



FEATURES

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

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

用途

- 高频开关电源
- 低压续流电路和保护电路

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	20 (2×10) A
$V_{F(max)}$	0.75V (@T _j =125℃)
T _j	175 ℃
V _{RRM}	150 V



产品型号信息 PRODUCT MESSAGE

型号 Model	印记 Marking	封装 Package
MBR20150C	MBR20150C	TO-220
MBRF20150	MBRF20150	TO-220F
MBR20150S	MBR20150S	TO-263
MBR20150R	MBR20150R	TO-252
MBR20150V	MBR20150V	TO-251



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-220/263/252)	整个器件 per device	$I_{F(AV)}$	20	A
	$T_c=125^{\circ}\text{C}$ (TO-220F)	单 侧 per diode		10	
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}	180	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

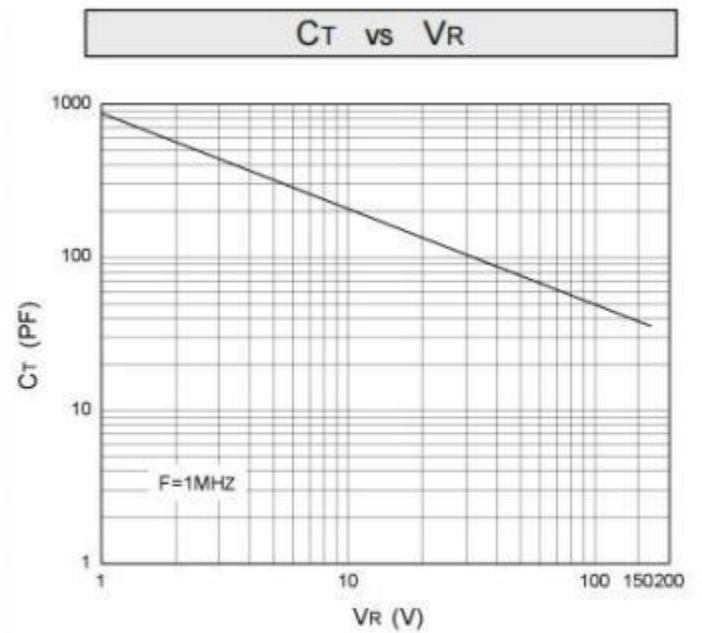
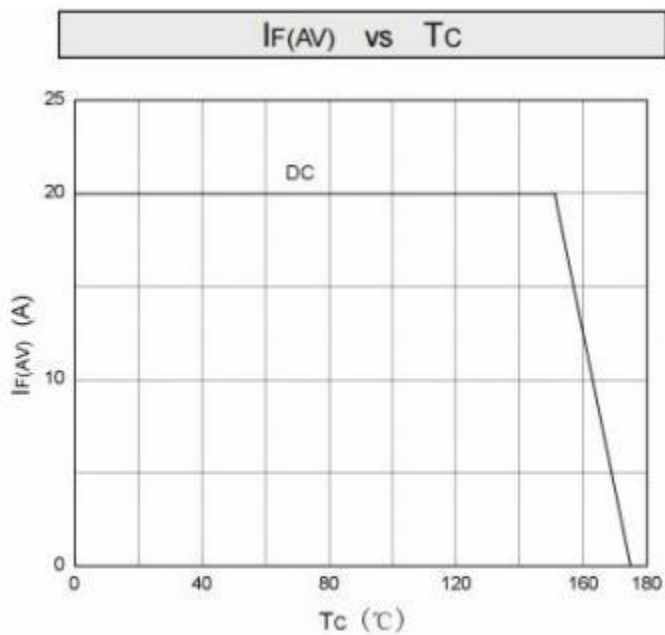
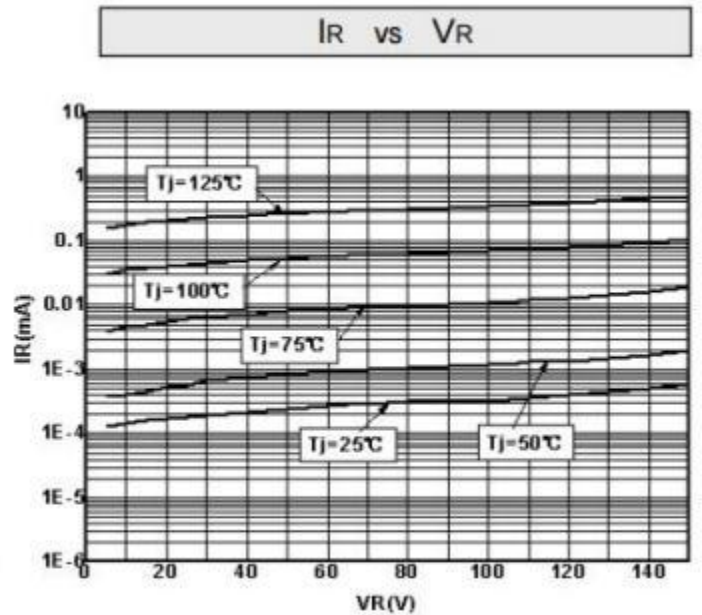
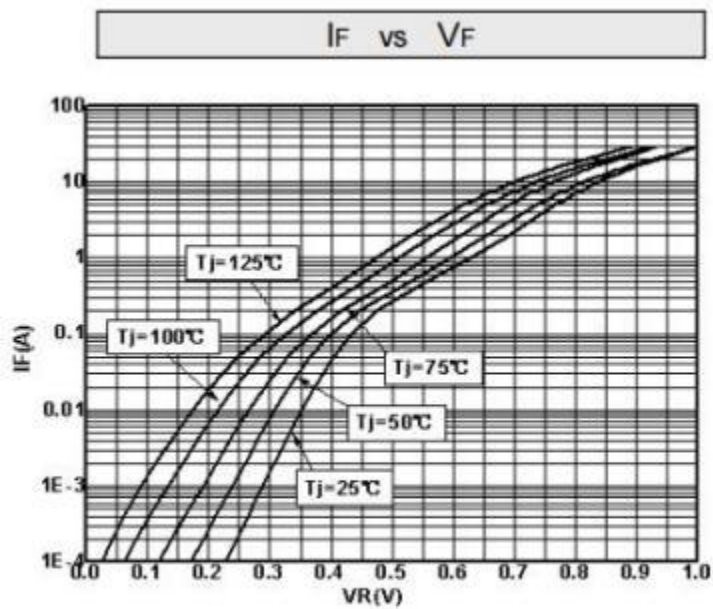
项 目 Parameter	测试条件 Tests conditions		最小值 Value(min)	典型值 Value(typ)	最大值 Value(max)	单位 Unit
I_R	$T_j = 25^{\circ}\text{C}$	$V_R = V_{RRM}$			10	μA
	$T_j = 125^{\circ}\text{C}$				5	mA
V_F	$T_j = 25^{\circ}\text{C}$	$I_F = 10\text{A}$		0.83	0.9	V
	$T_j = 125^{\circ}\text{C}$			0.69	0.75	V

