

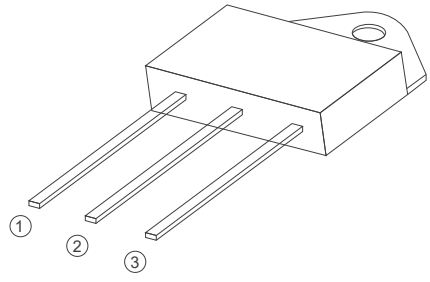
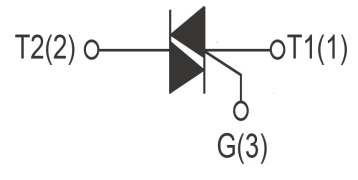
3 Quadrants TRIAC  
 4 Quadrants TRIAC

### FEATURES

- > IT(RMS): 40A    > VGT: <1.5V
- > VDRM VRRM:800V~1600V

### APPLICATIONS

Washing machine, vacuums, massager, solid state relay,  
 AC Motor speed regulation and so on.



TO-3P

### Absolute Maximum Ratings (Tj=25°C unless otherwise specified)

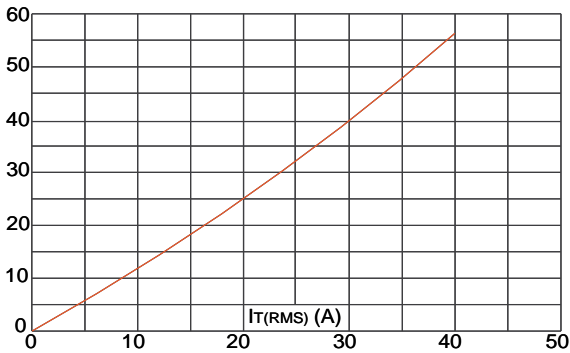
Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BTA41-800B	800	V
		BTA41-1200B	1200	
		BTA41-1600B	1600	
IT(RMS)	R.M.S On-State Current	Tc=110°C	40	A
ITSM	Surge On-State Current	tp=16.7ms/tp=10ms	400/420	
I <sup>2</sup> t	I <sup>2</sup> t for fusing	Tp=10ms	520	A <sup>2</sup> s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
IGM	Peak Gate Current	Tj=125°C	8	A
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	

## Electrical Characteristics (T<sub>J</sub>=25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	BW	B	Unit
IDRM	Repetitive Peak Off-State Current	T <sub>J</sub> =25°C	5		uA
		T <sub>C</sub> =125°C	5		mA
IRRM	Repetitive Peak Reverse Current	T <sub>C</sub> =25°C	5		uA
		T <sub>C</sub> =125°C	5		mA
VTM	Forward "on" voltage	I <sub>T</sub> =23A, t <sub>p</sub> =380us	1.55		V
VGT	Gate trigger voltage	V <sub>D</sub> =12V, R <sub>L</sub> =30Ω	≤1.5		V
di/dt	V <sub>D</sub> =2/3V <sub>DRM</sub> Gate Open, T <sub>J</sub> =125°C, I,II,III,IV	F=100Hz, I <sub>G</sub> =2xI <sub>GT</sub> , t <sub>r</sub> ≤100ns	50		A/us
IGT	Gate trigger current	I,II,III IV V <sub>D</sub> =12V, R <sub>L</sub> =30Ω	≤50	≤50	mA
			/	≤100	
IH	Holding current	I <sub>T</sub> =0.2A	≤60	≤80	
VGD	Gate non-trigger voltage	V <sub>D</sub> =V <sub>DRM</sub> , T <sub>J</sub> =125°C, R <sub>L</sub> =3.3KΩ	0.2		V
dv/dt	Critical-rate of rise of commutation voltage	T <sub>J</sub> =125°C, V <sub>D</sub> =2/3V <sub>DRM</sub> , Gate open circuit	≥1500	≥1000	V/us

