



# STD10100S

## 主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	10 (2×5) A
$V_{RRM}$	100 V
$T_j$	150 °C
$V_{F(max)}$	0.62V (@ $T_j=125^{\circ}C$ )

### 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
- 沟槽 MOS 肖特基技术，高可靠性
- 环保 (RoHS) 产品

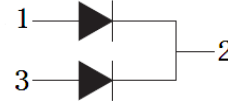
### APPLICATIONS

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

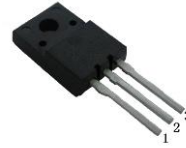
### FEATURES

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

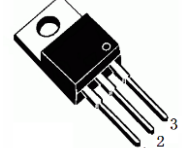
## 封装 Package



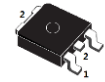
TO-220HF



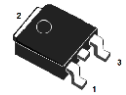
TO-220



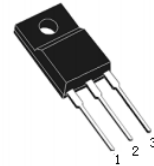
DPAKM



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		
STD10100S-CA-B	STD10100S-CA-BR	N/A	N/A	STD10100S	TO-220
STD10100S-FA-B	STD10100S-FA-BR	N/A	N/A	STD10100S	TO-220HF
STD10100S-S-B	STD10100S-S-BR	STD10100S-S-A	STD10100S-S-AR	STD10100S	TO-263
N/A	N/A	STS10100S-RM-A	STS10100S-RM-AR	STD10100S	DPAKM
STD10100S-F1-B	STD10100S-F1-BR	N/A	N/A	STD10100S	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	$I_{F(AV)}$	$T_c=125^\circ\text{C}$ (TO-220/TO-26 3/DPAKM)	整个器件 per device
		$T_c=100^\circ\text{C}$ (TO-220HF/ TO-220MF-K1)	单 侧 per diode
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)	$I_{FSM}$	100	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
$I_R$	$T_j=25^\circ\text{C}$	$V_R=V_{RRM}$			30	$\mu\text{A}$
	$T_j=125^\circ\text{C}$			2.0	10	mA
$V_F$	$T_j=25^\circ\text{C}$	$I_F=5\text{A}$		0.64	0.68	V
	$T_j=125^\circ\text{C}$			0.58	0.62	V
	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.8	0.85	V
	$T_j=125^\circ\text{C}$			0.72	0.8	V

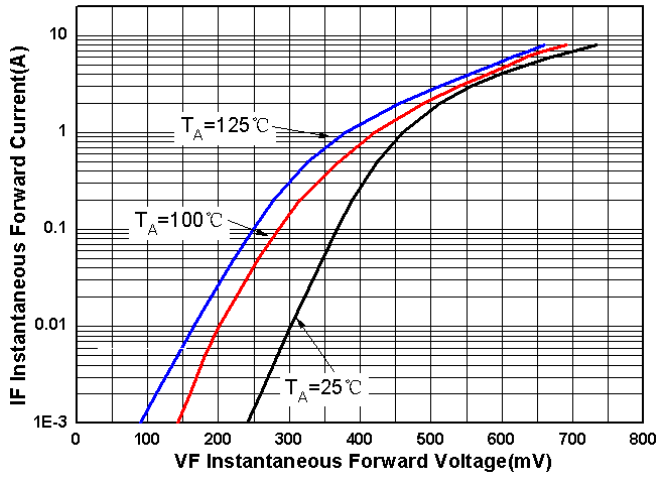
## 热特性 THERMAL CHARACTERISTICS

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	$^\circ\text{C/W}$
		TO-263	2.0	
		TO-220HF	2.5	
		TO-220MF-K1	3.5	
		DPAKM	5	

