

# CP0610M4A

## 主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	0.6A
$V_{DRM}$	600V
$I_{GT}$ (I, II, III)	<5mA

## 用途

- 交流开关
- 相位控制

## 产品特性

- 平面工艺芯片, 高可靠性和一致性
- 三象限可控硅, 触发电流的一致性
- 环保 RoHS 产品
- 150°C 高结温产品

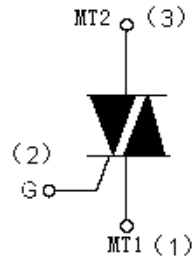
## APPLICATIONS

- AC switching
- Phase control

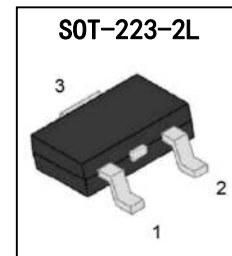
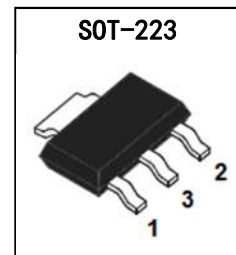
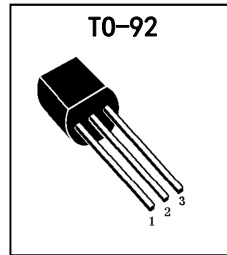
## FEATURES

- The planar process chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- RoHS products
- 150°C High operating junction temperature

## 封装 Package



序号 Pin	引线名称 Description
1	主电极 1 MT1
2	门极 G
3	主电极 2 MT2





## 订货信息 ORDER MESSAGES

订货型号 Order codes				印记 Marking	封装 Package
有卤-编带弹 带盒装	无卤-编带弹带 盒装	有卤-袋装	无卤-袋装		
Halogen-Tape	Halogen-Free-Tape	Halogen-Bag	Halogen-Free-Bag		
CP0610M4A-T-E	CP0610M4A-T-ER	CP0610M4A-T-C	CP0610M4A-T-CR	CP0610M4A	TO-92
有卤-编带	无卤-编带			印记 Marking	封装 Package
Halogen-Reel	Halogen-Free-Reel				
CP0610M4A-NC-A	CP0610M4A-NC-AR	N/A	N/A	CP0610M4A	SOT-223
CP0610M4A-NL-A	CP0610M4A-NL-AR	N/A	N/A	CP0610M4A	SOT-223-2L

绝对最大额定值 ABSOLUTE RATINGS ( $T_c=25^\circ\text{C}$ )

项 目 Parameter	符 号 Symbol	试 验 条 件 Condition	数 值 Value	单 位 Unit
重复峰值断态电压 Repetitive peak off-state voltage	$V_{\text{DRM}}$		$\pm 600$	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	full sine wave	0.6	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	$I_{\text{TSM}}$	full sine wave ,t=20ms	8	A
		full sine wave ,t=16.7ms	8.8	A
	$I^2t$	t=10ms	0.32	$\text{A}^2\text{s}$
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	$di/dt$	MT1(-),MT2(+),G(+); MT1(-),MT2(+),G(-); MT1(+),MT2(-),G(-)	50	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	$I_{\text{GM}}$		1	A
平均门极功率 Average gate power	$P_{\text{G(AV)}}$		0.1	W
存储温度 Storage temperature	$T_{\text{stg}}$		-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	$T_{\text{VJ}}$		150	$^\circ\text{C}$

电特性 ELECTRICAL CHARACTERISTIC (T<sub>C</sub>=25°C)

