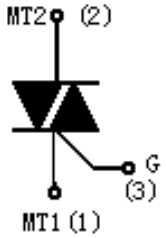
3TT40AB

主要参数 MAIN CHARACTERISTICS

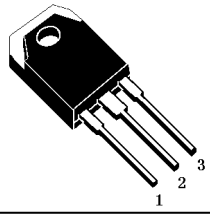
$I_{T(RMS)}$	40A
V_{DRM}	600V or 800V
I_{GT}	50mA

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-3PB



用途 APPLICATIONS

- 交流开关 AC switching
- 相位控制 Phase control

产品特性 FEATURES

- 玻璃钝化芯片，高可靠性和一致性 Glass-passivated mesa chip for reliability and uniform
- 三象限可控硅，触发电流的一致性好 Uniform gate trigger currents in three quadrants
- 环保 RoHS 产品 RoHS products

订货信息 ORDER MESSAGES

订货型号 Order codes		印记 Marking	封装 Package
有卤-条管 Halogen-Tube	无卤-条管 Halogen-Free-Tube		
3TT40AB-GD-B	3TT40AB-GD-BR	3TT40AB	TO-3PB

概述 GENERAL DESCRIPTION

3TT40AB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）。器件封装形式为TO-3PB。

3TT40AB 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 package is TO-3PB.

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}		±600 ±800	V
通态方均根电流 On-state RMS current	$I_{T(RMS)}$	full sine wave,	40	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	320	A
		full sine wave ,t=16.7ms	350	A
	I^2t	t=10ms	300	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}=45A, 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}		125	℃

电特性 ELECTRICAL CHARACTERISTIC (T_C=25℃)

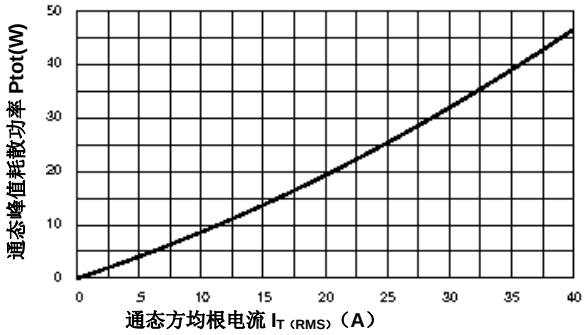
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition		最小 Min	典型 Typ	最大 Max	单位 Unit
峰值重复断态电流 Peak Repetitive Blocking Current	I_{DRM}	V_{DM}=V_{DRM}, Tj=25℃, gate open		-	-	10	μA
		V_{DM}=V_{DRM}, Tj=125℃, gate open		-	-	5.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	I_{TM}=55A		-	-	1.7	V
门极触发电流 Gate trigger current	I_{GT}	V_{DM}=12V, R_L=100Ω	MT1(-),MT2(+),G(+)	5	-	50	mA
			MT1(-),MT2(+),G(-)	5	-	50	mA
			MT1(+),MT2(-),G(-)	5	-	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		-	-	50	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=125℃, gate open		1000	-	-	V/μs
门极开通时间 Gate controlled turn-on time	tgt	I_{TM}=55A, V_{DM}=$V_{DRM(MAX)}$, I_G=0.1A, dI_G/dt=5A/μS		-	2	-	μs

热特性 THERMAL CHARACTERISTIC

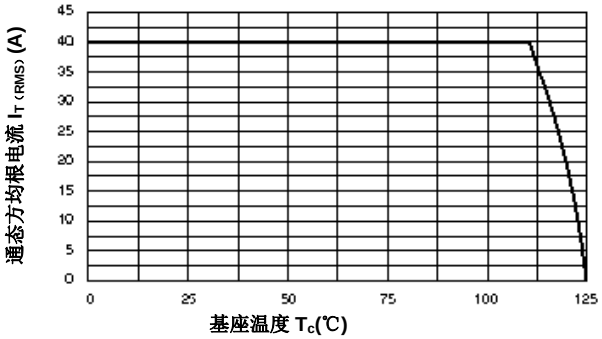
项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	$R_{th(j-c)}$	full cycle(TO-3PB)			0.6	℃/W

特征曲线　ELECTRICAL CHARACTERISTICS (curves)

