



HBR20150U

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	20 (2×10) A
V_{RRM}	150 V
T_j	175 °C
$V_{F(max)}$	0.68V (@ $T_j=125^{\circ}C$)

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
- 低压降, 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

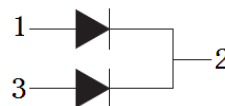
APPLICATIONS

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

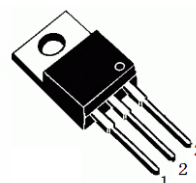
FEATURES

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

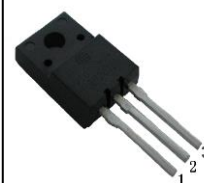
封装 Package



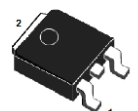
TO-220



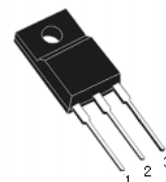
TO-220HF



TO-263



TO-220MF-K1



订货信息 ORDER MESSAGE

订货型号 Order codes				印记 Marking	封装 Package
有卤-条管 Halogen-Tube	无卤-条管 Halogen Free-Tube	有卤-编带 Halogen-Reel	无卤-编带 Halogen Free-Reel		
HBR20150U-CA-B	HBR20150U-CA-BR	N/A	N/A	HBR20150U	TO-220
HBR20150U-FA-B	HBR20150U-FA-BR	N/A	N/A	HBR20150U	TO-220HF
HBR20150U-F1-B	HBR20150U-F1-BR	N/A	N/A	HBR20150U	TO-220MF-K1
HBR20150U-S-B	HBR20150U-S-BR	HBR20150U-S-A	HBR20150U-S-AR	HBR20150U	TO-263

**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	$I_{F(AV)}$	$T_c=150^\circ\text{C}$ (TO-220 TO-263)	整个器件 per device
		$T_c=125^\circ\text{C}$ (TO-220HF/22 OMF-K1)	单 侧 per diode
正向峰值浪涌电流 Surge non repetitive forward current (额定负载 10ms 半正弦波) 10ms single half-sine-wave	I_{FSM}	270	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	$T_j=25^\circ\text{C}$	$V_R=V_{RRM}$			40	μA
	$T_j=125^\circ\text{C}$				20	mA
V_F	$T_j=25^\circ\text{C}$	$I_F=5\text{A}$		0.70	0.76	V
	$T_j=125^\circ\text{C}$			0.55	0.6	V
	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.76	0.85	V
	$T_j=125^\circ\text{C}$			0.62	0.68	V
	$T_j=25^\circ\text{C}$	$I_F=15\text{A}$		0.81	0.90	V
	$T_j=125^\circ\text{C}$			0.66	0.72	V

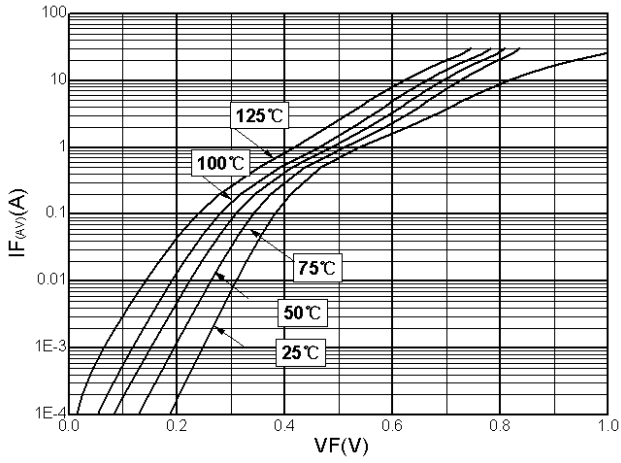
热特性 THERMAL CHARACTERISTICS

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	$R_{th(j-c)}$		2.2	$^\circ\text{C/W}$
		TO-220	2.2	
		TO-263	3.0	
		TO-220HF TO-220MF-K1	3.5	

