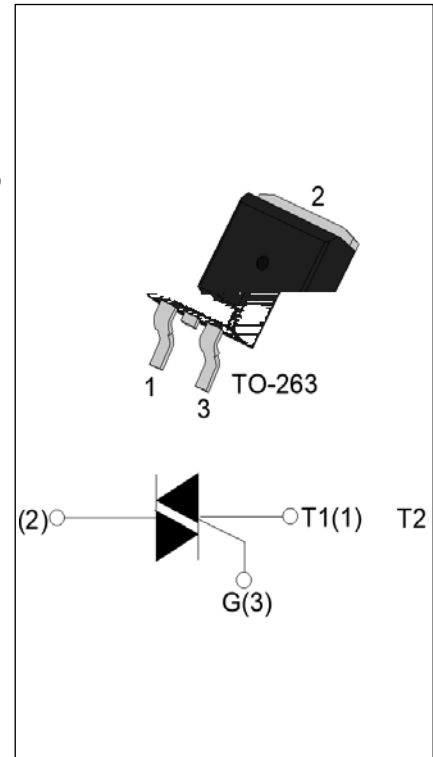


DESCRIPTION:

The T0420H-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, T0420H-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
$I_{T(RMS)}$	4	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 ($T_j=25^\circ C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	600	V
RMS on-state current ($T_c = 137^\circ C$)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_j=25^\circ C$)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$, $T_j=25^\circ C$)		44	
I^2t value for fusing ($t_p=10ms$, $T_j=25^\circ C$)	I^2t	8	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=150^\circ C$)	di/dt	80	A/s
Peak gate current ($t_p=20 \mu s$, $T_j=150^\circ C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=150^\circ C$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.8)	V_{pp}	4	kV
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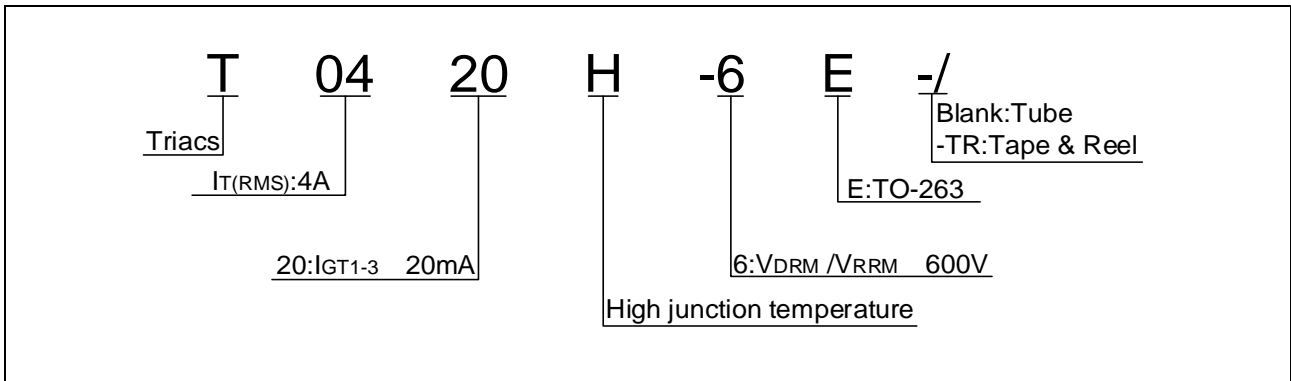
ELECTRICAL CHARACTERISTICS (unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
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.	30	mA
				40	
I_H	$I_T=100mA$		MAX.	25	mA
dV/dt	$V_D=400V$ Gate Open $T_j=150$		MIN.	1000	V/s
(dI/dt) _c	$V_D=150V$ $T_j=150$		MIN.	5	A/ms
t_{on}	$I_G=40mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$		TYP.	3	s
t_{off}				30	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=5.5A$ $t_p=380$ 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	P
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$		

