



T0605xH
T0609xH

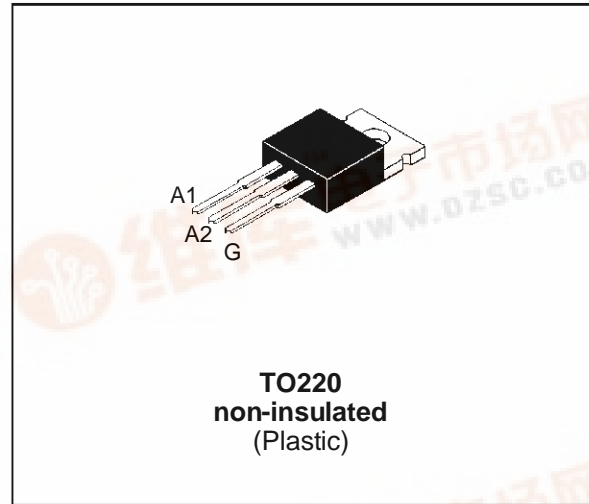
SENSITIVE GATE TRIACS

FEATURES

- $I_{T(RMS)} = 6A$
- $V_{DRM} = 400V$ to $800V$
- $I_{GT} \leq 5mA$ to $\leq 10mA$

DESCRIPTION

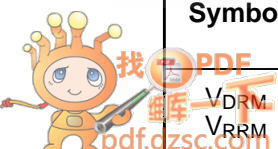
The T06xxxH series of triacs uses a high performance MESA GLASS technology. These parts are intended for general purpose applications where gate high sensitivity is required.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_c = 100\text{ }^\circ\text{C}$ 6	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = 25°C)	$t_p = 8.3\text{ ms}$	63
		$t_p = 10\text{ ms}$	60
I^2t	I^2t Value for fusing	$t_p = 10\text{ ms}$ 18	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 50\text{ mA}$ $di_G/dt = 0.1\text{ A}/\mu\text{s}$.	Repetitive $F = 50\text{ Hz}$	10
		Non Repetitive	50
T_{stg} T_j	Storage and operating junction temperature range	- 40, + 150 - 40, + 125	$^\circ\text{C}$
TI	Maximum lead temperature for soldering during 10s at 4.5mm from case	260	$^\circ\text{C}$

Symbol	Parameter	Voltage				Unit
		D	M	S	N	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage $T_j = 125^\circ\text{C}$	400	600	700	800	V



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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction to ambient	60	°C/W
Rth(j-c)	Junction to case for D.C	4	°C/W
Rth(j-c)	Junction to case for A.C 360° conduction angle (F=50Hz)	3	°C/W

GATE CHARACTERISTICS (maximum values)

$P_{G(AV)} = 1\text{ W}$ $P_{GM} = 10\text{ W}$ ($t_p = 20\ \mu\text{s}$) $I_{GM} = 4\text{ A}$ ($t_p = 20\ \mu\text{s}$)

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Sensitivity		Unit	
					05	09		
I_{GT}	$V_D = 12\text{V (DC)}$	$R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III-IV	MAX	5	10	mA
V_{GT}	$V_D = 12\text{V (DC)}$	$R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III-IV	MAX	1.5		V
V_{GD}	$V_D = V_{DRM}$	$R_L = 3.3\text{k}\Omega$	$T_j = 125^\circ\text{C}$	I-II-III-IV	MIN	0.2		V
tgt	$V_D = V_{DRM}$	$I_G = 40\text{mA}$	$T_j = 25^\circ\text{C}$	I-II-III-IV	TYP	2		μs
	$I_T = 8.5\text{A}$	$dI_G/dt = 0.5\text{A}/\mu\text{s}$						
I_H^*	$I_T = 50\text{mA}$	Gate open	$T_j = 25^\circ\text{C}$		MAX	5	10	mA
I_L	$I_G = 1.2 I_{GT}$		$T_j = 25^\circ\text{C}$	I-III-IV	TYP	5	10	mA
				II	TYP	10	20	
V_{TM}^*	$I_{TM} = 8.5\text{A}$	$t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$		MAX	1.65		V
I_{DRM} I_{RRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$		$T_j = 25^\circ\text{C}$		MAX	5		μA
			$T_j = 110^\circ\text{C}$		MAX	2		mA
dV/dt *	$V_D = 67\% V_{DRM}$ Gate open		$T_j = 110^\circ\text{C}$		MIN		20	V/ μs
					TYP	10		
(dV/dt)c *	(dI/dt)c = 2.7 A/ms		$T_j = 110^\circ\text{C}$		TYP	1	2	V/ μs

