

T0405N (U、C)

主要参数 MAIN CHARACTERISTICS

$I_T(RMS)$	4A
V_{DRM}	600V
I_{GT}	5mA

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

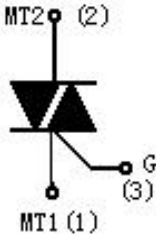
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 三象限可控硅，触发电流的一致性好
- 环保 RoHS 产品

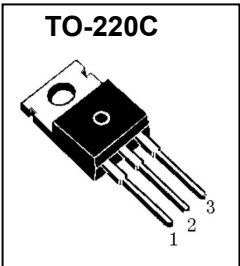
FEATURES

- Glass-passivated mesa chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- RoHS products

封装 Package



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



订货信息 ORDER MESSAGES

订 货 型 号 Order codes				印 记 Marking	封 装 Package
有卤-编带	无卤-编带	有卤-袋装	无卤-袋装		
Halogen-Reel	Halogen-Free-Reel	Halogen-Bag	Halogen-Free-Bag		
T0405NU-R-A	T0405NU-R-AR	N/A	N/A	T0405NU	DPAK
T0405NC-CA-C	T0405NC-CA-CR	T0405NC-CA-B	T0405NC-CA-BR	T0405NC	TO-220C

概述 GENERAL DESCRIPTION

T0405NU/T0405NC是玻璃钝化芯片结构的三象限双向晶闸管，产品在第四象限不可触发，具有较高的使用可靠性。可适用于容易出现较高 dV/dt 或 dI/dt 的交流全波控制线路中，特别推荐应用与电感性负载控制（如电机控制线路）。器件封装形式是DPAK/TO-220C。

T0405NU/T0405NC are Glass passivated three quadrant triacs, designed for high performance full-wave ac control applications where high static and dynamic dV/dt and high dI/dt can occur. They are specially recommended for use on inductive loads such as motor control circuits. Available packages are DPAK/TO-220C.

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_{DRM}		± 600	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	full sine wave	4	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current	I_{TSM}	full sine wave , $t=20\text{ms}$	30	A
		full sine wave , $t=16.7\text{ms}$	31	A
	I^2t	$t=10\text{ms}$	5.1	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	$I_{\text{TM}}=6\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$	100	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{GM}		4	A
峰值门极电压 Peak gate voltage	V_{GM}		5	V
峰值门极功率 Peak gate power	P_{GM}		5	W
平均门极功率 Average gate power	$P_{\text{G(AV)}}$	over any 20ms period	1	W
存储温度 Storage temperature	T_{stg}		$-40\sim 150$	$^{\circ}\text{C}$
操作结温 Operation junction temperature	T_{VJ}		125	$^{\circ}\text{C}$



电特性 ELECTRICAL CHARACTERISTIC (T_c=25℃)