ORDERING INFORMATION



MARKING

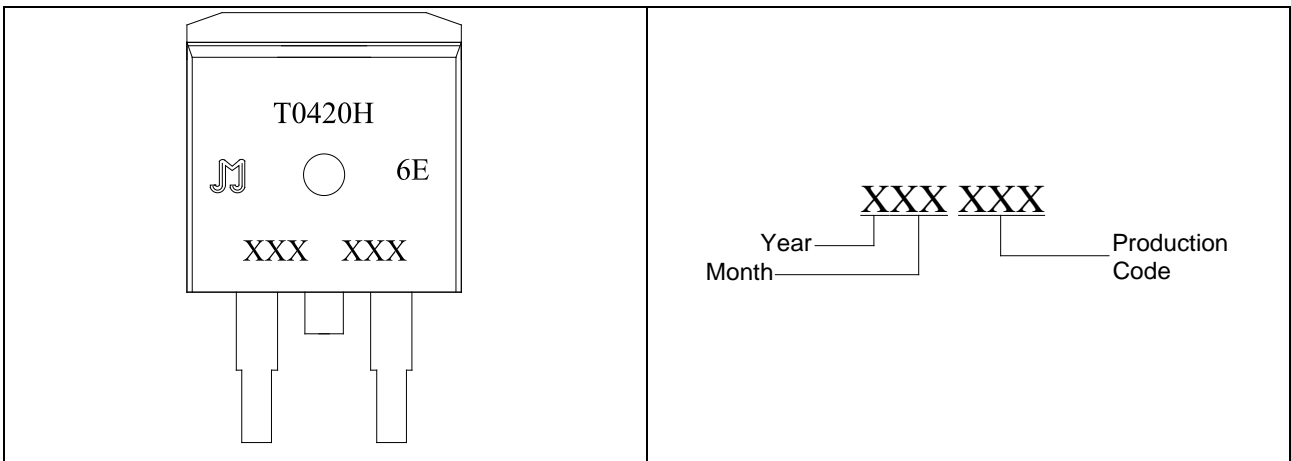


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

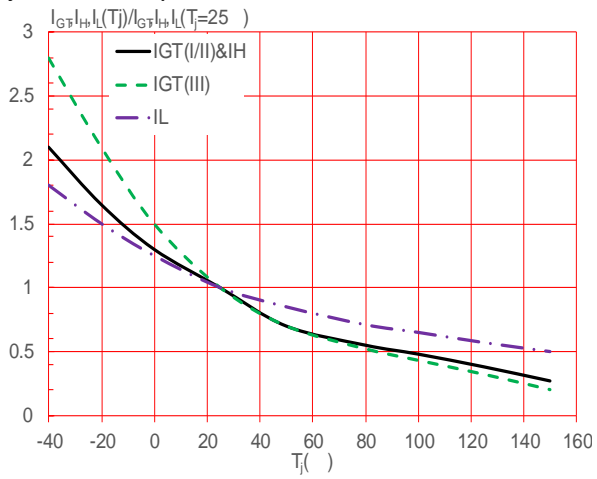


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards

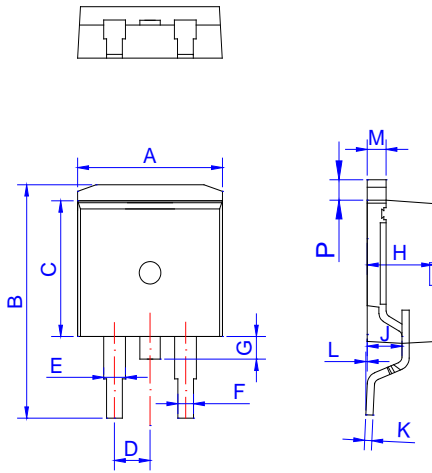
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
T0420H-6E	600	20	TO-263	50	Tube
T0420H-6E-TR				800	Tape & Reel

Document Revision History

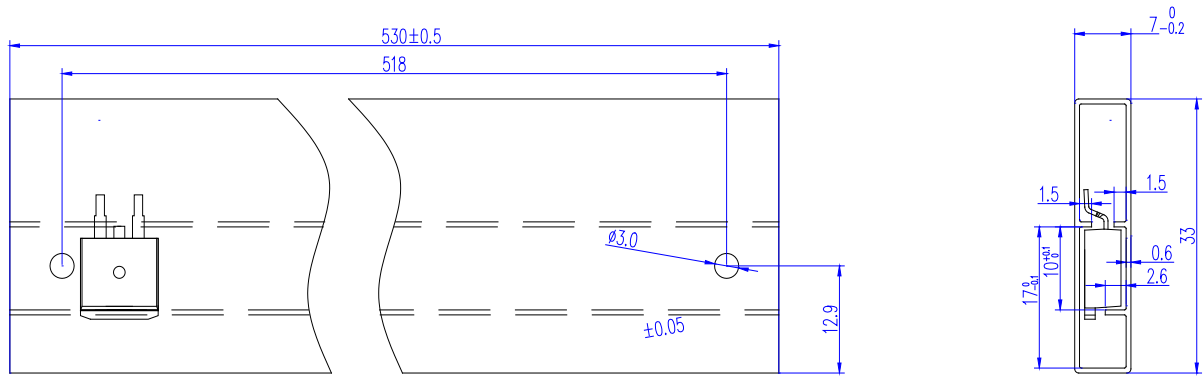
Date	Revision	Changes
Apr.10, 2023	A.1.0	Last updated

PACKAGE MECHANICAL DATA

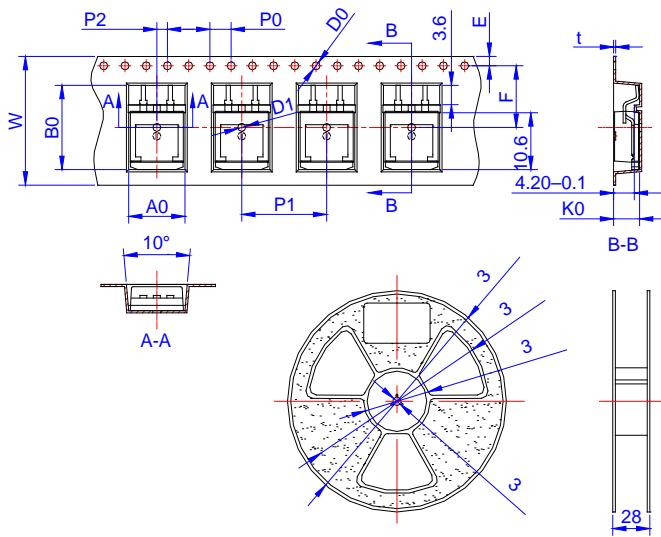


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.40		9.60	0.37		0.378
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G	1.00		1.50	0.039		0.059
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		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

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

PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
TO-263	TAPING	800	4,000	13 inch

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