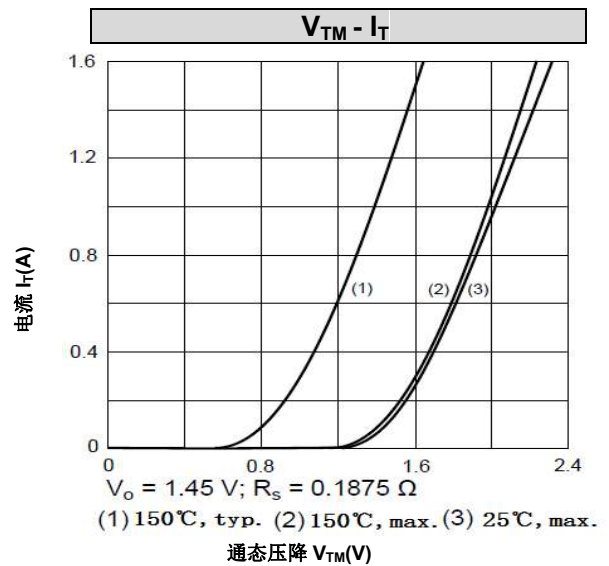
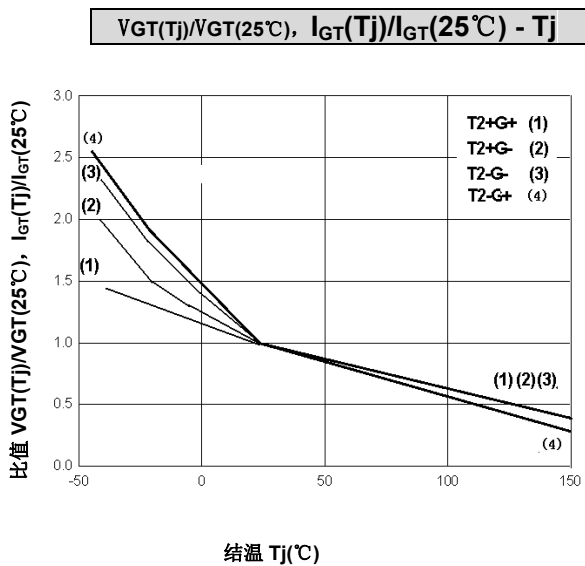
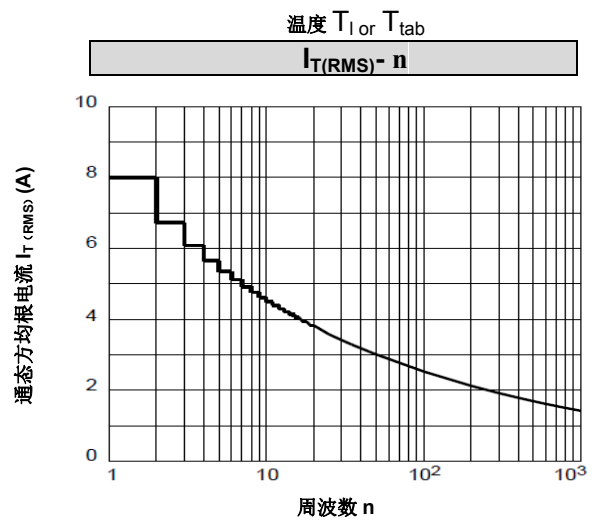
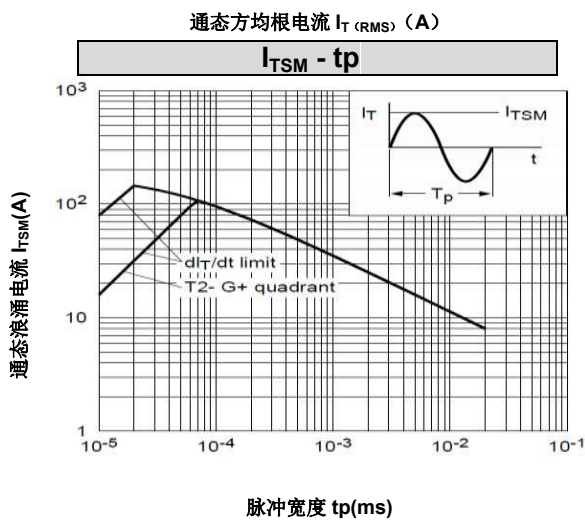
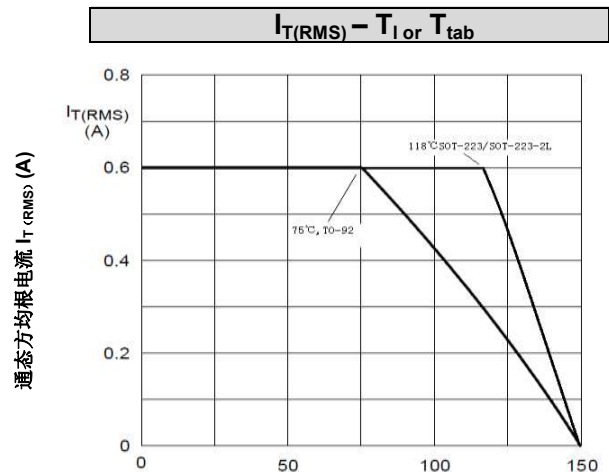
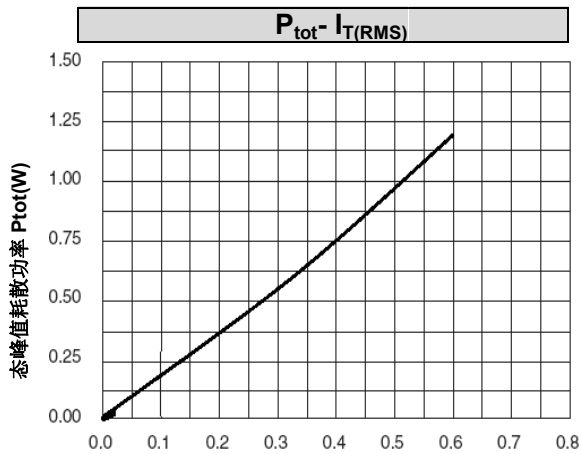
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
峰值重复断态电流 Peak Repetitive Blocking Current	I <sub>DRM</sub>	V <sub>DM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =150°C, gate open	-	-	0.2	mA
峰值通态电压 Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =0.85A	-	-	2.0	V
门极触发电压 Gate trigger voltage	V <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100 Ω	-	-	1.5	V
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	CP0610M4A			单位 Unit
门极触发电流 Gate trigger current	I <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100 Ω	MT1(-),MT2(+),G(+)	Max.	5	mA
			MT1(-),MT2(+),G(-)	Max.	5	mA
			MT1(+),MT2(-),G(-)	Max.	5	mA
			MT1(+),MT2(-),G(+)	Max.	9.0	mA
维持电流 Holding current	I <sub>H</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	Max.	10	mA	
擎住电流 Latching current	I <sub>L</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	Max.	15	mA	
断态临界电压上升率 Rise of off- state voltage	dV/dt	V <sub>DM</sub> =67% V <sub>DRM(MAX)</sub> , T <sub>j</sub> =150°C, gate open	Min.	10	V/ μ s	

