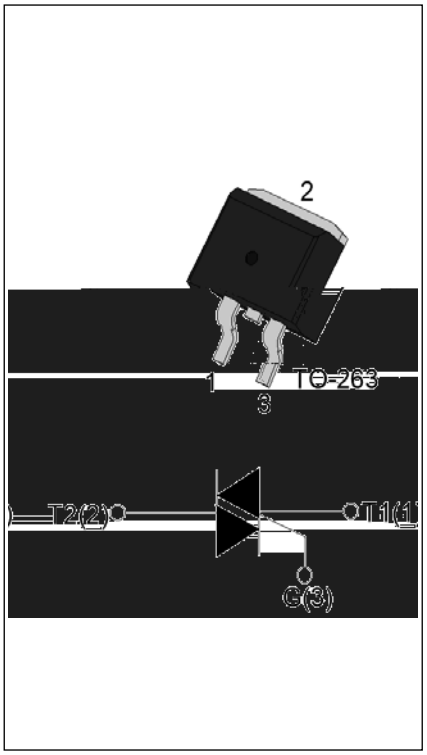
T0450H-8E 4A TRIAC

Rev.A.1.1

DESCRIPTION:

The T0450H-8E 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, T0450H-8E provides a very high switching capability up to junction temperatures of 150℃. Package TO-263 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} /V_{RRM}	800	V
I_{GT} / /	50/50/50	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)	V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	800	V
RMS on-state current ($T_C \leq$ 137)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		44	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	8	A^2s
Critical rate of rise of on-state current (I_G=2× I_{GT} , f=100Hz , T_j=150)	dI/dt	100	A s
Peak gate current (t_p=20 s , T_j=150)	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.8)	V_{pp}	4	kV

ELECTRICAL CHARACTERISTICS (T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
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
				60	
I_H	I_T =100mA		MAX.	40	mA
dV/dt	V_D=540V Gate Open T_j =150		MIN.	1200	V s
(dI/dt)c	G 9 G W F j=9150V 7		MIN.	10	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	5	s
t_{off}				50	

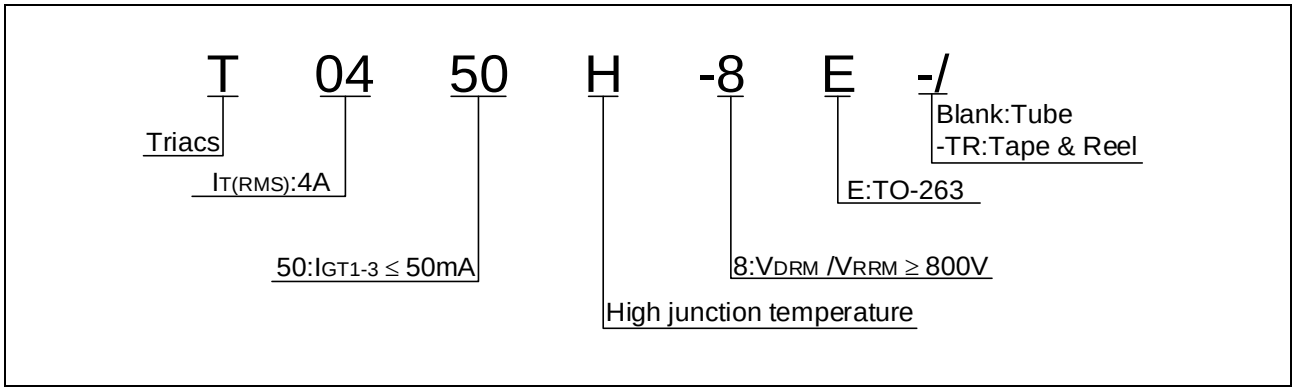
STATIC CHARACTERISTICS

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	5	A
I_{RRM}		T_j=150	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2.5	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, S=2cm^2)	55	/W

