



T0410N (U、Z、F1)

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	4A
V_{DRM}	800V
I_{GT}	10mA

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

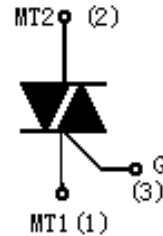
FEATURES

Glass-passivated mesa
chip for reliability and
uniform

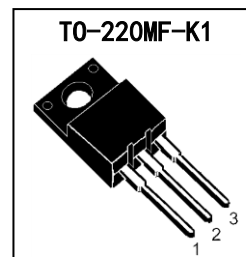
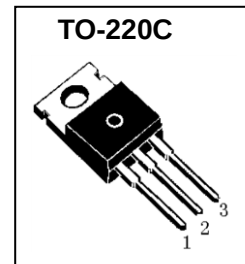
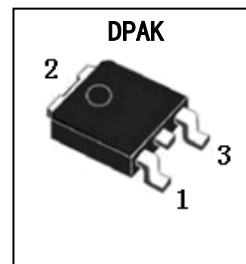
Uniform gate trigger
currents in three
quadrants

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-条管	无卤-条管	有卤-袋装	无卤-袋装		
Halogen-Tube	Halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
T0410NZ-CA-B	T0410NZ-CA-BR	T0410NZ-C-C	T0410NZ-CA-CR	T0410NZ	TO-220C
T0410NF1-FA-B	T0410NF1-FA-BR	T0410NF1-FA-C	T0410NF1-FA-CR	T0410NF1	TO-220MF-K1
有卤-编带	无卤-编带	N/A	N/A	印 记 Marking	封 装 Package
Halogen-Reel	Halogen-Free-Reel	N/A	N/A		
T0410NU-R-A	T0410NU-R-AR	N/A	N/A	T0410NU	DPAK

概述 GENERAL DESCRIPTION

T0410N (U、Z、F1) 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）。器件封装形式有DPAK、TO-220C、TO-220MF-K1。

T0410N (U、Z、F1) 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、TO-220MF-K1.



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}		± 800	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=20ms	25	A
		full sine wave ,t=16.7ms	27	A
	I^2t	t=10ms	3.1	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}		2	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	0.5	W
存储温度 Storage temperature	T_{stg}		-40~150	$^{\circ}\text{C}$
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} =800V, 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(+)	-	-	10	mA
			MT1(-),MT2(+),G(-)	-	-	10	mA
			MT1(+),MT2(-),G(-)	-	-	10	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω	MT1(-),MT2(+),G(+)	-	0.7	1.5	V
			MT1(-),MT2(+),G(-)	-	0.7	1.5	V
			MT1(+),MT2(-),G(-)	-	0.7	1.5	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A		-	-	12	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	MT1(-),MT2(+),G(+)	-	-	12	mA
			MT1(-),MT2(+),G(-)	-	-	18	mA
			MT1(+),MT2(-),G(-)	-	-	12	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		30	-	-	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(DPAK、TO-220C)			3.0	℃/W
结到管壳的热阻 Thermal resistance junction to case	R _{th(j-c)}	full cycle(TO-220MF-K1)			5.5	℃/W

