



STD20100S

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	20 (2×10) A
V_{RRM}	100 V
T_j	150°C
$V_{F(max)}$	0.65V ($T_j=125^\circ\text{C}$)

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
- 沟槽 MOS 肖特基技术，高可靠性
- 环保 (RoHS) 产品

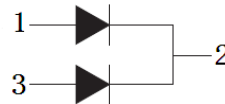
APPLICATIONS

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

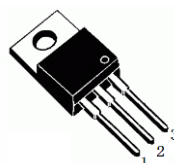
FEATURES

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Trench MOS Schottky technology, High reliability
- RoHS product

封装 Package



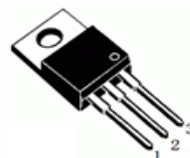
TO-220



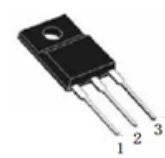
TO-220HF



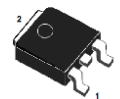
TO-220W



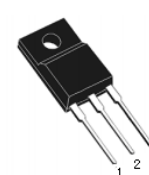
TO-220MF-K4



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		
STD20100S-CA-B	STD20100S-CA-BR	N/A	N/A	STD20100S	TO-220
STD20100S-FA-B	STD20100S-FA-BR	N/A	N/A	STD20100S	TO-220HF
STD20100S-S-B	STD20100S-S-BR	STD20100S-S-A	STD20100S-S-AR	STD20100S	TO-263
STD20100S-F4-B	STD20100S-F4-BR	N/A	N/A	STD20100S	TO-220MF-K4
STD20100S-CQ-B	STD20100S-CQ-BR	N/A	N/A	STD20100S	TO-220W
STD20100S-F1-B	STD20100S-F1-BR	N/A	N/A	STD20100S	TO-220MF-K1

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}	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	$T_C=125^\circ\text{C}$ (TO-220/ TO-220W/ TO-263)	整个器件 per device 单 侧 per diode	20	A
	$T_C=100^\circ\text{C}$ (TO-220HF/ TO-220MF-K4/ TO-220MF-K1)		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	150	$^\circ\text{C}$
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	$T_j=25^\circ\text{C}$	$V_R=V_{RRM}$		20	50	μA
	$T_j=125^\circ\text{C}$			3.0	20	mA
V_F	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.65	0.7	V
	$T_j=125^\circ\text{C}$			0.62	0.65	V
	$T_j=25^\circ\text{C}$	$I_F=20\text{A}$		0.87	0.9	V
	$T_j=125^\circ\text{C}$			0.75	0.8	V

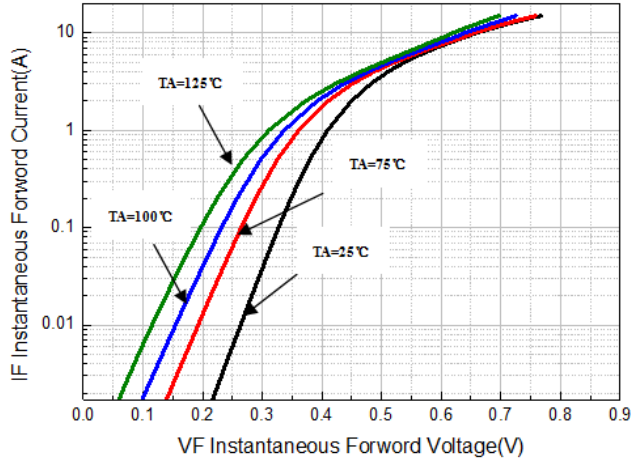
热特性 THERMAL CHARACTERISTICS

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/TO-220W		1.9	$^\circ\text{C/W}$
	TO-263		2.0	
	TO-220HF	$R_{th(j-c)}$	2.5	
	TO-220MF-K4		3.92	
	TO-220MF-K1		3.5	

