

CP3050T1A

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	30A
V_{DRM}/V_{RRM}	1200V
I_{GT}	10-50mA

用途

- 半交流开关
- 相位控制

APPLICATIONS

- Half AC switching.
- Phase control.

产品特性

- 平面工艺芯片，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
- 150℃高结温产品

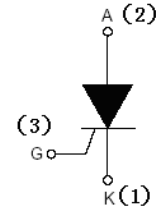
FEATURES

- The planar process chip for reliability and uniform.
- Low on-state voltage and High I_{TSM} .
- RoHS products.
- 150℃ High operating junction temperature.

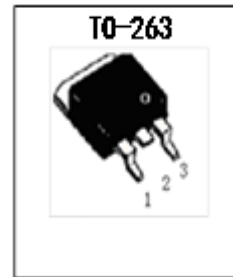
订货信息 ORDER MESSAGE

订货型号 Order codes				印 记 Marking	封 装 Package
有卤-条管	无卤-条管	有卤-编带	无卤-编带		
Halogen-Tube	Halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CP3050T1A-S-B	CP3050T1A-S-BR	CP3050T1A-S-A	CP3050T1A-S-AR	CP3050T1A	TO-263
CP3050T1A-GE-B	CP3050T1A-GE-BR	N/A	N/A	CP3050T1A	TO-247

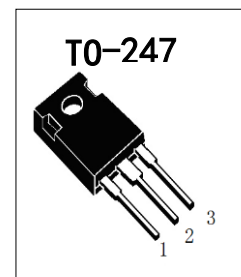
封装 Package



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



Non-insulated



Non-insulated

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
断态重复峰值电压 Repetitive peak off-state voltage	V_{DRM}	1200	V
断态不重复峰值电压 Non repetitive peak off-state voltage	V_{DSM}	1300	V
反向重复峰值电压 Repetitive peak reverse voltage	V_{RRM}	1200	V
反向不重复峰值电压 Non repetitive peak reverse voltage	V_{RSM}	1300	V
通态平均电流 Average on-state current (half sine wave)	$I_{\text{T(AV)}}$	19	A
通态方均根电流 On-state RMS current (all conduction angles)	$I_{\text{T(RMS)}}$	30	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current (half sine wave , $t=10\text{ms}$)	I_{TSM}	300	A
I^2t for fusing ($t=10\text{ms}$)	I^2t	450	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	200	$\text{A}/\mu\text{s}$
门极峰值电流 Peak gate current	I_{GM}	8	A
门极峰值电压 Peak gate voltage	V_{GM}	10	V
门极峰值功率 Peak gate power	P_{GM}	10	W
门极平均功率 Average gate power (over any 20ms period)	$P_{\text{G(AV)}}$	1	W
存储温度 Storage temperature	T_{stg}	-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	T_{J}	-40~150	$^\circ\text{C}$

**静态特性 STATIC CHARACTERISTICS (T_C=25°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 =25°C	-	-	10	uA
断态峰值重复电流 Peak Repetitive Blocking Current	I _{DRM}	V _{DM} = V _{DRM(MAX)} , T _j =125°C	-	-	3.0	mA
断态峰值重复电流 Peak Repetitive Blocking Current	I _{DRM}	V _{DM} = V _{DRM(MAX)} , T _j =150°C	-	-	5.0	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I _{RRM}	V _{RM} = V _{RRM(MAX)} , T _j =25°C	-	-	10	uA
反向峰值重复电流 Peak Repetitive Reverse Current	I _{RRM}	V _{RM} = V _{RRM(MAX)} , T _j =125°C	-	-	3.0	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I _{RRM}	V _{RM} = V _{RRM(MAX)} , T _j =150°C	-	-	5.0	mA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =60A	-	-	1.65	V
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, I _T =0.1A	10	-	50	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, I _T =0.1A	-	-	1.3	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	-	-	100	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _G =1.2*I _{GT}	-	-	125	mA