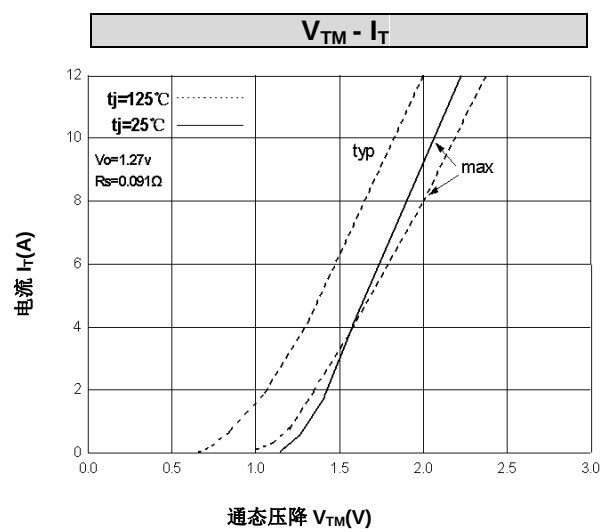
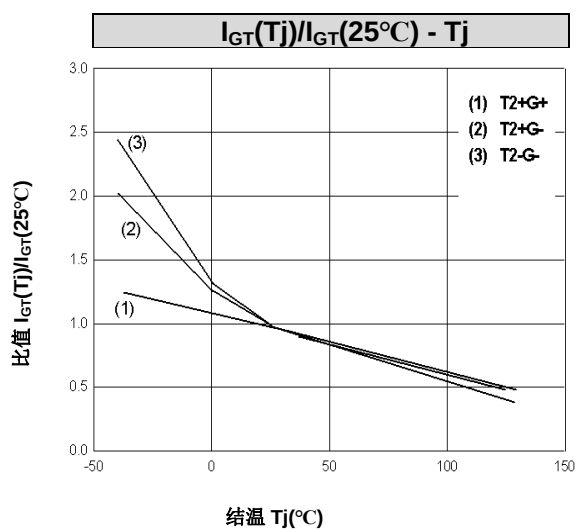
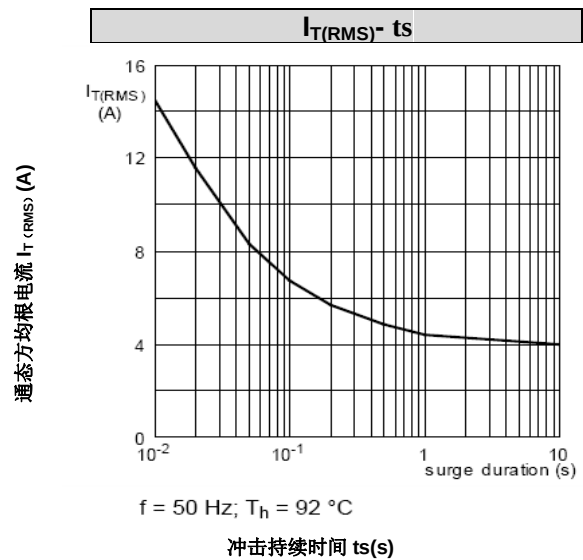
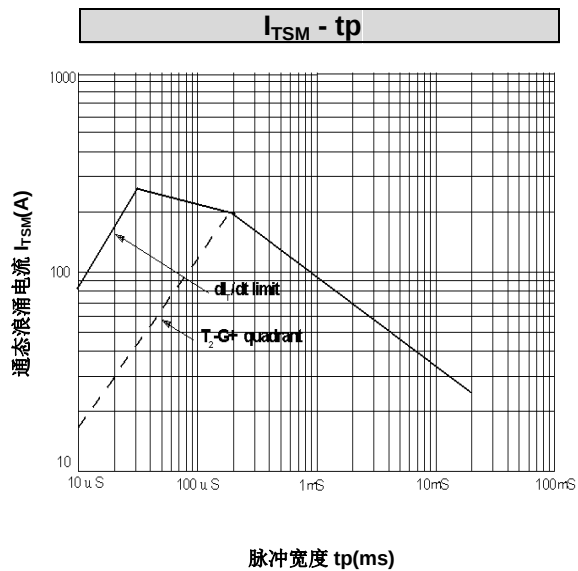
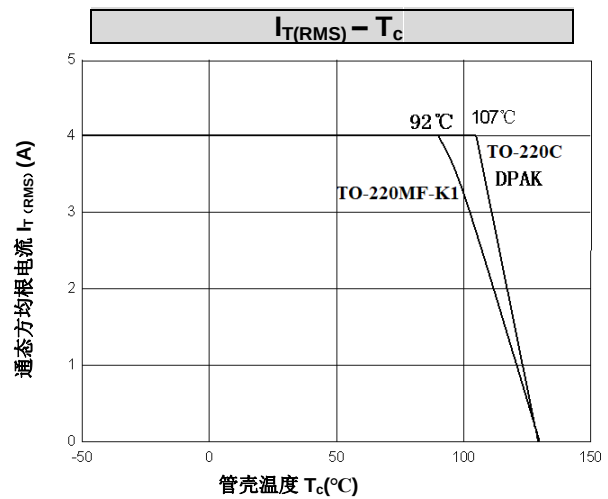
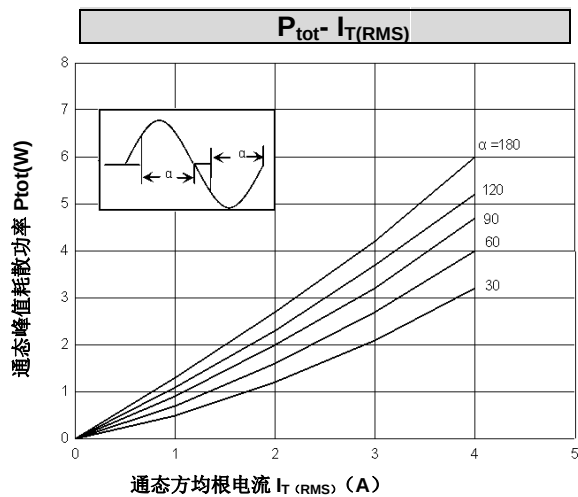
电绝缘特性 ELECTRICAL ISOLATION

