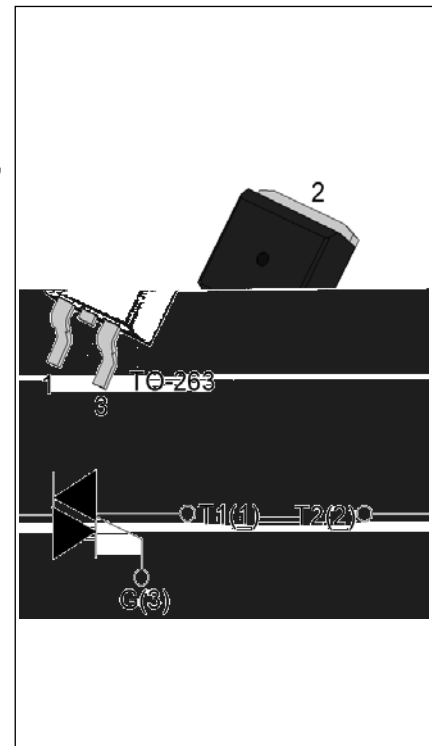


T0620H-6E 6A TRIAC

Rev.A.1.0

DESCRIPTION:

The T0620H-6E 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, T0620H-6E provides a very high switching capability up to junction temperatures of 150°C. Package TO-263 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	6	A
V_{DRM}/V_{RRM}	600	V
$I_{GT} / /$	20/20/20	mA

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}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600	V
RMS on-state current ($T_c = 132^\circ\text{C}$)	$I_{T(RMS)}$	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	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

T0620H-6E

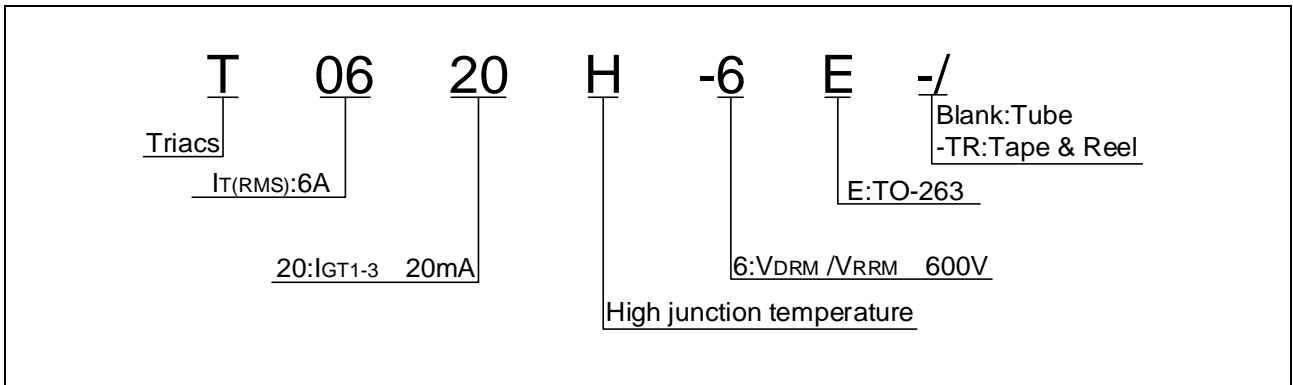
Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.8)	V_{pp}	3	kV
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ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	Unit
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$V_D=12V$ $R_L=33\Omega$ $V_{GS}=10V$ $f_{sw}=10kHz$ $V_{DS} \leq 10V$ $I_{D,avg} \leq 100mA$ $I_{D,pk} \leq 1.5A$ $t_{on} \leq 10\mu s$ $t_{off} \leq 10\mu s$ $t_{r} \leq 10ns$ $t_{f} \leq 10ns$ $f_{max} \leq 100kHz$ $\theta_{JA} \leq 100$ $\theta_{JC} \leq 100$ $\theta_{JE} \leq 100$ $\theta_{JH} \leq 100$ $\theta_{JL} \leq 100$ $\theta_{JV} \leq 100$ $\theta_{JW} \leq 100$ $\theta_{JX} \leq 100$ $\theta_{JY} \leq 100$ $\theta_{JZ} \leq 100$ $\theta_{J1} \leq 100$ $\theta_{J2} \leq 100$ $\theta_{J3} \leq 100$ $\theta_{J4} \leq 100$ $\theta_{J5} \leq 100$ $\theta_{J6} \leq 100$ $\theta_{J7} \leq 100$ $\theta_{J8} \leq 100$ $\theta_{J9} \leq 100$ $\theta_{J0} \leq 100$ $\theta_{J10} \leq 100$ $\theta_{J11} \leq 100$ $\theta_{J12} \leq 100$ $\theta_{J13} \leq 100$ $\theta_{J14} \leq 100$ $\theta_{J15} \leq 100$ $\theta_{J16} \leq 100$ $\theta_{J17} \leq 100$ $\theta_{J18} \leq 100$ $\theta_{J19} \leq 100$ $\theta_{J20} \leq 100$ $\theta_{J21} \leq 100$ $\theta_{J22} \leq 100$ $\theta_{J23} \leq 100$ $\theta_{J24} \leq 100$ $\theta_{J25} \leq 100$ $\theta_{J26} \leq 100$ $\theta_{J27} \leq 100$ $\theta_{J28} \leq 100$ $\theta_{J29} \leq 100$ $\theta_{J30} \leq 100$ $\theta_{J31} \leq 100$ $\theta_{J32} \leq 100$ $\theta_{J33} \leq 100$ $\theta_{J34} \leq 100$ $\theta_{J35} \leq 100$ $\theta_{J36} \leq 100$ $\theta_{J37} \leq 100$ $\theta_{J38} \leq 100$ $\theta_{J39} \leq 100$ $\theta_{J40} \leq 100$ $\theta_{J41} \leq 100$ $\theta_{J42} \leq 100$ $\theta_{J43} \leq 100$ $\theta_{J44} \leq 100$ $\theta_{J45} \leq 100$ $\theta_{J46} \leq 100$ $\theta_{J47} \leq 100$ $\theta_{J48} \leq 100$ $\theta_{J49} \leq 100$ $\theta_{J50} \leq 100$ $\theta_{J51} \leq 100$ $\theta_{J52} \leq 100$ $\theta_{J53} \leq 100$ $\theta_{J54} \leq 100$ $\theta_{J55} \leq 100$ $\theta_{J56} \leq 100$ $\theta_{J57} \leq 100$ $\theta_{J58} \leq 100$ $\theta_{J59} \leq 100$ $\theta_{J60} \leq 100$ $\theta_{J61} \leq 100$ $\theta_{J62} \leq 100$ $\theta_{J63} \leq 100$ $\theta_{J64} \leq 100$ $\theta_{J65} \leq 100$ $\theta_{J66} \leq 100$ $\theta_{J67} \leq 100$ $\theta_{J68} \leq 100$ $\theta_{J69} \leq 100$ $\theta_{J70} \leq 100$ $\theta_{J71} \leq 100$ $\theta_{J72} \leq 100$ $\theta_{J73} \leq 100$ $\theta_{J74} \leq 100$ $\theta_{J75} \leq 100$ $\theta_{J76} \leq 100$ $\theta_{J77} \leq 100$ $\theta_{J78} \leq 100$ $\theta_{J79} \leq 100$ $\theta_{J80} \leq 100$ $\theta_{J81} \leq 100$ $\theta_{J82} \leq 100$ $\theta_{J83} \leq 100$ $\theta_{J84} \leq 100$ $\theta_{J85} \leq 100$ $\theta_{J86} \leq 100$ $\theta_{J87} \leq 100$ $\theta_{J88} \leq 100$ $\theta_{J89} \leq 100$ $\theta_{J90} \leq 100$ $\theta_{J91} \leq 100$ $\theta_{J92} \leq 100$ $\theta_{J93} \leq 100$ $\theta_{J94} \leq 100$ $\theta_{J95} \leq 100$ $\theta_{J96} \leq 100$ $\theta_{J97} \leq 100$ $\theta_{J98} \leq 100$ $\theta_{J99} \leq 100$ $\theta_{J00} \leq 100$

ORDERING INFORMATION



MARKING

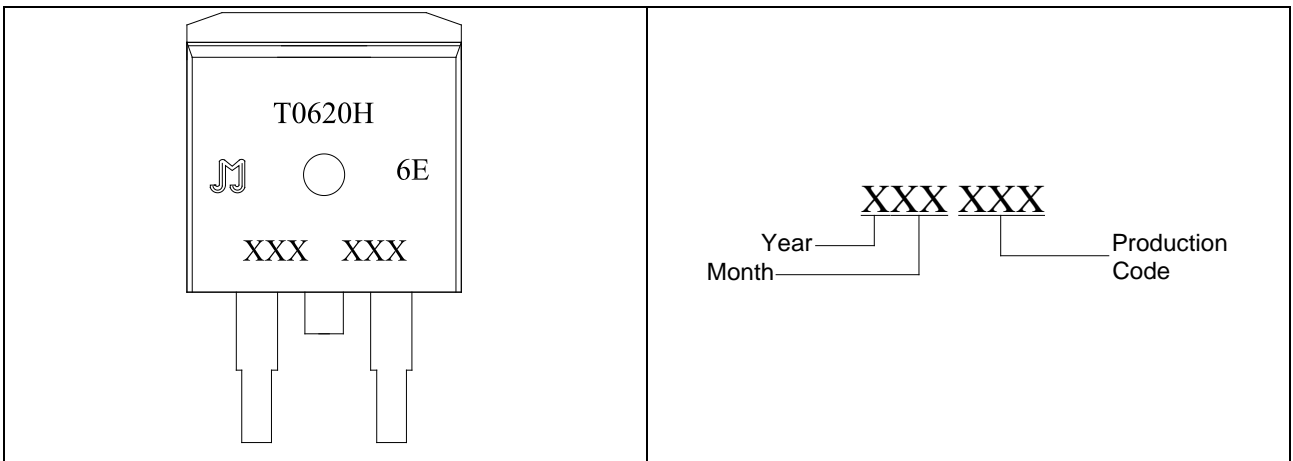


FIG.1 Maximum power dissipation versus RMS on-state current



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

FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

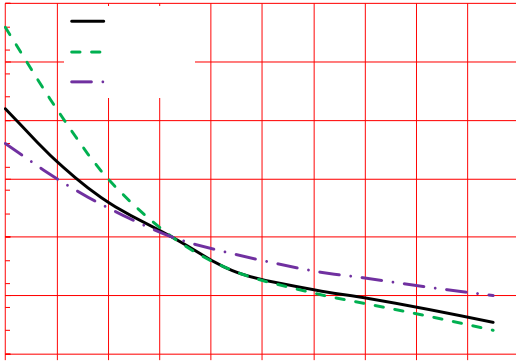
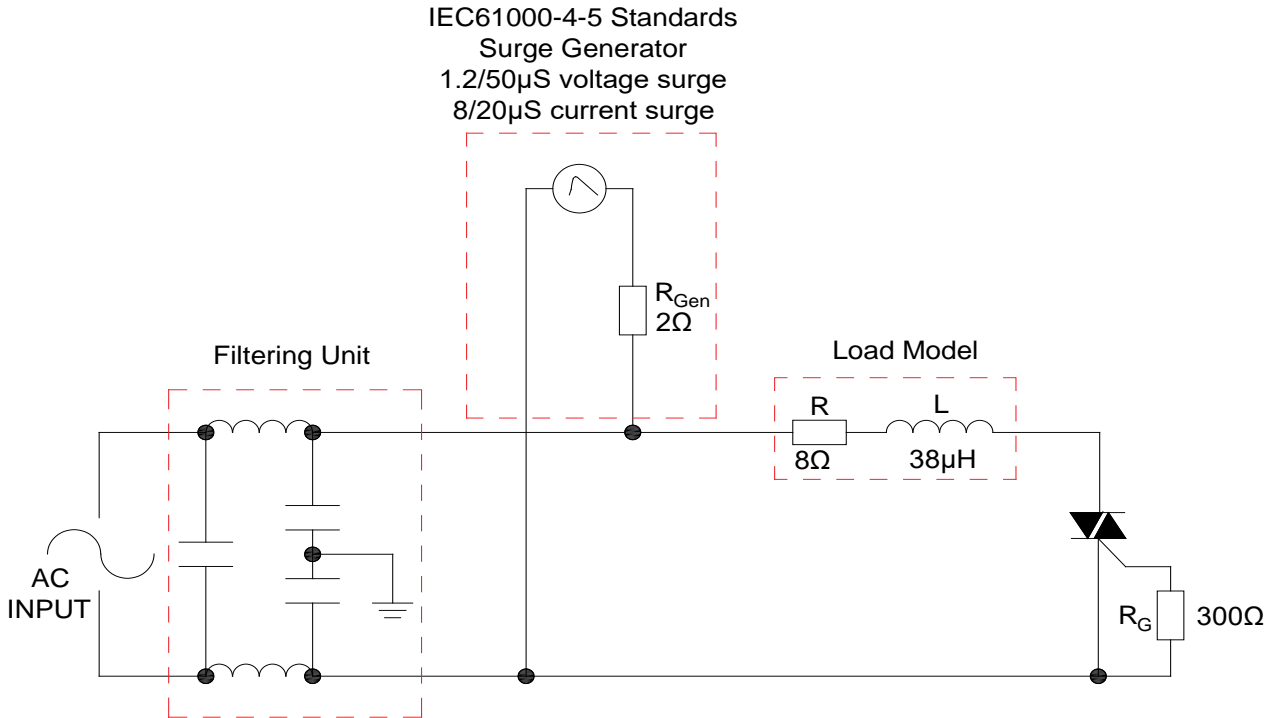
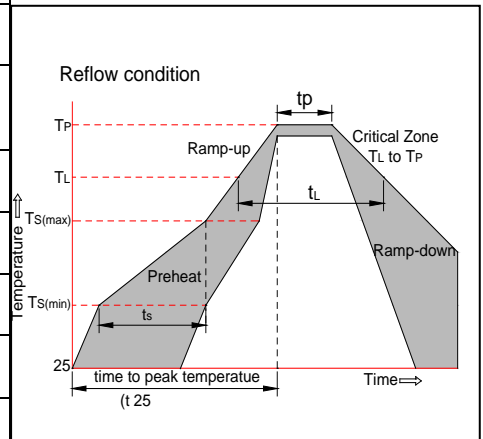