* For either polarity of electrode A₂ voltage with reference to electrode A₁

ORDERING INFORMATION

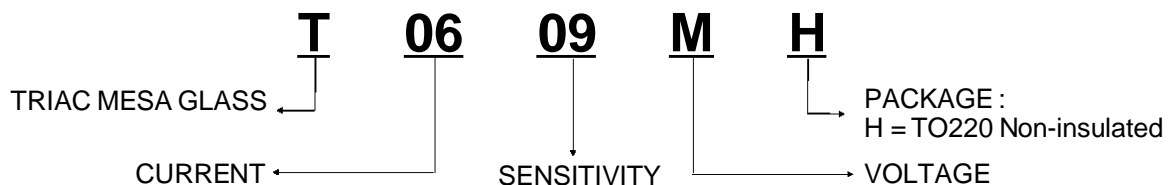


Fig.1 : Maximum RMS power dissipation versus RMS on-state current.

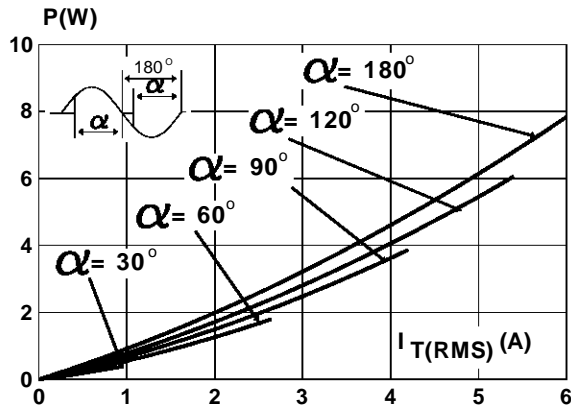


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperature (Tamb and Tcase) for different thermal resistances heatsink + contact.

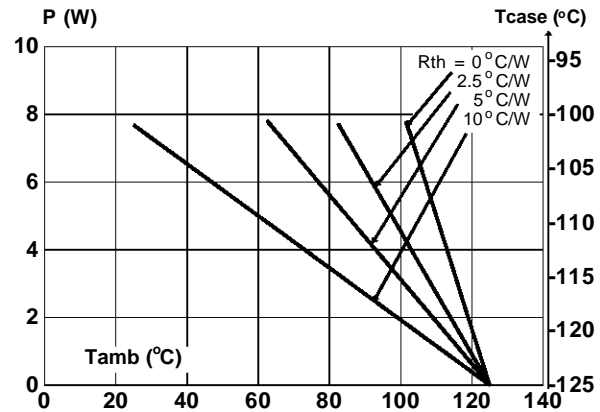


Fig.3 : RMS on-state current versus case temperature.

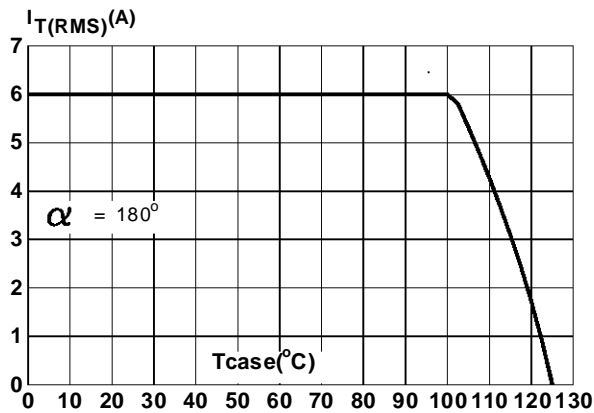


Fig.4 : Relative variation of thermal impedance versus pulse duration.

