



HBR10100S

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	10 (2x5) A
V_{RRM}	100 V
T_j	175 °C
$V_{F(max)}$	0.7V (@ $T_j=125^{\circ}C$)

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

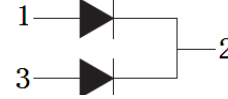
APPLICATIONS

- 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

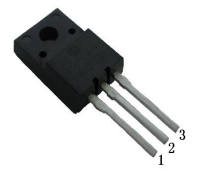
封装 Package



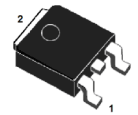
TO-220



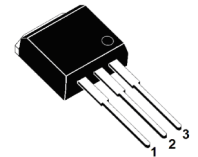
TO-220HF



TO-263



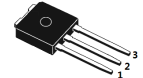
TO-262



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
HBR10100SZ	HBR10100S	TO-220	否 NO	条管 Tube	1.98 g(typ)
HBR10100SZR	HBR10100S	TO-220	是 YES	条管 Tube	1.98 g(typ)
HBR10100SHF	HBR10100S	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
HBR10100SHFR	HBR10100S	TO-220HF	是 YES	条管 Tube	1.70 g(typ)
HBR10100SS	HBR10100S	TO-263	否 NO	条管 Tube	1.40 g(typ)
HBR10100SSR	HBR10100S	TO-263	是 YES	条管 Tube	1.40 g(typ)
HBR10100SS	HBR10100S	TO-263	否 NO	编带 Reel	1.40 g(typ)
HBR10100SSR	HBR10100S	TO-263	是 YES	编带 Reel	1.40 g(typ)
HBR10100SB	HBR10100S	TO-262	否 NO	条管 Tube	1.70 g(typ)
HBR10100SBR	HBR10100S	TO-262	是 YES	条管 Tube	1.70 g(typ)
HBR10100SVM	HBR10100S	IPAKM	否 NO	条管 Tube	0.38 g(typ)
HBR10100SVMR	HBR10100S	IPAKM	是 YES	条管 Tube	0.38 g(typ)
HBR10100SRM	HBR10100S	DPAKM	否 NO	编带 Reel	0.33 g(typ)
HBR10100SRMR	HBR10100S	DPAKM	是 YES	编带 Reel	0.33 g(typ)





绝对最大额定值 ABSOLUTE RATINGS (Tc=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}	100	V
最大直流阻断电压 Maximum DC blocking voltage	V_{DC}	100	V
正向平均整流电流 Average forward current	$I_{F(AV)}$	$T_C=150^\circ\text{C}$ (TO-220/263/262/ IPAKM/DPAKM)	10
		$T_C=125^\circ\text{C}$ (TO-220HF)	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	℃
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	$T_j=25^\circ\text{C}$	$V_R=V_{RRM}$			10	μA
	$T_j=125^\circ\text{C}$				5	mA
V_F	$T_j=25^\circ\text{C}$	$I_F=5\text{A}$		0.77	0.83	V
	$T_j=125^\circ\text{C}$			0.64	0.7	V
	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.86	0.9	V
	$T_j=125^\circ\text{C}$			0.73	0.8	V

热特性 THERMAL CHARACTERISTICS

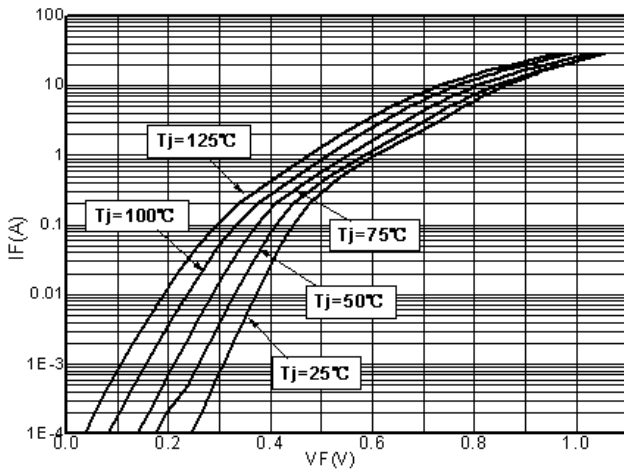
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	$R_{th(j-c)}$	TO-220	1.9	℃/W
		TO-263	1.9	
		TO-262	1.9	
		IPAKM	2.3	
		DPAKM	2.3	
		TO-220HF	2.5	



