



HBR10150S

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	10 (2×5) A
V_{RRM}	150 V
T_j	175 °C
$V_{F(max)}$	0.72V (@ $T_j=125^{\circ}C$)

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

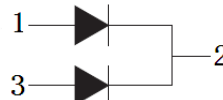
产品特性

- 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

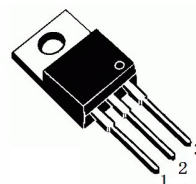
FEATURES

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

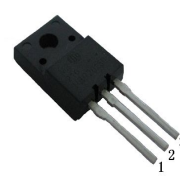
封装 Package



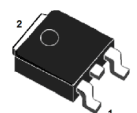
TO-220



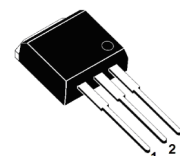
TO-220HF



TO-263



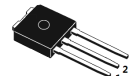
TO-262



DPAKM



IPAKM



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
HBR10150SZ	HBR10150S	TO-220	否 NO	条管 Tube	1.98 g(typ)
HBR10150SZR	HBR10150S	TO-220	是 YES	条管 Tube	1.98 g(typ)
HBR10150SHF	HBR10150S	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
HBR10150SHFR	HBR10150S	TO-220HF	是 YES	条管 Tube	1.70 g(typ)
HBR10150SS	HBR10150S	TO-263	否 NO	条管 Tube	1.40 g(typ)
HBR10150SSR	HBR10150S	TO-263	是 YES	条管 Tube	1.40 g(typ)
HBR10150SS	HBR10150S	TO-263	否 NO	编带 Reel	1.40 g(typ)
HBR10150SSR	HBR10150S	TO-263	是 YES	编带 Reel	1.40 g(typ)
HBR10150SB	HBR10150S	TO-262	否 NO	条管 Tube	1.70 g(typ)
HBR10150SBR	HBR10150S	TO-262	是 YES	条管 Tube	1.70 g(typ)
HBR10150SVM	HBR10150S	IPAKM	否 NO	条管 Tube	0.38 g(typ)
HBR10150SVMR	HBR10150S	IPAKM	是 YES	条管 Tube	0.38 g(typ)
HBR10150SRM	HBR10150S	DPAKM	否 NO	编带 Reel	0.33 g(typ)
HBR10150SRMR	HBR10150S	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}	150	V
最大直流阻断电压 Maximum DC blocking voltage			V_{DC}	150	V
正向平均整流电流 Average forward current	$T_c=150^{\circ}\text{C}$ (TO-220/263/262 /IPAKM/DPAKM)	整个器件 per device	$I_{F(AV)}$	10	A
	$T_c=125^{\circ}\text{C}$ (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}	85	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
	$T_j=125^{\circ}\text{C}$				5	mA
V_F	$T_j=25^{\circ}\text{C}$	$I_F=5\text{A}$		0.81	0.9	V
	$T_j=125^{\circ}\text{C}$			0.67	0.72	V
	$T_j=25^{\circ}\text{C}$	$I_F=10\text{A}$		0.89	0.95	V
	$T_j=125^{\circ}\text{C}$			0.76	0.8	V

