

3CT12A

主要参数 MAIN CHARACTERISTICS

$I_{T(AV)}$	12A
V_{DRM}/V_{RRM}	600V
I_{GT}	1-15mA

用途

- 半交流开关
- 相位控制

APPLICATIONS

- Half AC switching
- Phase control

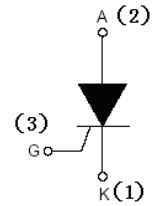
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 低通态电流和高浪涌电流能力
- 环保 RoHS 产品

FEATURES

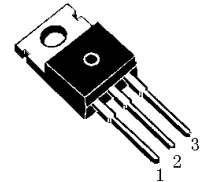
- Glass-passivated mesa chip for reliability and uniform
- Low on-state voltage and High I_{TSM}
- RoHS products

封装 Package

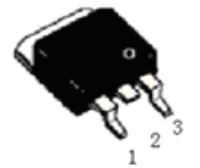


序号 Pin	引线名称 Description
1	阴极 K
2	阳极 A
3	门极 G

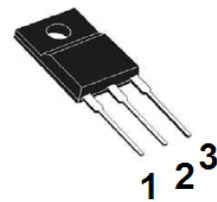
TO-220C



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-袋装	无卤-袋装	有卤-条管	无卤-条管	3CT12A	TO-220C
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3CT12A-C-C	3CT12A-C-CR	3CT12A-C-B	3CT12A-C-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3CT12A	TO-220MF-K1
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3CT12A-F1-C	3CT12A-F1-CR	3CT12A-F1-B	3CT12A-F1-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3CT12A	TO-263
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3CT4R-S-C	3CT4RS-CR	3CT4R-S-B	3CT4R-S-BR		

绝对最大额定值 ABSOLUTE RATINGS (Tc=25°C)

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
断态重复峰值电压 Repetitive peak off-state voltage	V_{DRM}	600	V
反向重复峰值电压 Repetitive peak reverse voltage	V_{RRM}	600	V
通态平均电流 Average on-state current (half sine wave)	$I_{T(AV)}$	12	A
通态方均根电流 On-state RMS current (all conduction angles)	$I_{T(RMS)}$	18	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current (half sine wave ,t=10ms)	I_{TSM}	200	A
I^2t for fusing (t=10ms)	I^2t	200	A ² s
门极峰值电流 Peak gate current	I_{GM}	5	A
门极峰值电压 Peak gate voltage	V_{GM}	5	V
反向门极峰值电压 Peak reverses gate voltage	V_{RGM}	5	V
门极峰值功率 Peak gate power	P_{GM}	20	W
门极平均功率 Average gate power (over any 20ms period)	$P_{G(AV)}$	0.5	W
存储温度 Storage temperature	T_{stg}	-40~150	°C
操作结温 Operation junction temperature	T_{VJ}	125	°C

静态特性 STATIC CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	I_{DRM}	$V_{DM}=V_{DRM(MAX)}$, $T_j=125^\circ\text{C}$	-	-	1.0	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I_{RRM}	$V_{RM}=V_{RRM(MAX)}$, $T_j=125^\circ\text{C}$	-	-	1.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{TM}=40\text{A}$	-	1.45	1.80	V
门极触发电流 Gate trigger current	I_{GT}	$V_{DM}=12\text{V}, I_T=0.1\text{A}$	1	4	15	mA
门极触发电压 Gate trigger voltage	V_{GT}	$V_{DM}=12\text{V}, I_T=0.1\text{A}$	-	0.8	1.5	V
维持电流 Holding current	I_H	$V_{DM}=12\text{V}, I_{GT}=0.1\text{A}$	-	-	25	mA
擎住电流 Latching current	I_L	$V_{DM}=12\text{V}, I_{GT}=0.1\text{A}$	-	-	40	mA

