



DESCRIPTION:

The T0820H-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, T0820H-6C provides a very high switching capability up to junction temperatures of 150°C. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A

ABSOLUTE MAXIMUM RATINGS

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 ($T_c = 134^\circ\text{C}$)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	80	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		88	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	32	A^2s
Critical rate of rise of on-state current ($I_G=2 I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$)	di/dt	80	$\text{A}/\mu\text{s}$
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
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ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

I_{GT}	$V_D=12V R_L=33$	- -	MAX.	20	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.	40	mA
				55	
I_H	$I_T=100mA$		MAX.	30	mA
dV/dt	$V_D=400V$ Gate Open $T_j=150$		MIN.	1000	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=20V/\mu s, T_j=150$		MIN.	3	A/ms
t_{on}	$I_G=40mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	3	μs
t_{off}				30	

STATIC CHARACTERISTICS

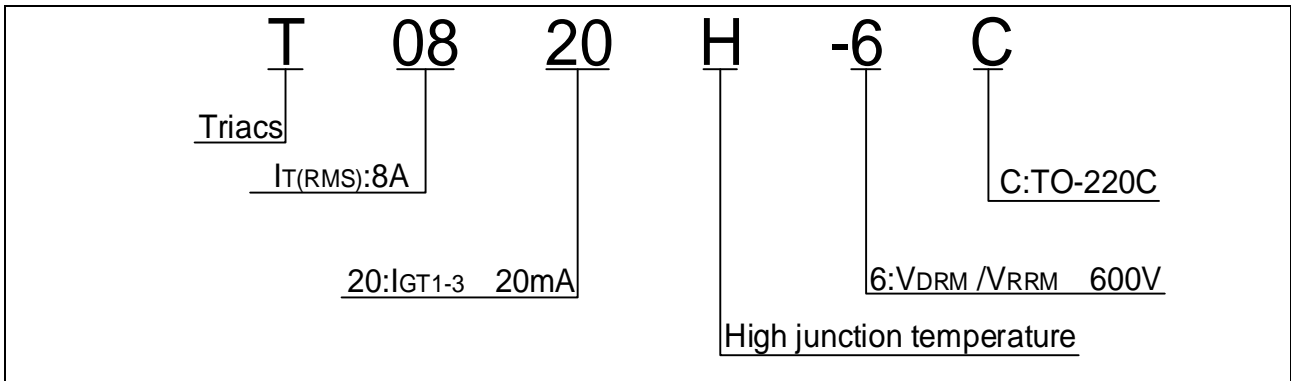
V_{TM}	$I_{TM}=11A t_p=380\mu s$	$T_j=25$	1.4	V
V_{TO}	Threshold voltage	$T_j=150$	0.79	V
R_D	Dynamic resistance	$T_j=150$	51	m
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=150$	1	mA

THERMAL RESISTANCES

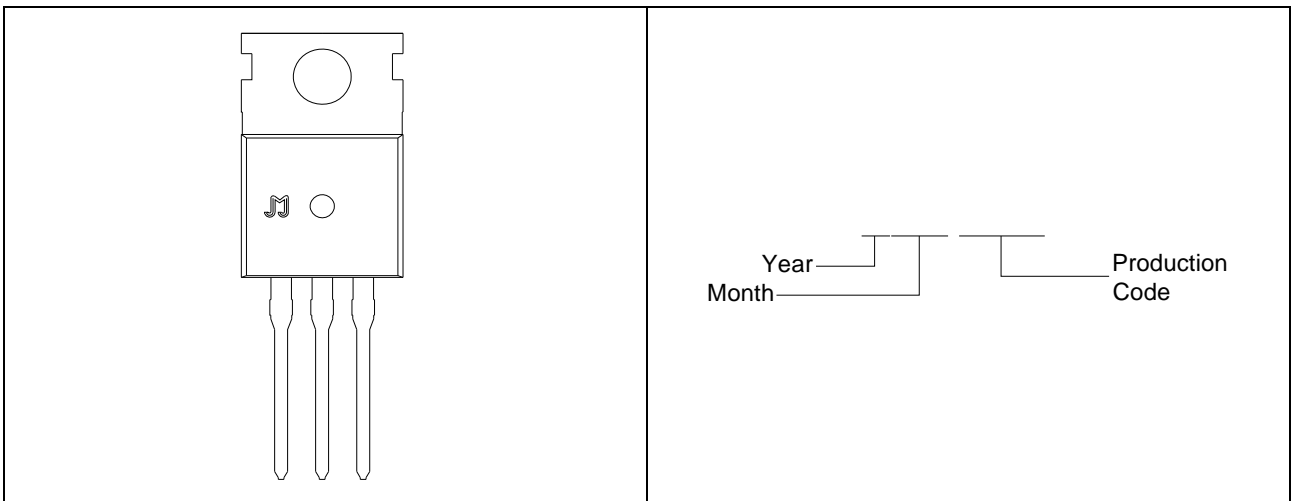
$R_{th(j-c)}$	junction to case (AC)	1.5	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W