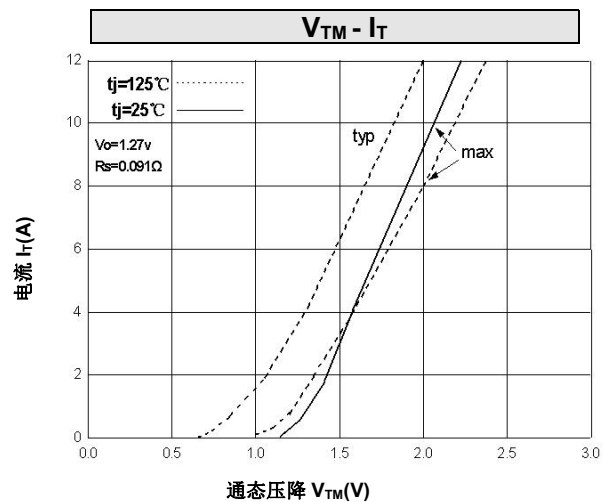
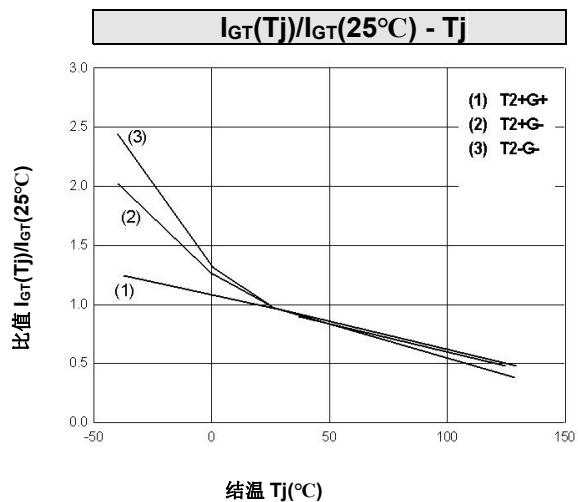
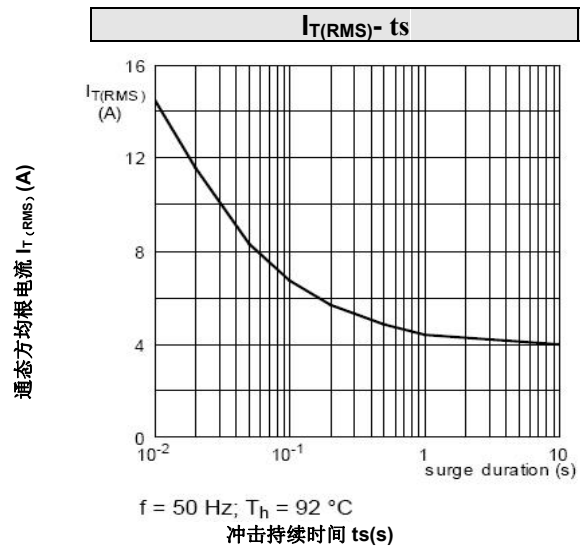
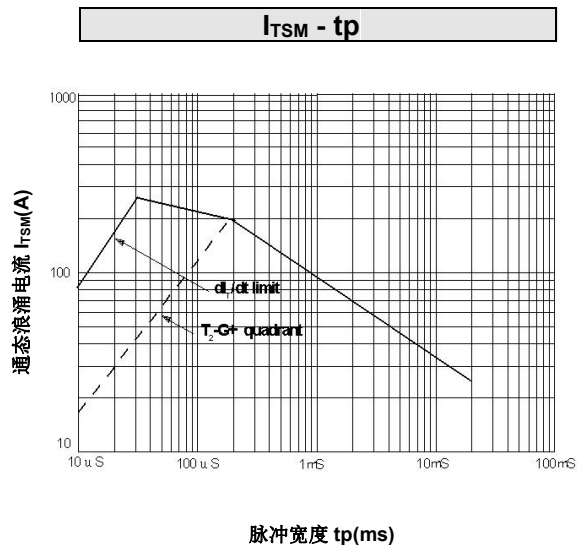
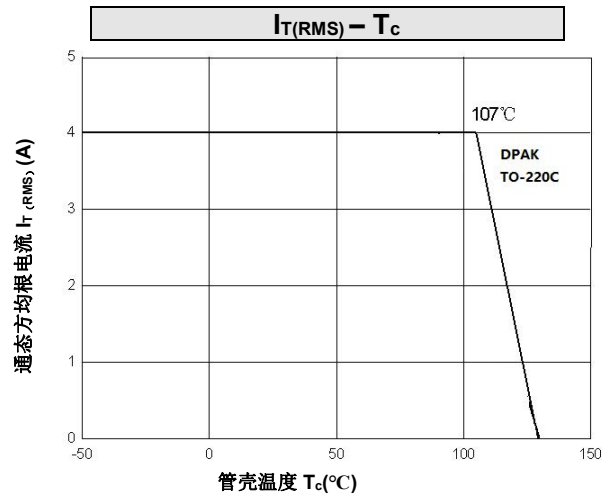
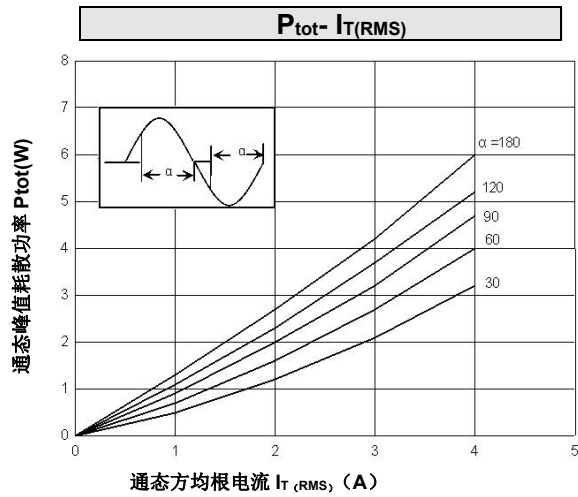
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition		最小 Min	典型 Typ	最大 Max	单位 Unit
峰值重复断态电流 Peak Repetitive Blocking Current	I _{DRM}	V _{DM} =600V, T _j =125℃, gate open		-	-	0.5	mA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =5A		-	1.4	1.7	V
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100 Ω	MT1(-),MT2(+),G(+)	-	-	5	mA
			MT1(-),MT2(+),G(-)	-	-	5	mA
			MT1(+),MT2(-),G(-)	-	-	5	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω	MT1(-),MT2(+),G(+)	-	0.7	1.3	V
			MT1(-),MT2(+),G(-)	-	0.7	1.3	V
			MT1(+),MT2(-),G(-)	-	0.7	1.3	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A		-	-	10	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	MT1(-),MT2(+),G(+)	-	-	10	mA
			MT1(-),MT2(+),G(-)	-	-	15	mA
			MT1(+),MT2(-),G(-)	-	-	10	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V _{DM} =67% V _{DRM(MAX)} , T _j =125℃, gate open		20	-	-	V/ μ s
门极开通时间 Gate controlled turn-on time	tgt	I _{TM} =6A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, dI _G /dt=5A/ μ S		-	2	-	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
结到管壳的热阻 Thermal resistance junction to case	R _{th(j-c)}	full cycle			3.0	℃/W