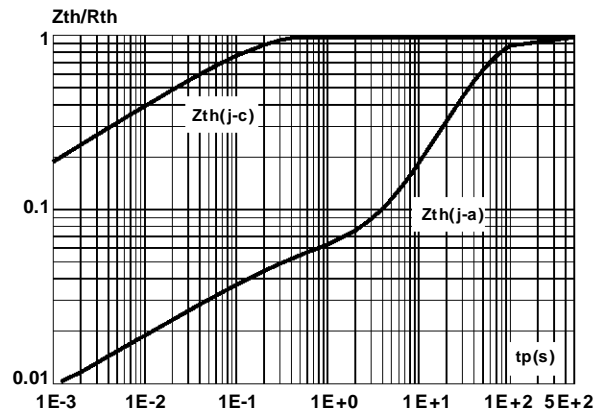


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

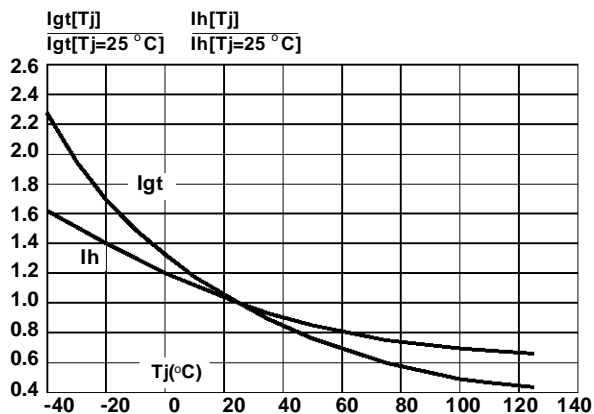
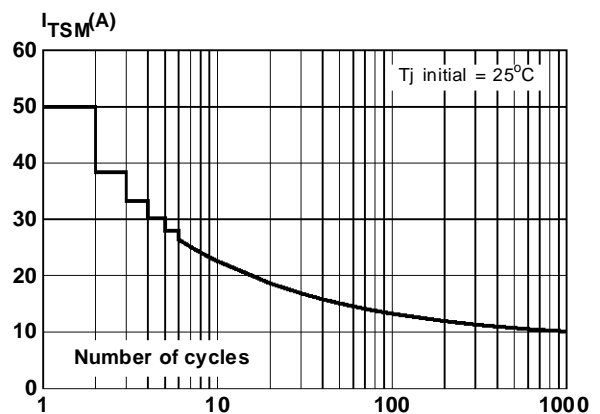


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.



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Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10\text{ms}$, and corresponding value of I^2t .