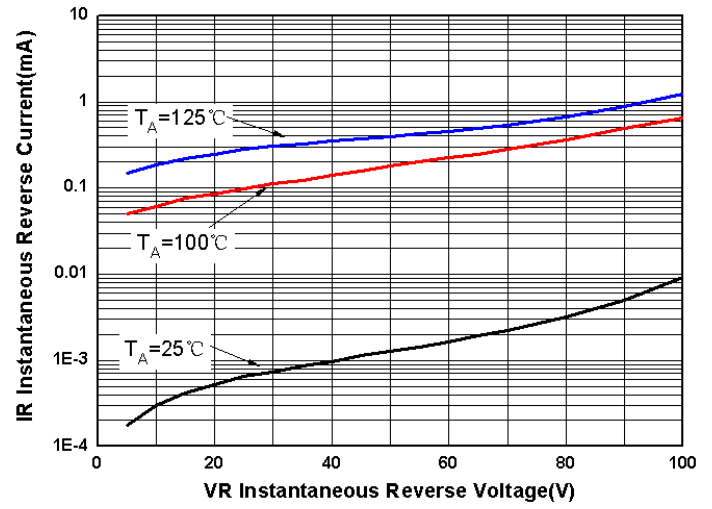


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

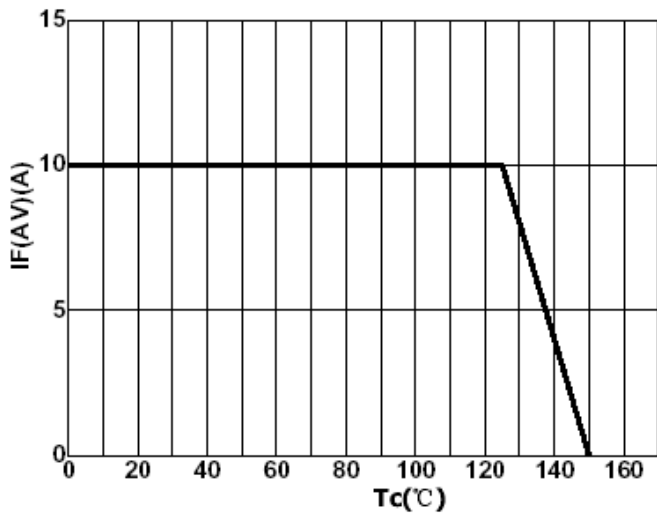
IF vs VF



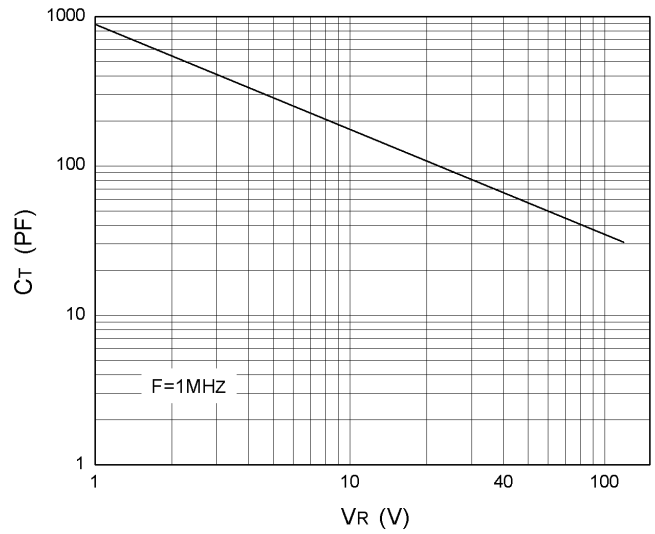
IR vs VR



IF(AV) vs Tc

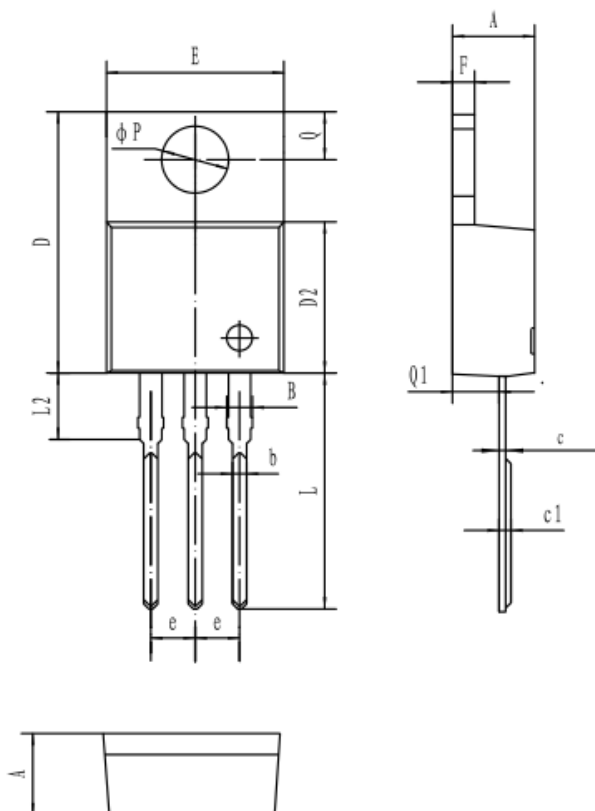


Ct vs VR



外形尺寸 PACKAGE MECHANICAL DATA  
TO-220

单位 Unit : mm

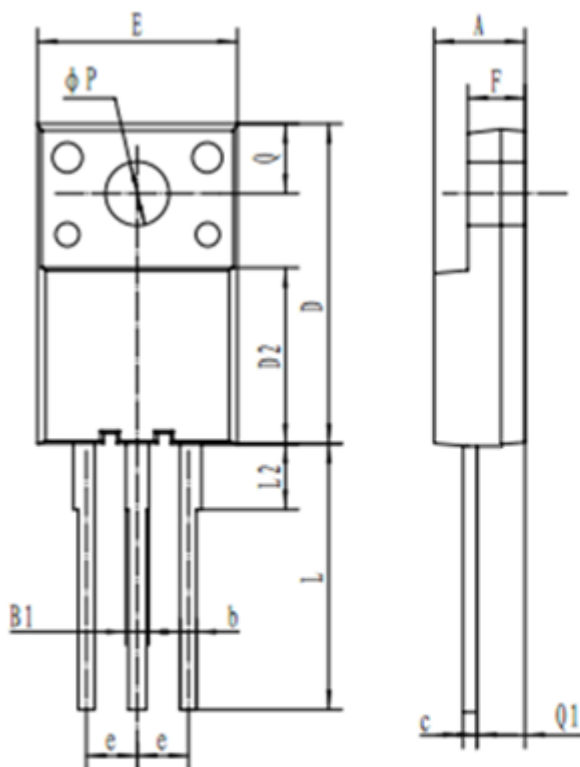


符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	0.48
c1	0.32	0.52
D	14.45	16.00
D2	8.20	9.20
E	9.60	10.40
e	2.39	2.69
F	1.20	1.35
L	13.05	14.05
L2	3.70	3.90
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00



