



T0610H-6H 6A TRIAC

Rev.A.1.1

DESCRIPTION:

The T0610H-6H 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 of lighting dimmers, etc. It is suitable for operating in ambient temperatures of 150°.

TO-251 is RoHS compliant.

MAIN FEATURES

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction	T_j	-40-150	
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V	6	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V	6	V
Repetitive peak on-state current ($T_j=119^\circ\text{C}$)	I_T	6	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)	I_T	60	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		66	
Repetitive peak on-state current ($T_j=119^\circ\text{C}$)	I_T	6	A
Critical rate of rise of on-state current ($I_G = 10\text{mA}$, $T_j=150^\circ\text{C}$)	di/dt	50	A/ μs
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

ELECTRICAL CHARACTERISTICS ($T_j=25$ 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/ μs
(dI/dt) _c	(dV/dt) _c =20V/ μs , $T_j=150$		MIN.	1.5	A/ms
t_{on}	$I_G=20mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$		TYP.	2.5	μs
t_{off}				25	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=8.5A$ $t_p=380\mu s$	$T_j=25$	1.4	V
V_{TO}	Threshold voltage	$T_j=150$	0.8	V
R_D	Dynamic resistance	$T_j=150$	63	m
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=150$	0.8	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	4	/W
$R_{th(j-a)}$	junction to ambient (AC)	120	/W