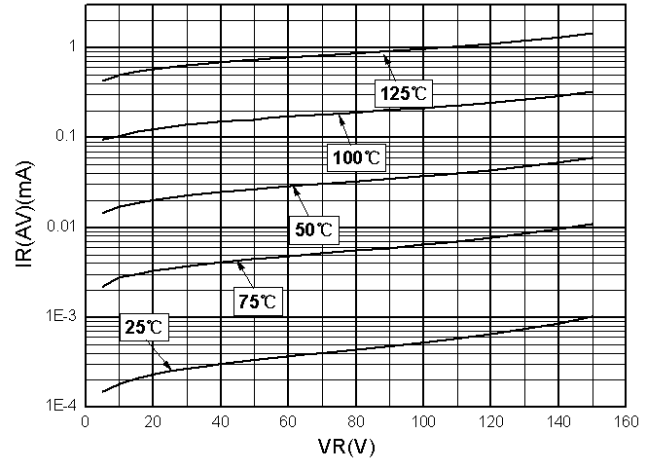


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

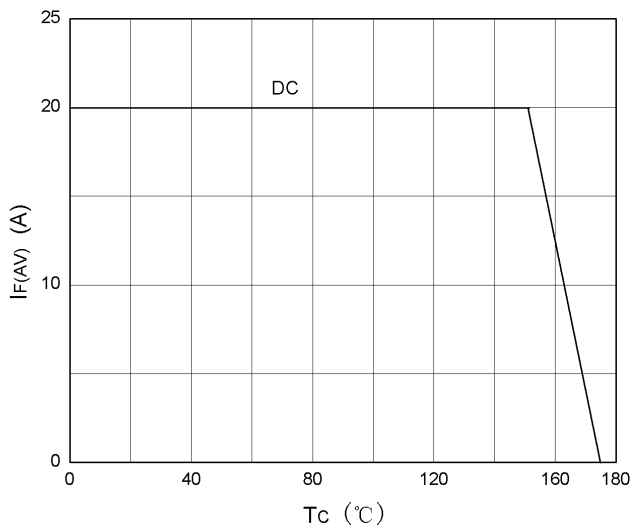
IF vs VF



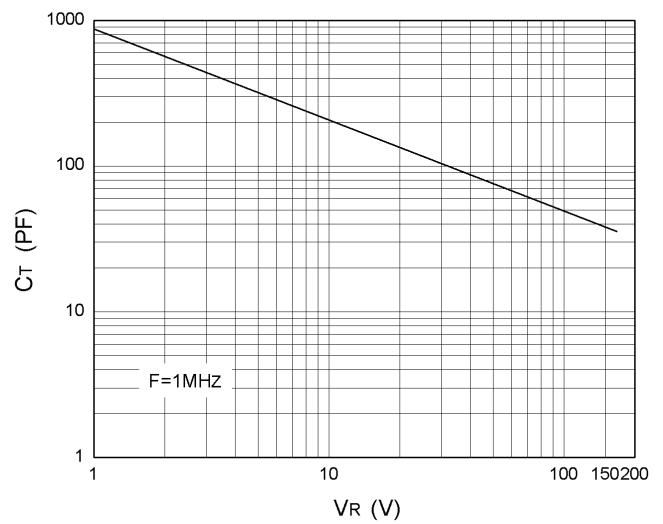
IR vs VR

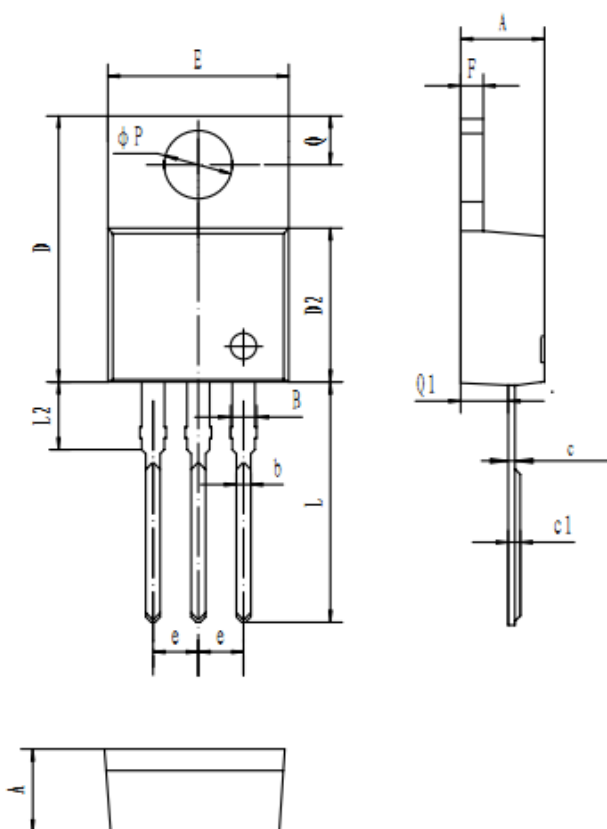


IF(AV) vs Tc