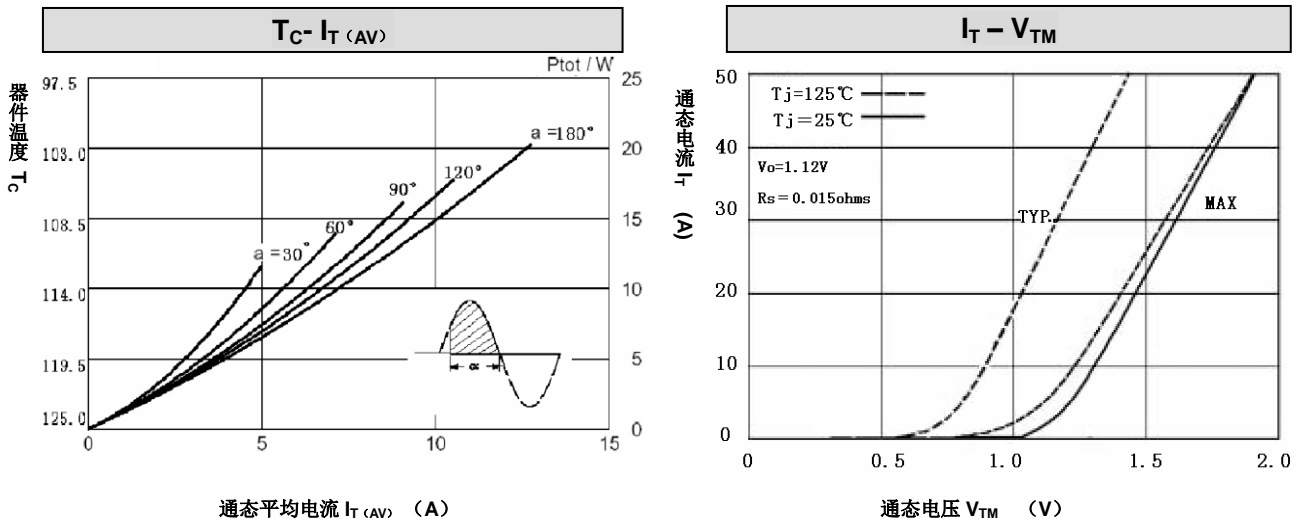
动态特性 DYNAMIC CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态临界电压上升率 Critical rate of rise of off- state voltage	dV/dt	$V_{DM}=67\% V_{DRM(MAX)}$, $T_j=125^\circ\text{C}$	50	200	-	V/ μs

热特性 THERMAL CHARACTERISTIC

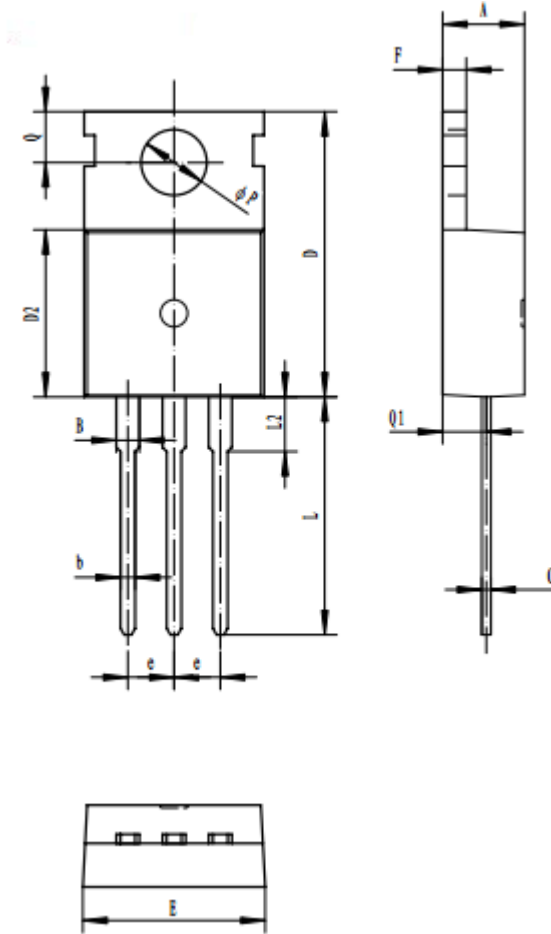
项 目 Parameter	符 号 Symbol	值 value	单位 Unit
结到管壳的热阻 Thermal resistance junction to case (TO-220C/TO-263)	$R_{th(j-c)}$	1.1 max	$^\circ\text{C}/\text{W}$
结到管壳的热阻 Thermal resistance junction to case (TO-220MF-K1)	$R_{th(j-c)}$	4.0max	
结到环境的热阻 Thermal resistance junction to ambient	$R_{th(j-a)}$	60 typ	