ORDERING INFORMATION

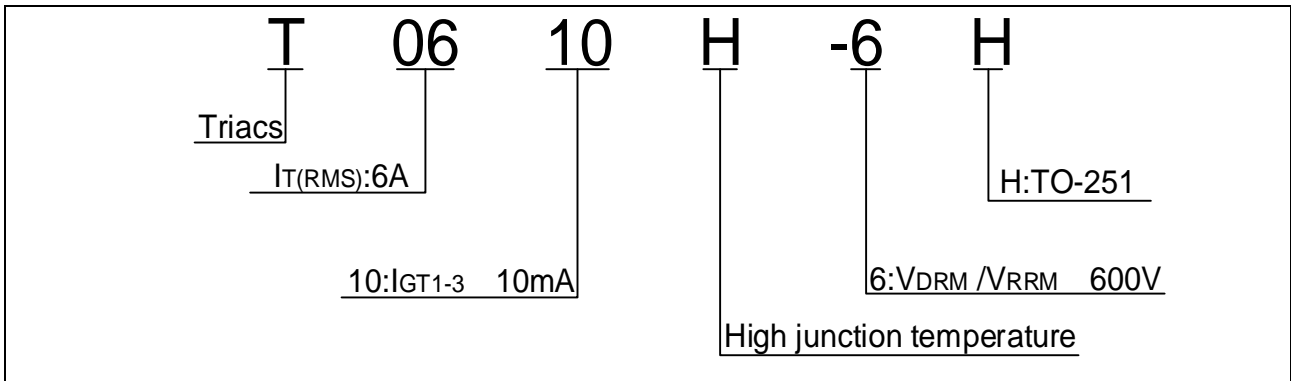


FIG.1: Maximum power dissipation versus RMS on-state current

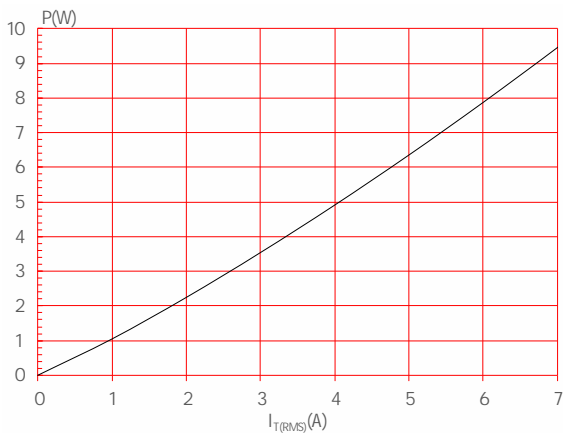


FIG.2: RMS on-state current versus case temperature

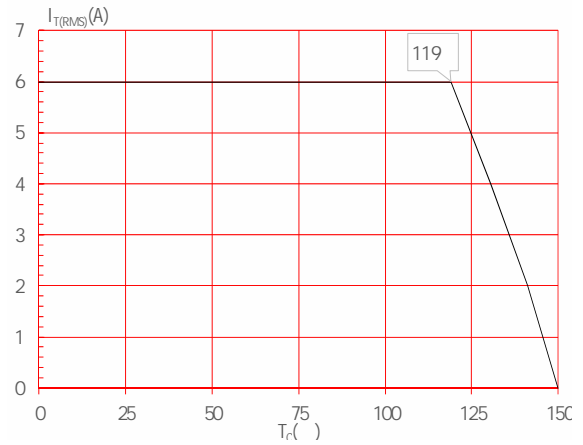


FIG.3: Surge peak on-state current versus number of cycles

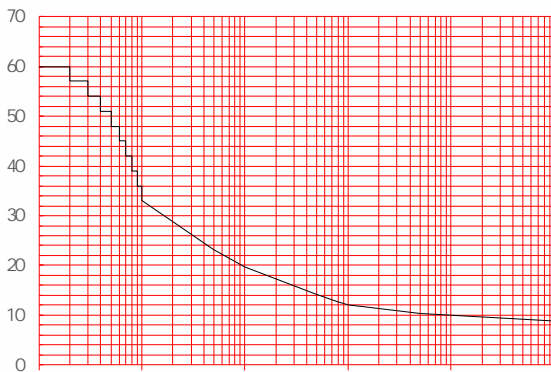
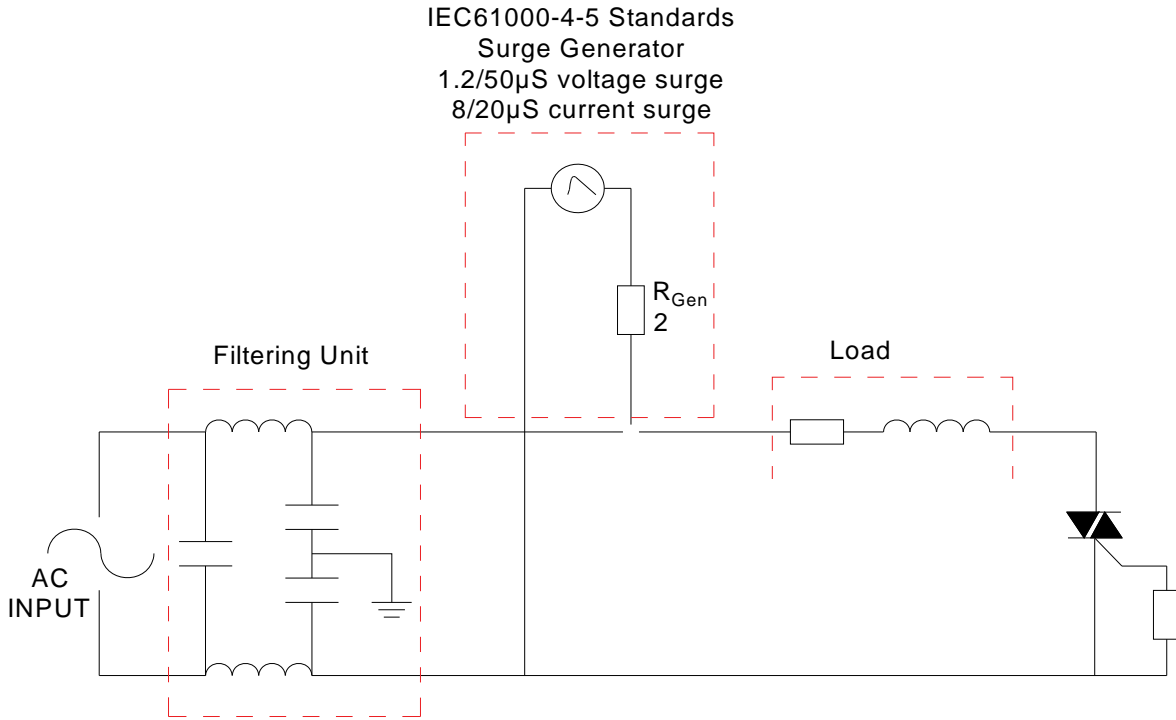


FIG.4: On-state characteristics

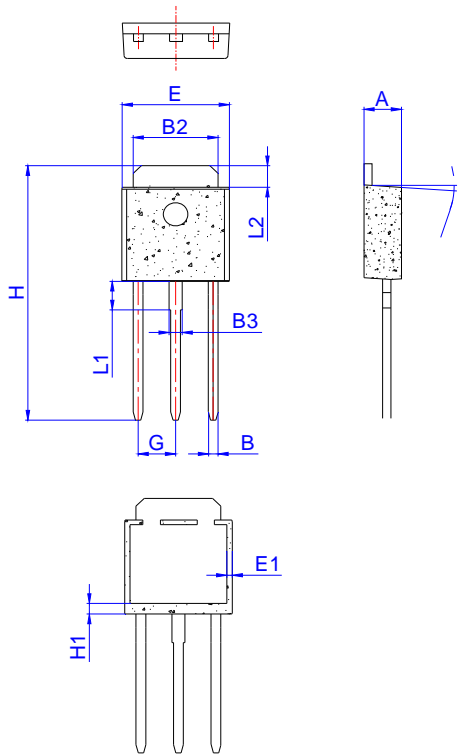
FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA) - -	
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	1.00		1.30	0.039		0.051
B	0.50		0.70	0.020		0.028
B2	5.10		5.40	0.200		0.213
B3						
C						
C2						
D						
E						
E1	0.60		1.00	0.024		0.039
G						
H	16.00		17.00	0.630		0.669
H1	1.45		1.85	0.057		0.073
L1						

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