

 D. G. M. E.	BTA/BTB10CW/BW	版本号: V1.0
	双向可控硅(三项限) Triacs (3quadrants)	

产品概述 General Description

BTA/BTB10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, 三象限触发, 抗干扰能力强, 可靠性高。

BTA/BTB10 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.

产品特点 MAIN FEATURES

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|---|---|
| <ul style="list-style-type: none"> ● 表面玻璃钝化, 可靠性高 ● dv/dt高 ● 通态压降低 ● Rohs环保产品 | <ul style="list-style-type: none"> ● Glass-Passivated Surface For Reliability ● Highly dv/dt ● Low on-state voltage ● Rohs Products |
|---|---|

应用领域 Applications

主要应用于调温控制, 调光控制, 调速控制...等。
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}	50	mA

封装Package: TO-220

 TO-220AB Insulated	 TO-220AB	
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极限值(除非另有规定, $T_a=25^{\circ}\text{C}$) ABSOLUTE RATINGS

($T_j=25^{\circ}\text{C}$, unless otherwise specified)

参数 Parameter		符号 symbol	数值 Value	单位 Unit
RMS 通态电流 on-state RMS current	TO-220ABIns. $T_C=100^{\circ}\text{C}$	$I_{T(RMS)}$	10	A
	TO-220AB $T_C=110^{\circ}\text{C}$			
通态峰值浪涌电流 Non repetitive surge peak on-state current	$t=20\text{ms}$	I_{TSM}	100	A
I^2t 耗散值 I^2t for fusing	$T_P=10\text{ms}$	I^2t	55	A^2s
电流上升率 Repetitive rate of rise of on-state current after triggering	$F=120\text{Hz}, T_j=125^{\circ}\text{C}$	di/dt	50	$\text{A}/\mu\text{s}$
门极峰值电流 Peak gate current		I_{GM}	4	A
平均门极耗散功率 Average gate power		$P_{G(AV)}$	1.0	W
贮存结温范围 Storage temperature		T_{stg}	-40+150	$^{\circ}\text{C}$
工作结温范围 Operation junction temperature		T_j	-40+125	$^{\circ}\text{C}$

电参数(除非另有规定, $T_a=25^{\circ}\text{C}$) ELECTRICAL CHARACTERISTICS

($T_j=25^{\circ}\text{C}$, unless otherwise specified)

参数名称 Parameter	符号 Symbol	测试条件 Test Conditions		规范值 Value			单位 Unit
					CW	BW	
触发电流 Gate trigger current	I_{GT}	$V_D=12\text{V}, I_T=0.01\text{A}$	I - II - III	MAX	35	50	mA
触发电压 Gate trigger voltage	V_{GT}	$V_D=12\text{V}, I_T=0.01\text{A}$	I - II - III		1.5		V
维持电流 Holding current	I_H	$I_T=500\text{mA}$			40	50	mA
电压上升率 Rise of off- state voltage	dv/dt	$V_D=67\%V_{DRM}$		MIN	400	1000	$\text{V}/\mu\text{s}$
通态压降 Peak on-state voltage	V_{TM}	$I_T=14\text{A}$		MAX	1.55		V
断态漏电流 For Peak Repetitive ward Blocking Current	I_{DRM}	$V_D=V_{DRM}, T_j=125^{\circ}\text{C}$		MAX	1.0		mA

热特性

参数 Parameter	符号 symbol	数值 Value		单位 Unit
Junction to case(AC)	Rth(j-lead)	To-220ABIns.	1.5	$^{\circ}\text{C}/\text{W}$
		TO-220AB	2.4	
Junction to ambient	Rth(j-a)	60		$^{\circ}\text{C}/\text{W}$

