



HBR25200

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	25 (2×12.5) A
V_{RRM}	200 V
T_j	175 °C
$V_{F(max)}$	0.78V (@ $T_j=125^{\circ}C$)

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

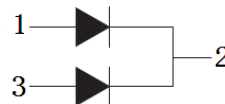
产品特性

- 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

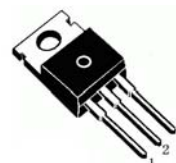
FEATURES

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

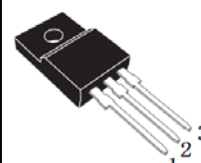
封装 Package



T0-220C



T0-220F



T0-220HF



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
HBR25200C	HBR25200	TO-220C	否 NO	条管 Tube	2.15 g(typ)
HBR25200CR	HBR25200	TO-220C	是 YES	条管 Tube	2.15 g(typ)
HBR25200F	HBR25200	TO-220F	否 NO	条管 Tube	1.70 g(typ)
HBR25200FR	HBR25200	TO-220F	是 YES	条管 Tube	1.70 g(typ)
HBR25200HF	HBR25200	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
HBR25200HFR	HBR25200	TO-220HF	是 YES	条管 Tube	1.70 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}	200	V
最大直流阻断电压 Maximum DC blocking voltage			V_{DC}	200	V
正向平均整流电流 Average forward current	$T_c=150^{\circ}\text{C}$ (TO-220C)	整个器件 per device	$I_{F(AV)}$	25	A
	$T_c=125^{\circ}\text{C}$ (TO-220F, TO-220HF)	单 侧 per diode		12.5	
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}	190	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
I_R	$T_j=25^{\circ}\text{C}$	$V_R=V_{RRM}$			10	μA
	$T_j=125^{\circ}\text{C}$				6	mA
V_F	$T_j=25^{\circ}\text{C}$	$I_F=12.5\text{A}$		0.86	0.95	V
	$T_j=125^{\circ}\text{C}$			0.73	0.78	V

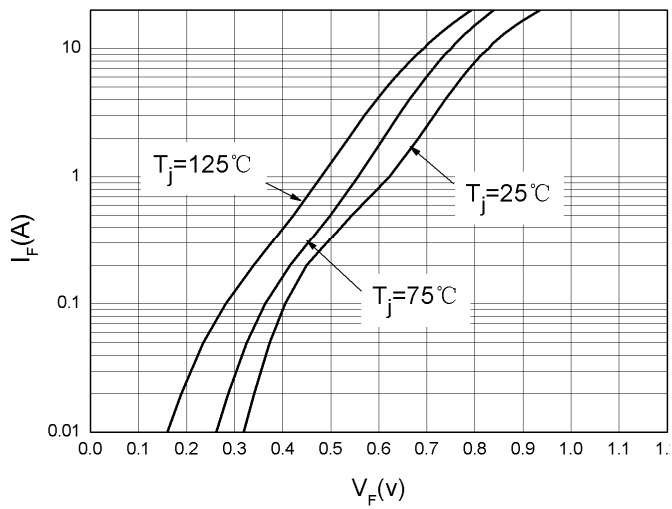
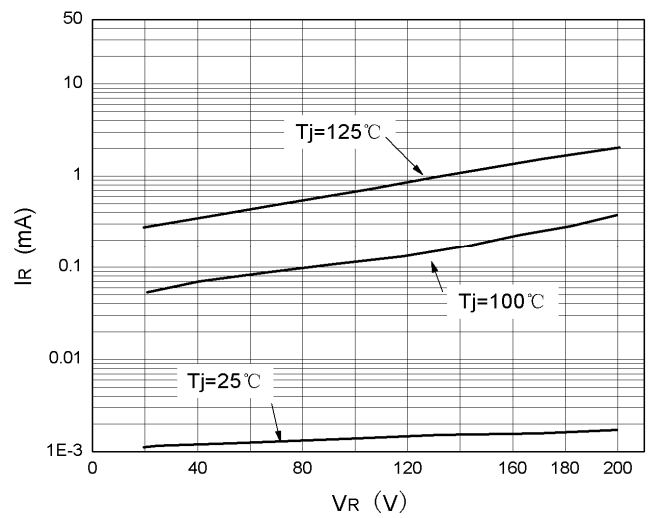
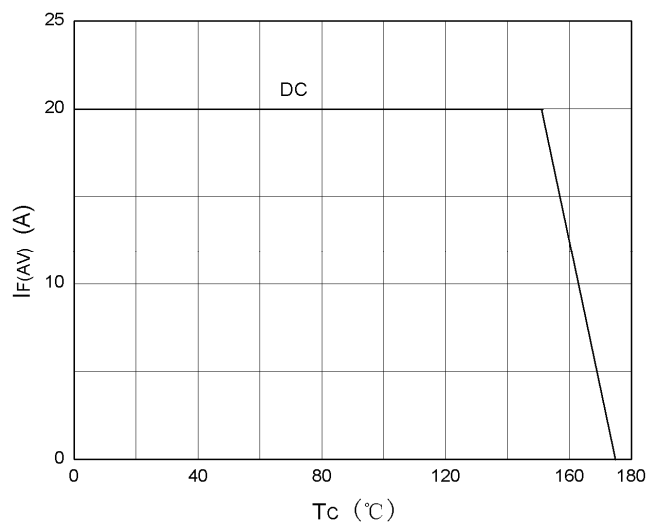
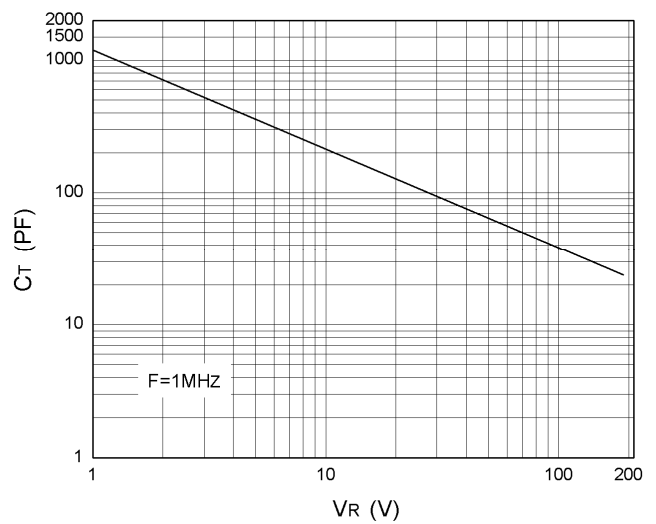
热特性 THERMAL CHARACTERISTICS

