



T06xxH Series 6A TRIACS

Rev.10.0

DESCRIPTION:

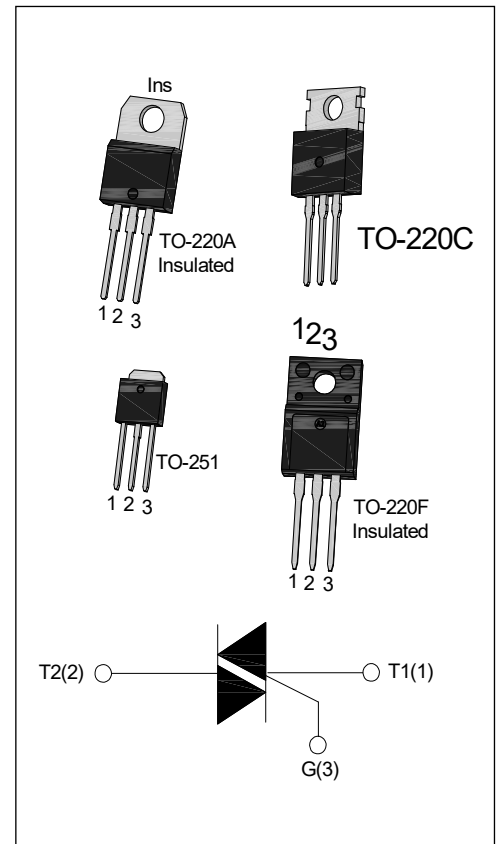
T06xxH series triacs of high junction temperature with high dv/dt rate with strong resistance to electromagnetic interference provide high ability to withstand the shock loading of large current. They are especially recommended for use on inductive load and high environment temperature condition.

From all three terminals to external heatsink, T06xxH-xxA provides a rated insulation voltage of 2500 V_{RMS}, and T06xxH-xxF provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). All the packages

listed above are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	6	A
V_{DRM}/V_{RRM}	600/800	V
T_{jmax}	150	°C



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	°C
Operating junction temperature range	T_j	-40-150	°C
Repetitive peak off-state voltage($T_j=25^\circ\text{C}$)	V_{DRM}	600/800	V
Repetitive peak reverse voltage($T_j=25^\circ\text{C}$)	V_{RRM}	600/800	V
RMS on-state current	TO-220C(Non-Ins)/ TO-251 ($T_c=130^\circ\text{C}$)	6	A
	TO-220A(Ins)/ TO-220F(Ins) ($T_c=125^\circ\text{C}$)		
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	60	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	21	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	$\text{A}/\mu\text{s}$

Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value				Unit
				T0610H	T0620H	T0635H	T0650H	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	10	20	35	50	mA
V_{GT}		I - II -III	MAX	1.5				V
V_{GD}	$V_D=V_{DRM} T_j=150^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2				V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	20	40	50	70	mA
		II		35	55	70	100	
I_H	$I_T=100\text{mA}$		MAX	20	30	45	60	mA
dV/dt	$V_D=2/3V_{DRM} T_j=150^{\circ}\text{C}$		MIN	200	500	1000	1500	V/ μs