特征曲线 ELECTRICAL CHARACTERISTICS (curves)



外形尺寸 PACKAGE MECHANICAL DATA
TO-220C

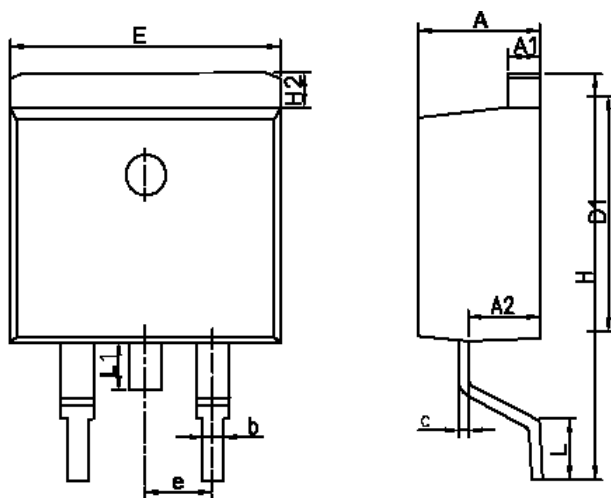
单位 Unit : mm



A	4.30-4.70
B	1.22-1.40
b	0.70-0.95
c	0.40-0.65
D	15.2-16.2
D2	9.00-9.40
E	9.70-10.10
e	2.39-2.69
F	1.25-1.40
L	12.60-13.60
L2	2.80-3.20
Q	2.60-3.00
Q1	2.20-2.60
P	3.50-3.80

TO-263

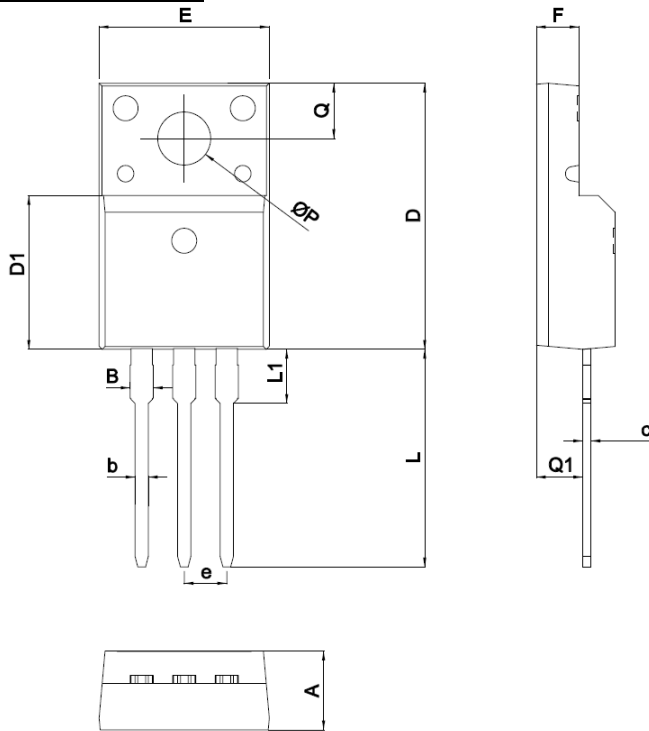
单位 Unit : mm



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

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