

**T0610H-8F 6A TRIAC**

Rev.A.1.1

**DESCRIPTION:**

The T0610H-8F triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, T0610H-8F provides a very high switching capability up to junction temperatures of 150°C. It can be driven directly through the MCU I/O port. By using an external plastic package, T0610H-8F provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

**MAIN FEATURES****ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	
Operating junction temperature range	$T_j$	-40-150	
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
RMS on-state current ( $T_C 0120^\circ\text{C}$ )	$I_{T(RMS)}$	6	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	60	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		66	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	18	$\text{A}^2\text{s}$

Peak gate current ( $t_p=20\mu s$ , $T_j=150$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=150$ )	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	10	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	3	kV

**ELECTRICAL CHARACTERISTICS** ( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V$ $R_L=33$	- -	MAX.	10	mA
$V_{GT}$		- -	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=150$ $R_L=3.3k$	- -	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	-	MAX.	20	mA
				35	
$I_H$	$I_T=100mA$		MAX.	20	mA
dV/dt	$V_D=540V$ Gate Open $T_j=150$		MIN.	150	V/ $\mu s$
(dI/dt) <sub>c</sub>	(dV/dt) <sub>c</sub> =20V/ $\mu s$ , $T_j=150$		MIN.	1.5	A/ms
$t_{on}$	$I_G=20mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$		TYP.	2.5	$\mu s$
$t_{off}$				25	

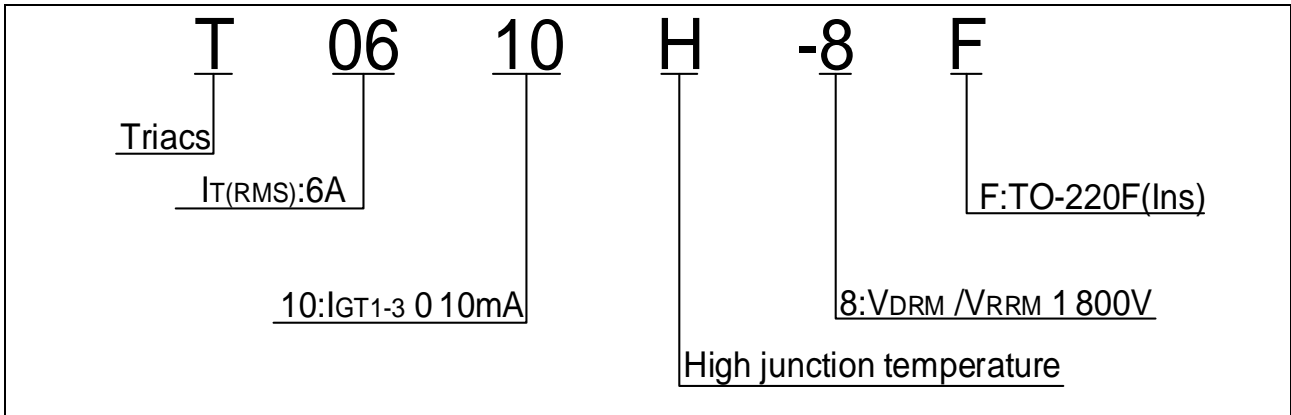
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=8.5A$ $t_p=380\mu s$	$T_j=25$	1.4	V
$V_{TO}$	Threshold voltage	$T_j=150$	0.8	V
$R_D$	Dynamic resistance	$T_j=150$	63	m

