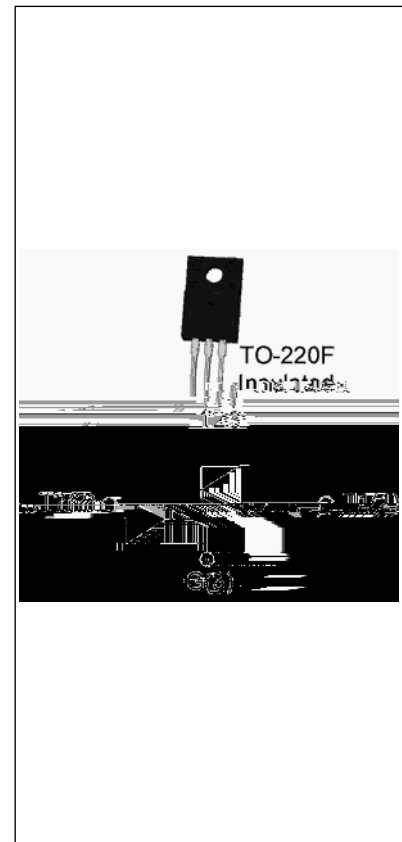




The T1250H-6F triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, T1250H-6F provides a very high switching capability up to junction temperatures of 150°C. By using an external plastic package, T1250H-6F provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
I	12	A
V _{DRM} /V _{RPM}	600	V
I _{GT} / /	50/50/50	mA

Storage junction temperature range	T _{stg}	-40-150	
Operating junction temperature range	T _j	-40-150	
Repetitive peak off-state voltage (T _j =25 °C)	V _{DRM}	600	V
Repetitive peak reverse voltage (T _j =25 °C)	V _{RPM}	600	V
RMS on-state current (T _c 106 °C)	I _{T(RMS)}	12	A
Non repetitive surge peak on-state current (full cycle , t _p =20ms , T _j =25 °C)	I _{TSM}	120	A
Non repetitive surge peak on-state current (full cycle , t _p =16.6ms , T _j =25 °C)		132	
I ² t value for fusing (t _p =10ms , T _j =25 °C)	I ² t	72	A ² s
Critical rate of rise of on-state current (I _G =2× I _{GT} , f=100Hz , T _j =150 °C)	di/dt	100	A/μs
Peak gate current (t _p =20μs , T _j =150 °C)	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}	4.5	kV

($T_j=25$ unless otherwise specified)

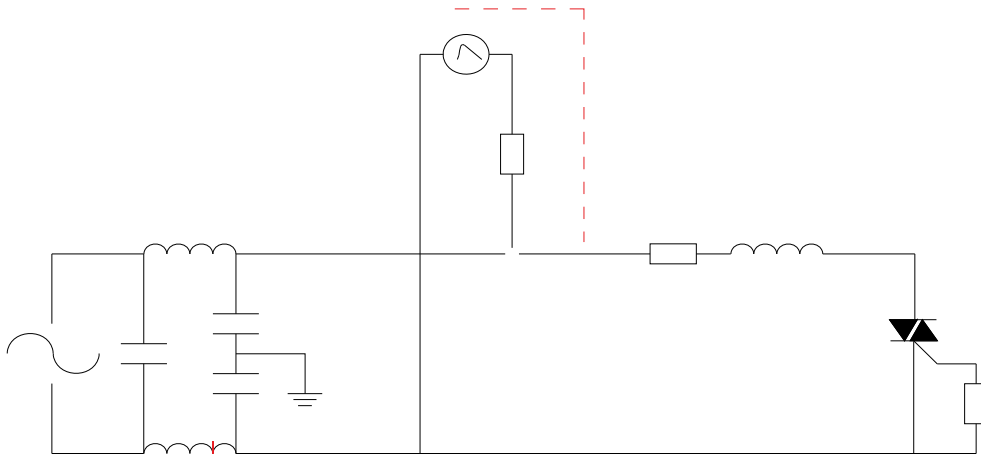
I_{GT}	$V_D=12V$ $R_L=33$	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=150$ $R_L=3.3k$	- -	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	50	mA
				80	
I_H	$I_T=500mA$		MAX.	40	mA
dV/dt	$V_D=400V$ Gate Open $T_j=150$		MIN.	2500	V/ μs
(dI/dt) _c	(dV/dt) _c =20V/ μs , $T_j=150$		MIN.	10	A/ms
t_{on}	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	3	μs
t_{off}				70	

V_{TM}	$I_{TM}=17A$ $t_p=380\mu s$	$T_j=25$		1.4	V
V_{TO}	Threshold voltage	$T_j=150$		0.75	V
R_D	Dynamic resistance	$T_j=150$		37	m
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$		5	μA
I_{RRM}		$T_j=150$		1.5	mA

$R_{th(j-c)}$	junction to case (AC)			2.8	/W
$R_{th(j-a)}$	junction to ambient (AC)			60	/W



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





Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated
Oct.10, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA



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