



HBR10200S

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	10 (2x5) A
V_{RRM}	200 V
T_j	175 °C
$V_{F(max)}$	0.75V (@ $T_j=125^{\circ}C$)

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

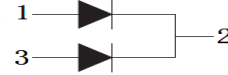
APPLICATIONS

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

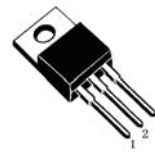
FEATURES

- 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-220B



TO-220HF



TO-262



TO-263



IPAKM



DPAKM



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
HBR10200SZ	HBR10200S	TO-220B	否 NO	条管 Tube	2.15 g(typ)
HBR10200SZR	HBR10200S	TO-220B	是 YES	条管 Tube	2.15 g(typ)
HBR10200SHF	HBR10200S	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
HBR10200SHFR	HBR10200S	TO-220HF	是 YES	条管 Tube	1.70 g(typ)
HBR10200SS	HBR10200S	TO-263	否 NO	条管 Tube	1.40 g(typ)
HBR10200SSR	HBR10200S	TO-263	是 YES	条管 Tube	1.40 g(typ)
HBR10200SS	HBR10200S	TO-263	否 NO	编带 Reel	1.40 g(typ)
HBR10200SSR	HBR10200S	TO-263	是 YES	编带 Reel	1.40 g(typ)
HBR10200SB	HBR10200S	TO-262	否 NO	条管 Tube	1.40 g(typ)
HBR10200SBR	HBR10200S	TO-262	是 YES	条管 Tube	1.40 g(typ)
HBR10200SVM	HBR10200S	IPAKM	否 NO	条管 Tube	0.38 g(typ)
HBR10200SVMR	HBR10200S	IPAKM	是 YES	条管 Tube	0.38 g(typ)
HBR10200SRM	HBR10200S	DPAKM	否 NO	编带 Reel	0.33 g(typ)
HBR10200SRMR	HBR10200S	DPAKM	是 YES	编带 Reel	0.33 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	$I_{F(AV)}$	$T_c=150^\circ\text{C}$ (TO-220B/263 /262/IPAKM/D PAKM) 整个器件 per device	10
		$T_c=125^\circ\text{C}$ (TO-220HF) 单 侧 per diode	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}	125	A
最高结温 Maximum junction temperature	T_j	175	$^\circ\text{C}$
储存温度 Storage temperature range	T_{STG}	-40~+175	$^\circ\text{C}$

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
	$T_j=125^\circ\text{C}$				5	mA
V_F	$T_j=25^\circ\text{C}$	$I_F=5\text{A}$		0.85	0.93	V
	$T_j=125^\circ\text{C}$			0.71	0.75	V
	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.94	0.98	V
	$T_j=125^\circ\text{C}$			0.81	0.86	V

热特性 THERMAL CHARACTERISTICS

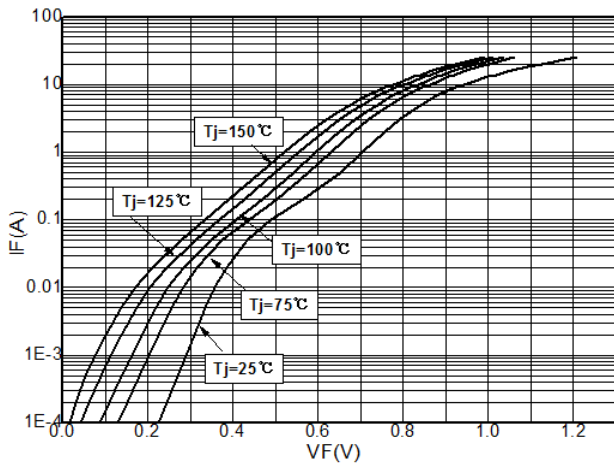
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit	
结到管壳的热阻 Thermal resistance from junction to case	TO-220B		1.9	$^\circ\text{C}/\text{W}$	
	TO-263		1.9		
	TO-262	$R_{th(j-c)}$			1.9
	IPAKM				3.0
	DPAKM				3.0
	TO-220HF				3.5



