

**Product Summary**

Symbol	Value	Unit
$I_{T(RMS)}$	25	A
$V_{DRM} V_{RRM}$	800	V
$V_{TM}$	1.55	V

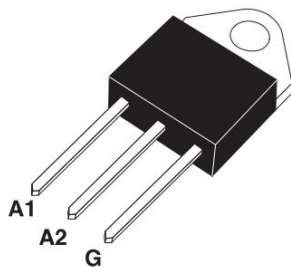
**Feature**

With high ability to withstand the shock loading of large current, With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

**Application**

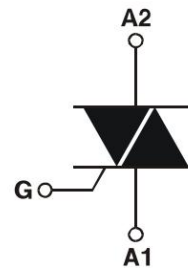
Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

**Package**

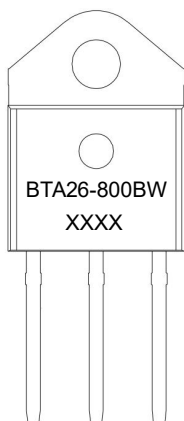


**TO-3P Insulated**

**Circuit diagram**



**Marking**



### Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V <sub>DRM</sub>	800	V
Repetitive peak reverse voltage	V <sub>RPM</sub>	800	V
RMS on-state current	I <sub>T(RMS)</sub>	25	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I <sub>TSM</sub>	250	A
I <sup>2</sup> t value for fusing (tp=10ms)	I <sup>2</sup> t	340	A
Critical rate of rise of on-state current (I <sub>G</sub> = 2 × I <sub>GT</sub> )	di/dt	50	A/μs
Peak gate current	I <sub>GM</sub>	4	A
Average gate power dissipation	P <sub>G(AV)</sub>	1	W
Junction Temperature	T <sub>J</sub>	-40 ~ +125	°C
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	°C

### Electrical characteristics (T<sub>A</sub>=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value	Unit	
Gate trigger current	I <sub>GT</sub>	V <sub>D</sub> = 12V R <sub>L</sub> = 33Ω	I - II - III	MAX. 50	mA
Gate trigger voltage	V <sub>GT</sub>		I - II - III	MAX. 1.3	V
Gate non-trigger voltage	V <sub>GD</sub>	V <sub>D</sub> = V <sub>DRM</sub> T <sub>J</sub> = 125 °C R <sub>L</sub> = 3.3KΩ	I - II - III	MIN. 0.2	V
latching current	I <sub>L</sub>	I <sub>G</sub> = 1.2I <sub>GT</sub>	I - II - III	MAX. 100	mA
Holding current	I <sub>H</sub>	I <sub>T</sub> = 100mA		MAX. 50	mA
Critical-rate of rise of commutation voltage	dV/dt	V <sub>D</sub> = 2/3V <sub>DRM</sub> Gate Open T <sub>J</sub> = 125°C	MIN.	1000	V/μs
<b>STATIC CHARACTERISTICS</b>					
Forward "on" voltage	V <sub>TM</sub>	I <sub>TM</sub> = 35A tp = 380μs	MAX.	1.55	V
Repetitive Peak Off-State Current	I <sub>DRM</sub>	V <sub>D</sub> = V <sub>DRM</sub> V <sub>R</sub> = V <sub>RPM</sub>	T <sub>J</sub> = 25°C	MAX. 10	μA
Repetitive Peak Reverse Current	I <sub>RPM</sub>		T <sub>J</sub> = 125°C	MAX. 3	mA
<b>THERMAL RESISTANCES</b>					
Thermal resistance	Rth(j-c)	Junction to case(AC)	TYP.	0.9	°C/W
	Rth(j-a)	Junction to ambient	TYP.	50	°C/W

