BTB12

双向可控硅
TRIAC

版本号
201603-A

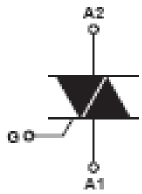
产品概述 GENERAL DESCRIPTION

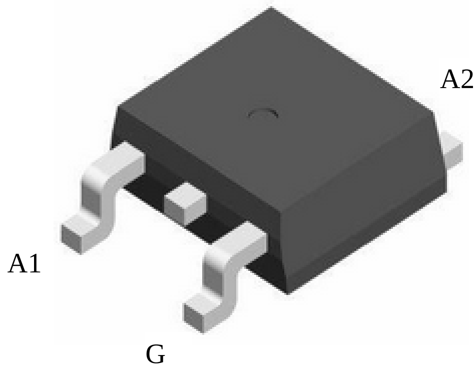
BTB12 双向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

BTB12 Triacs is fabricated using separation diffusion processes ,the junction termination areas are passivated with glass. Thanks to highly dv/dt and reliability,the Triacs series is suitable for domestic lighting ,heating and motor speed controllers.

主要参数 MAIN CHARACTERISTICS

参数 Parameter	数值 Value	单位 Unit
$I_{T(RMS)}$	12	A
V_{DRM}/V_{RRM}	600&800	V
$I_{GT(III)}$	≤50	mA





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产品特性 FEATURES

- dv/dt高
- 通态压降低
- Rohs环保产品

- Highly dv/dt
- Low on-state voltage
- Rohs Products

应用领域 APPLICATIONS

主要应用于调光、控温、马达控制。

domestic lighting ,heating and motor speed controllers.

极限值(除非另有规定，Tj=25℃) ABSOLUTE RATINGS

(Tj=25℃,unless otherwise specified)

符号 Symbol	参数 Parameter		数值 Value	单位 Unit
$I_{T(RMS)}$	RMS 通态电流 RMS on-state current (full sine wave)	T_C=90℃	12	A
I_{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50H_Z ,t=20ms	120	A
I^2t	I^2t 耗散值 I^2t value for fusing	T_P=10ms	78	A^2s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120H_Z,Tj=125℃	50	A/μs
I_{GM}	门极峰值电流 Peak gate current	TP=20μs,Tj=125℃	4	A
$P_{G(AV)}$	平均门极耗散功率 Average gate power dissipation	Tj=125℃	1	W
Tstg	贮存结温范围 Storage junction temperature range		-40-+150	℃
Tj	工作结温范围 Operating junction temperature range		-40-+125	℃

电参数(除非另有规定，Tj=25℃) ELECTRICAL CHARACTERISTICS

(Tj=25℃,unless otherwise specified)

3 quadrants

参数 Parameter	符号 Symbol		规范值 Value				单位 Unit	测试条件 Test Conditions
			TW	SW	CW	BW		
触发电流 Gate trigger current	I_{GT}	I～III	5	10	35	50	mA	V_D=12V,I_T=0.1A
触发电压 Gate trigger voltage	V_{GT}	I～III	1.5				V	V_D=12V, I_T=0.1A
维持电流 Holding current	I_H		20	35	80	100	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L		40	60	100	120	mA	V_D=12V,I_T=0.1A
电压上升率 Rise of off- state voltage	dv/dt		20	40	500	1000	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}		1.6				V	I_T=17A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}		5				μA	V_{RRM}=V_{DRM},Tj = 25℃
	I_{RRM}		2				mA	V_{RRM}=V_{DRM},Tj =125℃