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
$\phi p$	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5

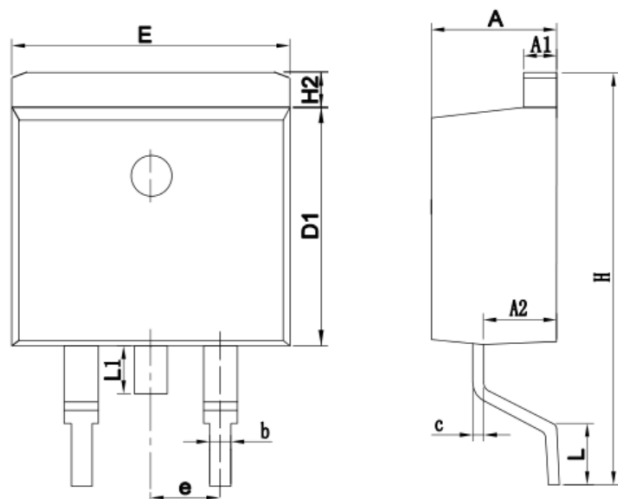




外形尺寸 PACKAGE MECHANICAL DATA

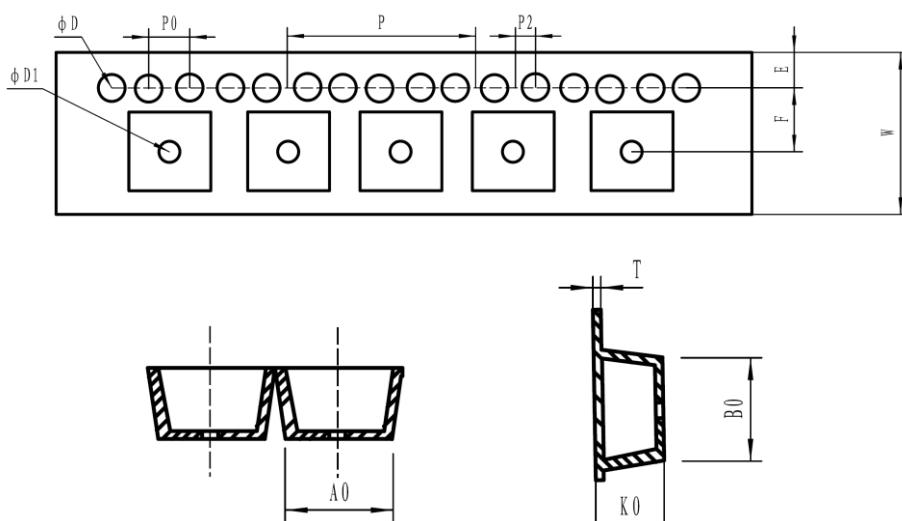
TO-263

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

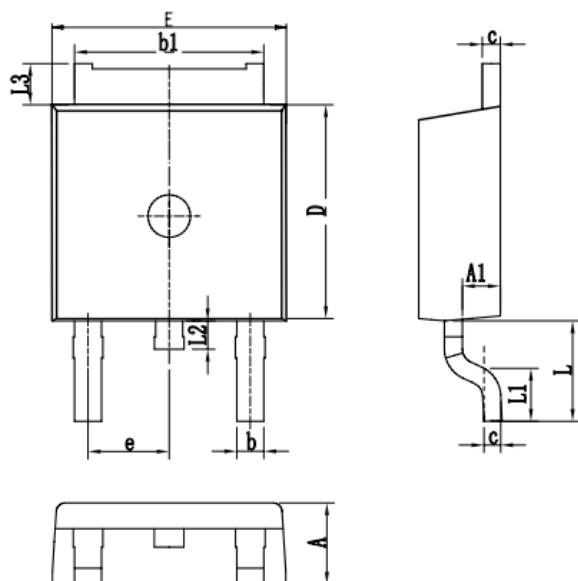


产品尺寸规格 (UNIT: mm)					
规格	W	A0	E	F	D
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2	1.5 + 0.2 / -0.1
规格	D1	P0	P2	P	T
尺寸	1.5 + 0.2 / -0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2	0.35 ± 0.05
规格	K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2			