**Typical Characteristics**

FIG1 Maximum power dissipation versus RMS on-state current

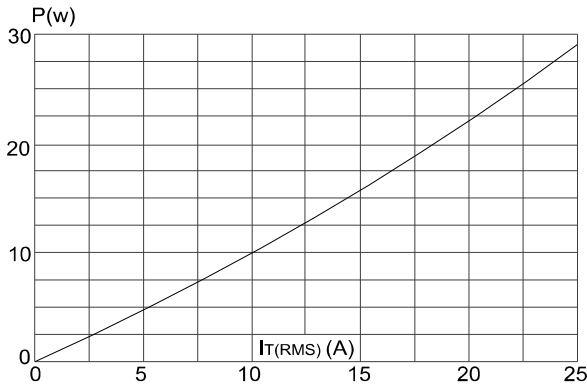


FIG2 RMS on-state current versus case temperature

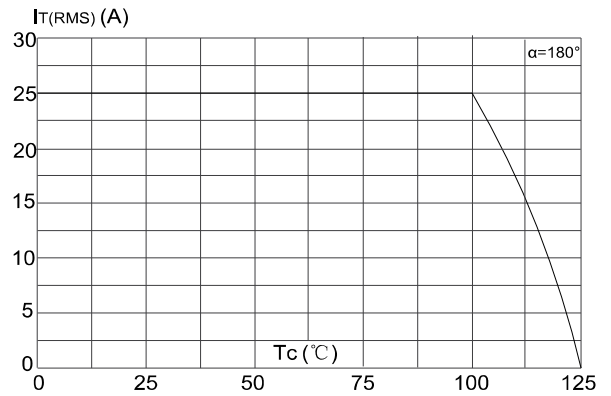


FIG3 Surge peak on-state current versus number of cycles

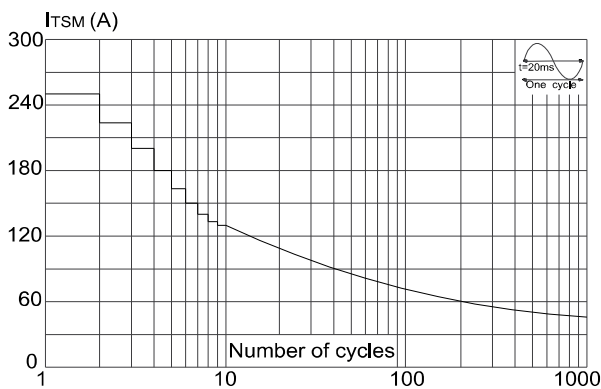


FIG4 On-state characteristics (maximum values)

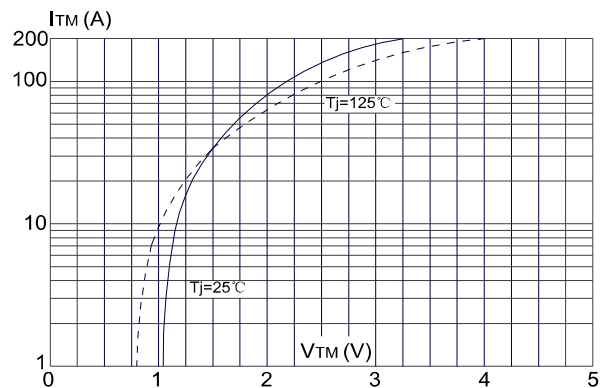


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( $dI/dt < 100\text{A}/\mu\text{s}$ )

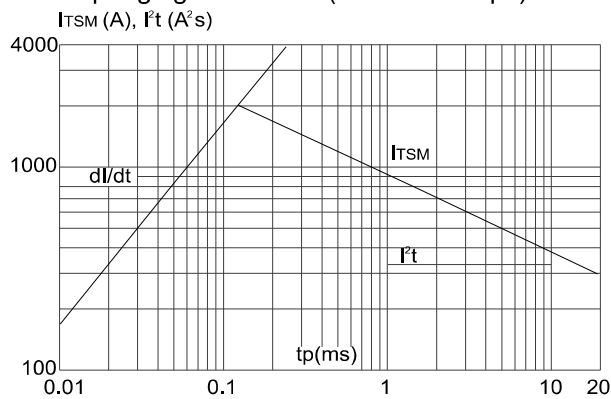
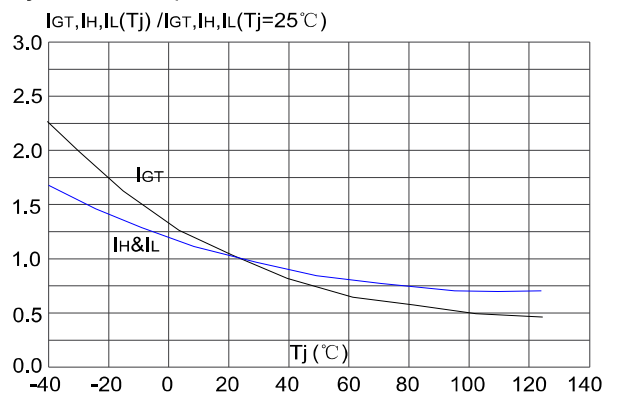
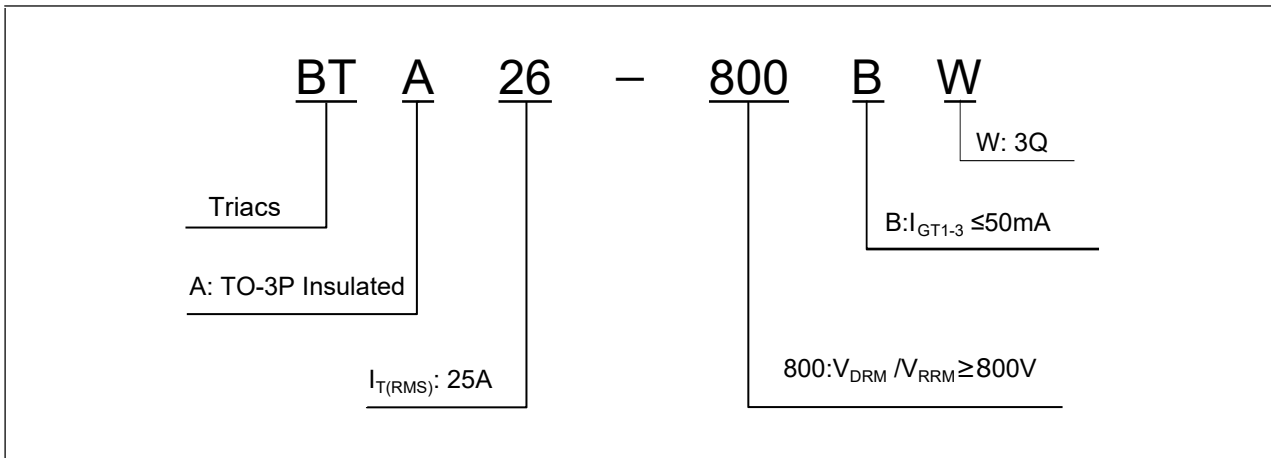


