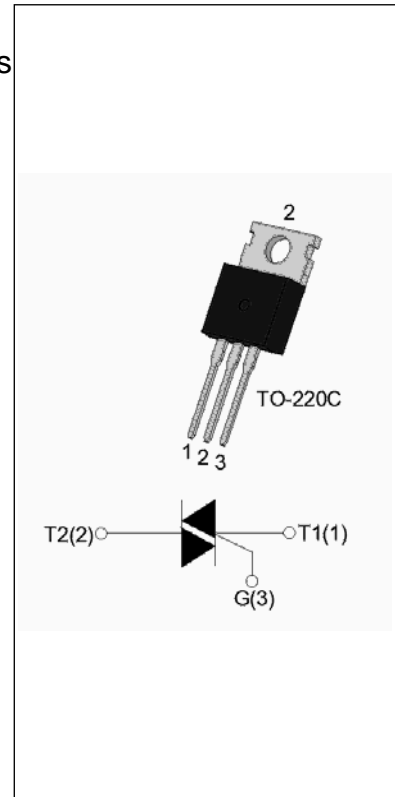




## T0410H-6C 4A TRIAC

Rev.A.1.0

The T0410H-6C 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, T0410H-6C provides a very high switching capability up to junction temperatures of 150°C. It can be driven directly through the MCU I/O port. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$V_{DRM}/V_{RRM}$	600	V
$I_{GT} / /$	10/10/10	mA

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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	600	V
RMS on-state current ( $T_c = 140^\circ\text{C}$ )	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	40	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		44	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	8	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \cdot I_{GT}$ , $f=100\text{Hz}$ , $T_j=150^\circ\text{C}$ )	$di/dt$	50	$\text{A}/\mu\text{s}$
Peak gate current ( $t_p=20\mu\text{s}$ , $T_j=150^\circ\text{C}$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=150^\circ\text{C}$ )	$P_{G(AV)}$	1	W

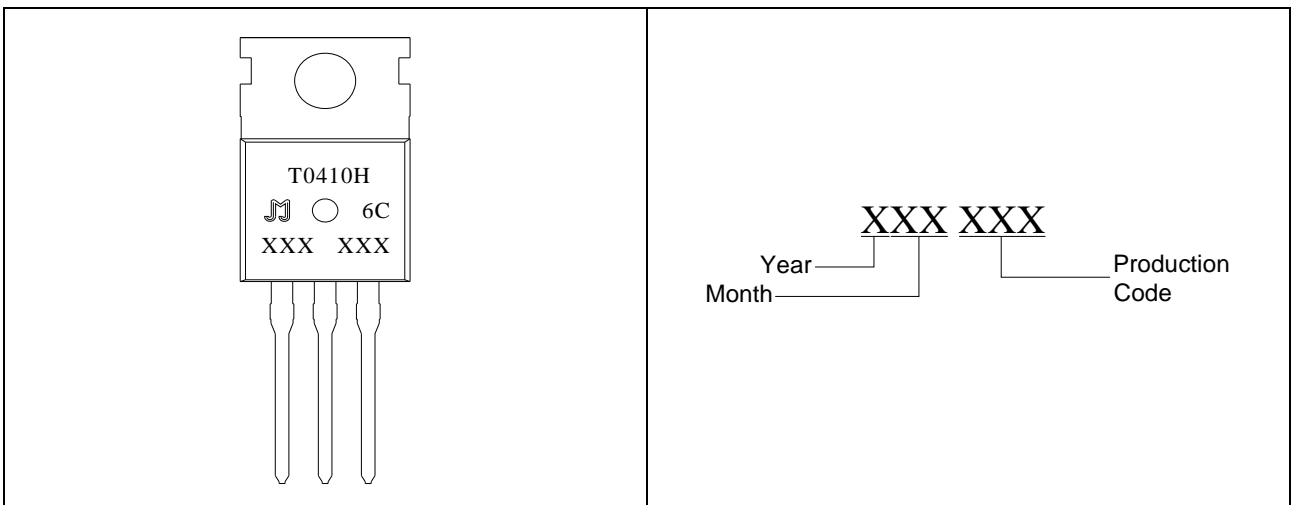
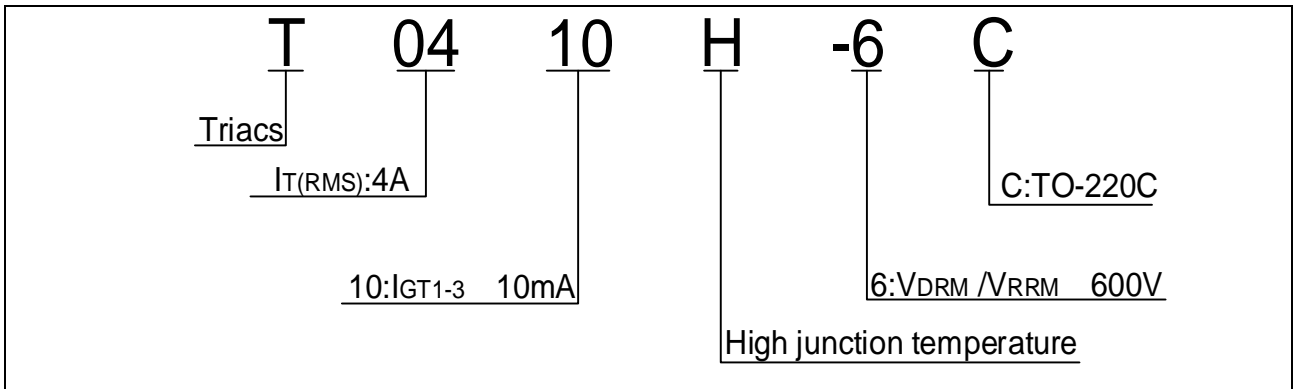
Peak gate power	$P_{GM}$	10	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.7)	$V_{pp}$	3	kV