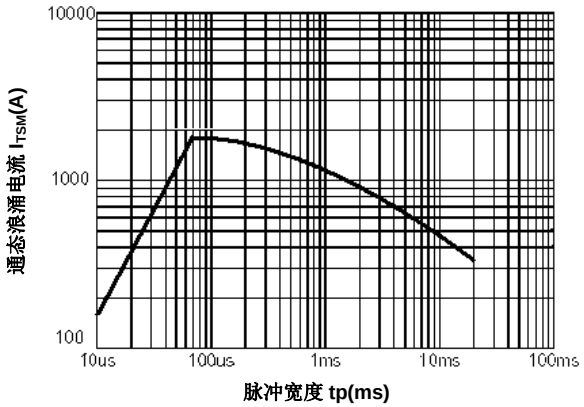
P_{tot}- $I_{T(RMS)}$



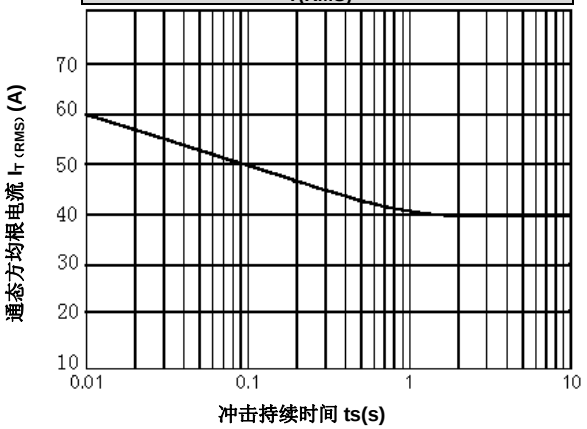
$I_{T(RMS)}$ – Tc



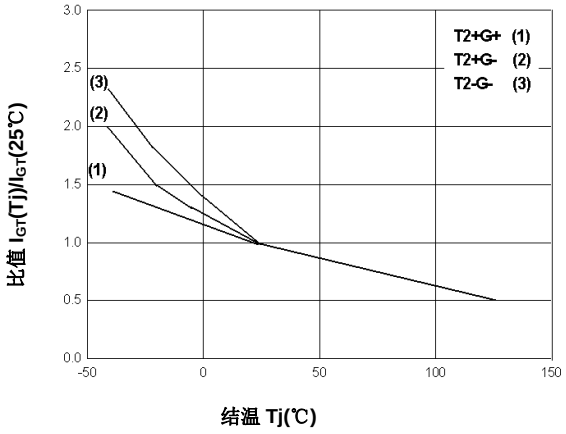
I_{TSM} - tp



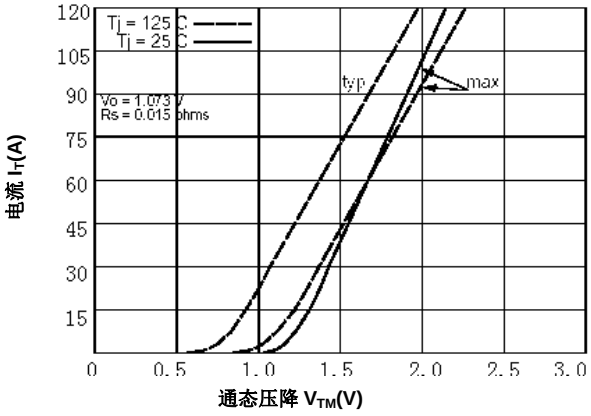
$I_{T(RMS)}$- ts



I_{GT}(Tj)/I_{GT}(25℃) - Tj



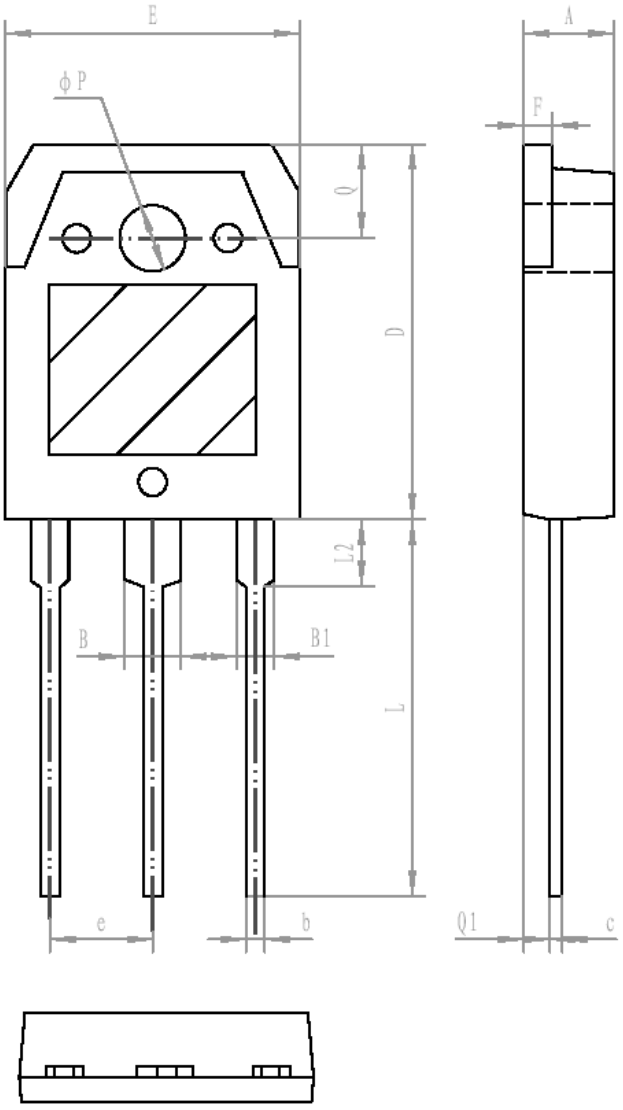
V_{TM} - I_T



外形尺寸 PACKAGE MECHANICAL DATA

TO-3PB

单位 Unit ：mm



符号 symbol	MIN	MAX
A	4.60	5.00
B	2.90	3.20
B1	1.90	2.20
b	0.90	1.10
c	0.50	0.70
D	19.40	20.40
E	15.40	15.80
e	5.45(TYP)	
F	1.40	1.60
L	19.50	20.50
L2	3.30	3.70
Q	4.90	5.10
Q1	1.30	1.50
P	3.10	3.50