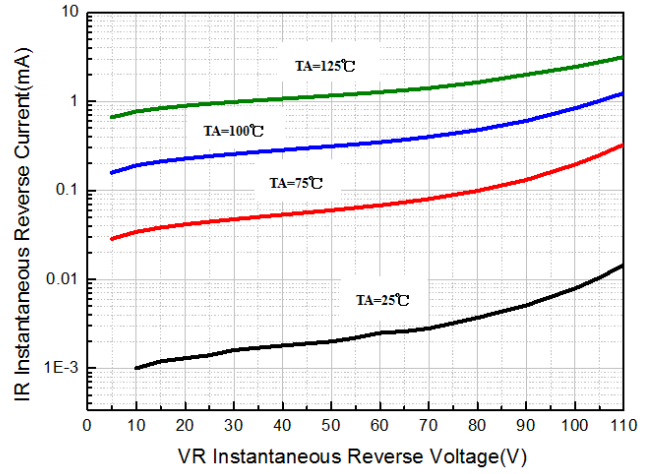


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

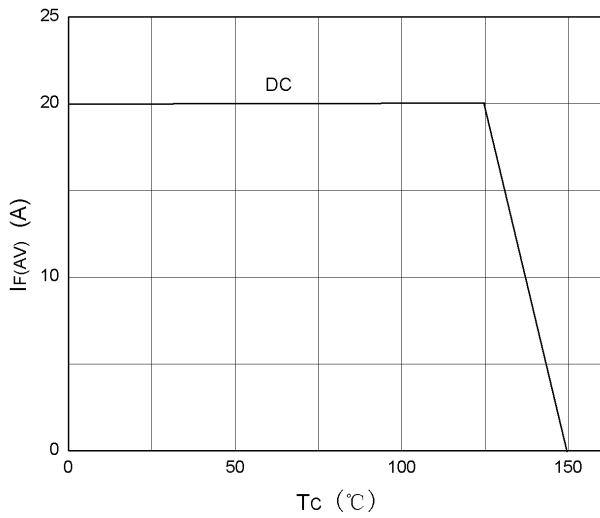
IF vs VF



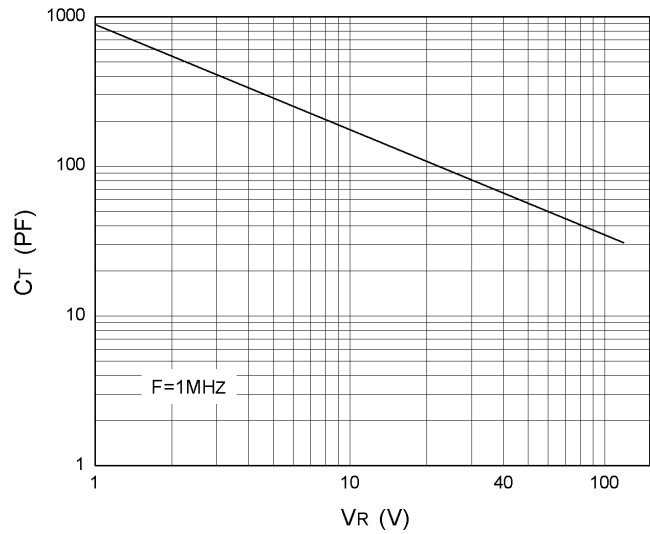
IR vs VR



IF(AV) vs Tc



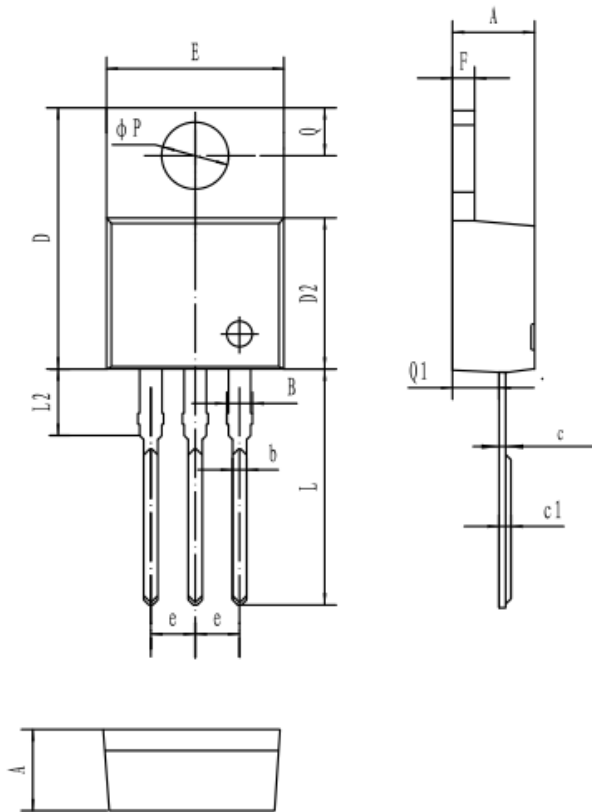
CT vs VR





外形尺寸 PACKAGE MECHANICAL DATA
TO-220

单位 Unit : mm

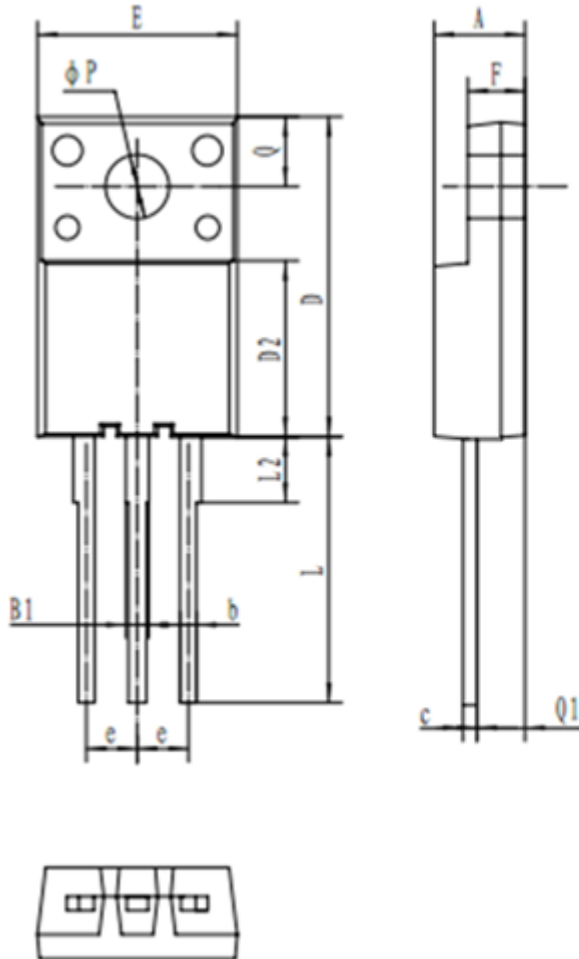


符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	0.48