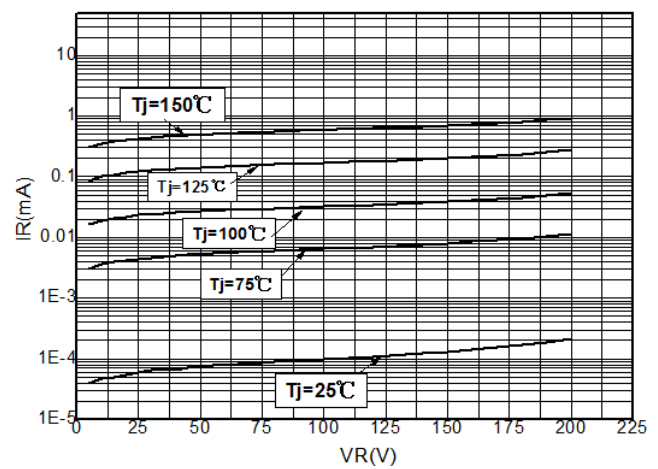


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

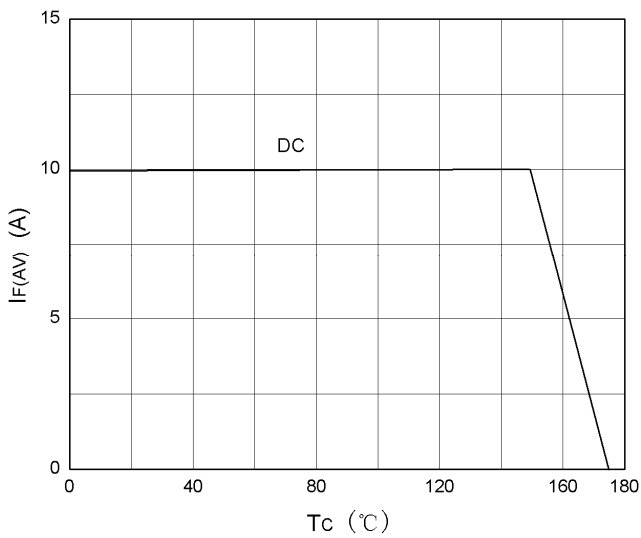
IF vs VF



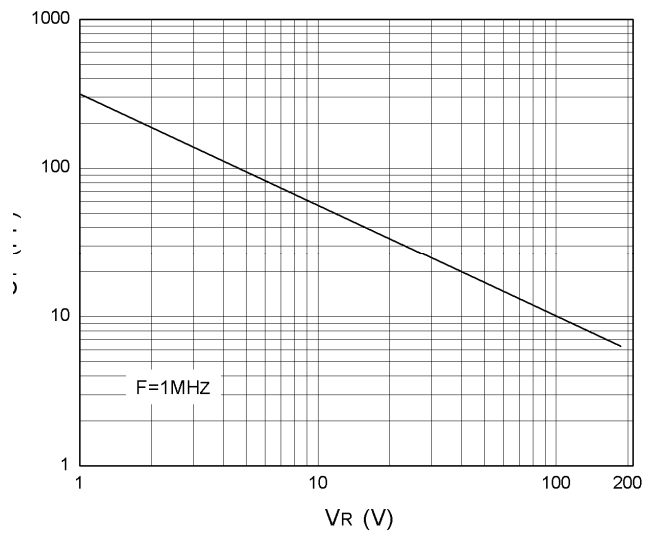
IR vs VR

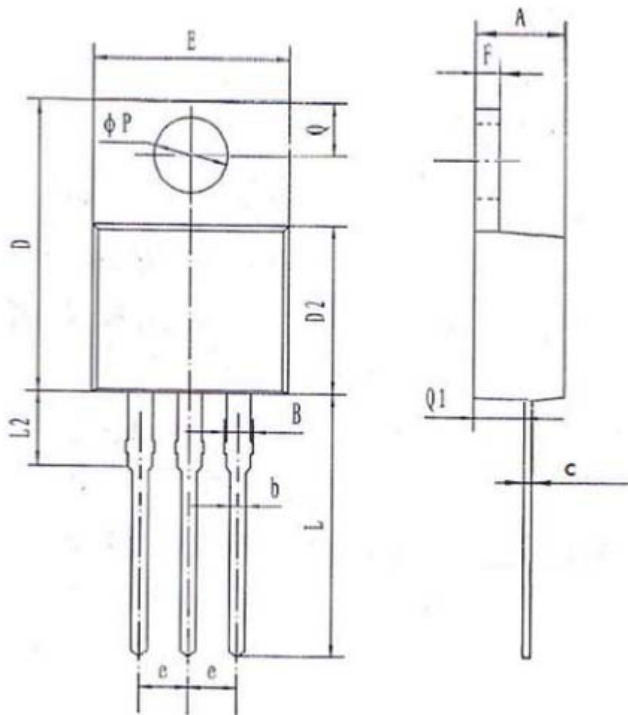


IF(AV) vs Tc