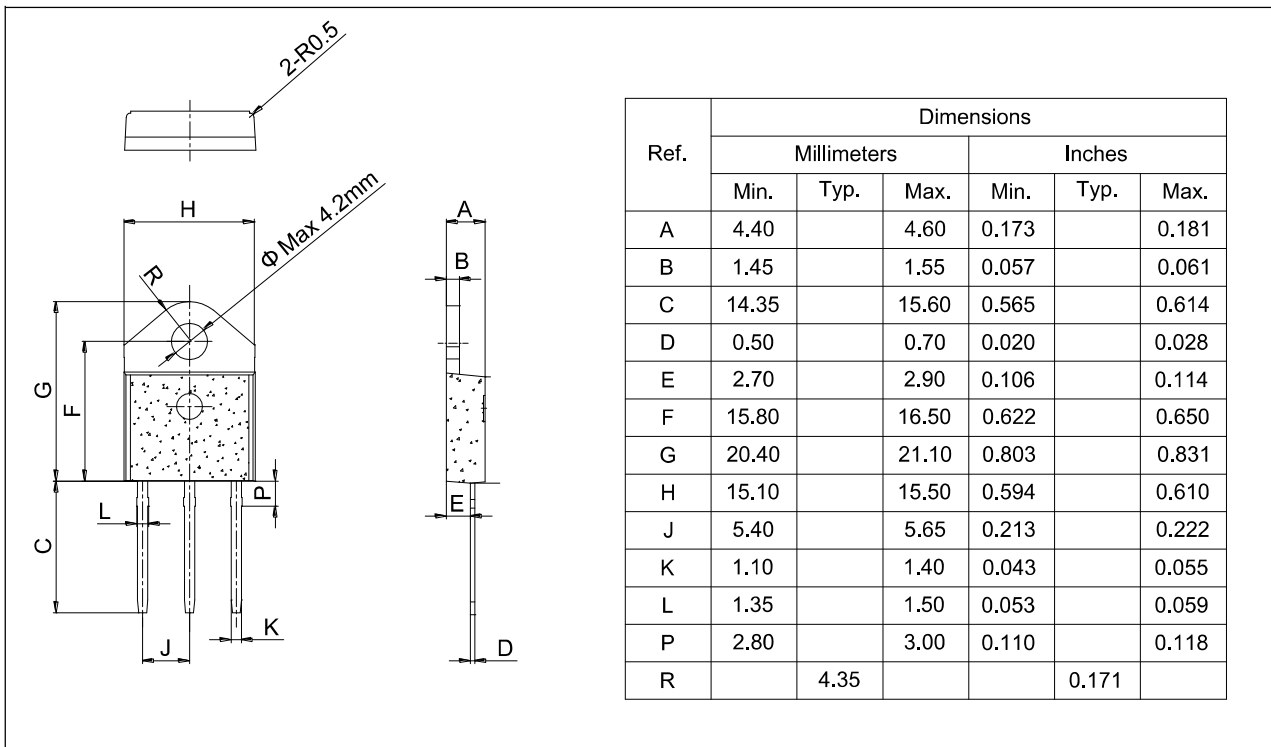
FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



**Ordering Information**



**TO-3P Insulated Package Information**



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