条管 Tube	1.70 g(typ)
HBR3060AB	HBR3060	TO-3PB	否 NO	条管 Tube	5.20 g(typ)
HBR3060ABR	HBR3060	TO-3PB	是 YES	条管 Tube	5.20 g(typ)



**绝对最大额定值 ABSOLUTE RATINGS** ($T_c=25^{\circ}\text{C}$)

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}	60	V
最大直流阻断电压 Maximum DC blocking voltage			V_{DC}	60	V
正向平均整流电流 Average forward current	$T_c=150^{\circ}\text{C}$ (TO-220, TO-3PB)	整个器件 per device	$I_{F(AV)}$	30	A
	$T_c=125^{\circ}\text{C}$ (TO-220F, TO-220HF)	单 侧 per diode		15	
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}	275	A
最高结温 Maximum junction temperature			T_j	175	$^{\circ}\text{C}$
储存温度 Storage temperature range			T_{STG}	-40~+150	$^{\circ}\text{C}$

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
IR	$T_j=25^{\circ}\text{C}$	VR=VRRM			30	μA
	$T_j=125^{\circ}\text{C}$				30	mA
VF	$T_j=25^{\circ}\text{C}$	IF=15A			0.85	V
	$T_j=125^{\circ}\text{C}$			0.64	0.68	V

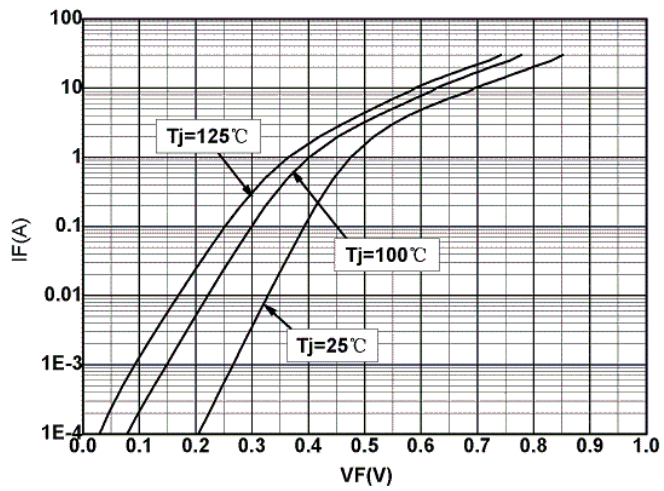
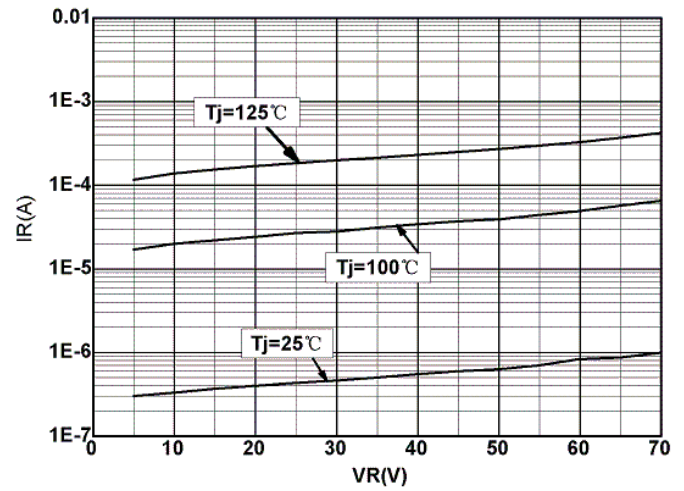
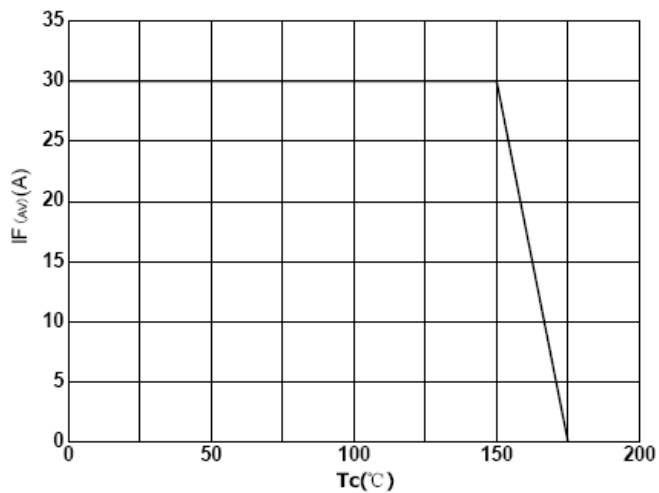
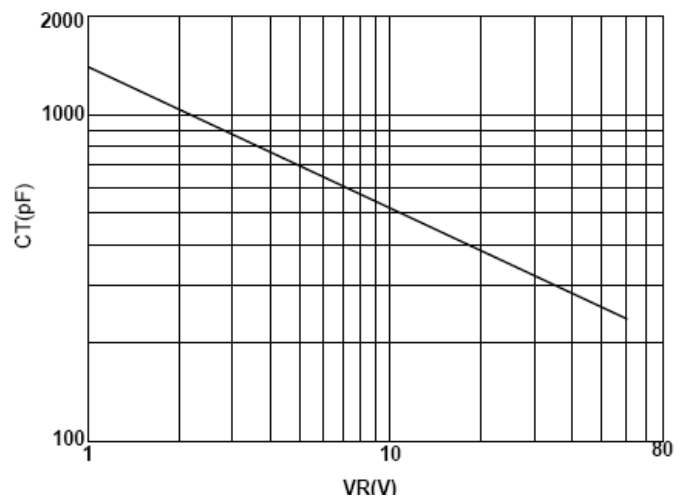
热特性 THERMAL CHARACTERISTICS

