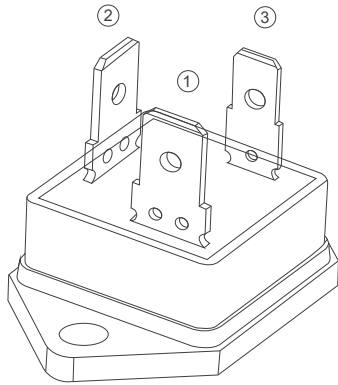
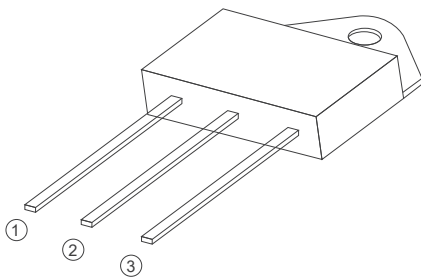


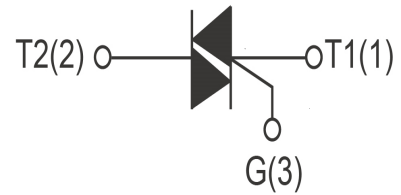
BTA41 Series  
40A TRIACs  
3 Quadrants  
4 Quadrants



TG-C



TO-3P Insulated



## 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.

## Absolute Maximum Ratings (T<sub>J</sub>=25°C unless otherwise specified)

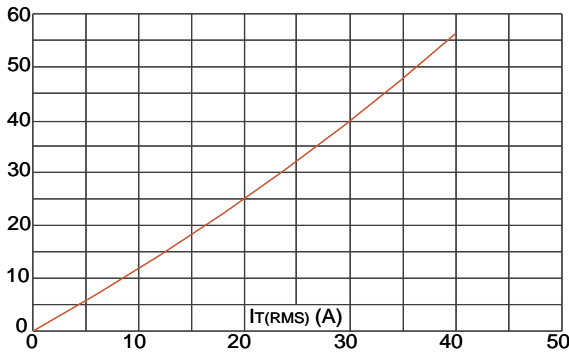
Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BTA41-800B	800	V
		BTA41-1200B	1200	
		BTA41-1600B	1600	
IT(RMS)	R.M.S On-State Current	T <sub>c</sub> =110°C	40	A
ITSM	Surge On-State Current	t <sub>p</sub> =16.7ms/t <sub>p</sub> =10ms	400/420	
I <sup>2</sup> t	I <sup>2</sup> t for fusing	T <sub>p</sub> =10ms	520	A <sup>2</sup> s
PG(AV)	Average Gate Power Dissipation	T <sub>j</sub> =125°C	1	W
IGM	Peak Gate Current	T <sub>j</sub> =125°C	8	A
T <sub>j</sub>	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> =2/3VDRM 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	
I <sub>H</sub>	Holding current	I <sub>T</sub> =0.2A	≤60	≤80	
VGD	Gate non-trigger voltage	V <sub>D</sub> =VDRM, 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> =2/3VDRM, Gate open circuit	≥1500	≥1000	V/us