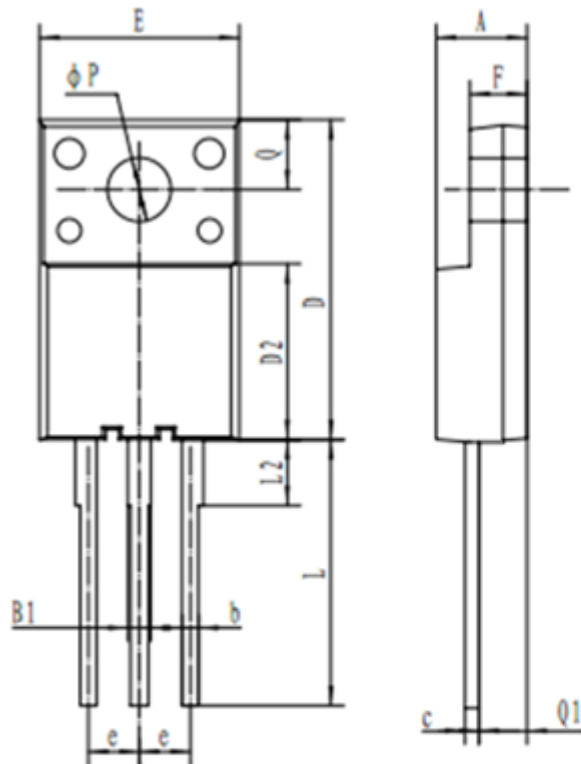


CT vs VR





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



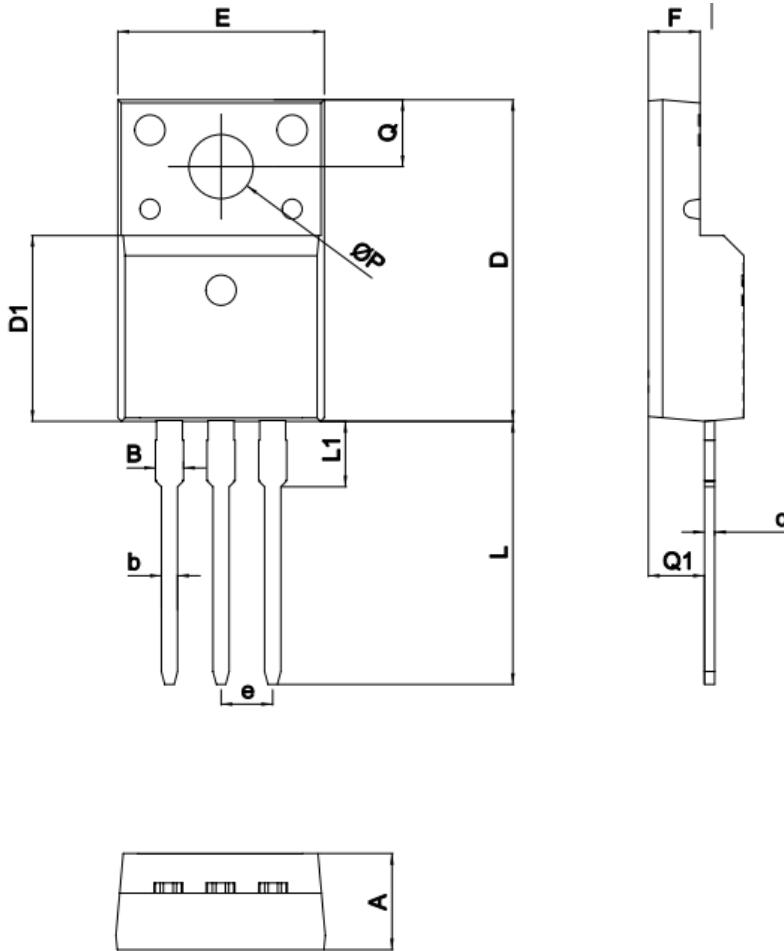
符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
ϕp	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