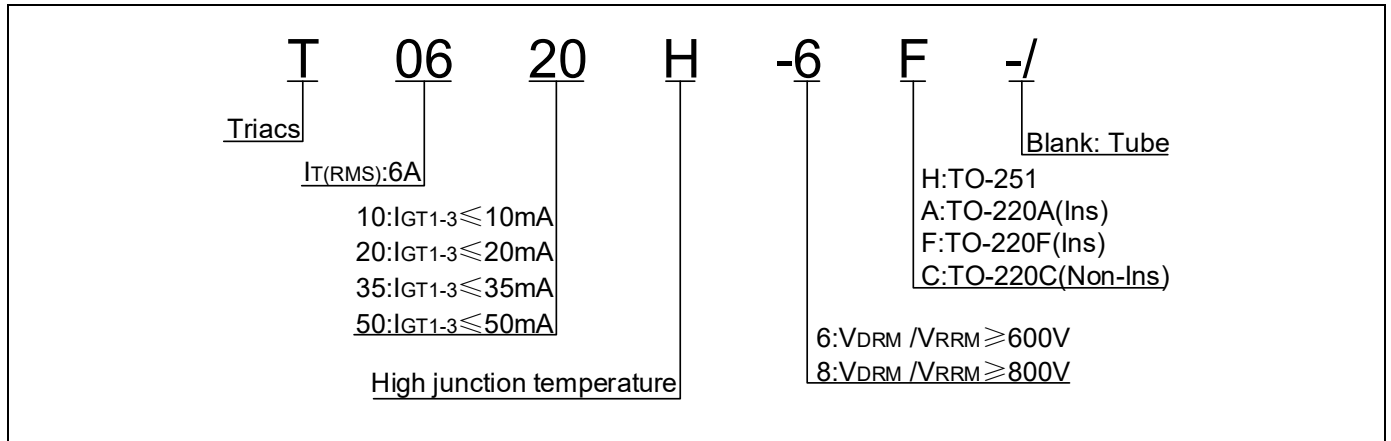
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=8.5\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.4	V
V_{TO}	Threshold voltage	$T_j=150^{\circ}\text{C}$	0.94	V
R_d	Dynamic resistance	$T_j=150^{\circ}\text{C}$	40	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=150^{\circ}\text{C}$	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-251	1.9	$^{\circ}\text{C/W}$
		TO-220A(Ins)	2.7	
		TO-220C(Non-Ins)	1.8	
		TO-220F(Ins)	2.8	