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-220F			3.5	
	TO-263			2.2	
	TO-252			2.5	



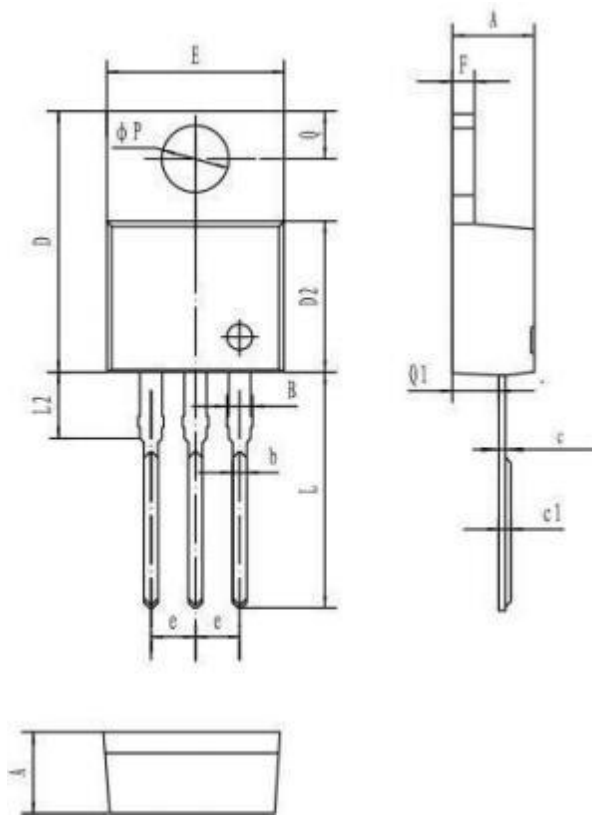
特征曲线 ELECTRICAL CHARACTERISTICS (curves)





TO-220

单位 Unit : mm



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

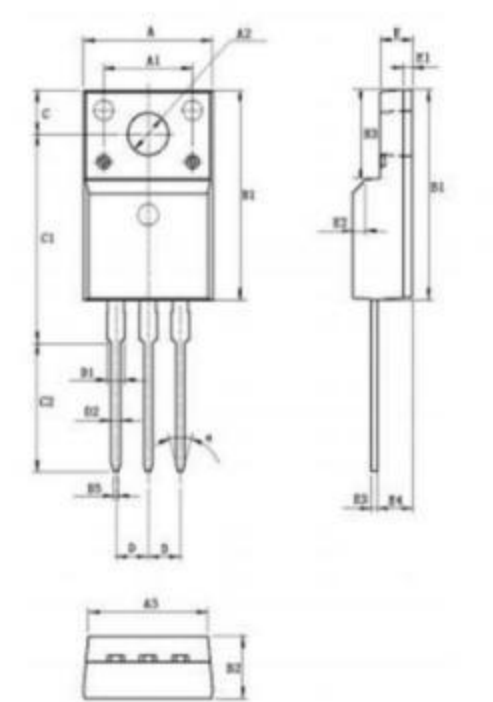


TO-220F

单 位 Unit : mm

Package Dimension

TO-220F



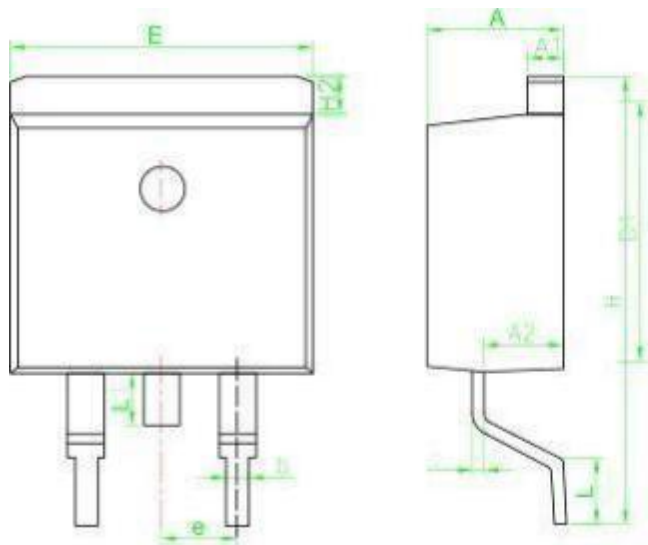
单位: mm

Symbol	Min	Max	Symbol	Min	Max
A	9.96	10.36	D	2.54	
A1	7.00		D1	1.15	1.35
A2	3.08	3.28	D2	0.70	0.90
A3	9.25	9.65	D3	0.28	0.48
B1	15.70	16.10	E	2.34	2.74
B2	4.50	4.90	E1	0.70	
B3	6.20	6.80	E2	1.0×45°	
C	3.20	3.40	E3	0.36	0.65
C1	15.20	16.00	E4	2.55	2.95
C2	9.75	10.15	a(度)	30°	