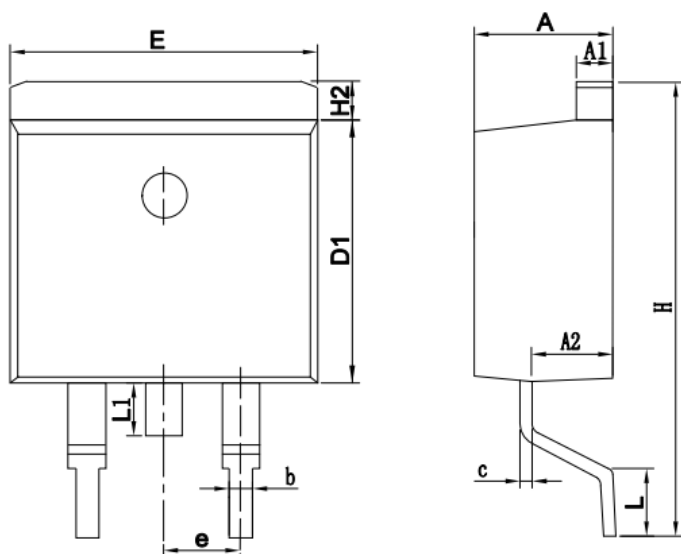


外形尺寸 PACKAGE MECHANICAL DATA
TO-220MF-K1

单位 Unit : mm

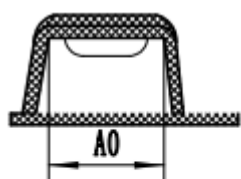
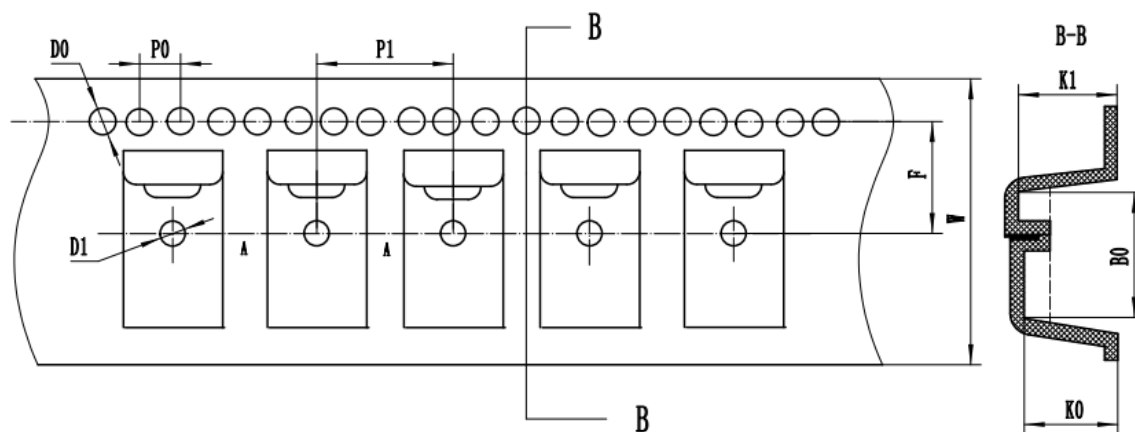


SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5



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



A-A

Symbol	标准范围 (mm)
A0	10.60 ± 0.20
B0	16.10 ± 0.20
D0	1.55 ± 0.10
D1	1.50 ± 0.15
F	11.50 ± 0.20
K0	4.85 ± 0.20
K1	5.26 ± 0.20
P0	4.00 ± 0.20
P1	16.00 ± 0.20
W	24.00 ± 0.40



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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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