## 热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到引线的热阻 Thermal resistance junction to tab	R <sub>th(j-t)</sub>	full cycle (SOT-223/SOT-223-2L)	-	-	25	°C/W
结到引线的热阻 Thermal resistance junction to lead	R <sub>th(j-l)</sub>	full cycle (TO-92)	-	-	60	°C/W



特征曲线 ELECTRICAL CHARACTERISTICS (curves)

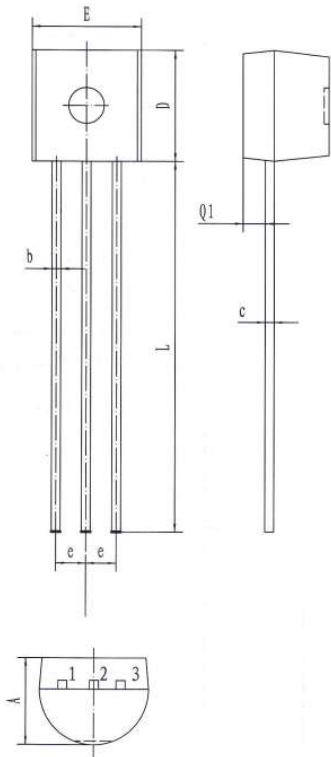




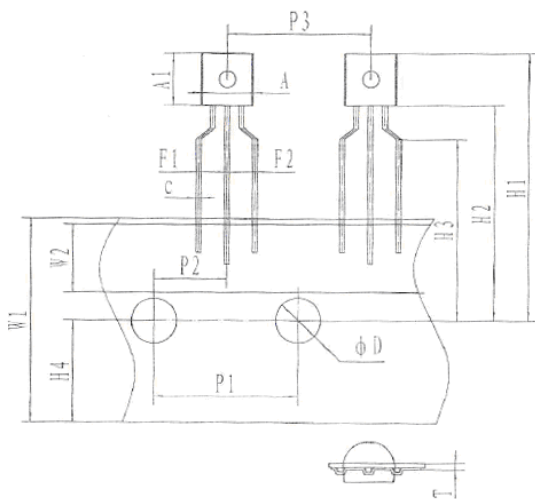
外形尺寸 PACKAGE MECHANICAL DATA

TO-92

单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	3.30-3.90
b	0.35-0.55
c	0.31-0.51
D	4.30-4.90
E	4.30-4.90
e	1.17-1.37
L	12.50-15.50
Q1	0.85-1.00