 $I_{DRM}$  $V_D=V_{DRD}$ 

M V

ORDERING INFORMATION



MARKING

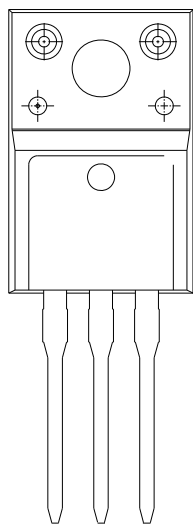


FIG.1: Maximum power dissipation versus RMS on-state current

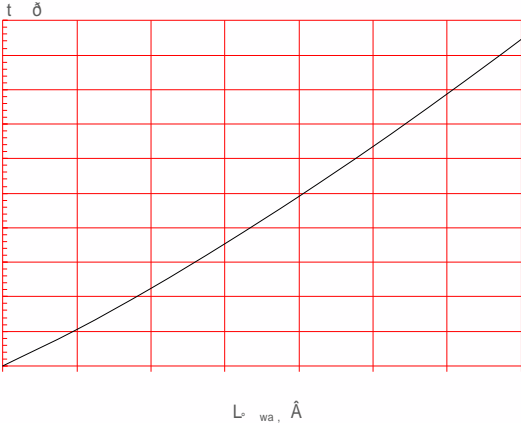


FIG.2: RMS on-state current versus case temperature

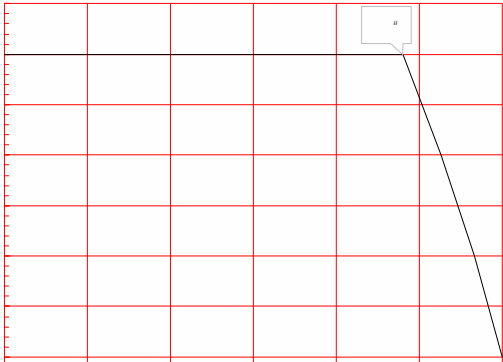
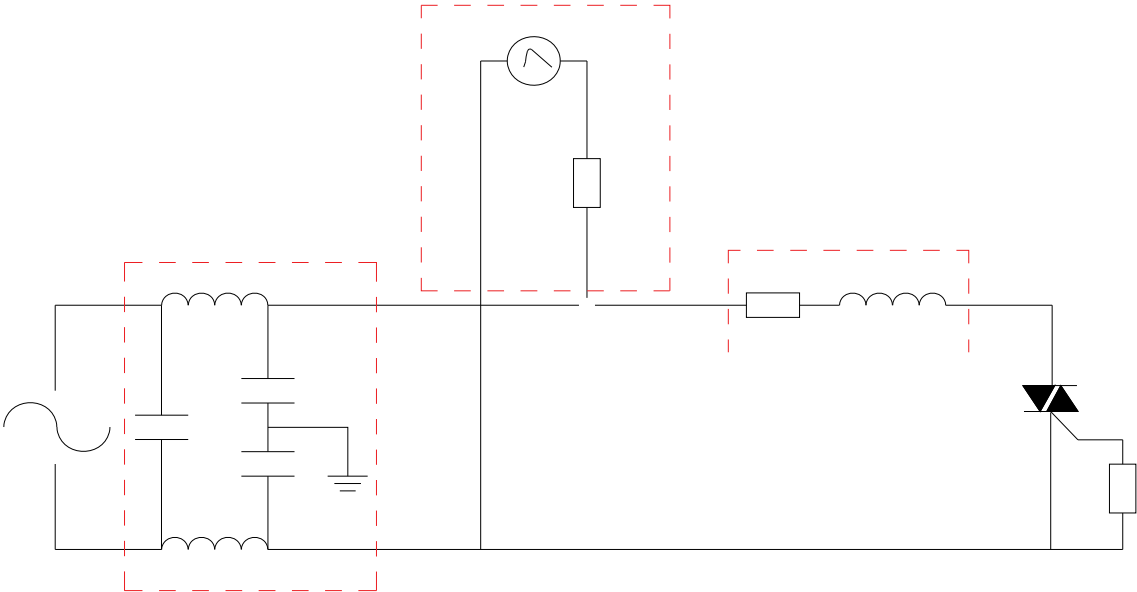


FIG.7 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards



**ORDERING INFORMATION**

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
T0610H-8F	800	10	TO-220F(Ins)	50	Tube

**Document Revision History**

Datey



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