c1	0.32	0.52
D	14.45	16.00
D2	8.20	9.20
E	9.60	10.40
e	2.39	2.69
F	1.20	1.35
L	13.05	14.05
L2	3.70	3.90
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00



外形尺寸 PACKAGE MECHANICAL DATA
TO-220HF

单位 Unit : mm



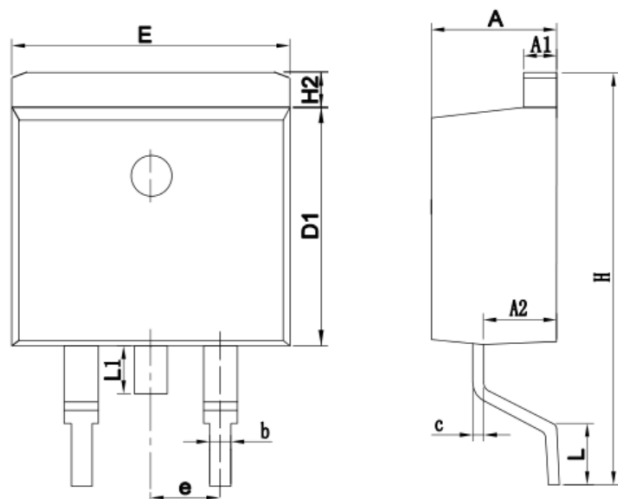
符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
ϕp	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