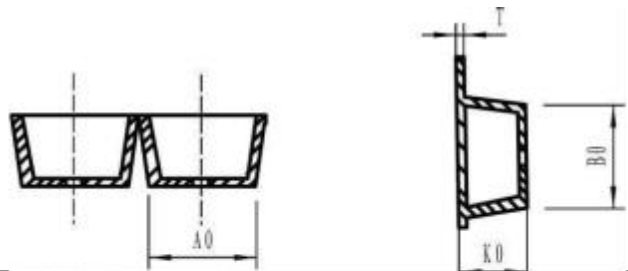
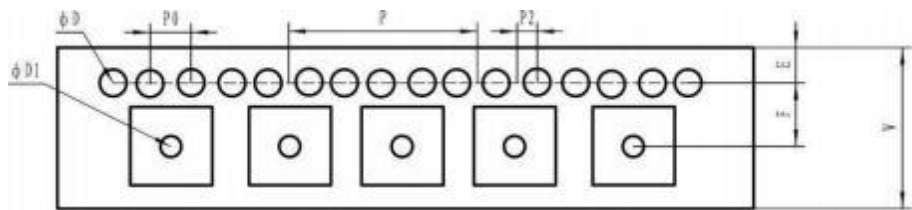
TO-263

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

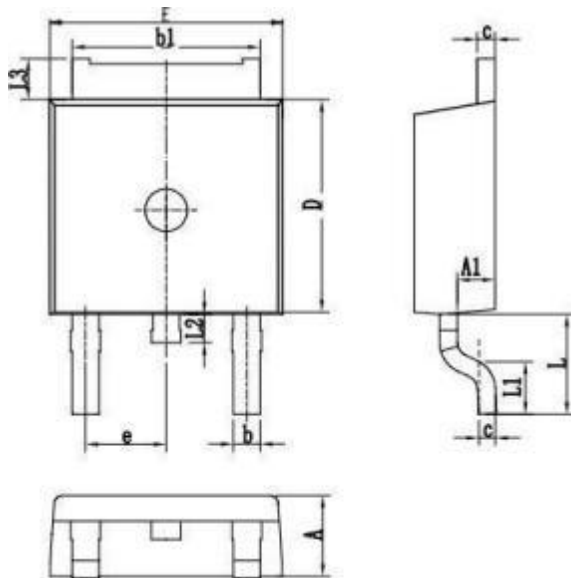


产品尺寸规格 (UNIT: mm)				
规格 W	A0	E	F	D
尺寸	14 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2
规格 D1	P0	P2	P	T
尺寸	1.5 ± 0.2/-0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2
规格 K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2		