ORDERING INFORMATION



MARKING

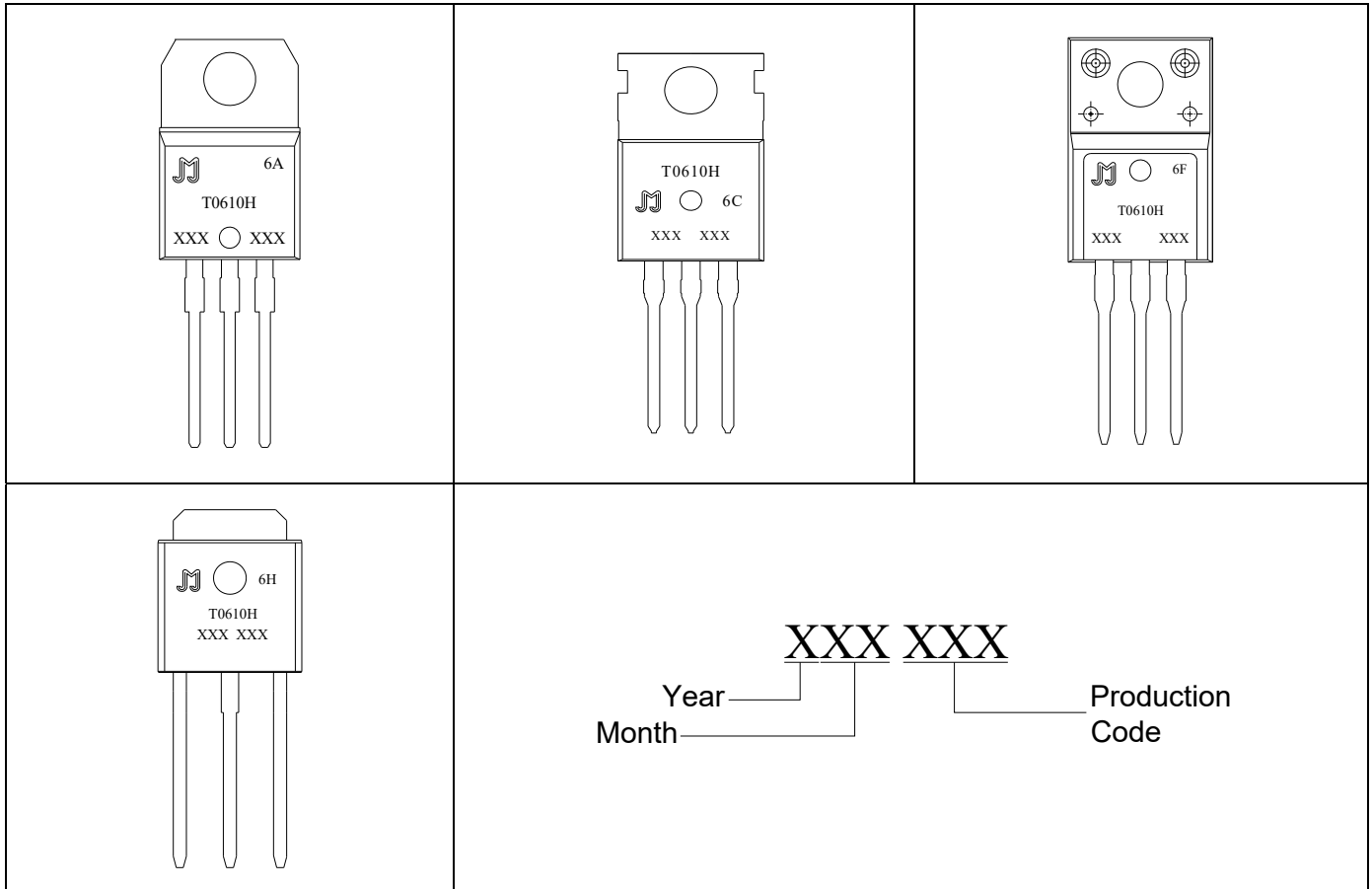


FIG.1: Maximum power dissipation versus RMS on-state current

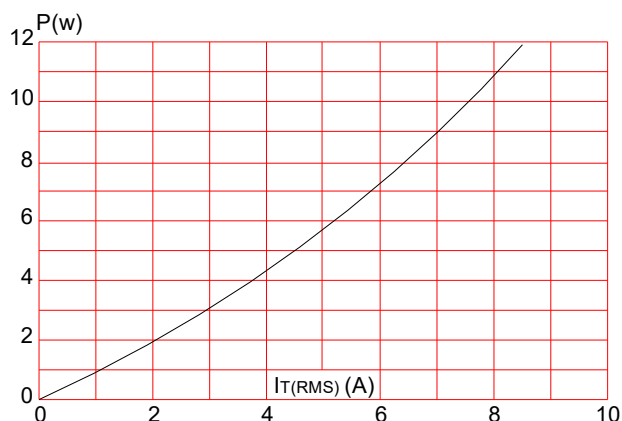


FIG.3: Surge peak on-state current versus number of cycles

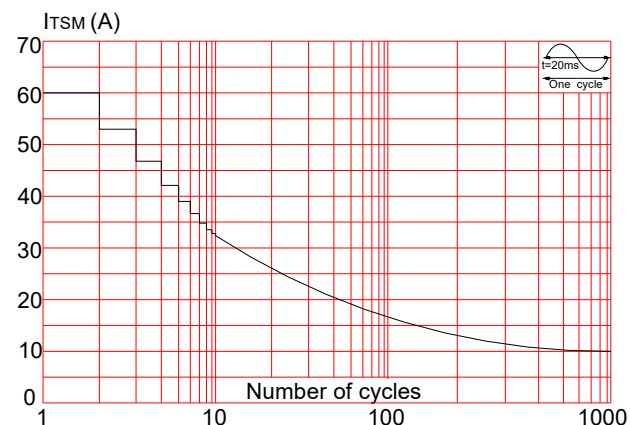


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

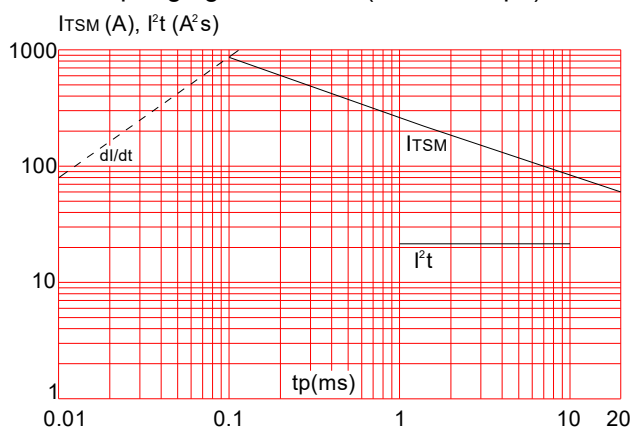


FIG.2: RMS on-state current versus case temperature

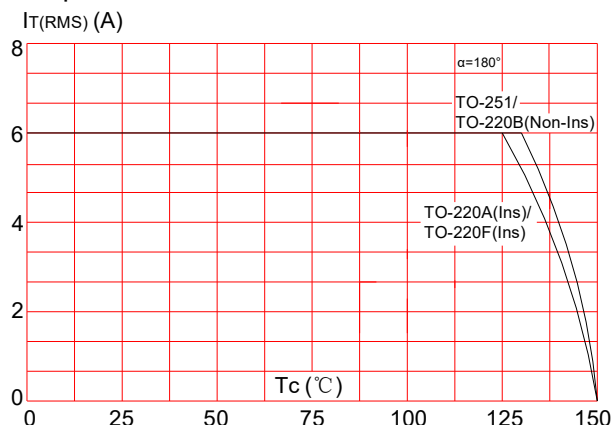


FIG.4: On-state characteristics (maximum values)

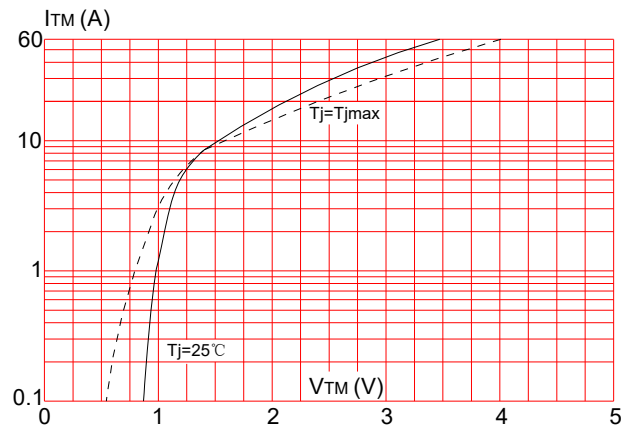