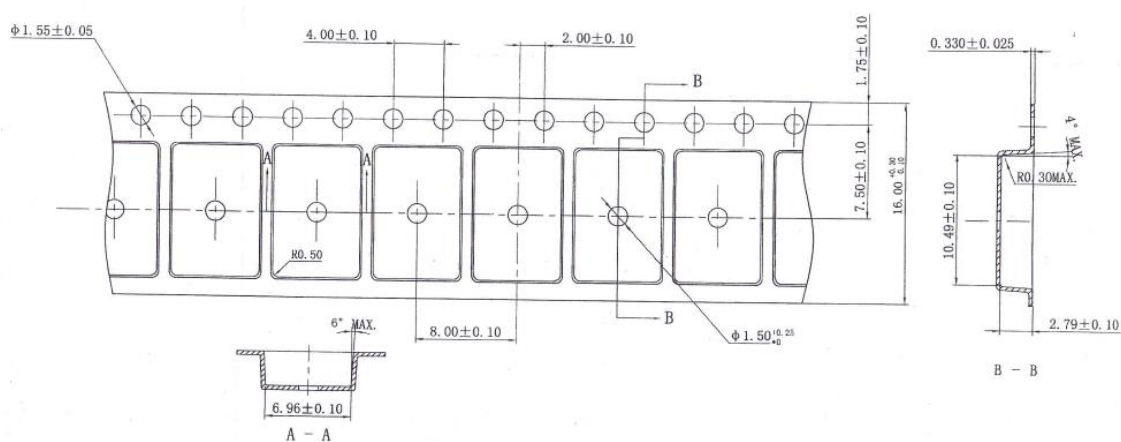
外形尺寸 PACKAGE MECHANICAL DATA  
DPAKM

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

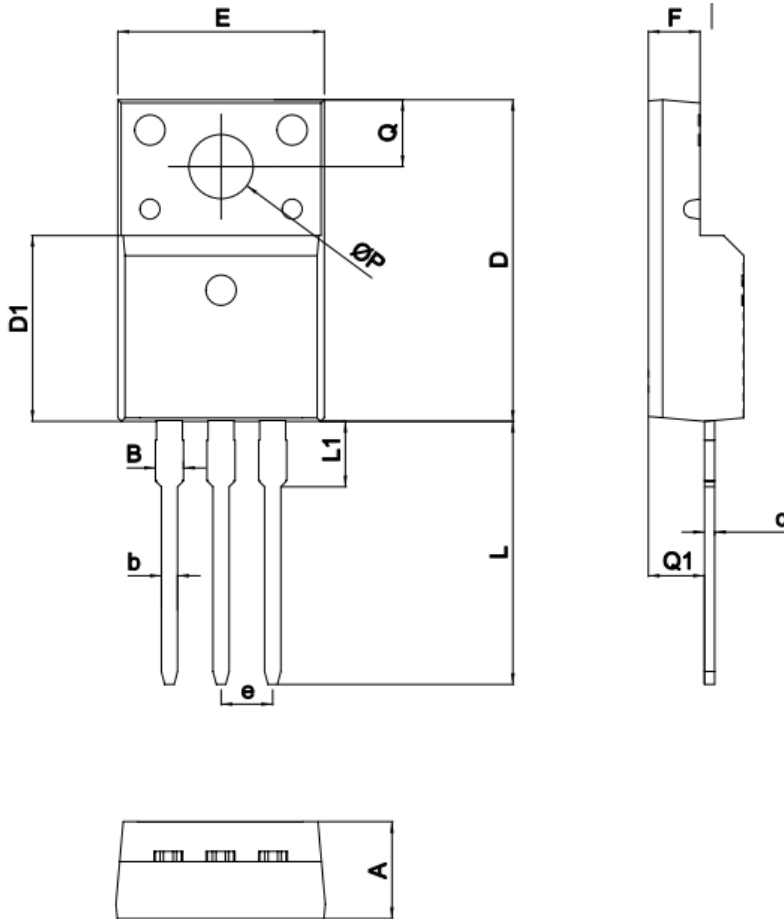
编带 REEL





外形尺寸 PACKAGE MECHANICAL DATA  
TO-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
$\Phi P$	3.0	3.5





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