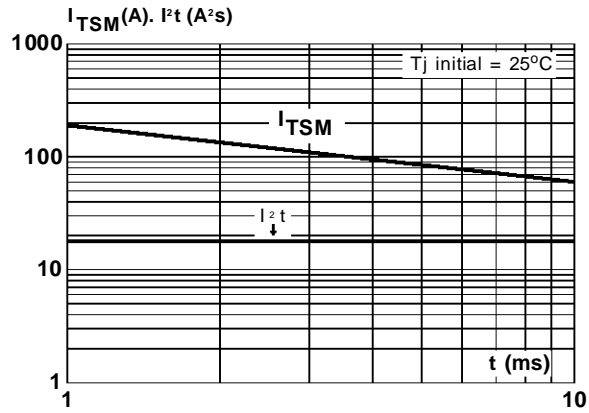
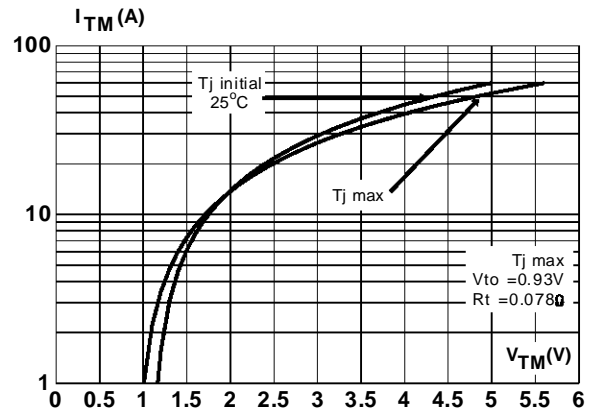
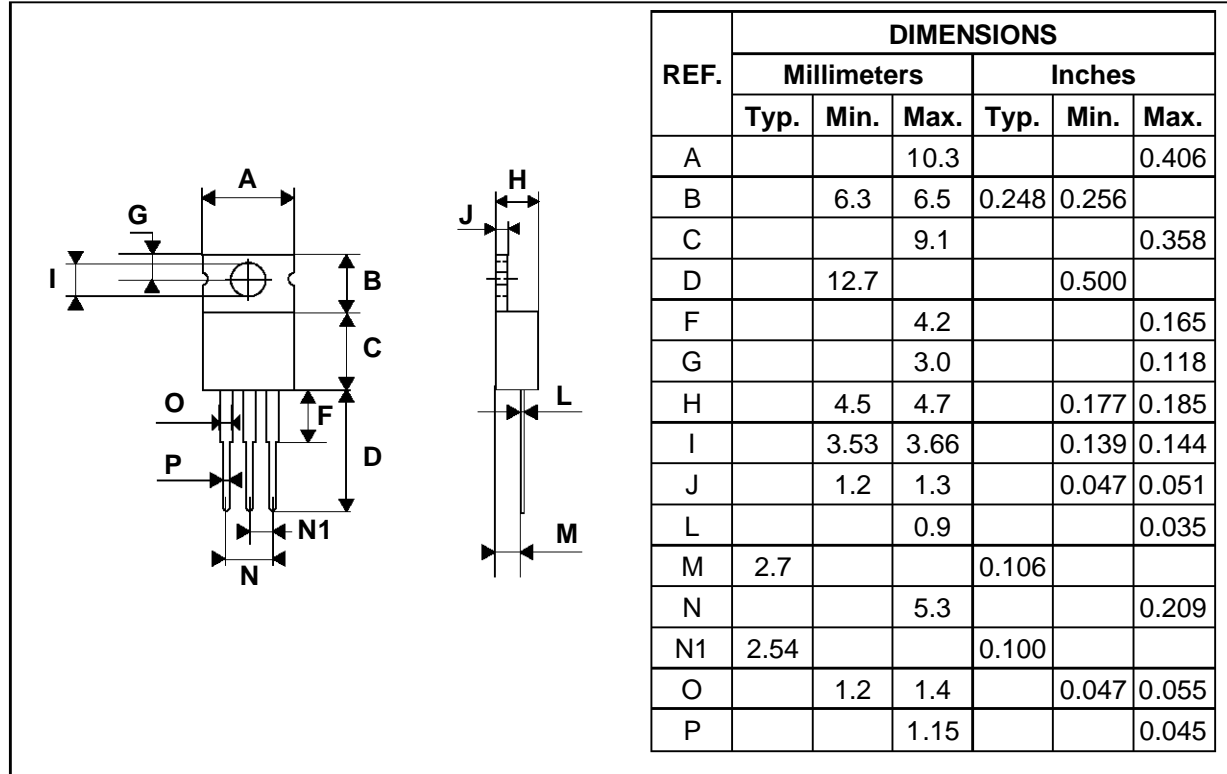


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO220 Non-insulated (Plastic)



Marking : type number

Weight : 1.8 g

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