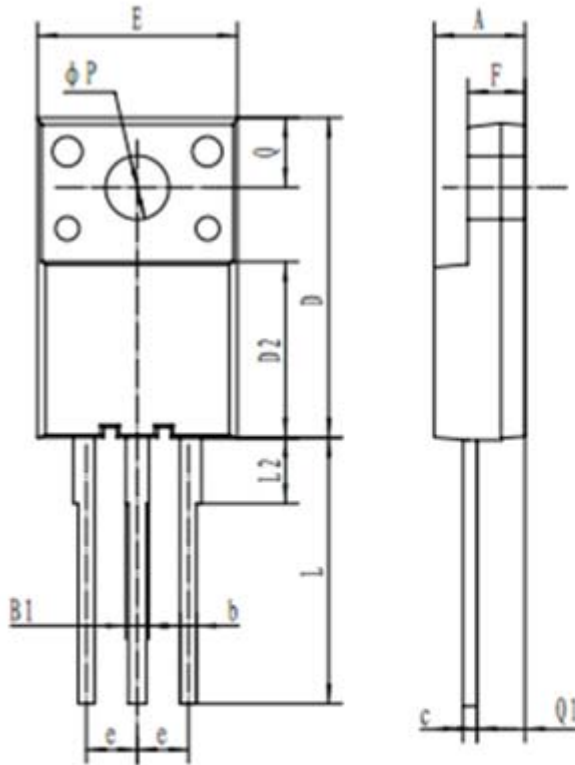
CT vs VR





符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.45	0.60
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	3.30	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
ϕp	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5

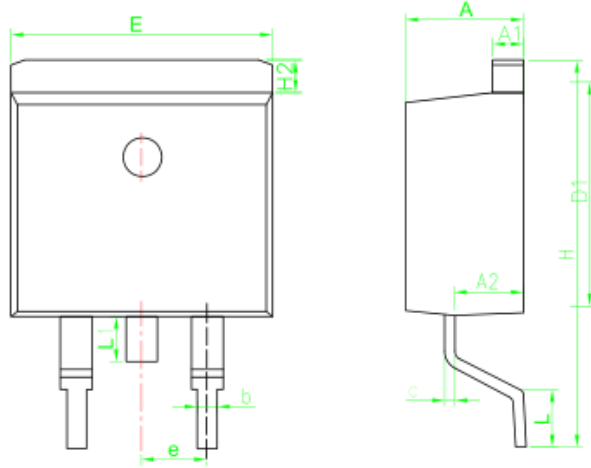




外形尺寸 PACKAGE MECHANICAL DATA

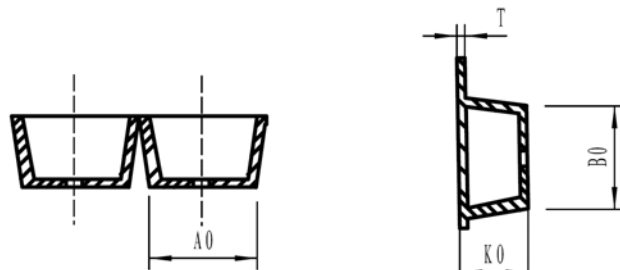
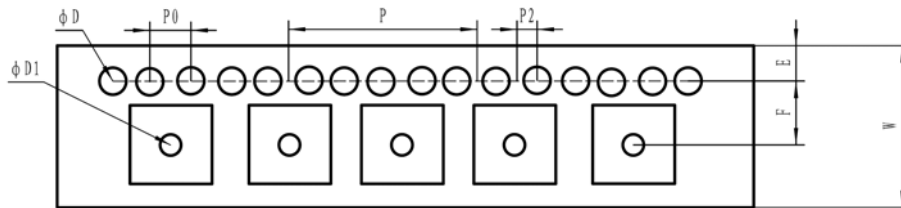
TO-263

单位 Unit : mm



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



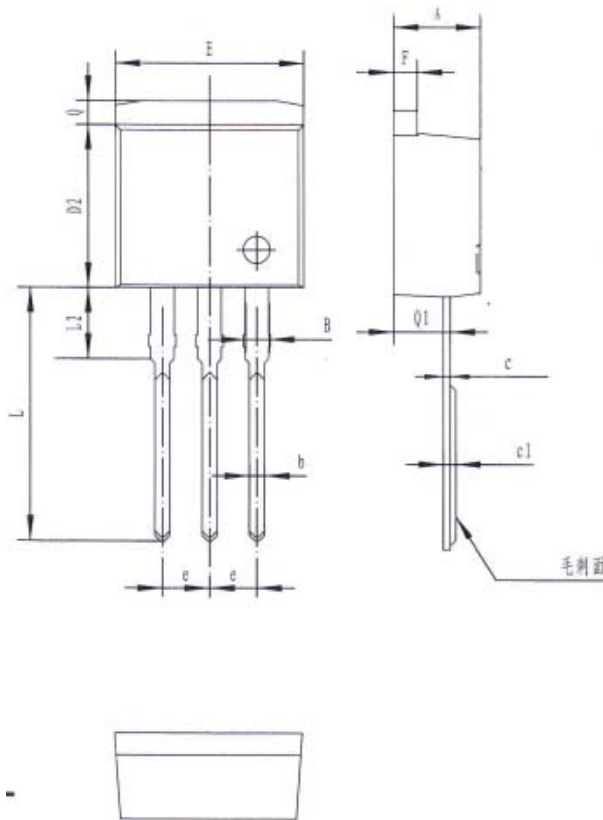
产品尺寸规格 (UNIT:mm)					
规格	W	A0	E	F	D
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2	1.5 +0.2/-0.1
规格	D1	P0	P2	P	T
尺寸	1.5 +0.2/-0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2	0.35 ± 0.05
规格	K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2			





