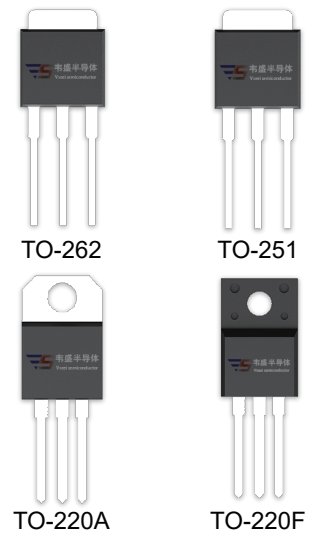


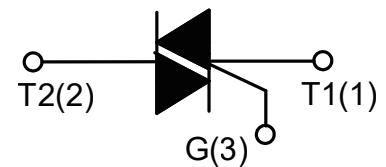
## DESCRIPTION:

With high ability to withstand the shock loading of large current, T410-600W 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.



## MAIN FEATURES

Symbol	Value	Unit
$V_{DRM}/V_{RRM}$	600/800	V
$I_{T(RMS)}$	4	A



## 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	
RMS on-state current	$I_{T(RMS)}$	TO-251/ TO-220A(Ins)/ TO-220F(Ins) ( $T_C=100^\circ\text{C}$ )	4	A
		TO-220A(Non-Ins)/ TO-262 ( $T_C=105^\circ\text{C}$ )		
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$ )	$I_{TSM}$	40	A	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	8	$\text{A}^2\text{s}$	

Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	di/dt	50	A/ $\mu$ s
Peak gate current	$I_{GM}$	4	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
				TW	SW	CW	BW	
$I_{GT}$	$V_D = 12\text{V}$ $R_L = 33\Omega$	I - II - III	MAX	5	10	35	50	mA
$V_{GT}$		I - II - III	MAX	1.5				V
$V_{GD}$	$V_D = V_{DRM}$ $T_j = 125^\circ\text{C}$ $R_L = 3.3\text{K}\Omega$	I - II - III	MIN	0.2				V
$I_L$	$I_G = 1.2I_{GT}$	I - III	MAX	10	20	50	70	mA
		II		15	35	60	80	
$I_H$	$I_T = 100\text{mA}$		MAX	10	15	35	60	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ\text{C}$		MIN	50	100	400	1000	V/ $\mu$ s

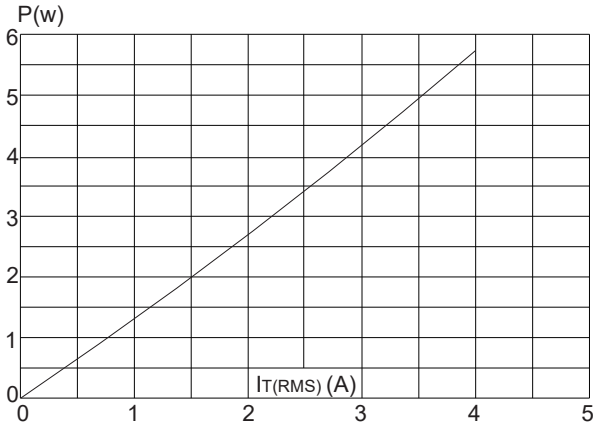
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM} = 5.5\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$	1.5	V
$I_{DRM}$	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j = 125^\circ\text{C}$	0.75	mA

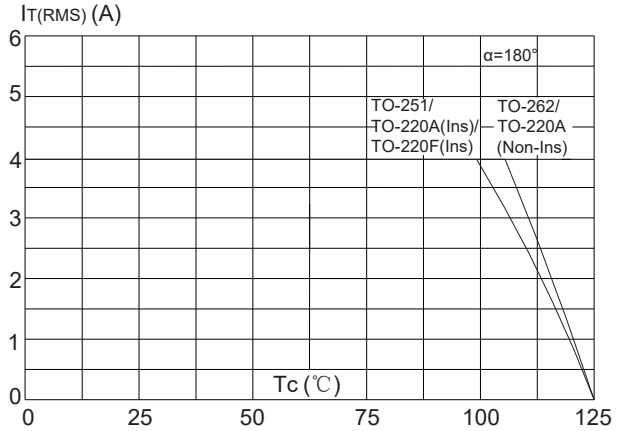
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-251	2.8	$^\circ\text{C}/\text{W}$
		TO-220A(Ins)	3.0	
		TO-262/ TO-220A(Non-Ins)	2.5	
		TO-220F(Ins)	3.3	

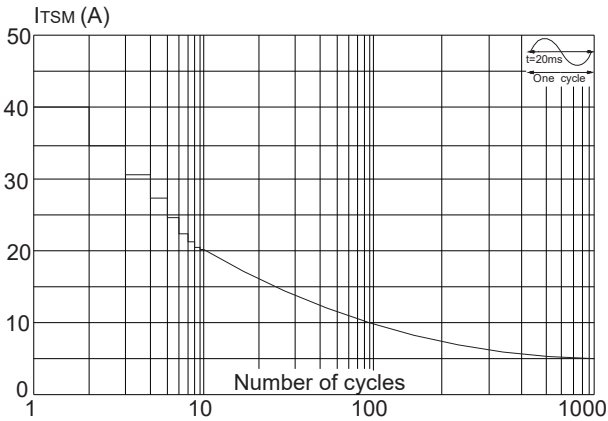
**FIG.1:** Maximum power dissipation versus RMS on-state current



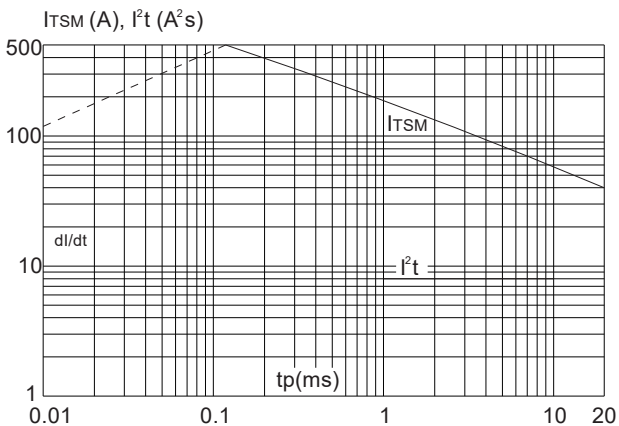
**FIG.2:** RMS on-state current versus case temperature



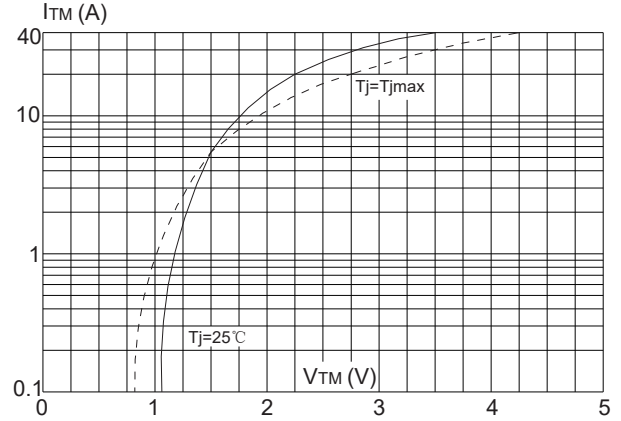
**FIG.3:** Surge peak on-state current versus number of cycles



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



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



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