外形尺寸 PACKAGE MECHANICAL DATA

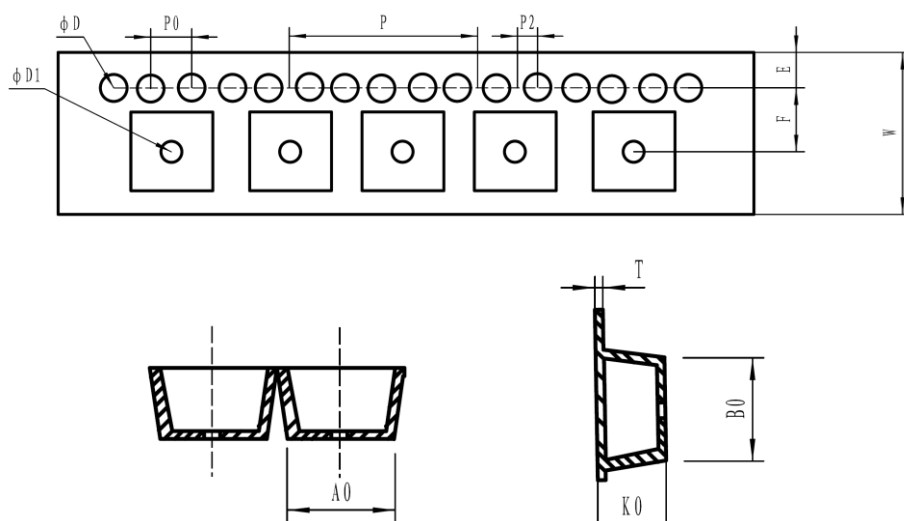
TO-263

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

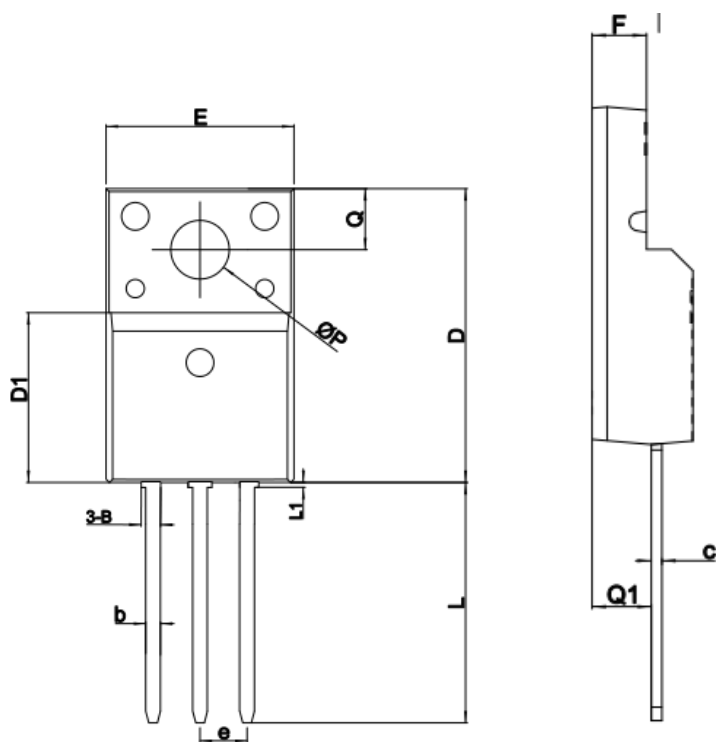


产品尺寸规格 (UNIT: mm)					
规格	W	A0	E	F	D
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2	1.5 + 0.2 / -0.1
规格	D1	P0	P2	P	T
尺寸	1.5 + 0.2 / -0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2	0.35 ± 0.05
规格	K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2			