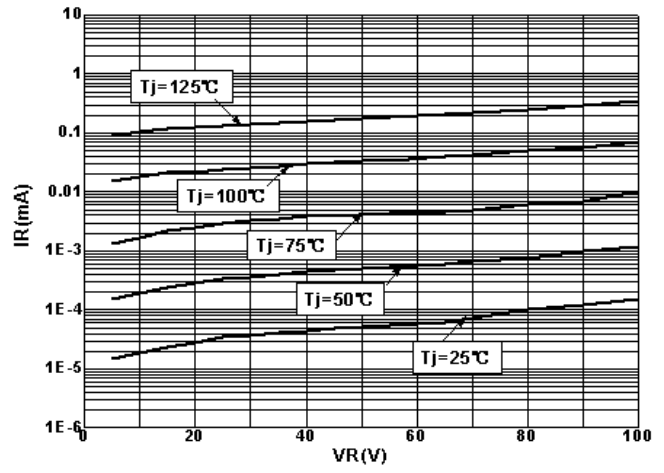


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

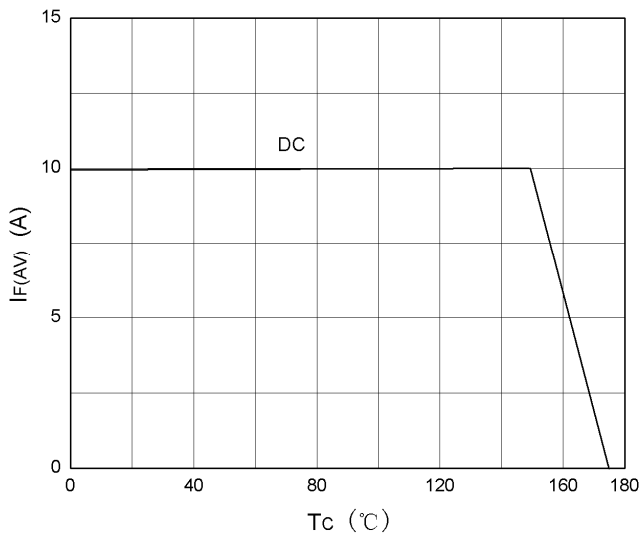
IF vs VF



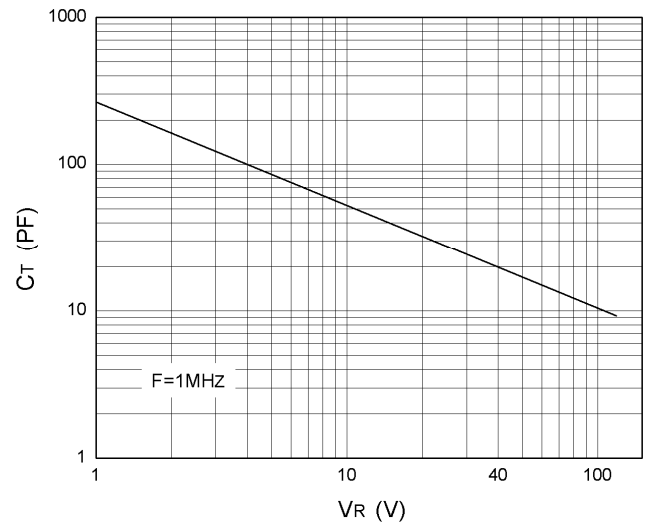
IR vs VR

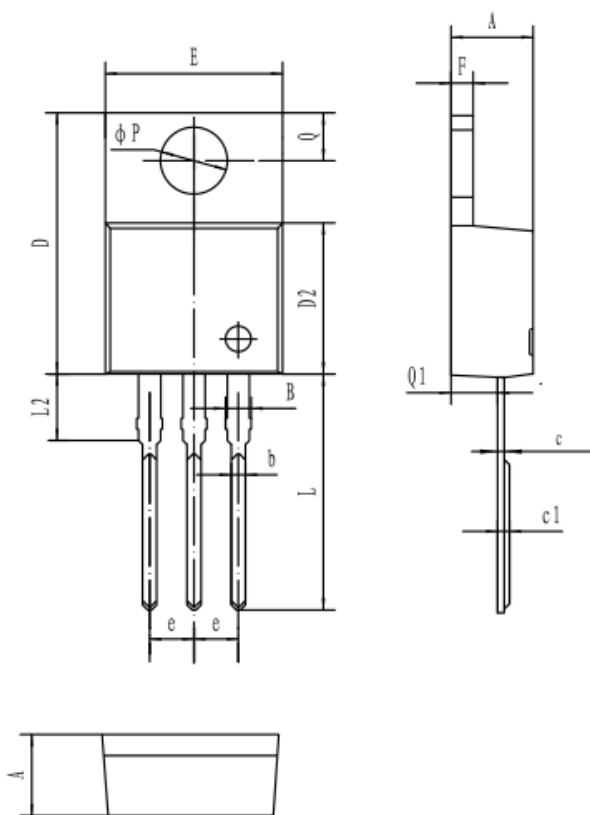


IF(AV) vs Tc



Ct vs VR