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	$^{\circ}\text{C/W}$
	TO-3PB			1.9	
	TO-220F			2.4	
	TO-220HF			2.4	





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 

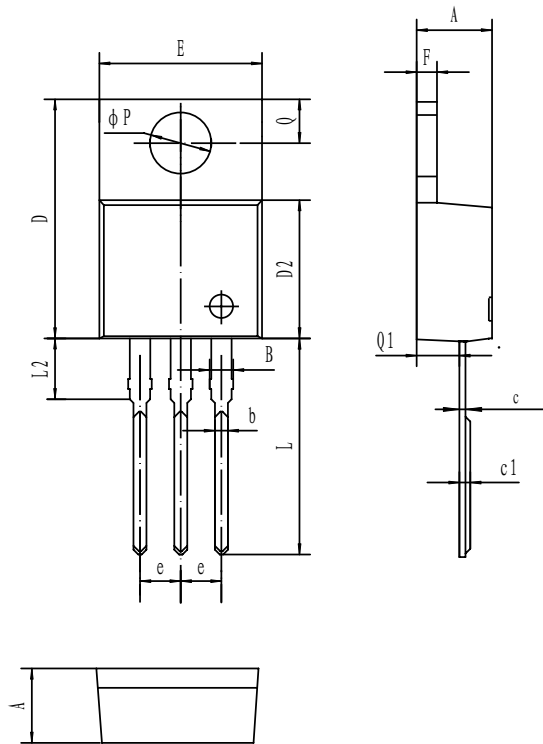


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外形尺寸 PACKAGE MECHANICAL DATA