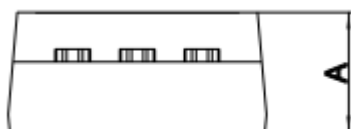


外形尺寸 PACKAGE MECHANICAL DATA
TO-220MF-K4

单位 Unit : mm



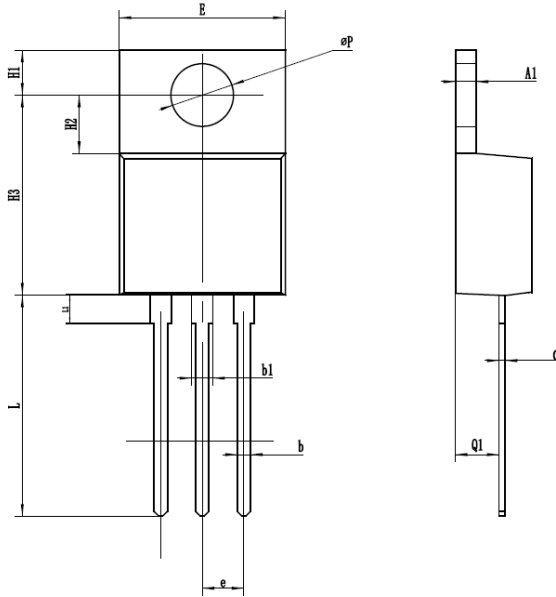
SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.04	1.24
b	0.59	0.79
c	0.45	0.60
D	15.67	16.07
D1	8.97	9.37
e	2.54TYPE	
E	9.96	10.36
F	2.34	2.74
L	12.65	13.35
L1	MAX 0.95	
Q	3.2	3.4
Q1	2.56	2.96
ΦP	3.08	3.28



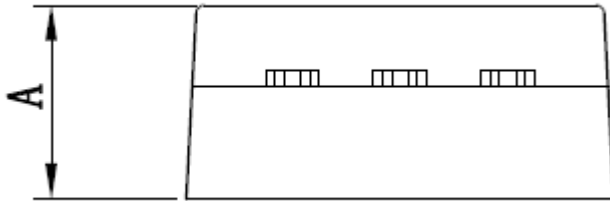


外形尺寸 PACKAGE MECHANICAL DATA
TO - 220W

单位 Unit : mm



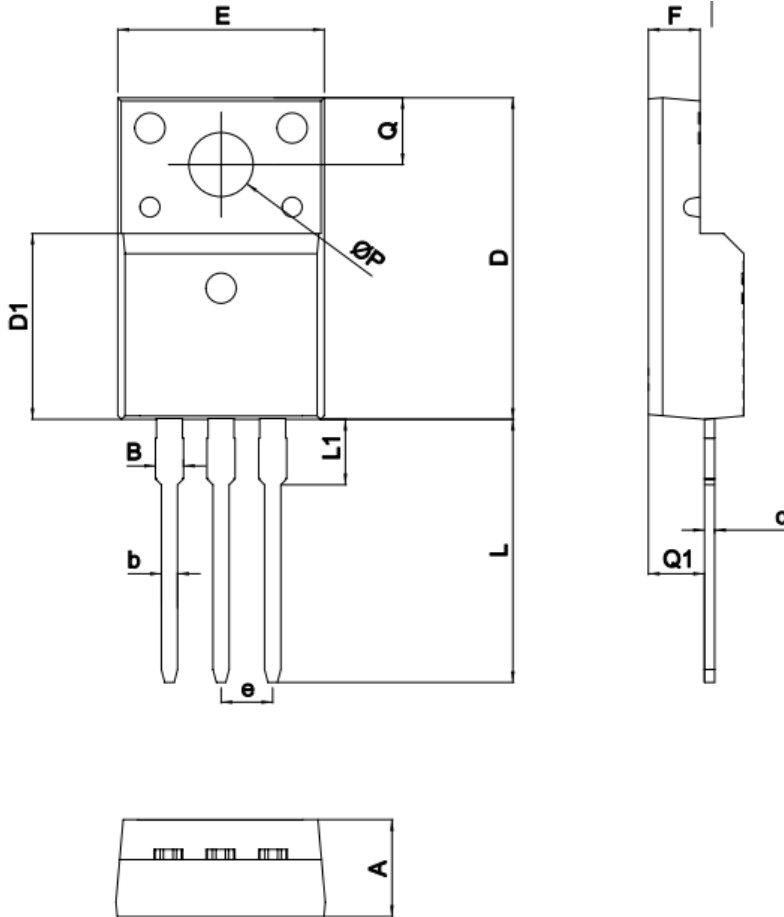
SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.20	1.35
b	0.70	0.95
b1	1.15	1.40
c	0.30	0.48
E	9.60	10.45
e	2.39	2.69
H1	2.45	3.00
H2	3.20	3.80
H3	11.40	13.00
L	13.10	14.00
L1	1.60	2.00
Q1	2.30	3.00
φP	3.60	4.00





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



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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.
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