符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	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

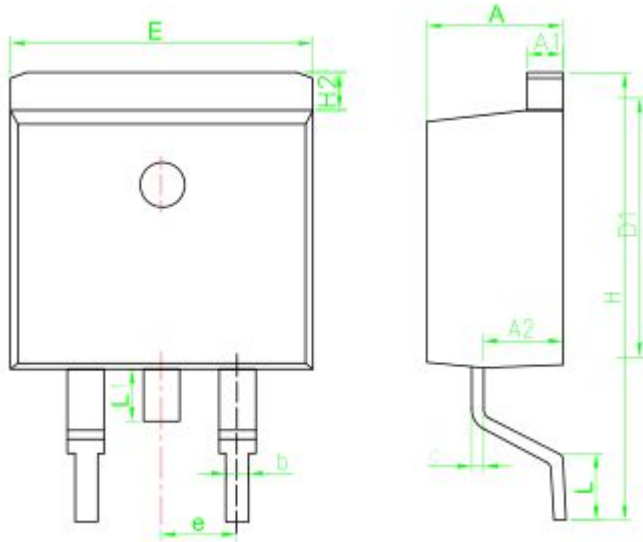




外形尺寸 PACKAGE MECHANICAL DATA

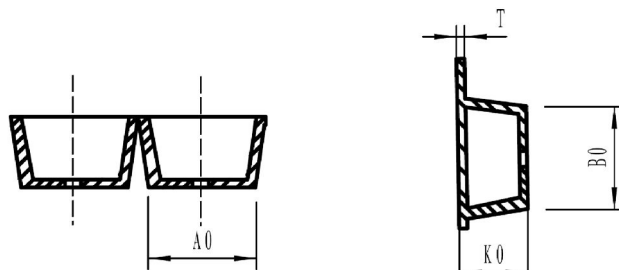
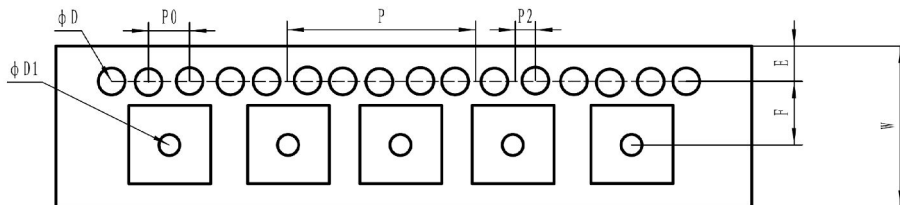
TO-263