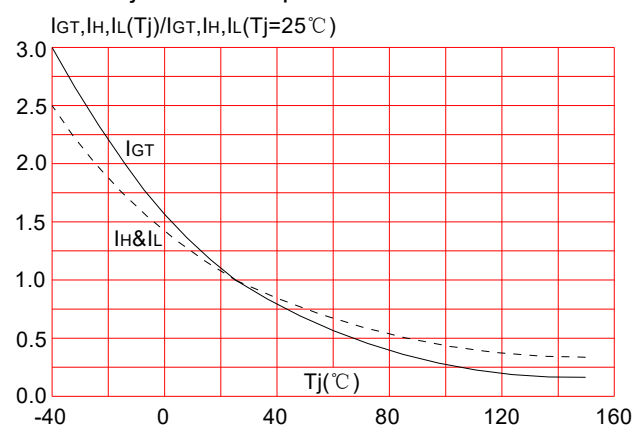


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
T0610H6(8)A	600/800	10	TO-220A(Ins)	50	Tube
T0620H6(8)A		20			
T0635H6(8)A		35			
T0650H6(8)A		50			
T0610H6(8)C		10	TO-220B		
T0620H6(8)C		20			
T0635H6(8)C		35			
T0650H6(8)C		50			
T0610H6(8)F		10	TO-220F(Ins)		
T0620H6(8)F		20			
T0635H6(8)F		35			
T0650H6(8)F		50			
T0610H6(8)H		10	TO-251		
T0620H6(8)H		20			
T0635H6(8)H		35			
T0650H6(8)H		50			

Document Revision History

Date	Revision	Changes
July 14, 2020	9	Last update
Sep 17, 2021	10	Add Vto & Rd value