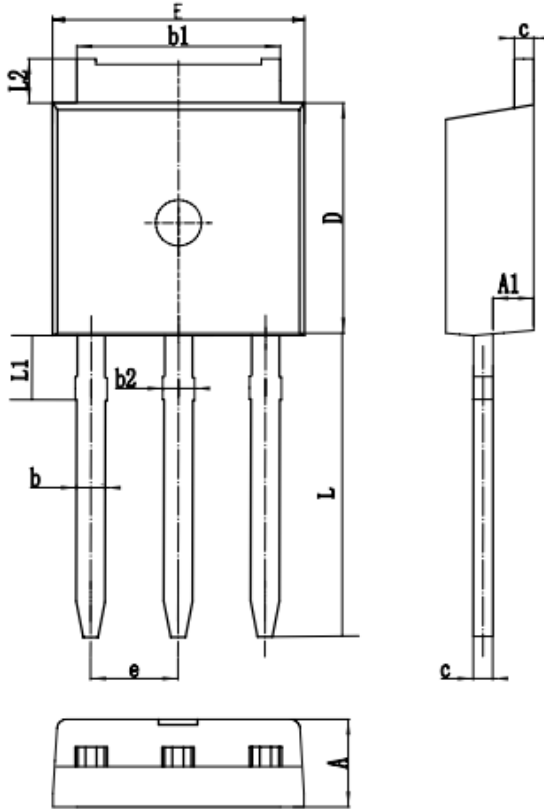
外形尺寸 PACKAGE MECHANICAL DATA
TO-262

单位 Unit : mm



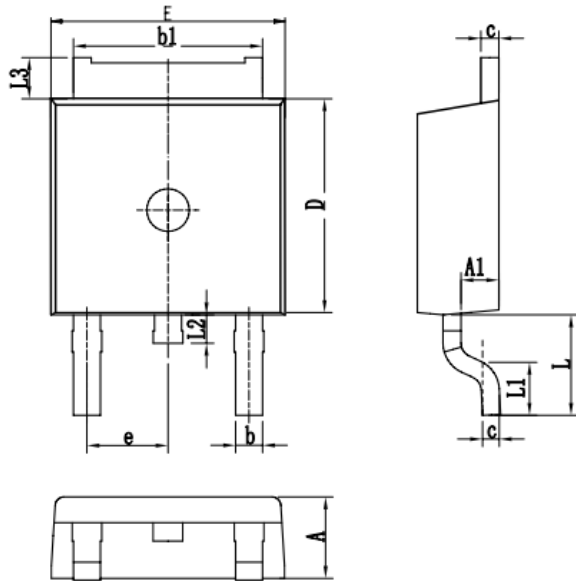
符号 symbol	MIN	MAX
A	4.40	4.90
B	1.10	1.40
b	0.70	0.95
c	0.30	0.60
c1	0.33	0.63
D2	8.20	9.20
E	9.60	10.50
e	2.39	2.69
F	1.20	1.35
L	13.11	14.61
L2	3.55	4.05
Q	1.10	1.40
Q1	2.65	2.85





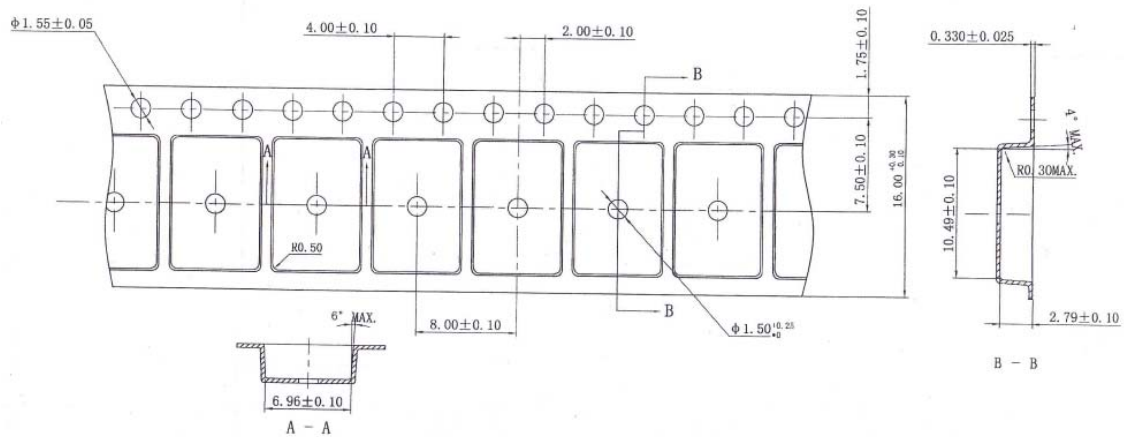
SYMBOL	mm	
	MIN	MAX
A	2.10	2.50
A1	0.80	1.20
b	0.66	0.96
b1	5.10	5.50
b2	0.85	1.25
c	0.40	0.62
D	5.85	6.45
E	6.30	6.90
e	2.286BSC	
L	9.00	9.60
L1	0.80	2.20
L2	0.67	1.07





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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- 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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2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
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.

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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
2015-7-27	201504A	201507B	Revised TO-220HF PACKAGE MECHANICAL DATA
2016-1-06		201601C	Revised IFSM and T _{STG} spec.
2016-3-15		201603D	Changed TO-220 To TO-220B