单位 Unit : mm



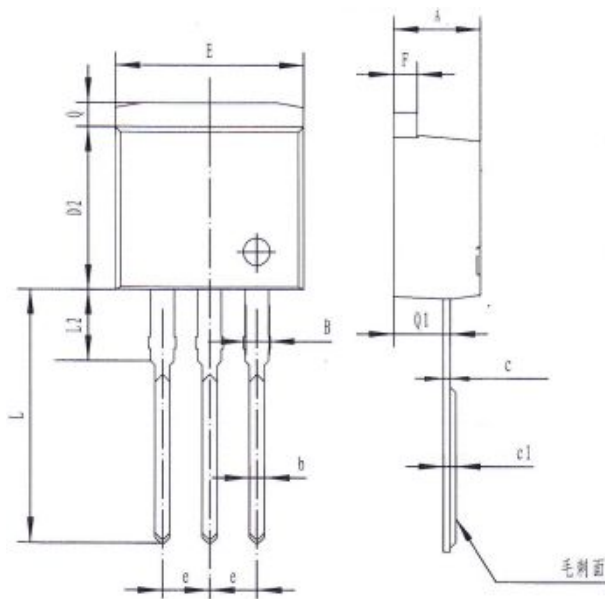
SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

编带 REEL



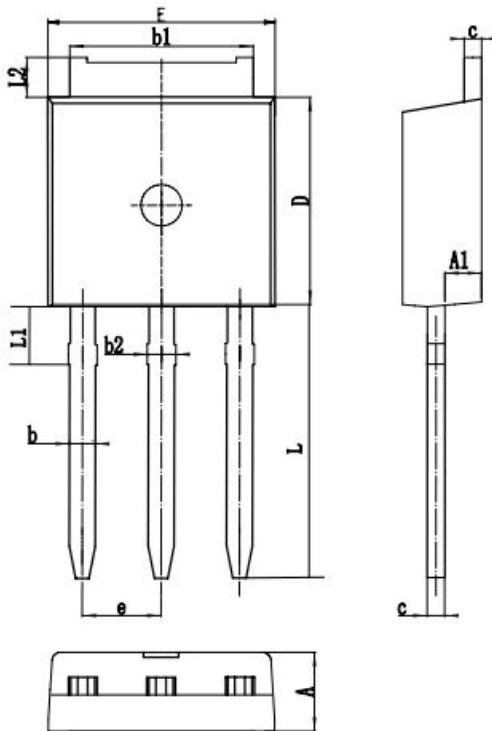
产品尺寸规格 (UNIT: mm)					
规格	W	A0	E	F	D
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2	1.5 + 0.2/-0.1
规格	D1	P0	P2	P	T
尺寸	1.5 + 0.2/-0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2	0.35 ± 0.05
规格	K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2			





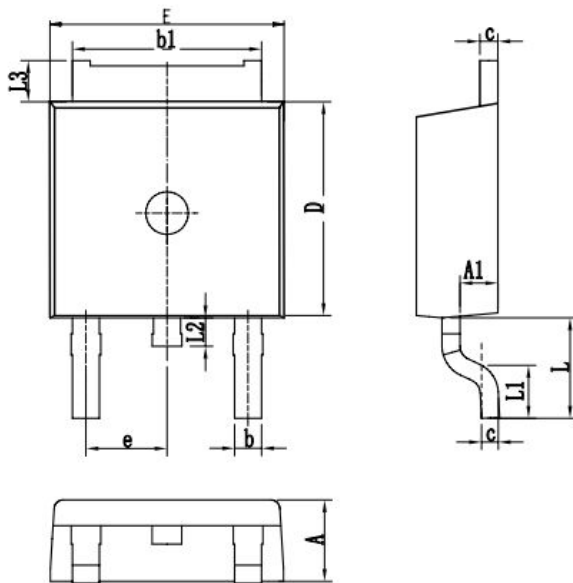
符号 symbol	MIN	MAX
A	4.40	4.90
B	1.10	1.40
b	0.70	0.95
c	0.30	0.60
c1	0.33	0.63
D2	8.20	9.20
E	9.60	10.50
e	2.39	2.69
F	1.20	1.35
L	13.11	14.61
L2	3.55	4.05
Q	1.10	1.40
Q1	2.65	2.85