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-220C	$R_{th(j-c)}$		3.0	$^{\circ}\text{C}/\text{W}$
	TO-220F			3.5	
	TO-220HF			3.5	





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

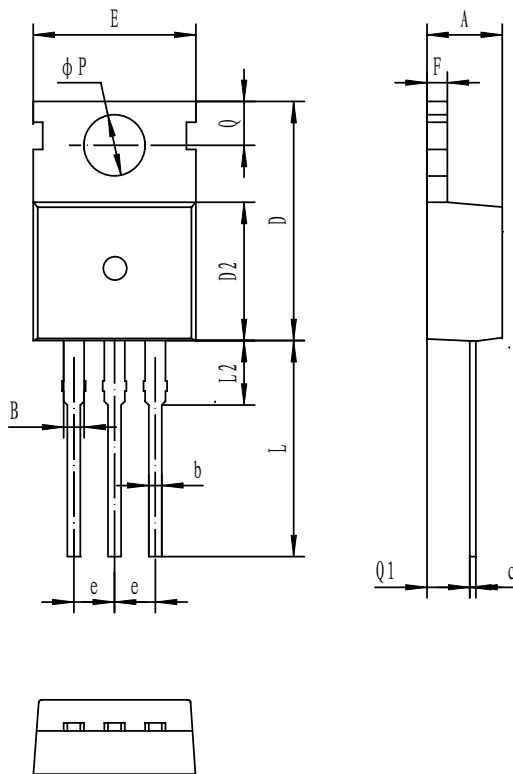
 I_F vs V_F  I_R vs V_R  $I_{F(AV)}$ vs T_C  C_T vs V_R 



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外形尺寸 PACKAGE MECHANICAL DATA
TO-220C

单位 Unit : mm



符号 symbol	MIN	MAX
A	4.30	4.70
B	1.10	1.40
b	0.70	0.95
c	0.40	0.65
D	15.20	16.20
D2	9.00	9.40
E	9.70	10.10
e	2.39	2.69
F	1.25	1.40
L	12.60	13.60
L2	2.80	3.20
Q	2.60	3.00
Q1	2.20	2.60
P	3.50	3.80