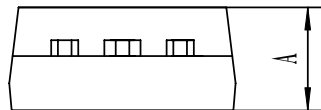
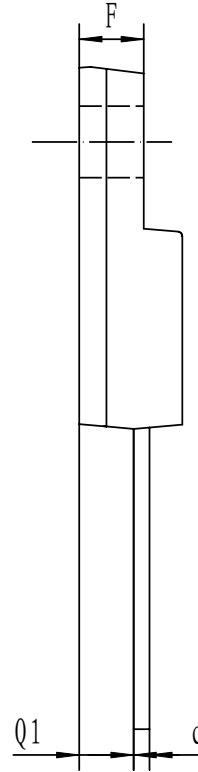
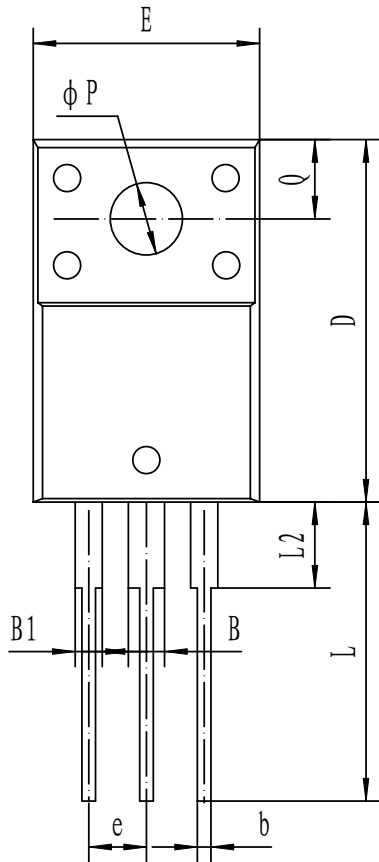
TO-220

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





符 号 Symbol	Min	Max
A	4.3	4.7
B	1.5	1.75
B1	1.1	1.35
b	0.5	0.75
c	0.5	0.75
D	14.5	15.5
E	9.96	10.36
e	2.54 (typ)	
F	2.8	3.2
L	12.7	13.7
L2	3.6	4.0
ΦP	3.3	3.7
Q	2.5	2.9
Q1	2.5	2.9



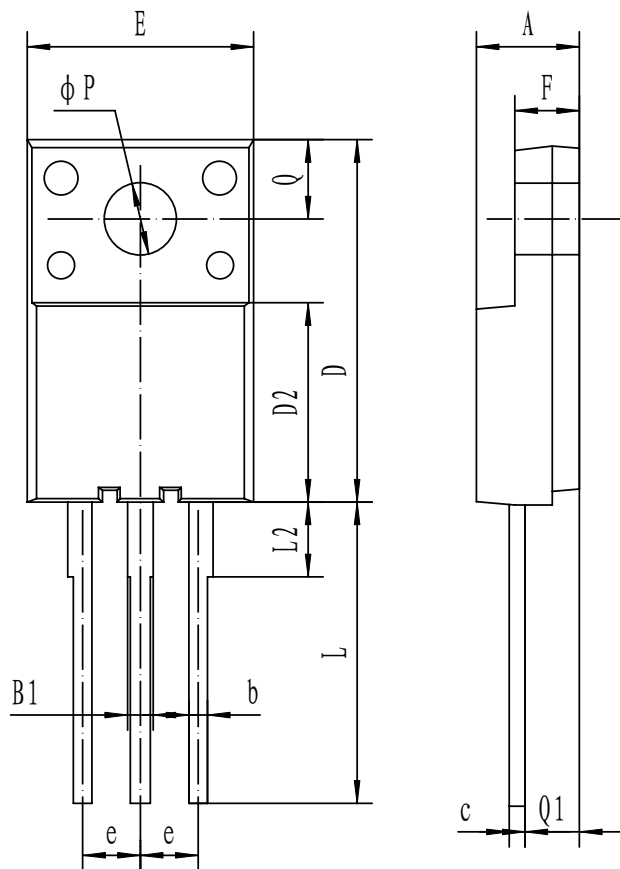


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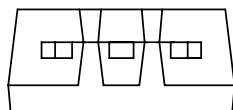
外形尺寸 PACKAGE MECHANICAL DATA