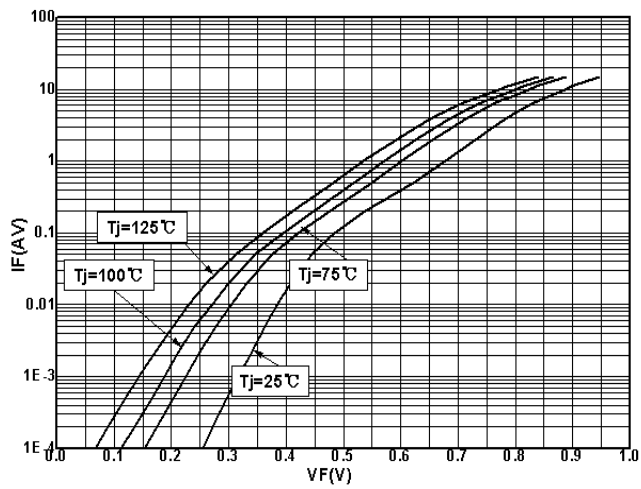
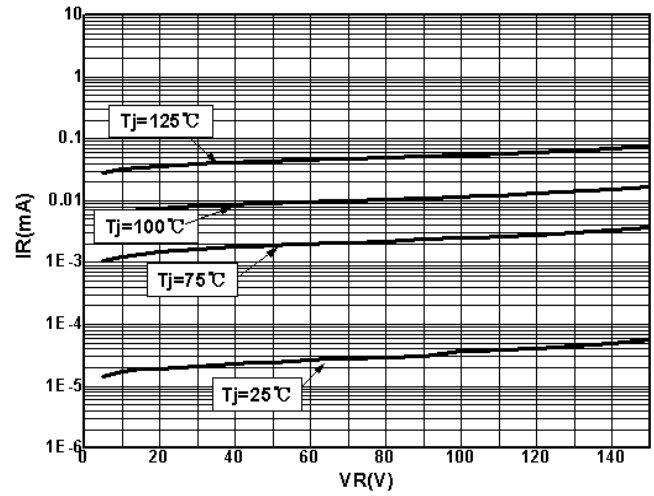
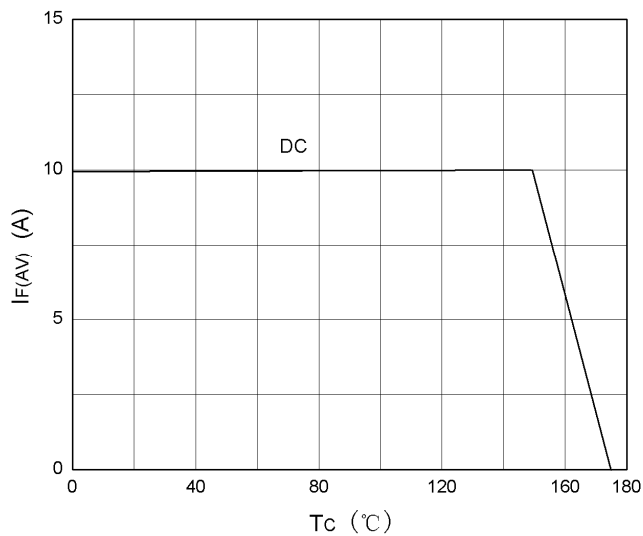
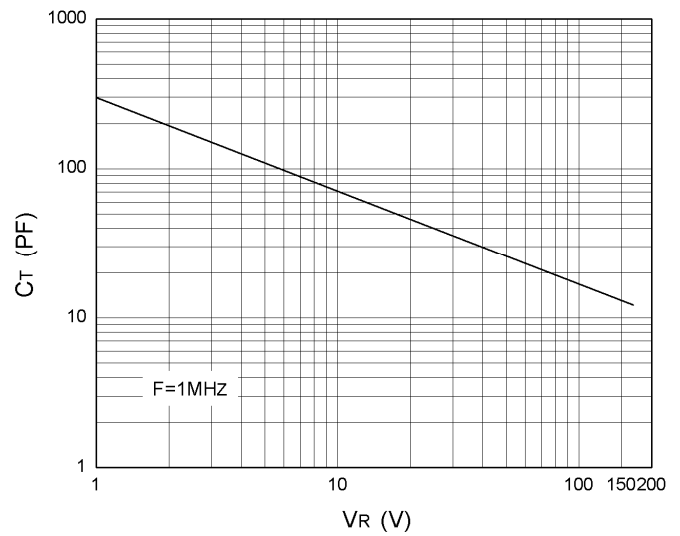
热特性 THERMAL CHARACTERISTICS