ORDERING INFORMATION

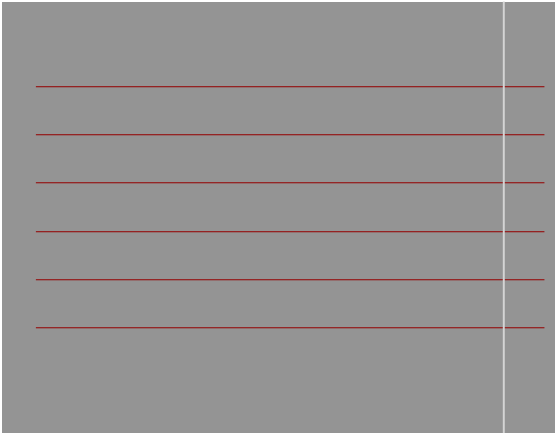


MARKING





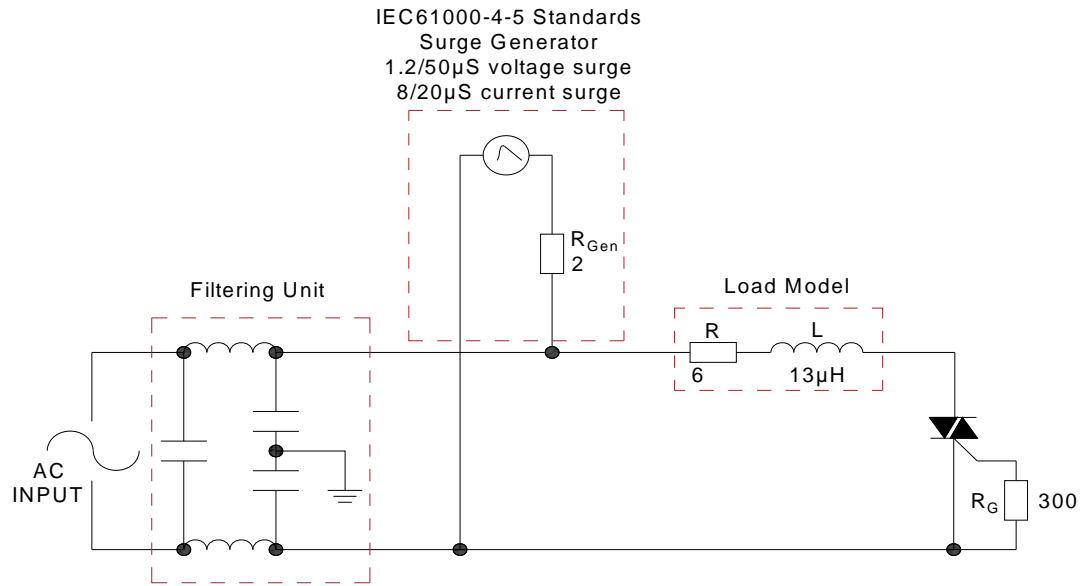
Maximum power dissipation versus RMS
on-state current



RMS on-state current versus case
temperature



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



SHAPING AND SOLDERING PARAMETERS

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

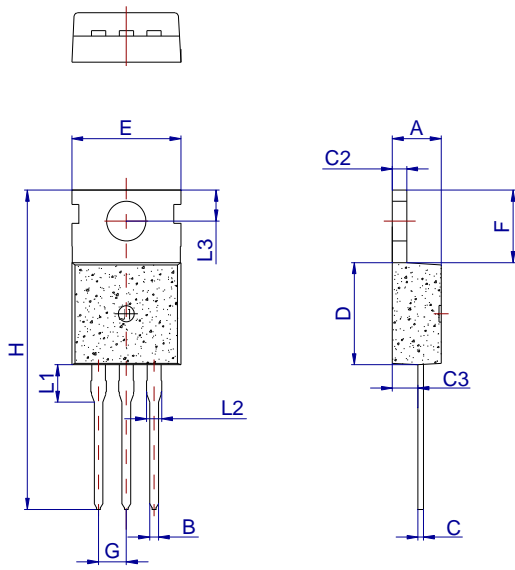


ORDERING INFORMATION

Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A						
B	Max.	®	®		3	-



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