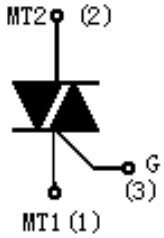
CP1250N3B

主要参数 MAIN CHARACTERISTICS

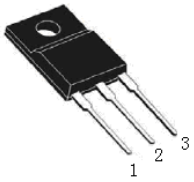
$I_{T(RMS)}$	12A
V_{DRM}	800V
I_{GT}(I,II,III)	<50mA

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

TO-220MF-K1



用途 APPLICATIONS

- ●交流开关
- ●相位控制

- ●AC switching
- ●Phase control

产品特性 FEATURES

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

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

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-编带	无卤-编带		
Halogen-Tube	Halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CP1250N3B -F1-B	CP1250N3B -F1-BR	N/A	N/A	CP1250N3B	TO-220MF-K1

概述 GENERAL DESCRIPTION

CP1250N3B是平面可控硅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TO-220MF-K1 (plastic envelope)。

CP1250N3B are The planar process chip 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 TO-220MF-K1 (plastic envelope).

绝对最大额定值 ABSOLUTE RATINGS (T_C=25℃)

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	$I_{T(RMS)}$	full sine wave,	12	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	140	A
		full sine wave ,t=16.7ms	150	A
	I^2t	t=10ms	98	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	dI/dt	I_{TM}=20A, I_G=0.2A, dI_G/dt=0.2A/μs	100	A/μs
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	$P_{G(AV)}$	over any 20ms period	0.5	W
存储温度 Storage temperature	T_{stg}		-40~150	℃
操作结温 Operation junction temperature	T_{VJ}		-40~150	℃

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}	$V_{DM}=V_{DRM}$, Tj=150℃, gate open			--	2.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	I_{TM}=18A, Tj=25℃,			--	1.5	V
门极触发电流 Gate trigger current	I_{GT}	V_{DM}=12V, R_L=100Ω	MT1(-),MT2(+),G(+)		--	50	mA
			MT1(-),MT2(+),G(-)		--	50	mA
			MT1(+),MT2(-),G(-)		--	50	mA
门极触发电压 Gate trigger voltage	V_{GT}	V_{DM}=12V, R_L=100Ω	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			--	60	mA
擎住电流 Latching current	I_L	V_{DM}=12V, I_{GT}=0.1A	MT1(-),MT2(+),G(+)		-	60	mA
			MT1(-),MT2(+),G(-)		-	90	mA
			MT1(+),MT2(-),G(-)		-	60	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V_{DM}=67% $V_{DRM(MAX)}$, Tj=150℃, gate open		1000	-	-	V/μs
门极开通时间 Gate controlled turn-on time	tgt	I_{TM}=20A, $V_{DM}=V_{DRM(MAX)}$, I_G=0.1A, dI_G/dt=5A/μS		-	2	-	μs

热特性 THERMAL CHARACTERISTIC

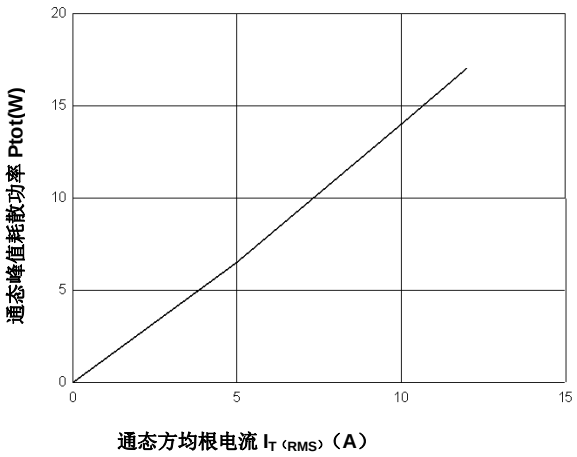
项　　目 Parameter	符　号 Symbol	条　　件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	$R_{th(j-c)}$	full cycle(TO-220MF-K1)			4.0	℃/W

电绝缘特性 ELECTRICAL ISOLATION

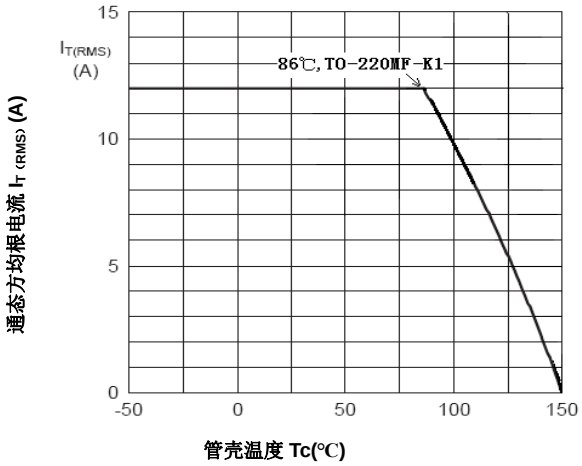
项　　目 Parameter	符　号 Symbol	条　　件 Condition	数 值 Value	单位 Unit
绝缘电压 Isolation voltage	V_{ISOL}	1 minute, leads to mounting tab TO-220MF-K1	2000	V

特征曲线 ELECTRICAL CHARACTERISTICS (curves)