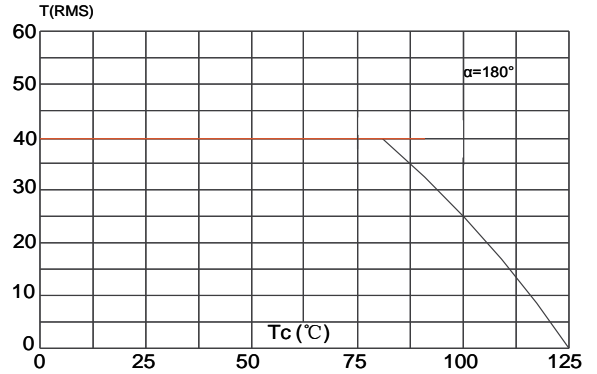
**FIG1**

Maximum power dissipation versus RMS on-state current



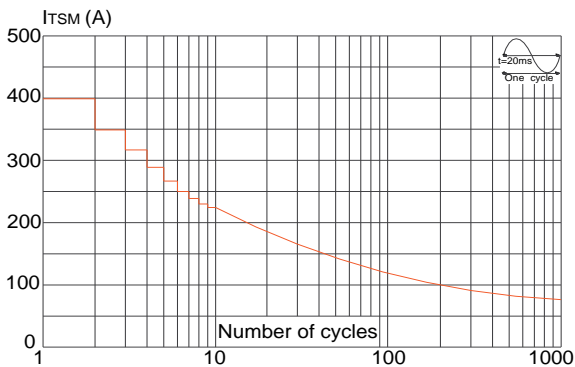
**FIG2**

RMS on-state current versus case temperature



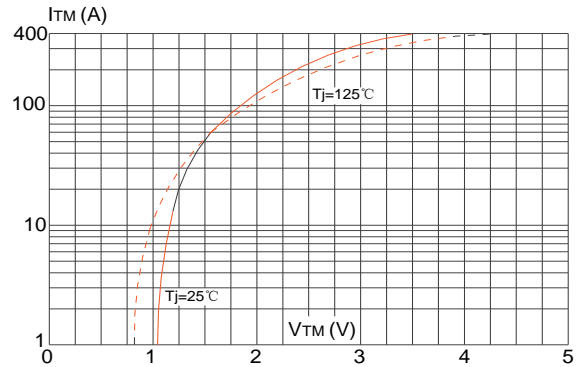
**FIG3**

Surge peak on-state current versus number of cycles



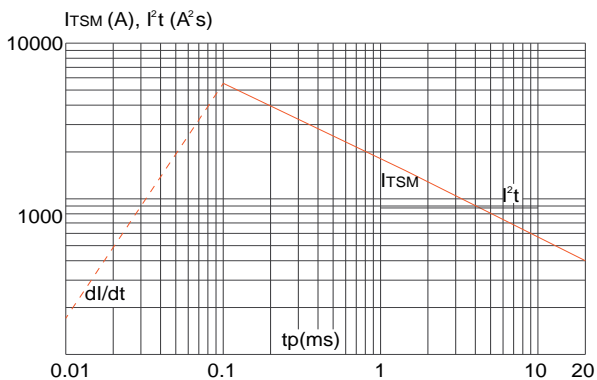
**FIG4**

On-state characteristics (maximum values)



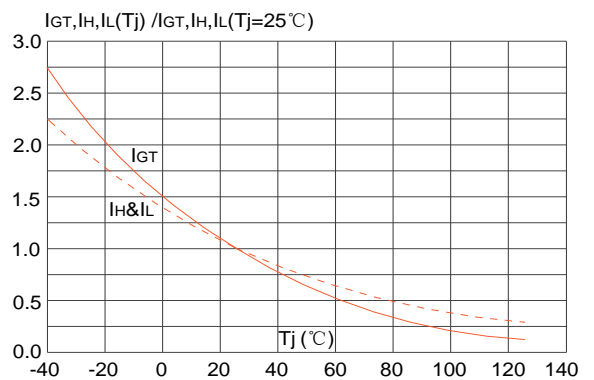
**FIG5**

Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( $di/dt < 100\text{A}/\mu\text{s}$ )



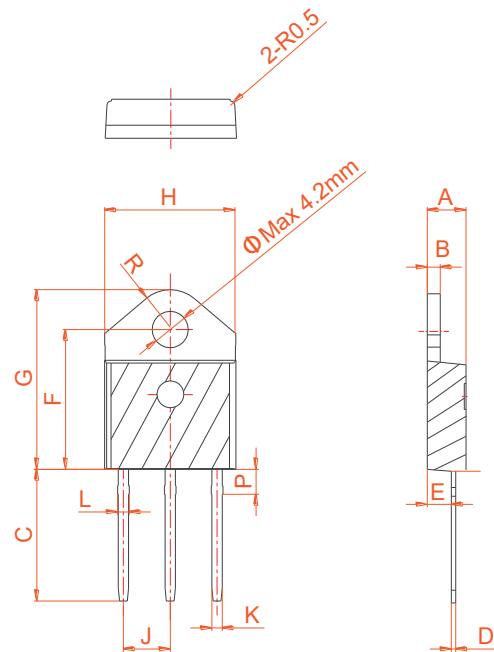
**FIG6**

**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



## PACKAGE MECHANICAL DATA

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	



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