项 目 Parameter	符 号 Symbol	条 件 Condition	数值 Value	单位 Unit
绝缘电压 Isolation voltage	V _{ISOL}	1 minute, leads to mounting tab TO-220MF-K1	2000	V





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

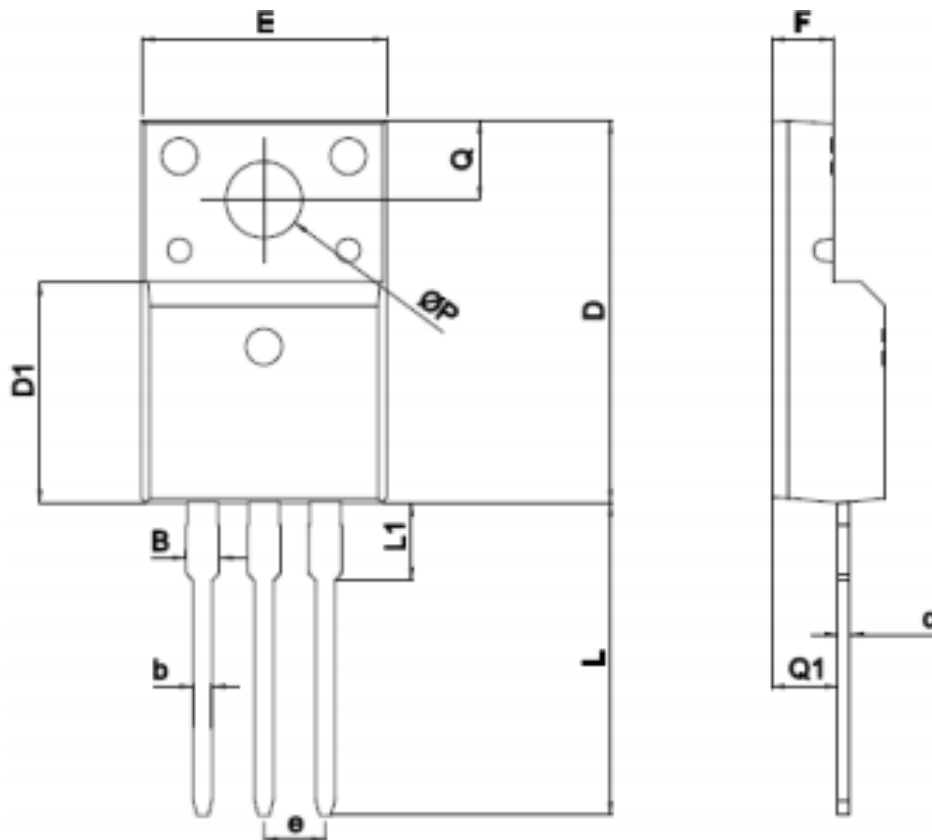




外形尺寸 PACKAGE MECHANICAL DATA

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



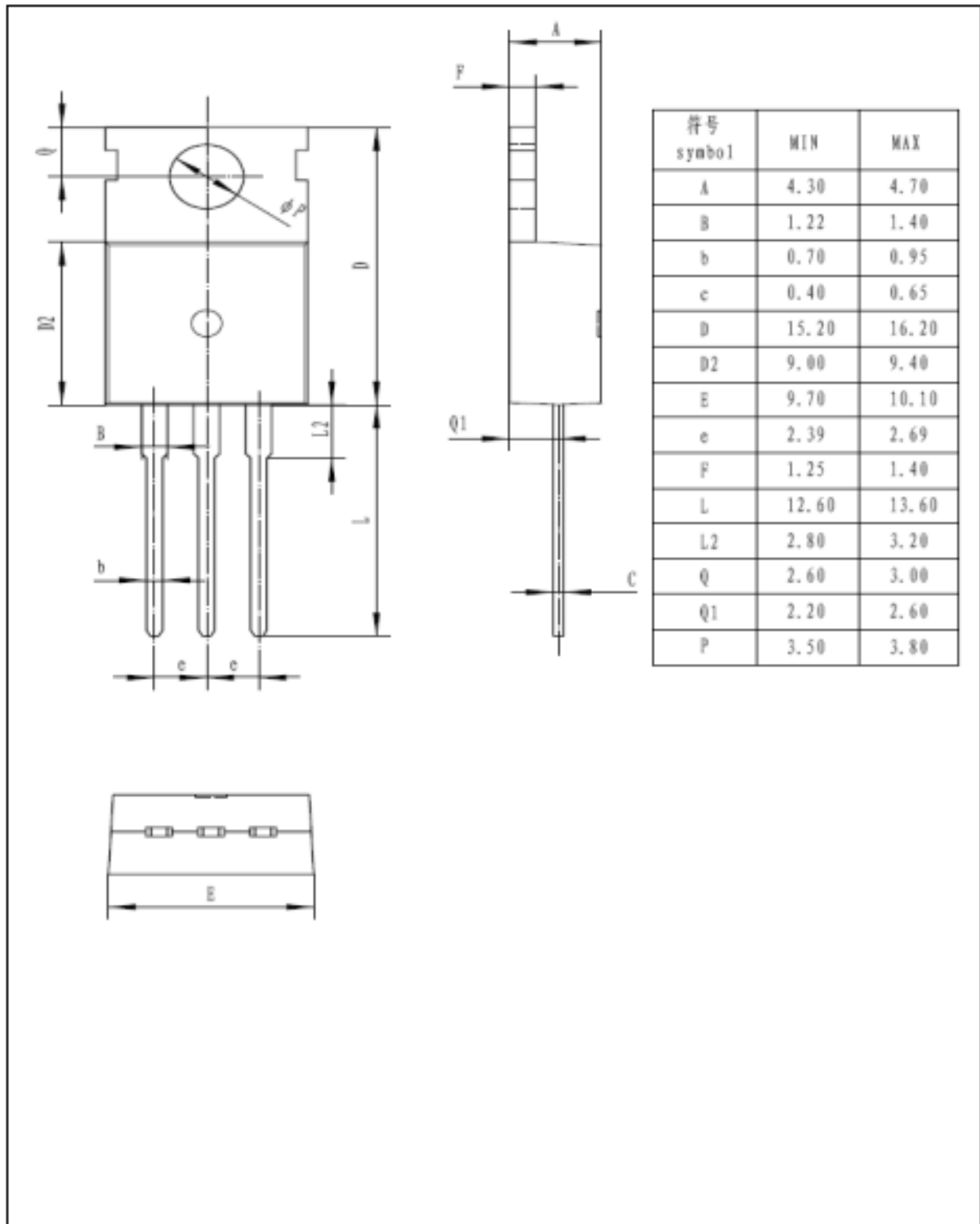


T0410N (U、Z、F1)

外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

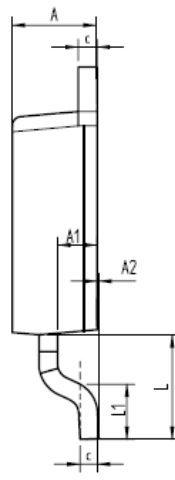
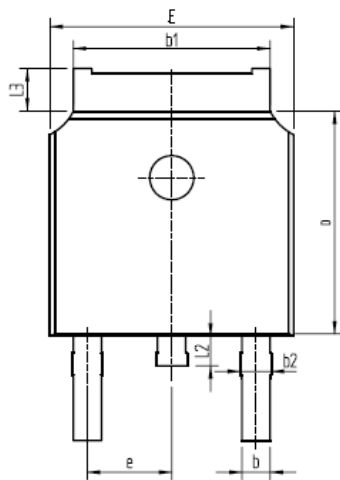




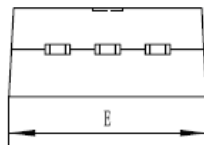
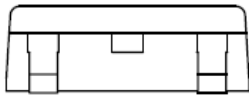
外形尺寸 PACKAGE MECHANICAL DATA

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





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