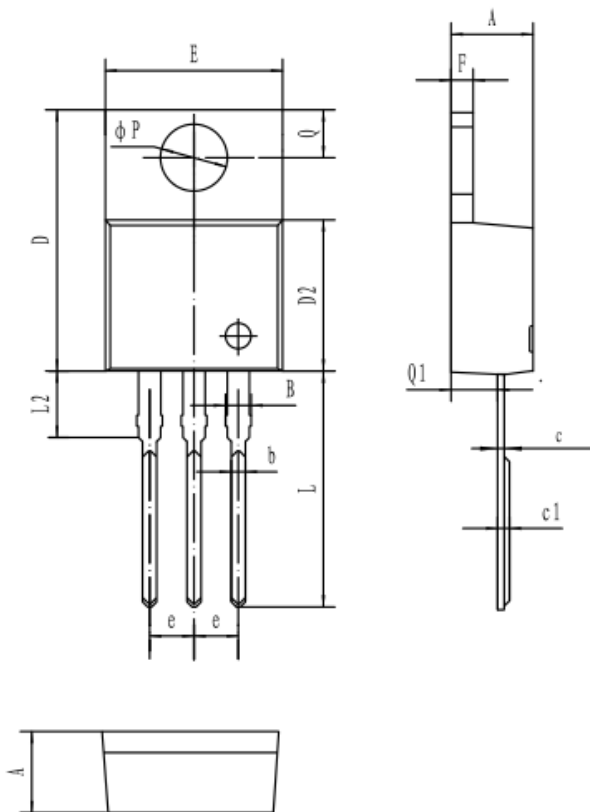
项 目 Parameter		符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	TO-220	$R_{th(j-c)}$		2.2	$^{\circ}\text{C/W}$
	TO-263			2.2	
	TO-262			2.2	
	IPAKM			2.5	
	DPAKM			2.5	
	TO-220HF			3.0	





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

 I_F vs V_F  I_R vs V_R  $I_F(\text{AV})$ vs T_C  C_T vs V_R 



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



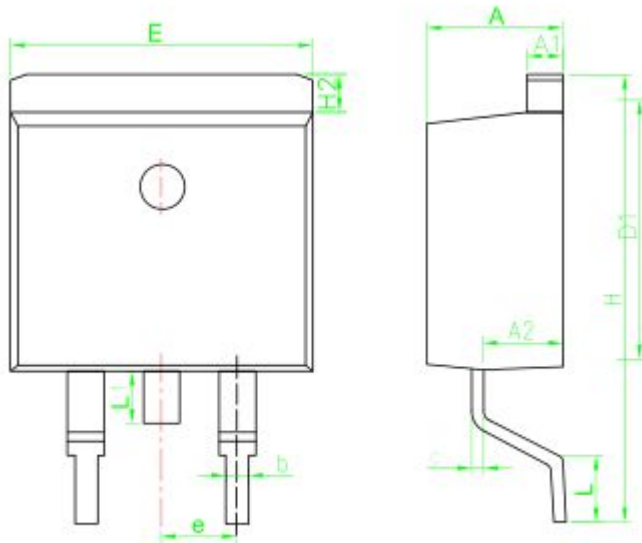


HBR10150S

外形尺寸 PACKAGE MECHANICAL DATA

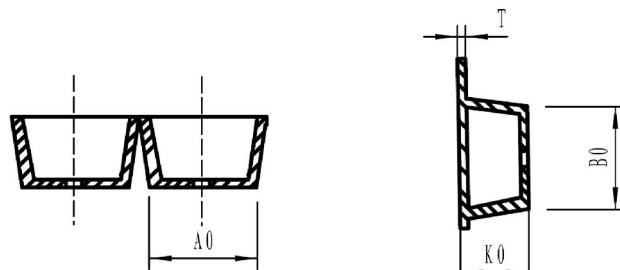
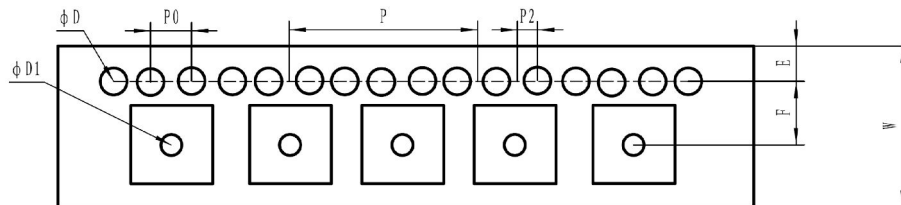
TO-263