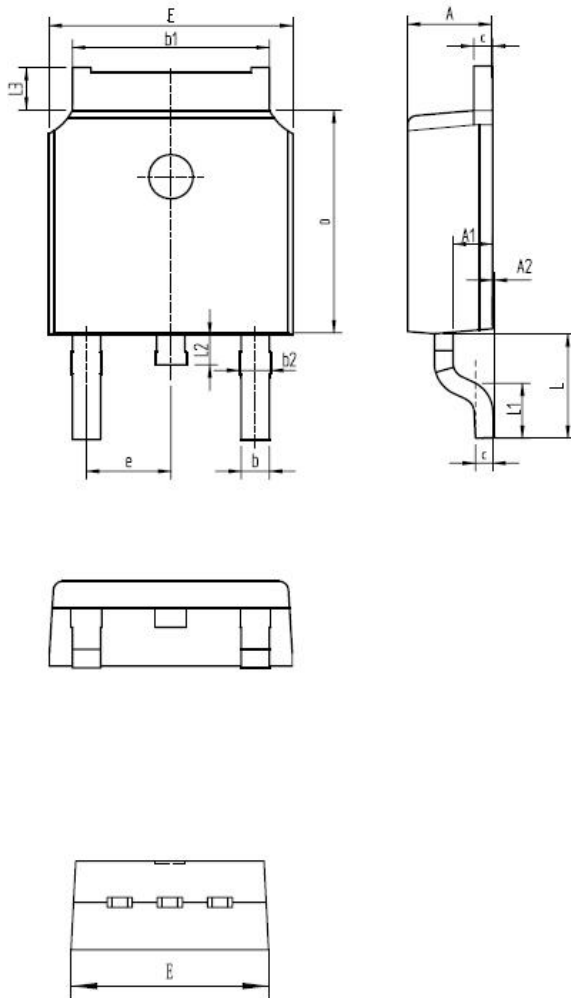
特征曲线 ELECTRICAL CHARACTERISTICS (curves)