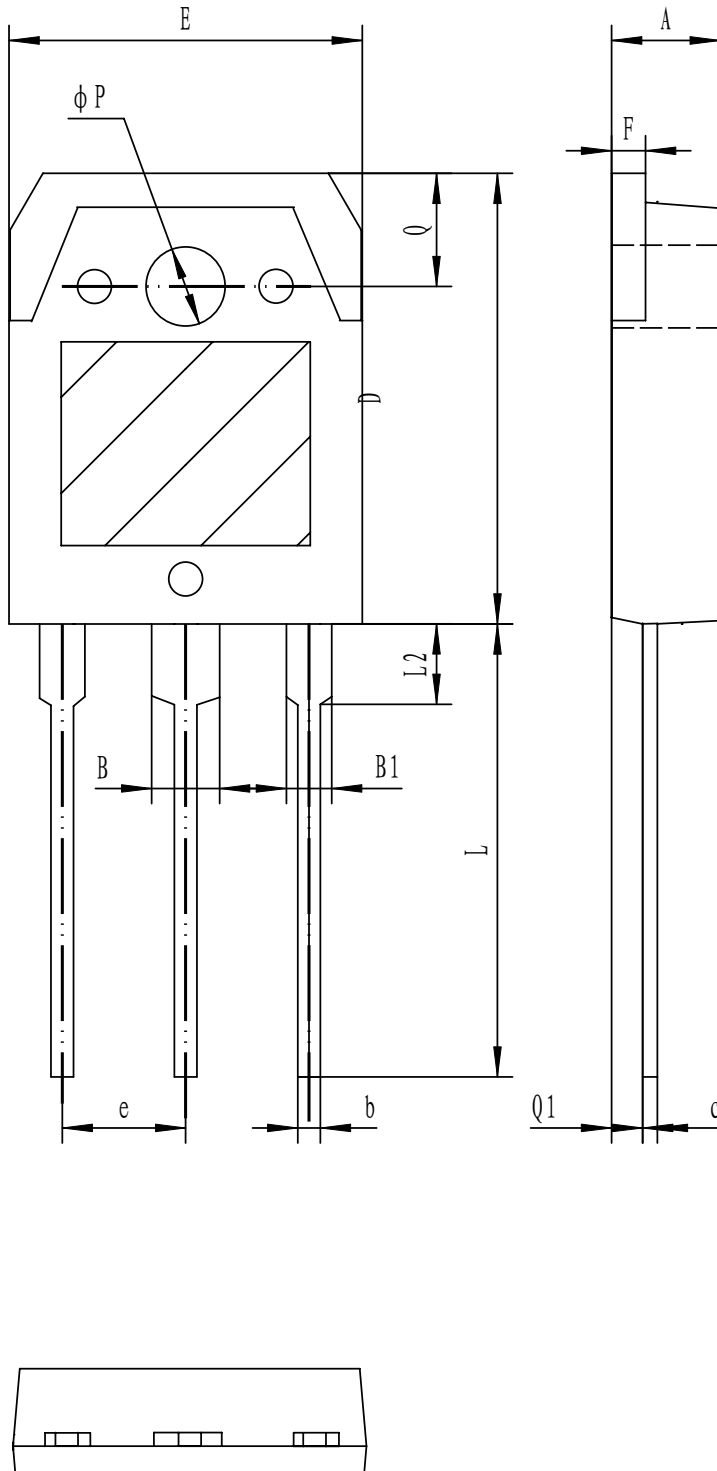
TO-220HF

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





符 号 Symbol	Min	Max
A	4.6	5.0
B	2.9	3.2
B1	1.9	2.2
b	0.9	1.10
c	0.5	0.70
D	19.4	20.4
E	15.4	15.8
e	5.45 (typ)	
F	1.4	1.60
L	19.5	20.5
L2	3.3	3.7
ΦP	3.1	3.5
Q	5.8	6.2
Q1	1.3	1.5



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4. 本说明书如有版本变更不另外告知

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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附录 (Appendix): 修订记录 (Revision History)

日期 Date	旧版本 Last Rev.	新版本 New Rev.	修订内容 Description of Changes
2010-03-05	200911D	201003E	Added TO-220HF.