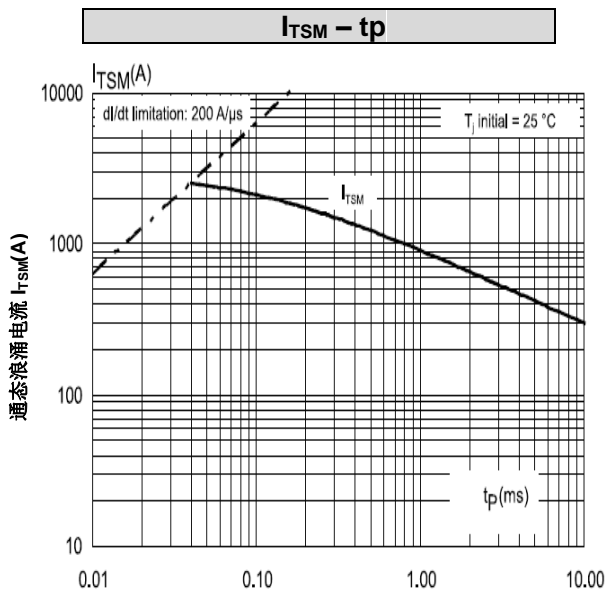
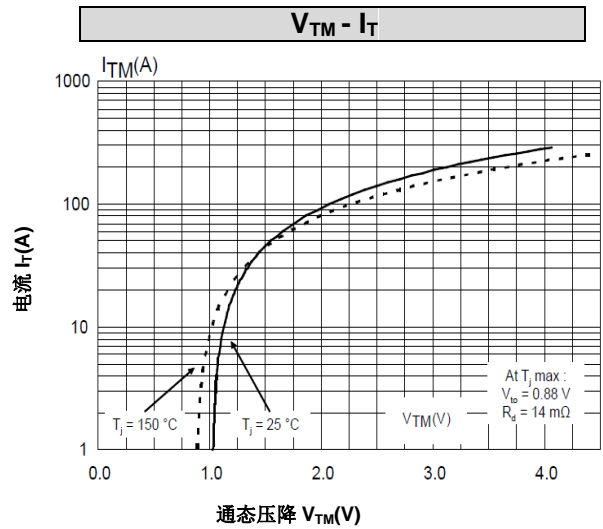
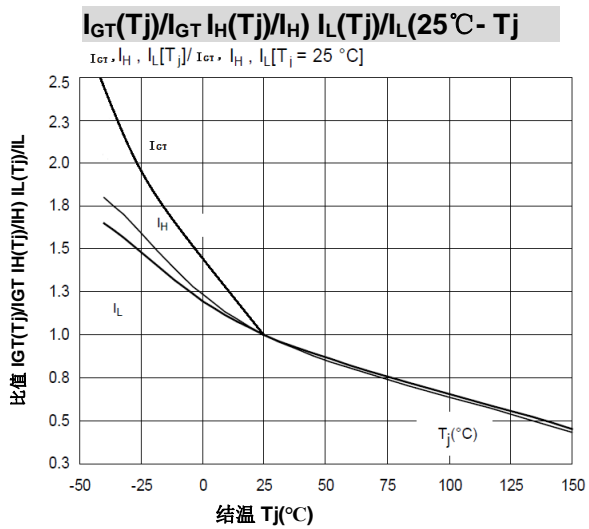
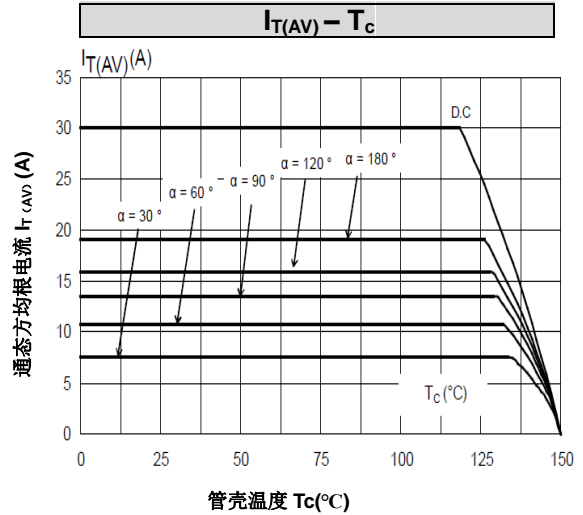
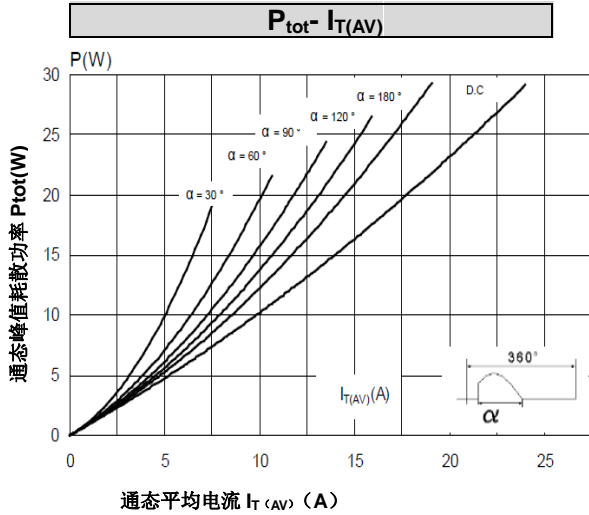
动态特性 DYNAMIC CHARACTERISTICS (T_C=25°C unless otherwise stated)