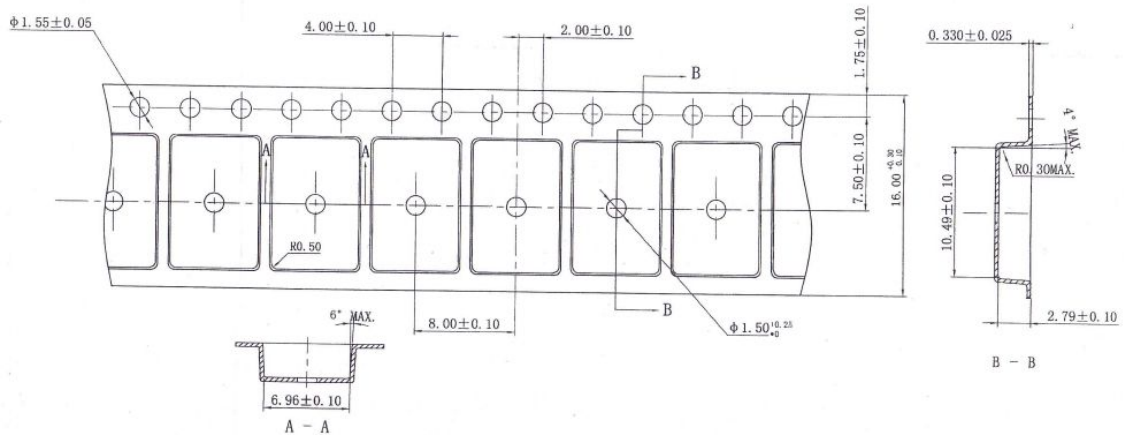
SYMBOL	mm	
	MIN	MAX
A	2.10	2.50
A1	0.80	1.20
b	0.66	0.96
b1	5.10	5.50
b2	0.85	1.25
c	0.40	0.62
D	5.85	6.45
E	6.30	6.90
e	2.286BSC	
L	9.00	9.60
L1	0.80	2.20
L2	0.67	1.07

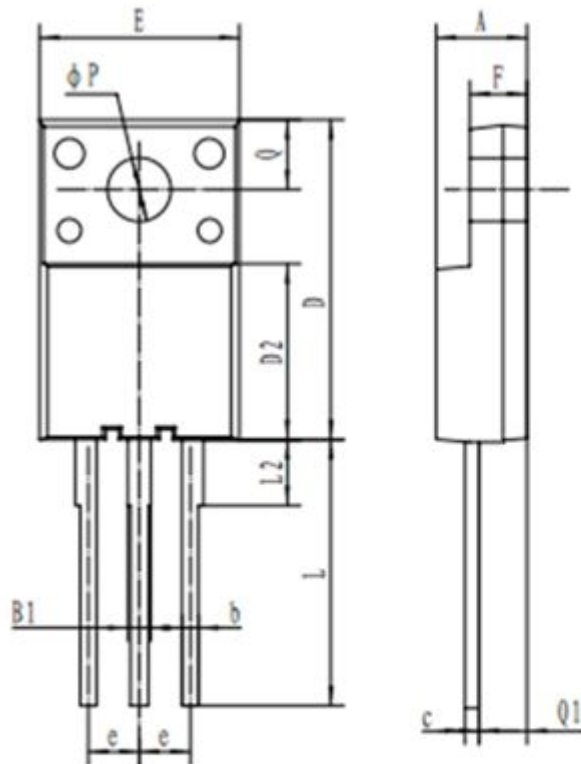




SYMBOL	mm	
	MIN	MAX
A	2.10	2.50
A1	0.80	1.20
b	0.66	0.96
b1	5.10	5.50
c	0.40	0.62
D	5.85	6.45
E	6.30	6.90
e	2.286BSC	
L	2.40	3.00
L1	0.85	1.45
L2	0.60	1.10
L3	0.67	1.07

编带 REEL





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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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
20130321	201208A	201303B	Added IPAK DPAK Spec.
20150727		201507C	1. Deleted IPAK DPAK Spec. 2. Added IPAKM DPAKM Spec. 3. Revised TO-263 PACKAGE MECHANICAL DATA