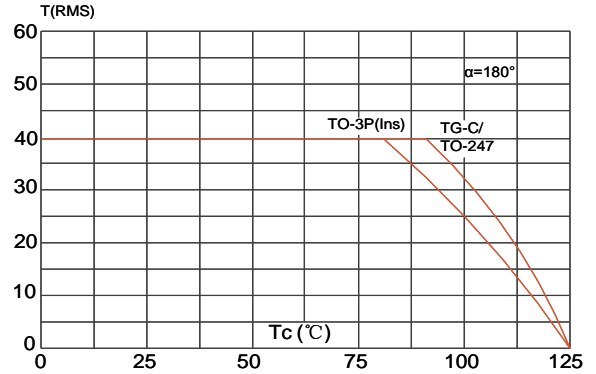
**FIG1**

Maximum power dissipation versus RMS on-state current



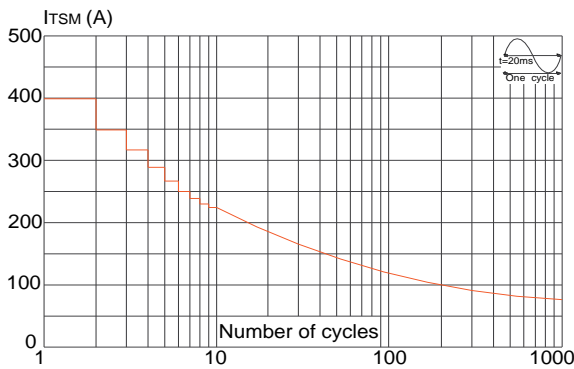
**FIG2**

RMS on-state current versus case temperature



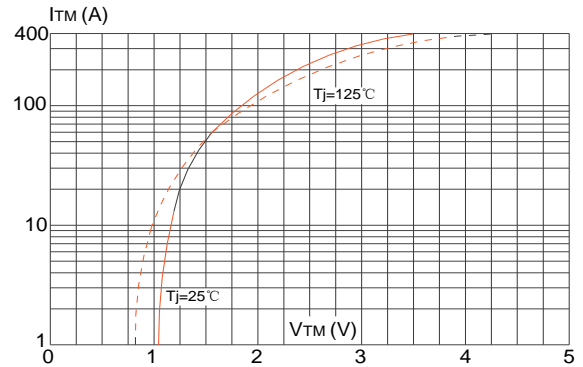
**FIG3**

Surge peak on-state current versus number of cycles



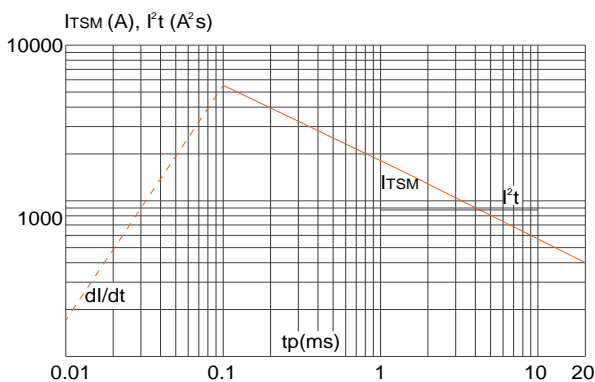
**FIG4**

On-state characteristics (maximum values)



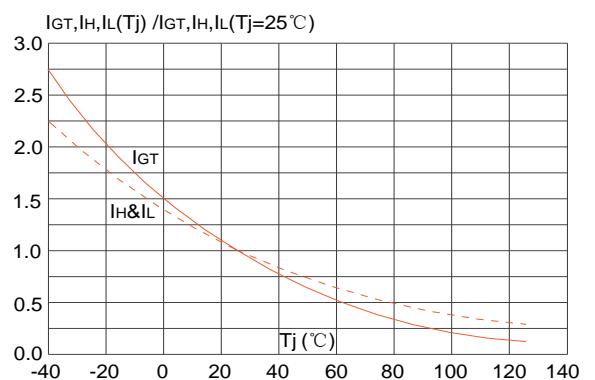
**FIG5**

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

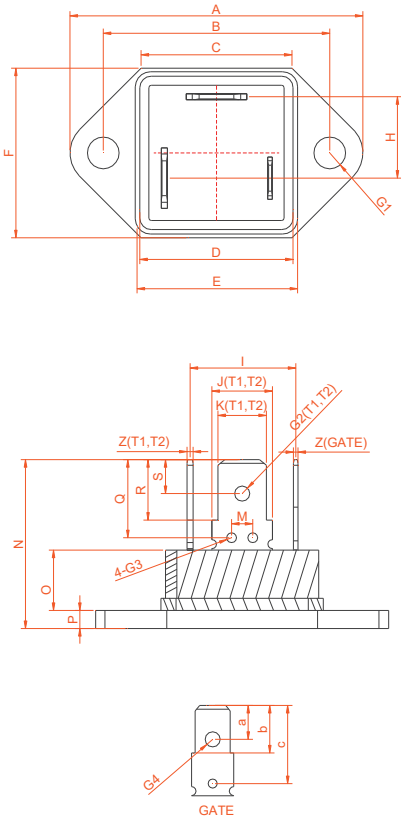


**FIG6**

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



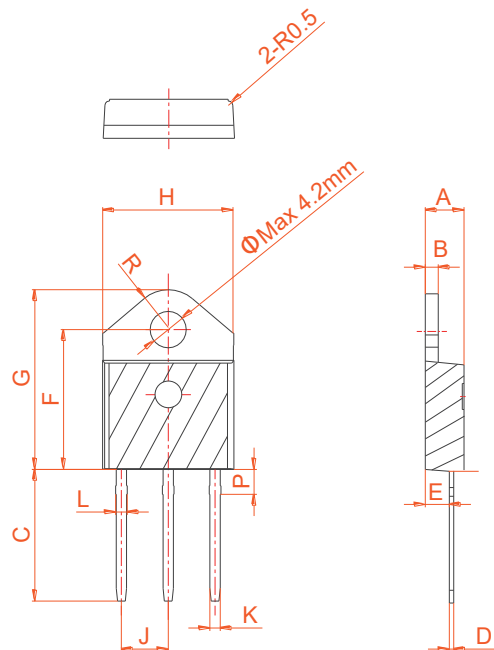
**PACKAGE MECHANICAL DATA**



**TG-C**

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			39.2			1.543
B	29.8	30.0	30.2	1.173	1.181	1.189
C			21.6			0.85
D			20.2			0.795
E			20.5			0.791
F			23			0.906
T1、T2		8.10			0.318	
T3		5.65			0.222	
T'		6.35			0.25	
t1、t2		0.8			0.031	
t3		0.6			0.023	
G		13.9			0.547	
H1		2.6			0.102	
H2		10.8			0.425	
H			22.8			0.886
h1	6.2	6.35	6.5	0.244	0.25	0.256
h2	7.8	7.95	8.1	0.307	0.313	0.319
h3	9.45	9.75	10.05	0.372	0.384	0.396
I	2.7	3.0	3.3	0.106	0.118	0.130
J		10.8			0.425	

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	



**TO-3P Ins**



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