典型特性曲线

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

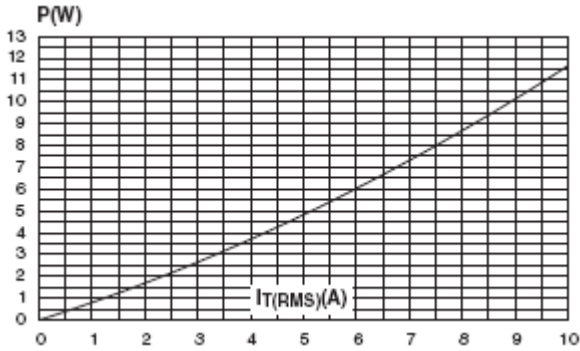


图2 平均通态电流与Tc温度关系
Fig.2. On-state Current Versus TL

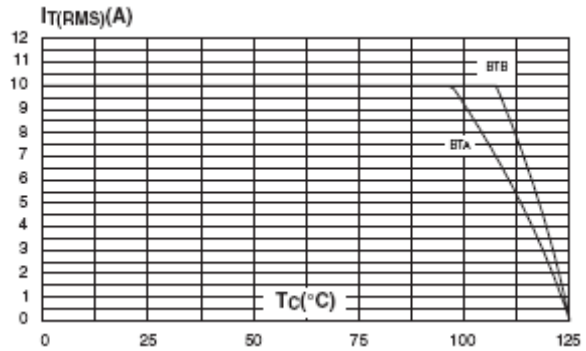


图3 通态特性
Fig.3. On-State Characteristics

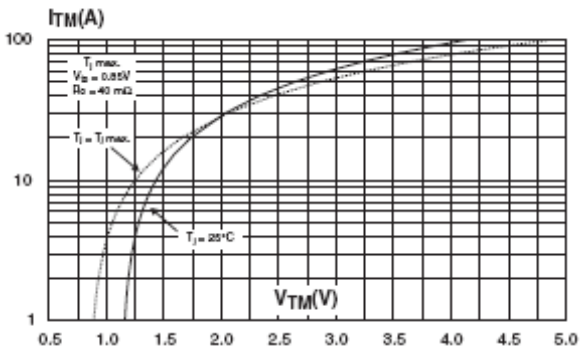


图4 通态浪涌峰值电流与周期数关系
Fig.4. Surge Peak On-state Current Versus Number Cycles

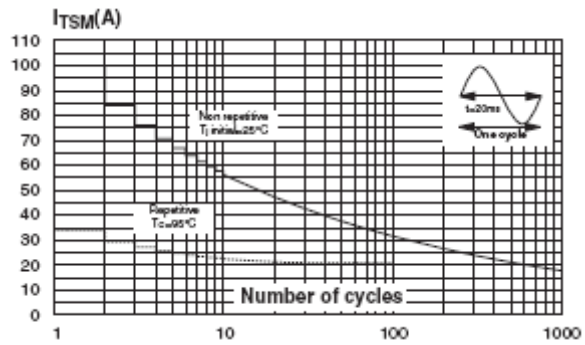
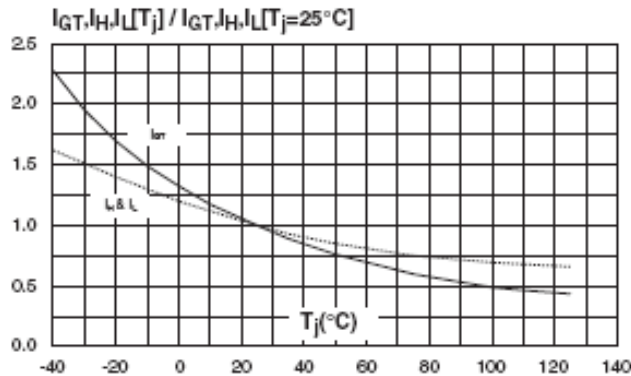
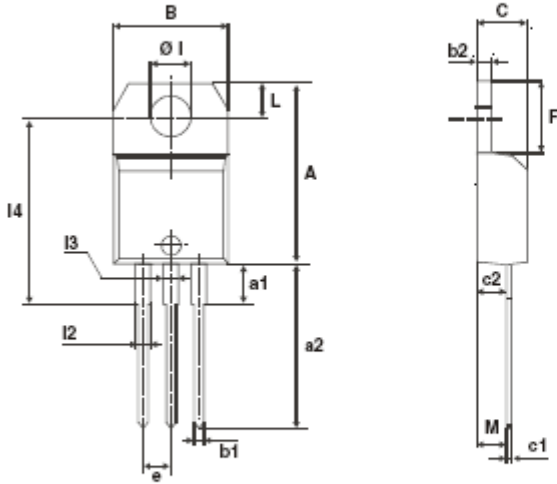


图5 IGT、IH、IL相对值（相对于25°C）与结温关系
Fig.5. Relative Variation Of Gate Trigger Current Holding Current And Latching Current Versus Junction Temperature (Typical Value)



TO-220AB 外形图 Package Mechanical Data



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.20		15.90	0.598		0.625
a1		3.75			0.147	
a2	13.00		14.00	0.511		0.551
B	10.00		10.40	0.393		0.409
b1	0.61		0.88	0.024		0.034
b2	1.23		1.32	0.048		0.051
C	4.40		4.60	0.173		0.181
c1	0.40		0.70	0.019		0.027
c2	2.40		2.72	0.094		0.107
e	2.40		2.70	0.094		0.106
F	6.20		6.60	0.244		0.259
$\varnothing I$	3.75		3.85	0.147		0.151
I4	15.80	16.40	16.80	0.622	0.646	0.661
L	2.65		2.95	0.104		0.116
I2	1.14		1.70	0.044		0.066
I3	1.14		1.70	0.044		0.066
M		2.60			0.102	