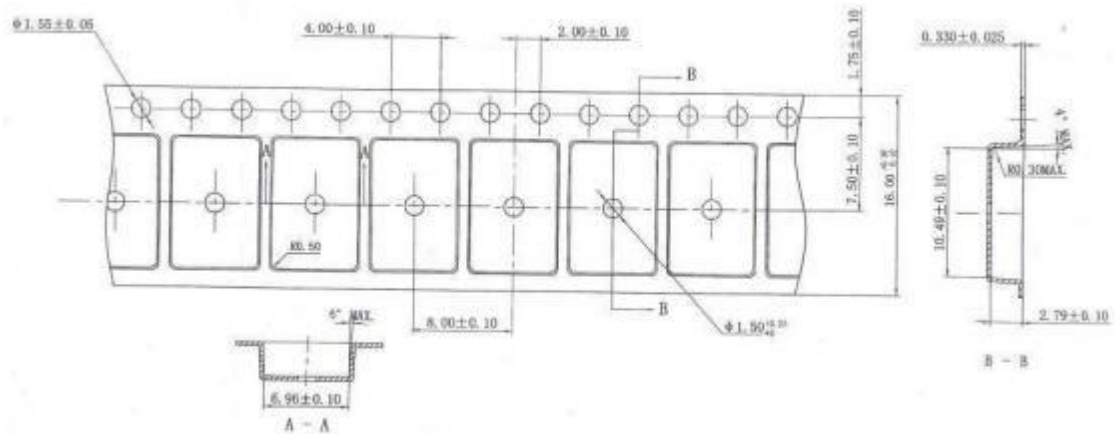
TO-252

单位 Unit : mm



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

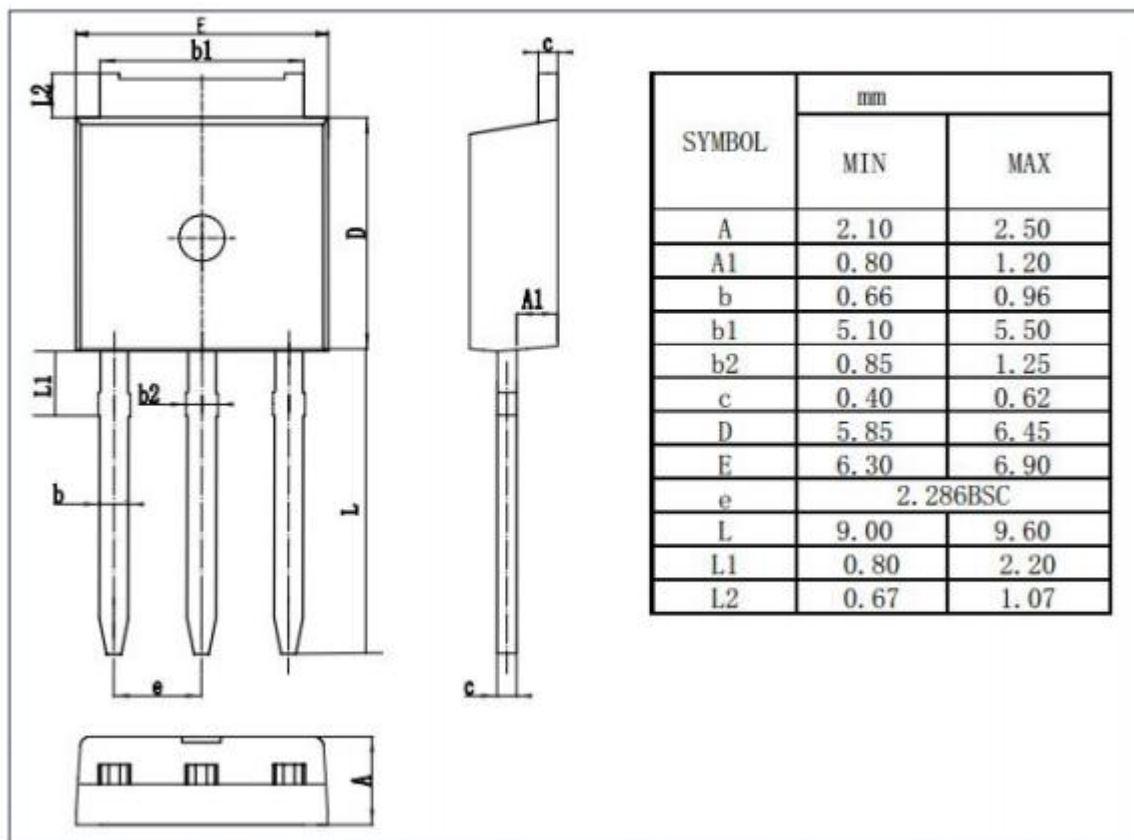
编带 REEL





外形尺寸 PACKAGE MECHANICAL DATA
TO-251

单位 Unit : mm





注意事项

1. 深圳市华天微电子有限公司的产品销售分为直销和销售代理，无论哪种方式，订货时请与公司核实。
2. 购买时请认清公司商标，如有疑问请与公司本部联系。
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

NOTE

1. Shenzhen Huatianwei Electronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering , please check with our company.
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. Shenzhen Huatianwei Electronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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