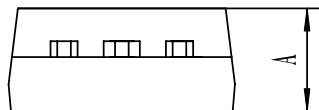
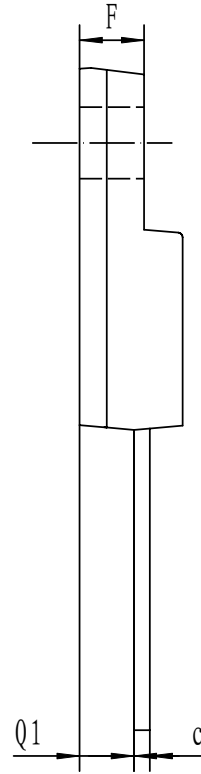
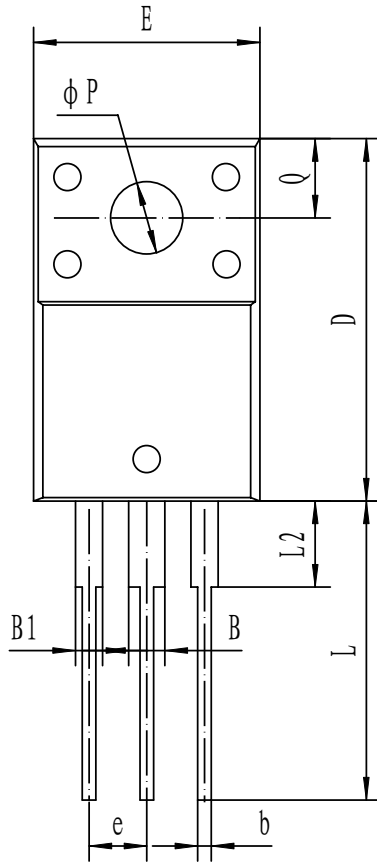




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外形尺寸 PACKAGE MECHANICAL DATA
TO-220F

单位 Unit : mm



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



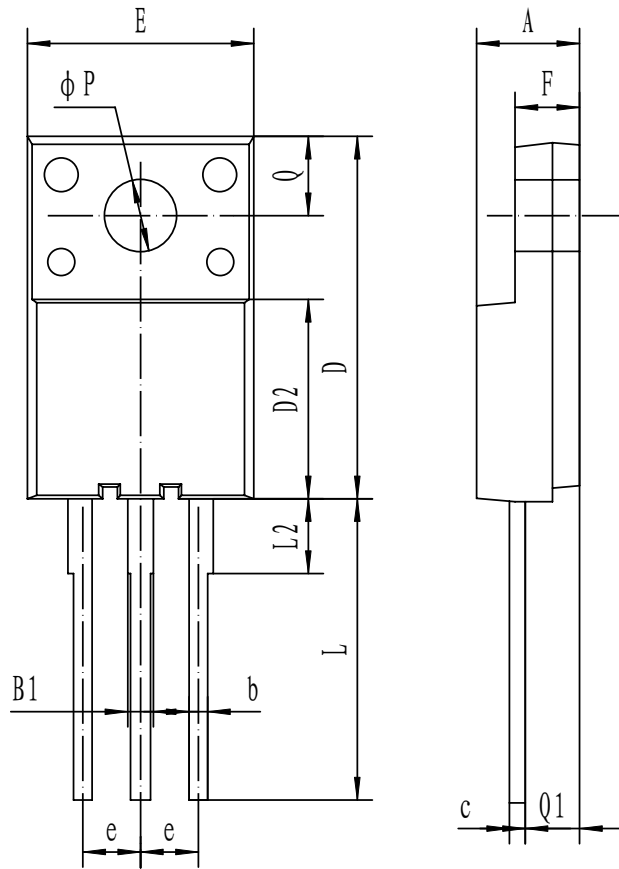


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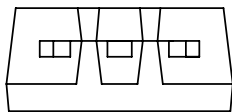
外形尺寸 PACKAGE MECHANICAL DATA

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



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3. 在电路设计时请不要超过器件的绝对最大额定值, 否则会影响整机的可靠性。
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.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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

市场营销部

地址: 吉林省吉林市深圳街 99 号

邮编: 132013

电话: 86-432-64675588

64675688

64678411-3098/3099

传真: 86-432-64671533

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

MARKET DEPARTMENT

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

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411-3098/3099

Fax: 86-432-64671533

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
2010-03-08	200911F	201003G	Added TO-220HF.