单位 Unit : mm



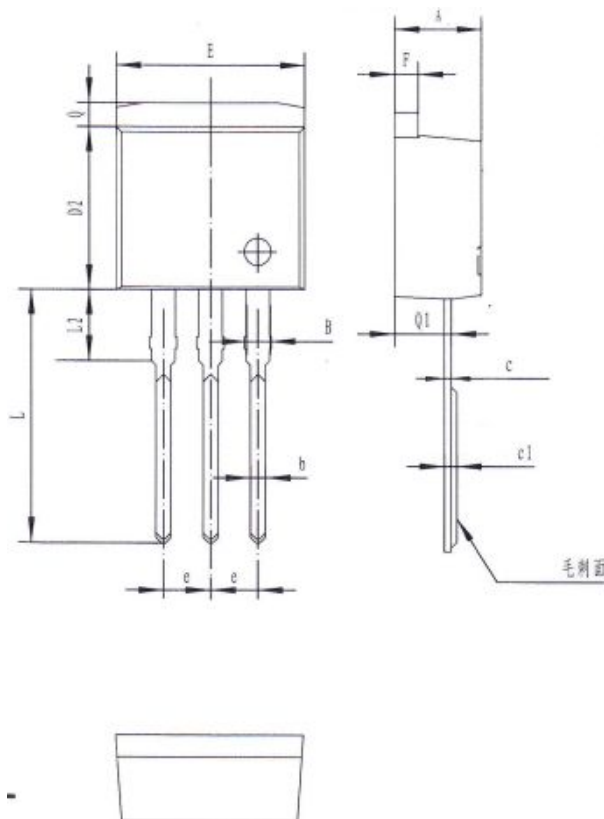
SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

编带 REEL



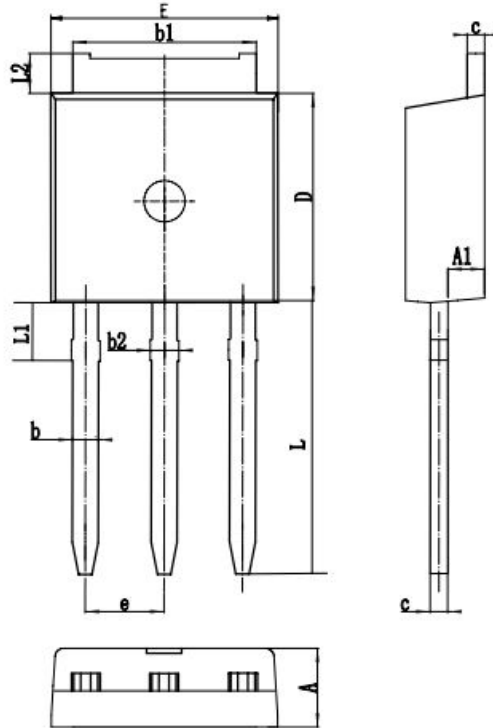
产品尺寸规格 (UNIT:mm)				
规格	W	A0	E	F
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2
规格	D1	P0	P2	P
尺寸	1.5 ± 0.2/-0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2
规格	K0	B0		
尺寸	4.9 ± 0.2	16.0 ± 0.2		





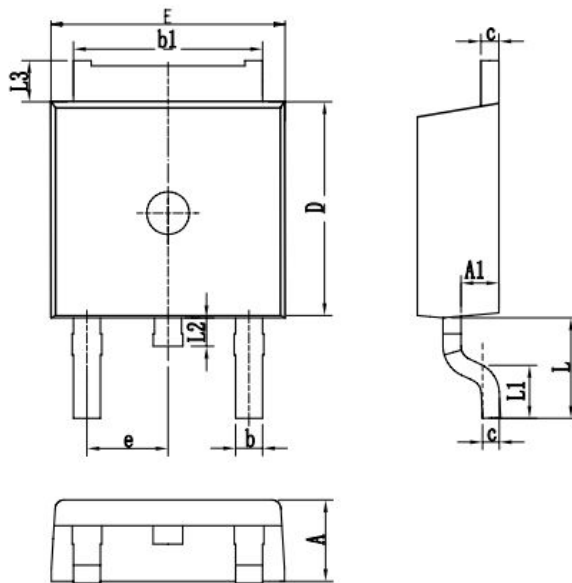
符号 symbol	MIN	MAX
A	4.40	4.90
B	1.10	1.40
b	0.70	0.95
c	0.30	0.60
c1	0.33	0.63
D2	8.20	9.20
E	9.60	10.50
e	2.39	2.69
F	1.20	1.35
L	13.11	14.61
L2	3.55	4.05
Q	1.10	1.40
Q1	2.65	2.85