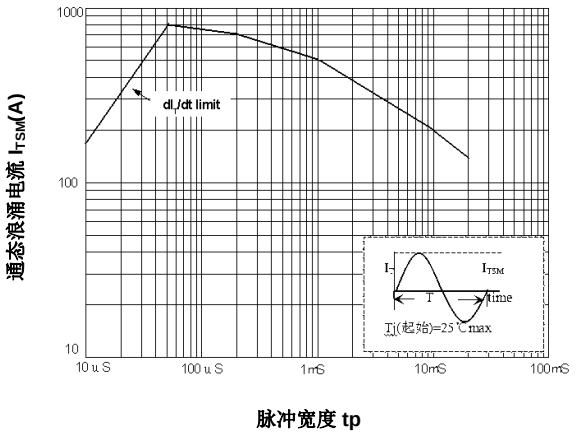
P_{tot}- $I_{T(RMS)}$



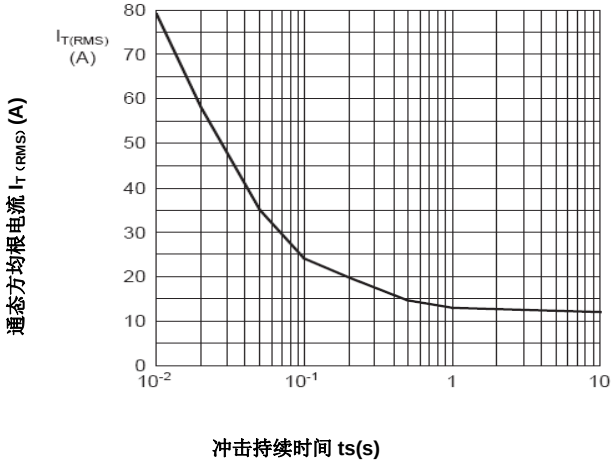
$I_{T(RMS)}$ – T_c



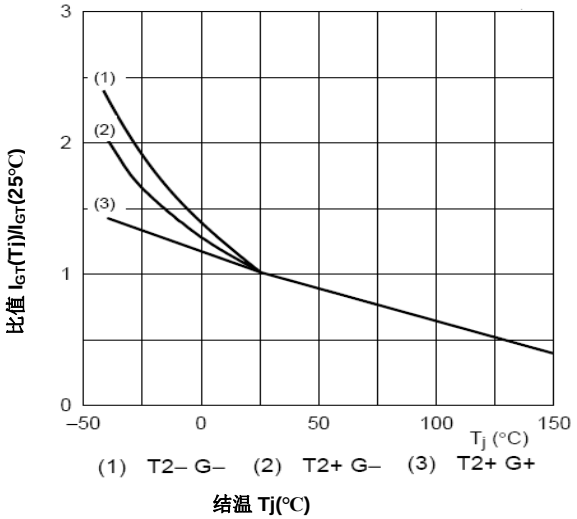
I_{TSM} - tp



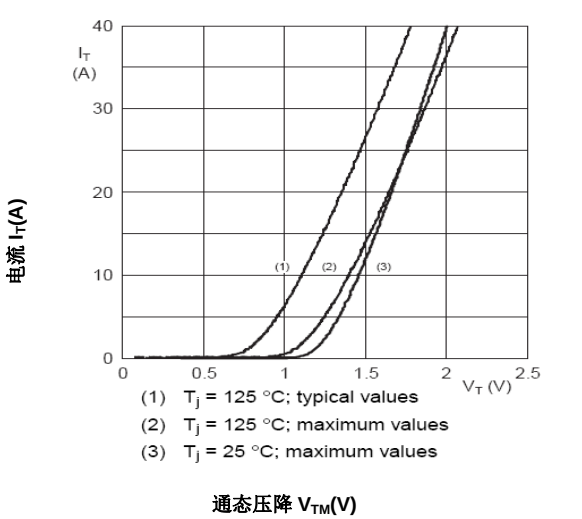
$I_{T(RMS)}$- ts



$I_{GT}(Tj)/I_{GT}(25℃)$ - Tj



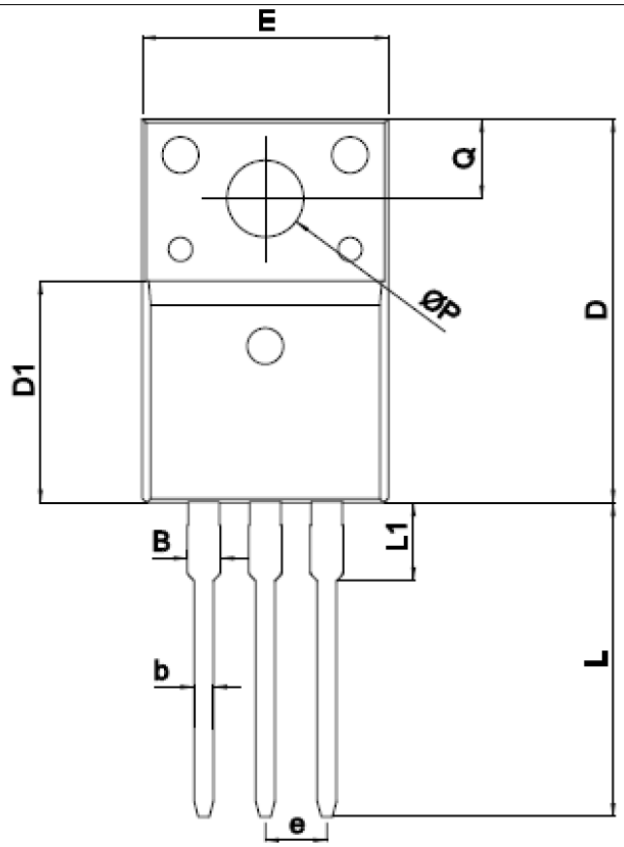
V_{TM} - I_T



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

注意事项

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4. 本说明书如有版本变更不另外告知

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