外形尺寸 PACKAGE MECHANICAL DATA

DPAK

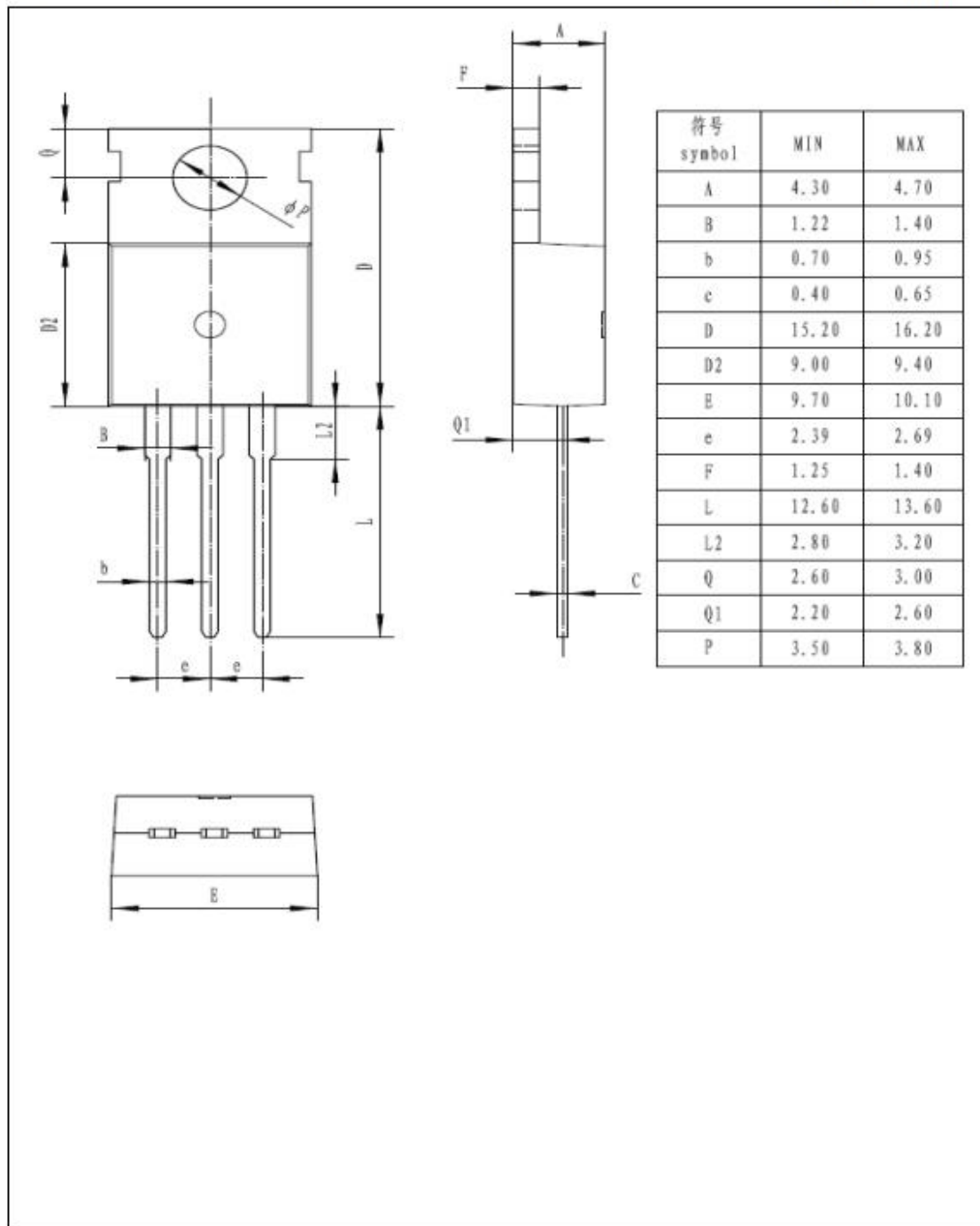
单位 Unit : mm



SYMBOL	mm	
	MIN	MAX
A	2.16	2.41
A1	0.97	1.17
A2	0.00	0.15
b	0.63	0.93
b1	5.13	5.53
b2	0.66	0.96
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
e	2.286BSC	
L	2.50	3.30
L1	1.20	1.80
L2	0.60	1.00
L3	0.85	1.30

TO-220C

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。

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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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