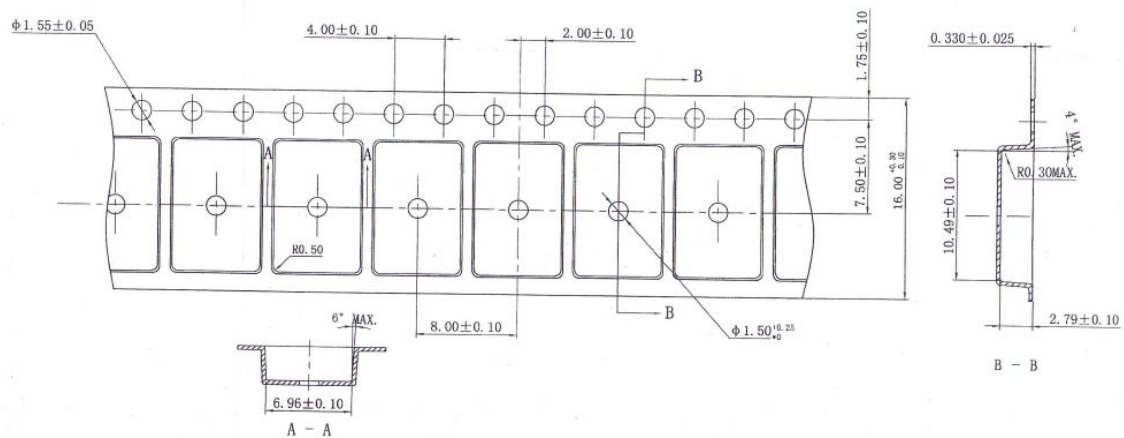
SYMBOL	mm	
	MIN	MAX
A	2.10	2.50
A1	0.80	1.20
b	0.66	0.96
b1	5.10	5.50
b2	0.85	1.25
c	0.40	0.62
D	5.85	6.45
E	6.30	6.90
e	2.286BSC	
L	9.00	9.60
L1	0.80	2.20
L2	0.67	1.07





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



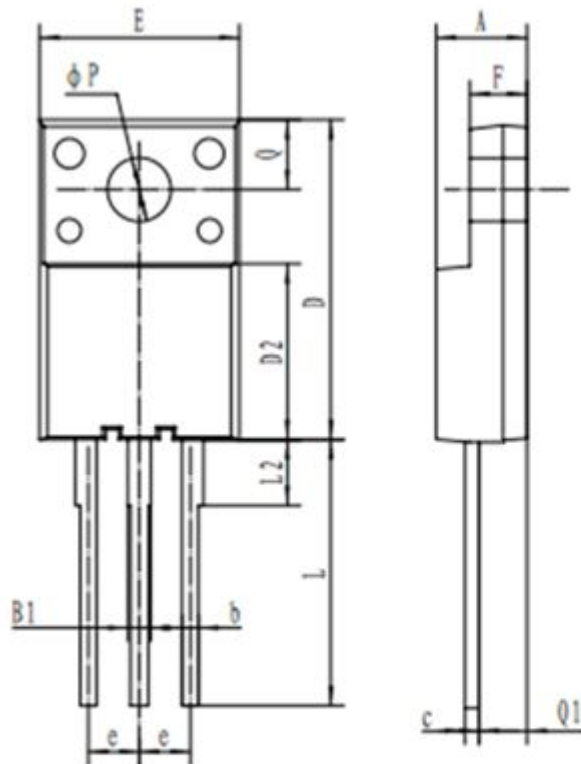


HBR10150S

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	0.7
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



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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.

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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
20130530	201304A	301306B	Revised the parametric curves
20150727		201507C	1. Deleted IPAK DPAK Spec. 2. Added IPAKM DPAKM Spec. 3. Revised TO-263 PACKAGE MECHANICAL DATA