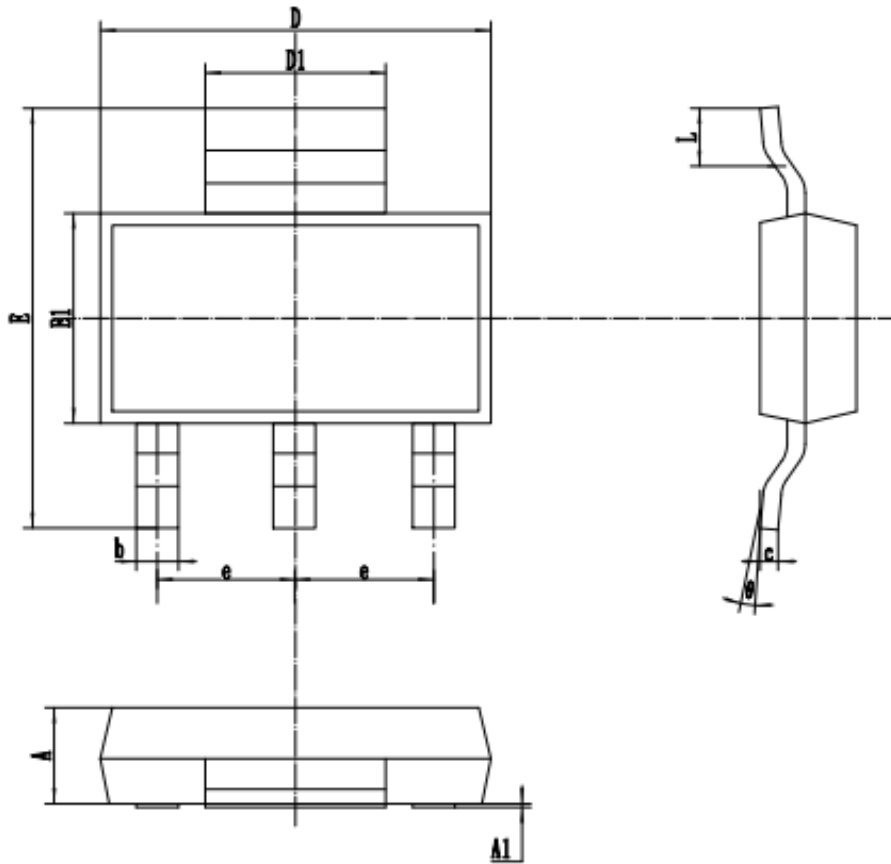
符号 Symbol	尺寸 (mm) Size (mm)
A	4.50-4.70
A1	4.50-4.70
A2	3.50-3.70
c	TYP 0.45
F1/F2	2.20-2.80
W1	17.5-18.5
W2	5.50-6.50
H1	22.0-27.0
H2	18.0-20.0
H3	15.0-17.0
H4	8.50-9.50
P1	12.5-12.9
P2	6.00-6.70
P3	12.5-12.9
T	0.40-0.45
φ D	3.80-4.20
△H	0.00-1.00



## 外形尺寸 PACKAGE MECHANICAL DATA

SOT-223

单位 Unit : mm



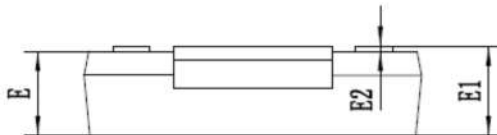
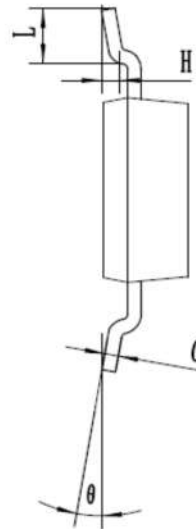
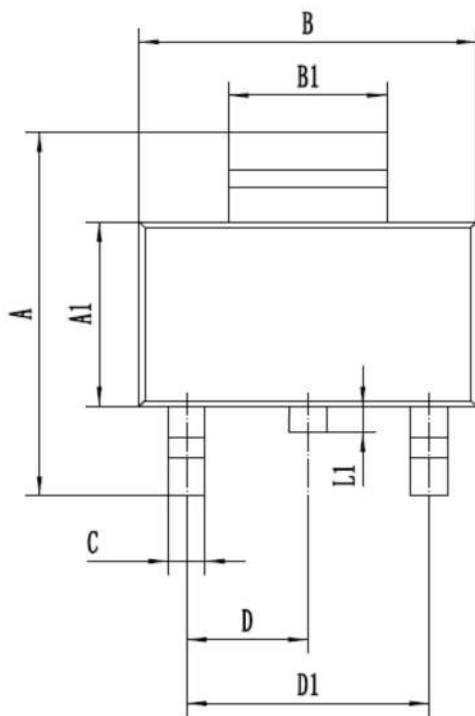
SYMBOL	mm	
	MIN	MAX
A	1.50	1.80
A1	0.01	0.12
b	0.60	0.85
c	0.15	0.40
D	6.25	6.75
D1	2.80	3.20
E	6.75	7.25
E1	3.30	3.70
e	2.30 BASIC	
L	0.80	1.20
θ	-	10°



## 外形尺寸 PACKAGE MECHANICAL DATA

SOT-223-2L

单位 Unit : mm



SYMBOL	mm		
	MIN	NOM	MAX
A	6.65	6.95	7.25
A1	3.3	3.5	3.7
B	6.2	6.4	6.6
B1	2.8	3.0	3.2
C	0.64	0.74	0.84
D	2.20	2.30	2.40
D1	4.4	4.6	4.8
E	1.4	1.6	1.8
E1	1.40	1.66	1.95
E2	0		0.15
G	0.23	0.30	0.37
H	0.18	0.25	0.32
L	0.7	0.95	1.2
L1			0.8
$\theta$			10°



### 注意事项

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