项 目 Parameter	符号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	I _G =2*I _{GT}		200		A/us
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 =150°C	1000	-	-	V/μs
门极开通时间 Gate controlled turn-on time	tgt	I _{TM} =60A, V _{DM} =2/3*V _{DRM(MAX)} , I _G =0.1A, di _G /dt=0.2A/μ S	-	1	-	μ s

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-263 R _{th(j-c)}	0.8 max	°C/W
结到管壳的热阻 Thermal resistance junction to case	TO-247S R _{th(j-c)}	0.8 max	°C/W

特征曲线 ELECTRICAL CHARACTERISTICS (curves)

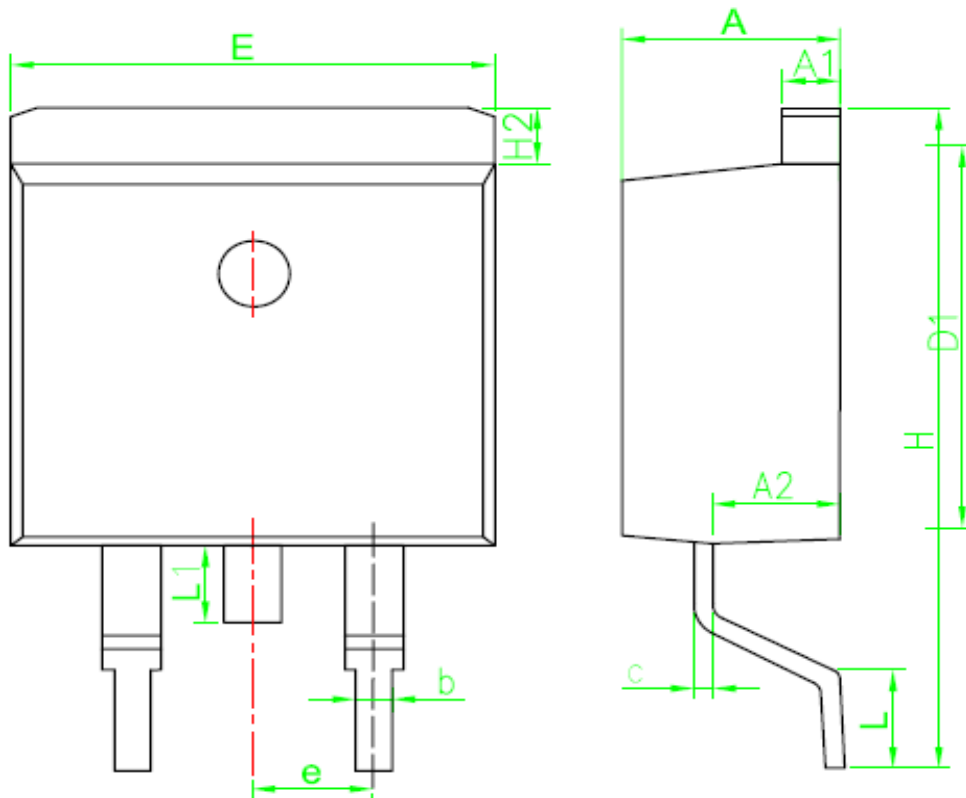




外形尺寸 PACKAGE MECHANICAL DATA