4 quadrants

参数 Parameter	符号 Symbol		规范值 Value C	规范值 Value B	单位 Unit	测试条件 Test Conditions
触发电流 Gate trigger current	I_{GT}	Ⅰ～Ⅲ	25	50	mA	V_D=12V,I_T=0.1A
		Ⅳ	50	100		
触发电压 Gate trigger voltage	V_{GT}	Ⅰ～Ⅲ	1.5		V	V_D=12V, I_T=0.1A
		Ⅳ				
维持电流 Holding current	I_H		35	60	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L	I-III-IV	45	70	mA	V_D=12V,I_T=0.1A
		II	80	100		
电压上升率 Rise of off- state voltage	dv/dt		200	400	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}		1.6		V	I_T=17A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}		5		μA	V_{RRM}=V_{DRM},Tj = 25℃
	I_{RRM}		2		mA	V_{RRM}=V_{DRM},Tj =125℃

热特性 THERMAL RESISTANCES

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
Rth(j-c)	Junction to case(AC)	1.2	K/W
Rth(j-a)	Junction to ambient	45	K/W

特征曲线　ELECTRICAL CHARACTERISTICS (CURVES)

图1 最大耗散功率与RMS通态电流关系
Fig.1.Maximum Power Dissipation Versus on-state current

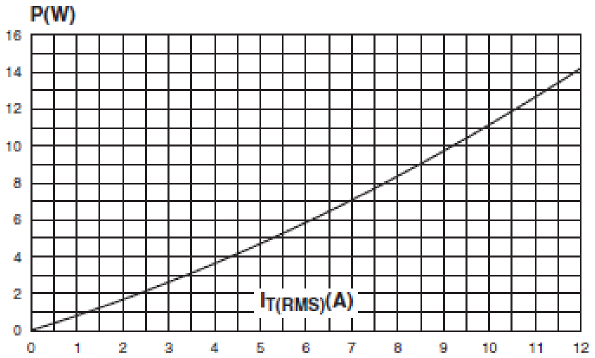


图2 RMS通态电流与Tc温度关系
Fig.2. RMS On-state Current Versus TL

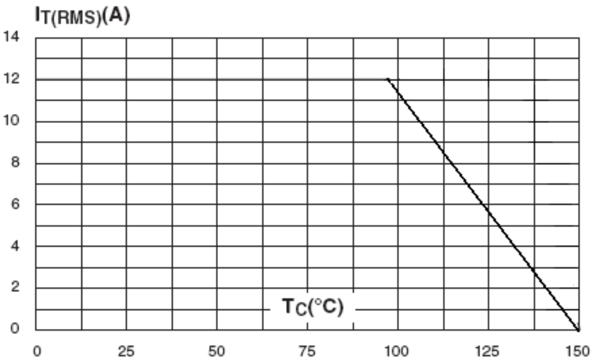


图3 通态特性
Fig.3.On-State Characteristics

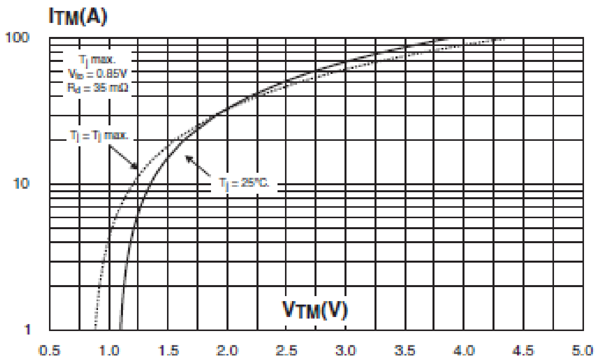


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

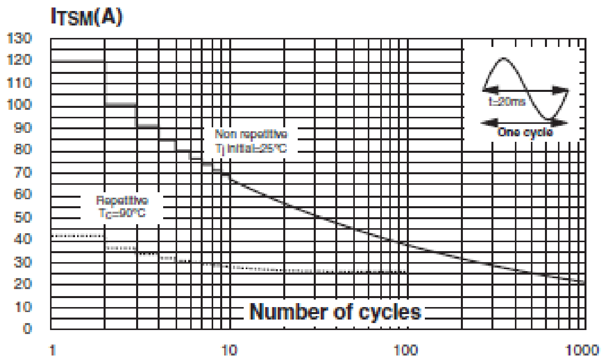
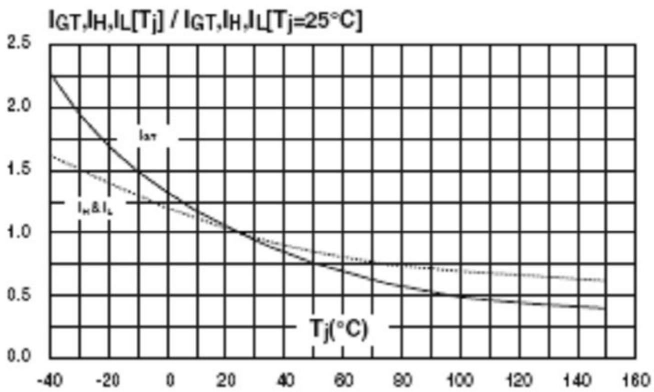


图5 IGT、IH、IL相对值（相对于25℃）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current
, Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸 PACKAGE MECHANICAL DATA

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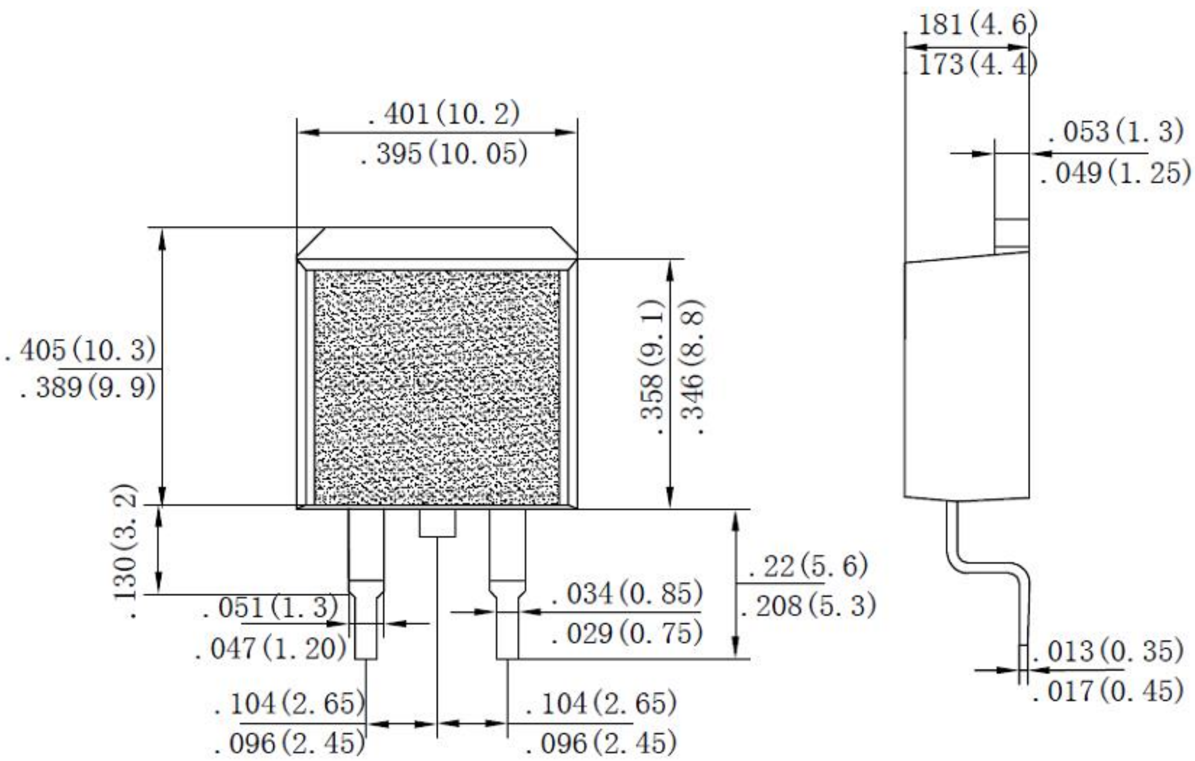

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