BTB10-600BW

双向可控硅
TRIAC

版本号
201603-A

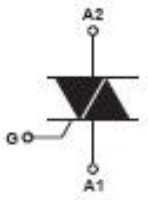
产品概述 GENERAL DESCRIPTION

BTB10-600BW 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。

BTB10-600BW 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
$I_{T(RMS)}$	10	A
V_{DRM}/V_{RRM}	600	V
$I_{GT(III)}$	≤50	mA



A1 A2 G

TO-220AB

产品特性 FEATURES

- dv/dt高 Highly dv/dt
- 通态压降低 Low on-state voltage
- Rohs环保产品 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=120℃	10	A
I_{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz ,t=20ms	100	A
I^2t	I^2t 耗散值 I^2t value for fusing	T_P=10ms	55	A^2s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz,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-+150	℃

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 CW	规范值 Value BW	单位 Unit	测试条件 Test Conditions
触发电流 Gate trigger current	I_{GT}	Ⅰ～Ⅲ	≤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		≤80	≤100	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L		≤100	≤120	mA	V_D=12V,I_T=0.1A
电压上升率 Rise of off- state voltage	dv/dt		≥500	≥1000	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}		≤1.6		V	I_T=10A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}		≤5		μA	V_{RRM}=V_{DRM},Tj = 25°C
	I_{RRM}		≤3		mA	V_{RRM}=V_{DRM},Tj =125°C

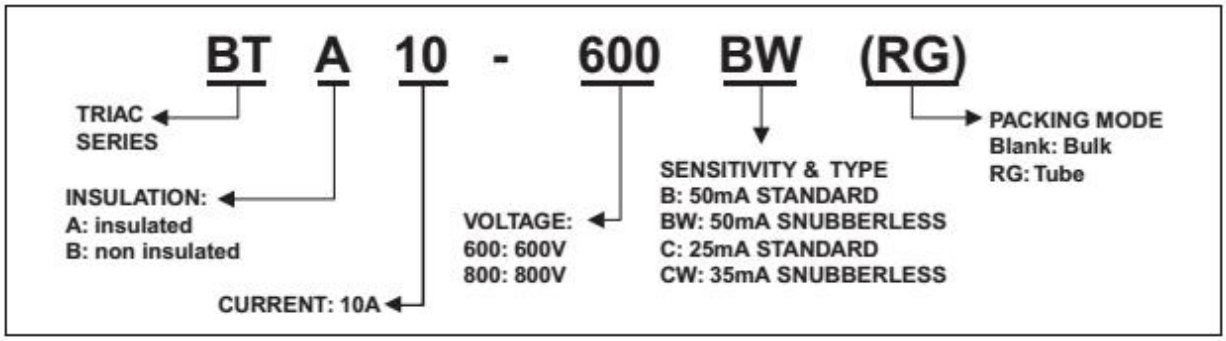
4 quadrants

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=10A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}		≤5		μA	V_{RRM}=V_{DRM},Tj = 25°C
	I_{RRM}		≤3		mA	V_{RRM}=V_{DRM},Tj =125°C

热特性 THERMAL RESISTANCES

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
Rth(j-c)	Junction to case(AC)	1.6	℃/W
Rth(j-a)	Junction to ambient	60	℃/W