ORDERING INFORMATION



MARKING

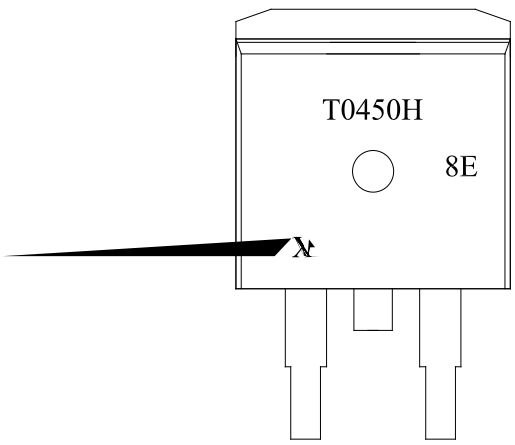


FIG.1: Maximum power dissipation versus RMS on-state current

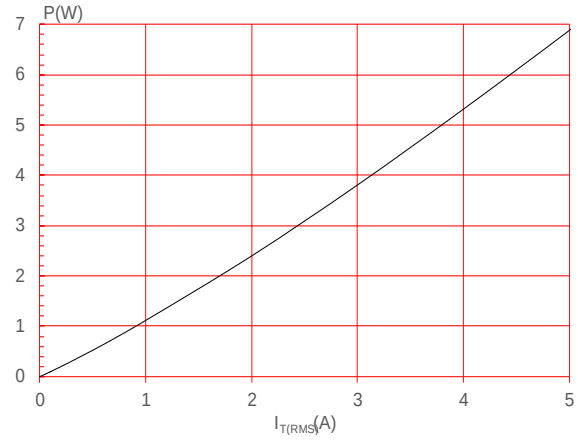


FIG.2: RMS on-state current versus case temperature

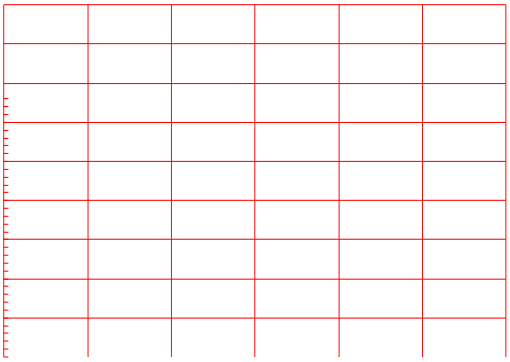


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

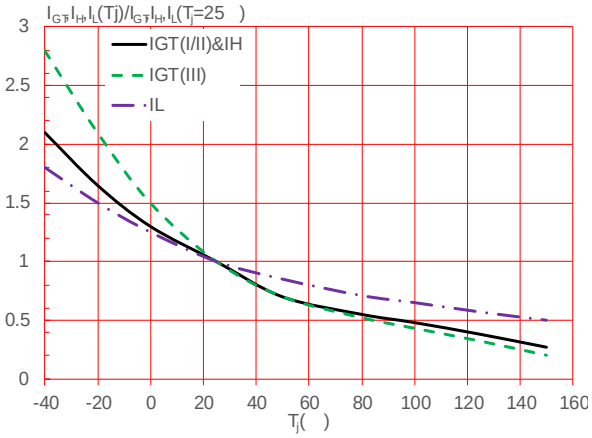
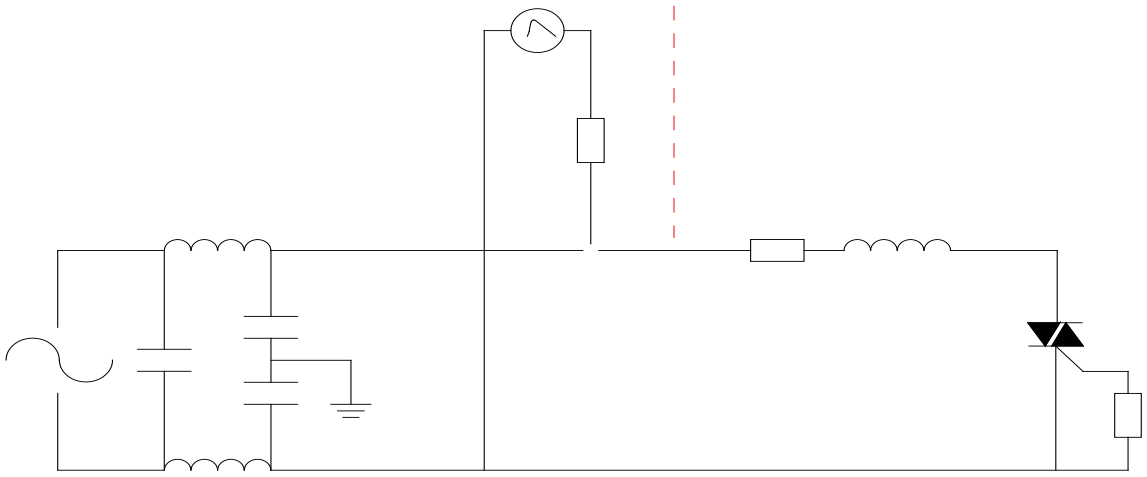


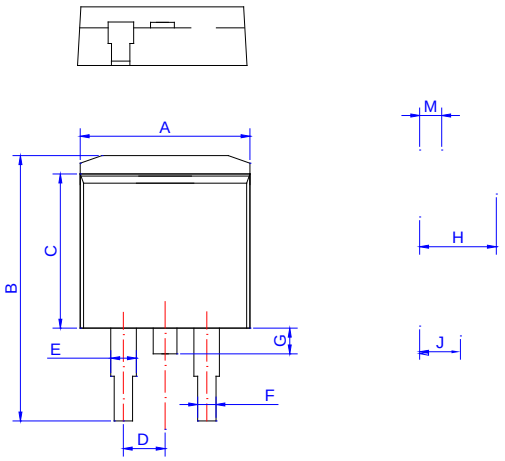
FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



ORDERING INFORMATION

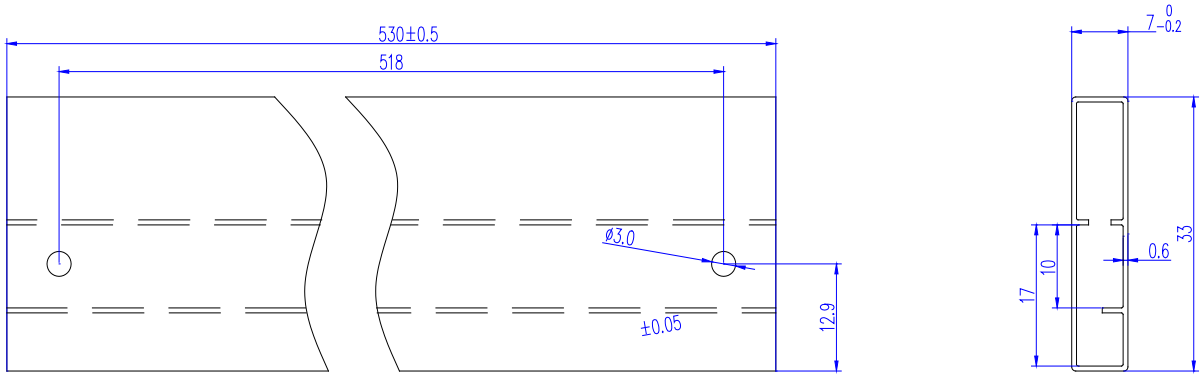
Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	

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	0.370		0.378
D	2.40			0.094		
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033

DELIVERY MODE



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned