

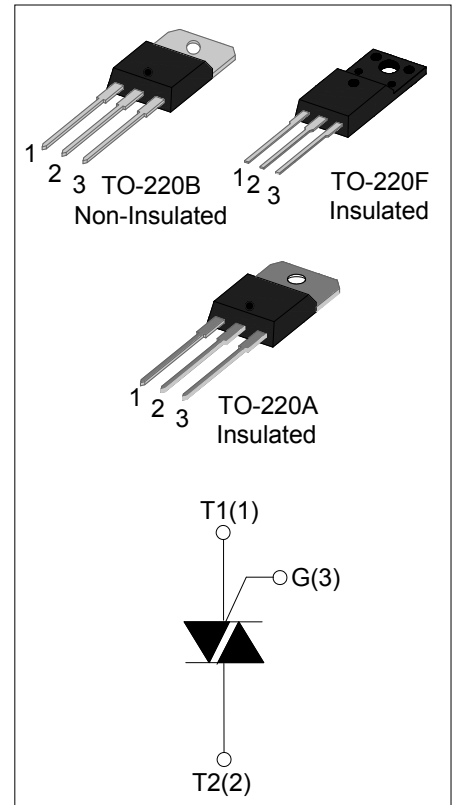
## DESCRIPTION:

With high ability to withstand the shock loading of large current, YR BTA/BTB06 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

From all three terminals to external heatsink, YR BTA/BTB06 provides a rated insulation voltage of 2500 Vrms, complying with UL standards .

## MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	6	A
$V_{DRM}/V_{RRM}$	600/800	V



## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40 - 150	°C
Operating junction temperature range	$T_j$	-40 - 125	°C
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	600/800	V
Non repetitive surge peak Off-state voltage	$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	$V_{RSM}$	$V_{RRM} + 100$	V
RMS on-state current	TO-220A(Ins)/ TO-220F(Ins) ( $T_C=100^\circ\text{C}$ )	6	A
	TO-220B(Non-Ins) ( $T_C=110^\circ\text{C}$ )		
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	60	A
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	18	$\text{A}^2\text{s}$

## BTA/BTB06 TRIACs

Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	I - II - III	di/dt	50	A/ $\mu$ s
	IV		10	
Peak gate current		$I_{GM}$	2	A
Average gate power dissipation		$P_{G(AV)}$	1	W
Peak gate power		$P_{GM}$	5	W

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

Symbol	Test Condition	Quadrant	Value		Unit
			C	B	
$I_{GT}$	$V_D=12\text{V } R_L=30\Omega$	I - II - III	25	50	mA
		IV	50	70	
$V_{GT}$		ALL	1.5		V
$V_{GD}$	$V_D=V_{DRM} T_j=125^\circ\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	0.2		V
$I_L$	$I_G=1.2I_{GT}$	I - III - IV	50	70	mA
		II	60	80	
$I_H$	$I_{TM}=0.2\text{A}$		40	60	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		200	500	V/ $\mu$ s

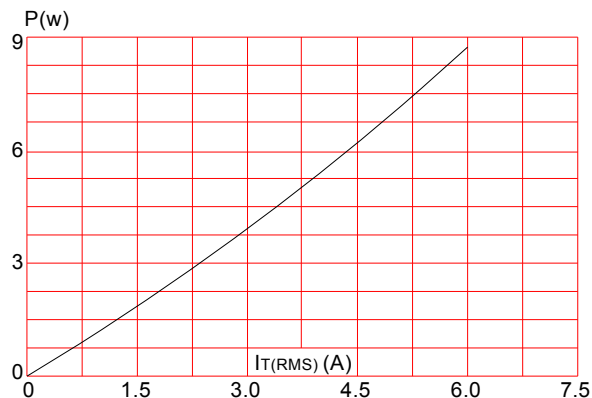
### STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=8.5\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	1	mA

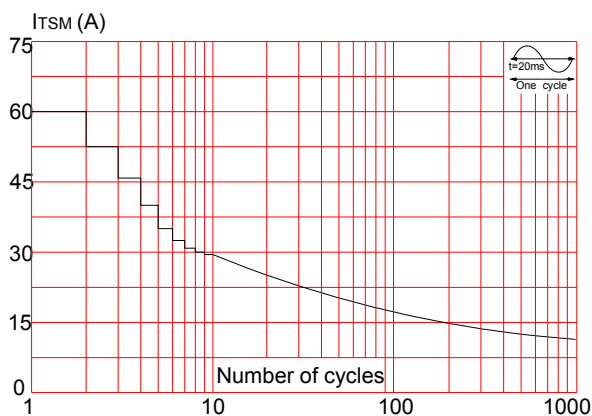
### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)	2.9	$^\circ\text{C/W}$
		TO-220B(Non-Ins)	1.9	
		TO-220F(Ins)	2.9	

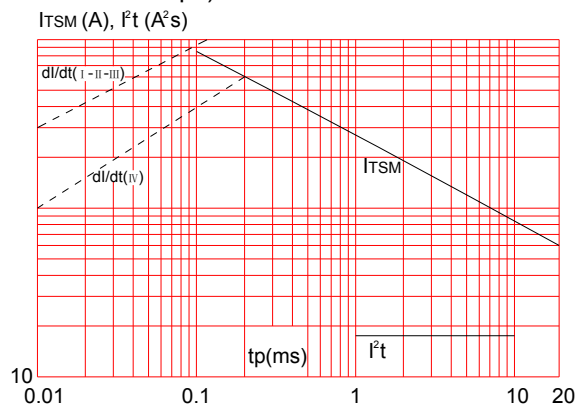
**FIG.1:** Maximum power dissipation versus RMS on-state current



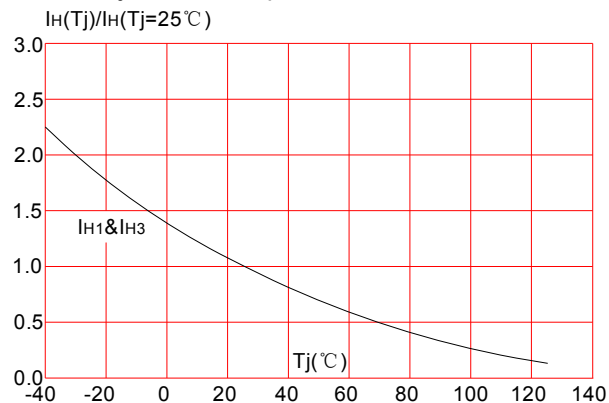
**FIG.3:** Surge peak on-state current versus number of cycles



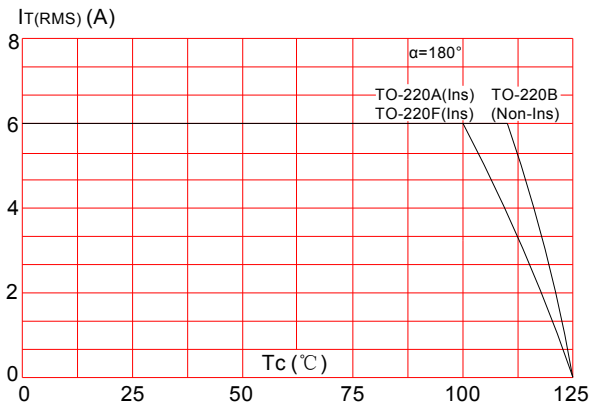
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  (I - II - III:  $di/dt < 50\text{A}/\mu\text{s}$ ; IV:  $di/dt < 10\text{A}/\mu\text{s}$ )



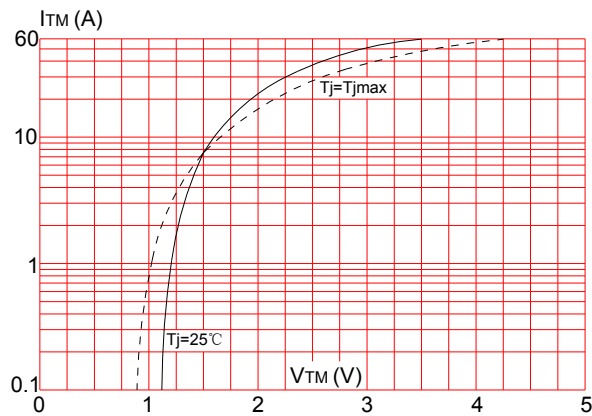
**FIG.7:** Relative variations of holding current versus junction temperature



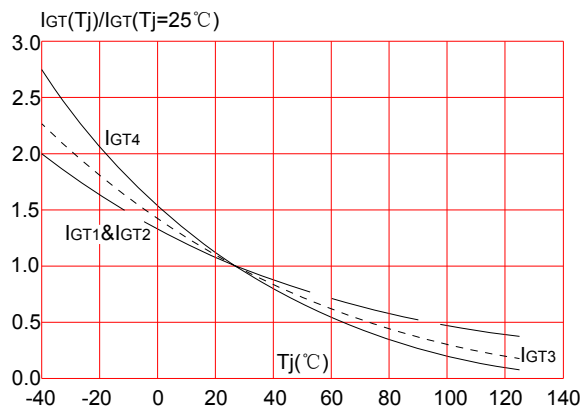
**FIG.2:** RMS on-state current versus case temperature



**FIG.4:** On-state characteristics (maximum values)



**FIG.6:** Relative variations of gate trigger current versus junction temperature



**FIG.8:** Relative variations of latching current versus junction temperature