ORDERING INFORMATION



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

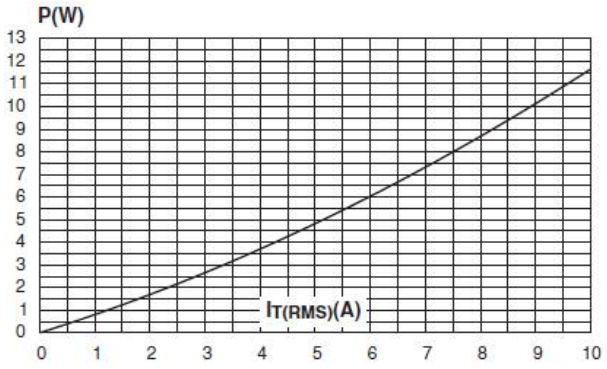


图2 RMS通态电流与Tc温度关系

Fig.2. RMS On-state Current Versus TL on-state current

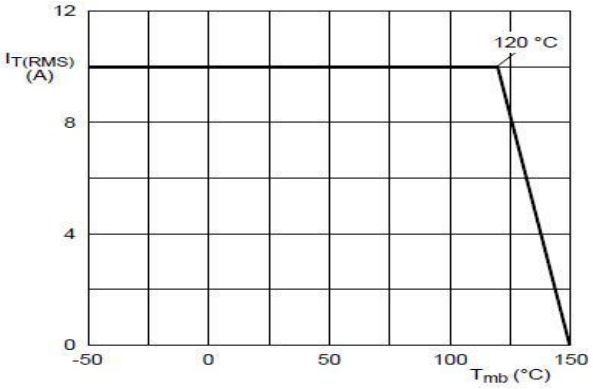


图3 通态特性

Fig.3.On-State Characteristics

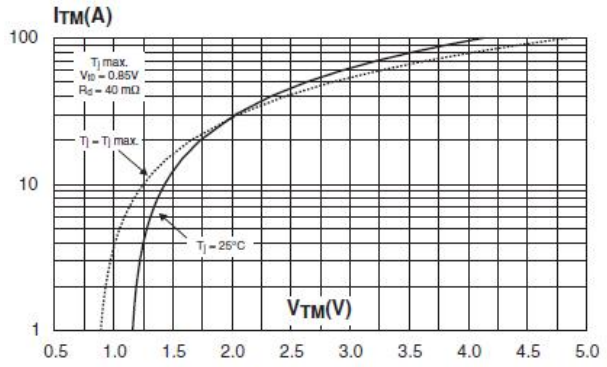


图4 通态浪涌峰值电流与周期数关系

Fig.4.Surge Peak On-state Current Versus Number Cycles

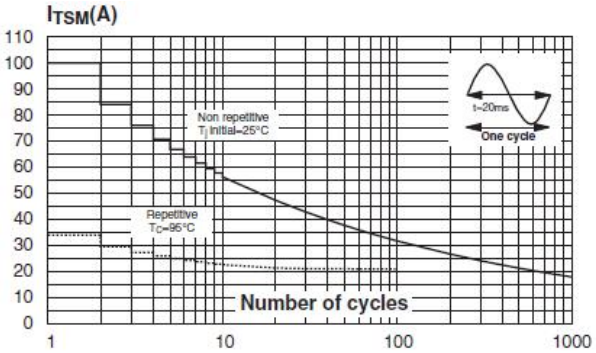
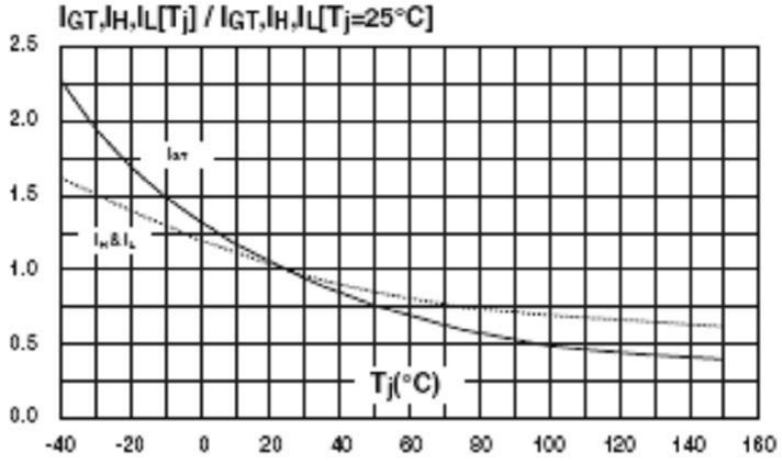


图5 IGT、IH、IL相对值（相对于25℃）与结温关系

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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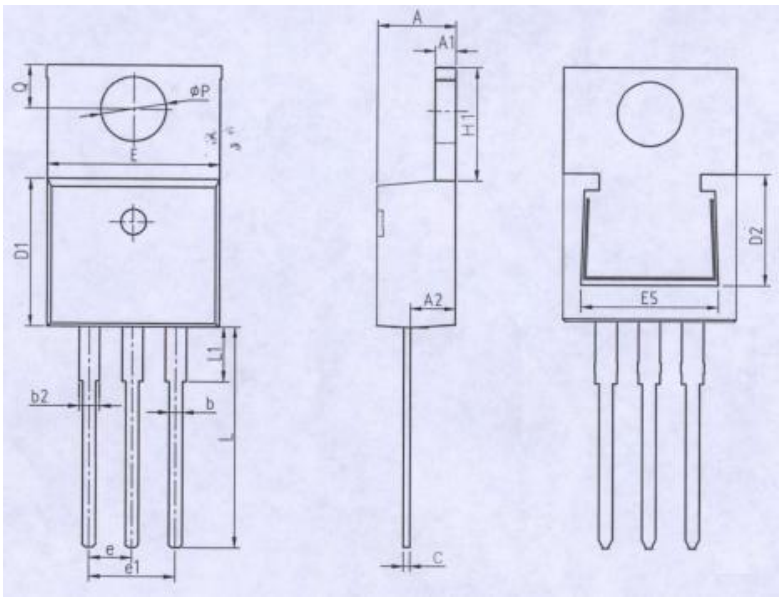

SYMBOL	MM		
	MIN	NOM	MAX
A	4.37	4.57	4.77
A1	1.22	1.27	1.42
A2	2.49	2.69	2.89
b	0.75	0.81	0.96
b2	1.22	1.27	1.47
c	0.30	0.38	0.48
D1	8.50	8.70	8.90
D2	5.20	-	-
E	9.86	10.16	10.36
E5	7.06	-	-
e		2.54 BSC	
e1		5.08 BSC	
H1	6.10	6.30	6.50
L	13.10	13.40	13.70
L1	-	3.75	4.10
ΦP	3.70	3.84	3.99
Q	2.54	2.74	2.94

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