TO-263

单位 Unit : mm

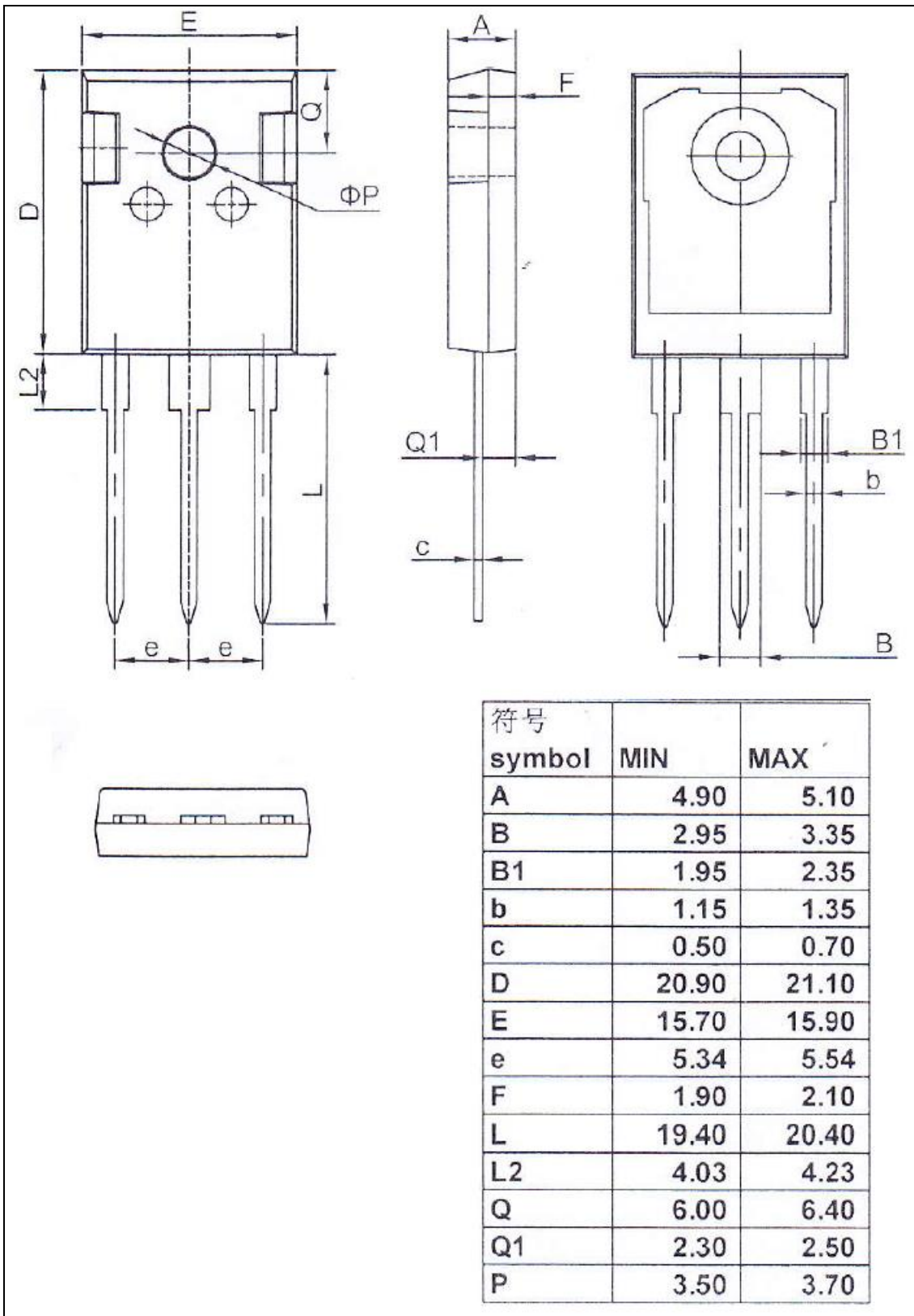


SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70



外形尺寸 PACKAGE MECHANICAL DATA

TO-247 单位 Unit : mm





注意事项

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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。

NOTE

1. Jilin Sino-microelectronics 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. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this. specification sheet and is subject to change without prior notice.

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