(T<sub>j</sub>=25 unless otherwise specified)

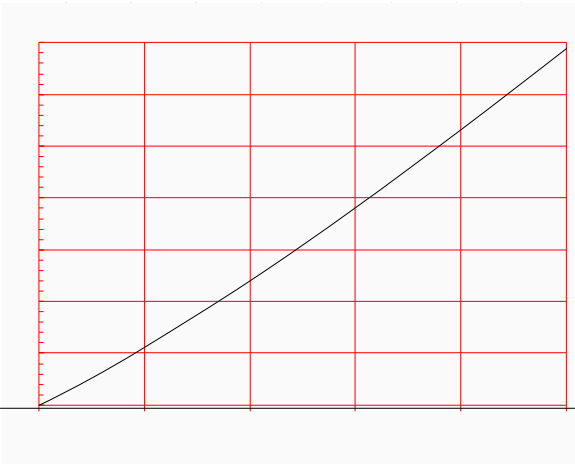
Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	10	mA
$V_{GT}$		- -	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=150$ $R_L=3.3K$	- -	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	-	MAX.	20	mA
				35	
$I_H$	$I_T=100mA$		MAX.	20	mA
dV/dt	$V_D=400V$ Gate Open $T_j=150$		MIN.	200	V/ $\mu s$
(dI/dt) <sub>c</sub>	(dV/dt) <sub>c</sub> =20V/ $\mu s$ , $T_j=150$		MIN.	1	A/ms
$t_{on}$	$I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	2.5	$\mu s$
$t_{off}$				25	

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=5.5A t_p=380\mu s$	$T_j=25$	1.4	V
$V_{TO}$	Threshold voltage	$T_j=150$	0.6	V
$R_D$	Dynamic resistance	$T_j=150$	129	m
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=150$	0.8	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W



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



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

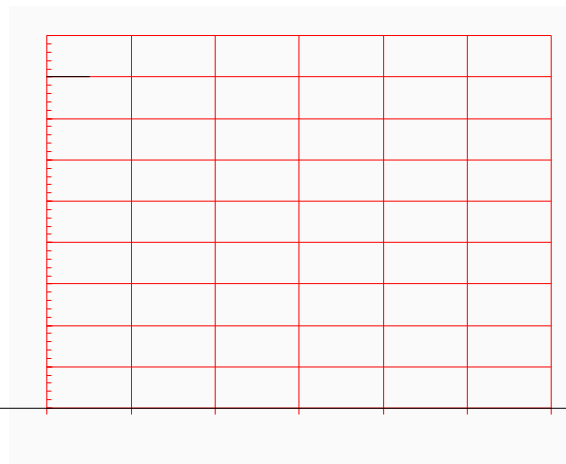
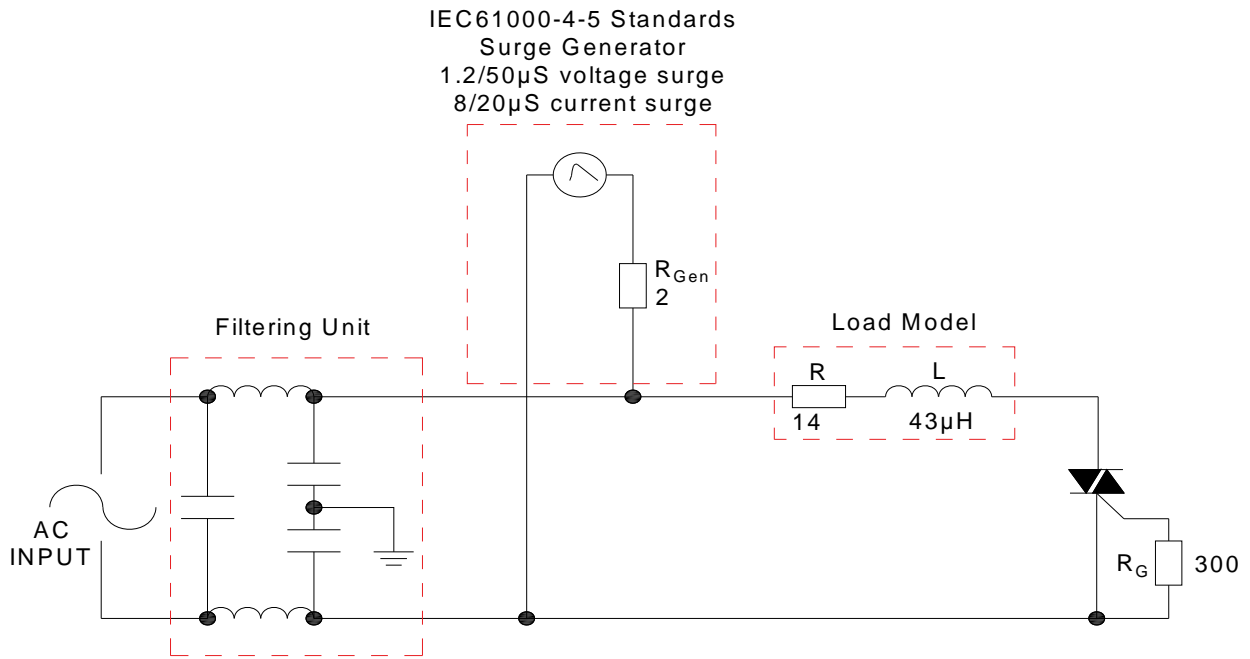


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards




Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie





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