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$)	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3 /sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)
Time within 5 of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temp (T_p)		8 min. Max
Do not exceed		+260



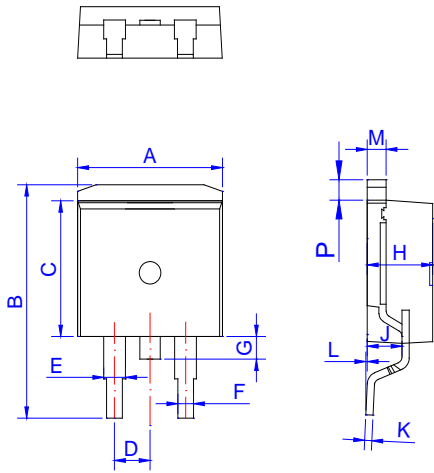
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
T0620H-6E	600	20	TO-263	50	Tube
T0620H-6E-TR				800	Tape & Reel

Document Revision History

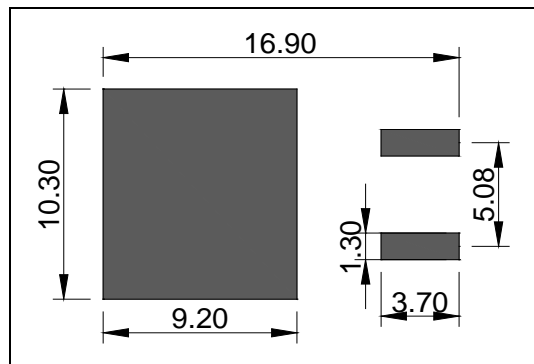
Date	Revision	Changes
Apr.10, 2023	A.1.0	Last updated

PACKAGE MECHANICAL DATA

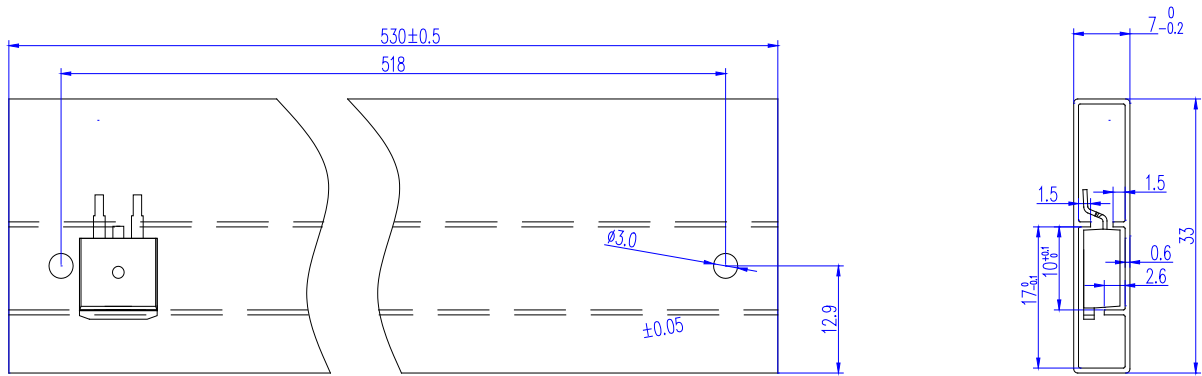


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.40		9.60	0.37		0.378
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G	1.00		1.50	0.039		0.059
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053
P	1.20		1.50	0.047		0.059

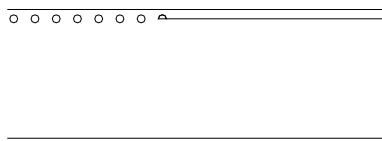
FOOTPRINT-TO-263 (dimensions in mm)



DELIVERY MODE




PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-263	TUBE	50	1,000	5,000



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
W	23.70	24.00	24.30	0.933	0.945	0.957
E	1.65	1.75	1.85	0.065	0.069	0.073
F	11.40	11.50	11.60	0.449	0.453	0.457
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.50	1.60	-	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	15.90	16.00	16.10	0.626	0.630	0.634
P2	1.90	2.00	2.10	0.075	0.079	0.083
A0	10.80	10.90	11.00	0.425	0.429	0.433
B0	16.20	16.30	16.40	0.638	0.642	0.646
K0	4.80	4.90	5.00	0.189	0.193	0.197
t	0.35	0.40	0.45	0.014	0.016	0.018

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