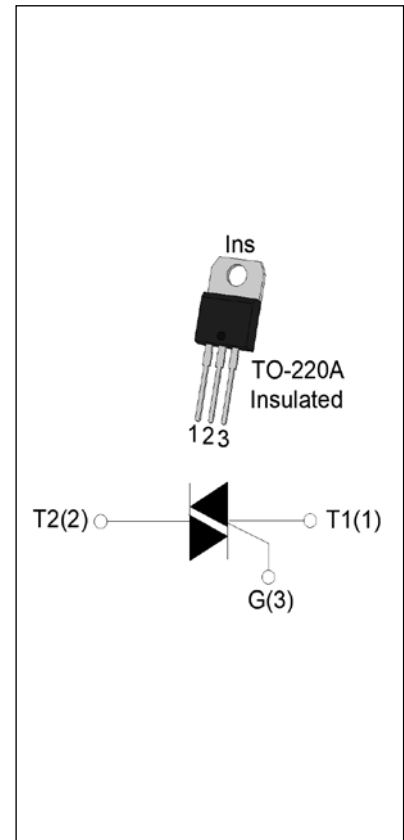


T3050H-6A 30A TRIAC

Rev.A.1.1

DESCRIPTION:

The T3050H-6A 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, T3050H-6A provides a very high switching capability up to junction temperatures of 150°C. By using an internal ceramic pad, T3050H-6A provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.


MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	600	V
$I_{GT\ I/\ II/\ III}$	50/50/50	mA

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	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600	V
RMS on-state current ($T_c \leq 89^\circ\text{C}$)	$I_{T(RMS)}$	30	A
Non repetitive surge peak on-state current (full cycle , $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	270	A
Non repetitive surge peak on-state current (full cycle , $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		297	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	365	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$)	di/dt	100	$\text{A}/\mu\text{s}$
Peak gate current ($t_p=20\mu\text{s}$, $T_j=150^\circ\text{C}$)	I_{GM}	4	A

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 ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG. 7)	V_{pp}	1.2	kV

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

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I - II - III	MAX.	50	mA
V_{GT}		I - II - III	MAX.	1.3	V
V_{GD}	$V_D=V_{DRM}$ $T_j=150^{\circ}\text{C}$ $R_L=3.3\text{k}\Omega$	I - II - III	MIN.	0.15	V
I_L	$I_G=1.2I_{GT}$	I - III	MAX.	80	mA
		II		90	
I_H	$I_T=500\text{mA}$		MAX.	60	mA
dV/dt	$V_D=400\text{V}$ Gate Open $T_j=150^{\circ}\text{C}$		MIN.	2200	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=20\text{V}/\mu\text{s}$, $T_j=150^{\circ}\text{C}$		MIN.	30	A/ms
t_{on}	$I_G=80\text{mA}$ $I_A=400\text{mA}$ $I_R=40\text{mA}$ $T_j=25^{\circ}\text{C}$		TYP.	15	μs
t_{off}				100	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=42\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
V_{TO}	Threshold voltage	$T_j=150^{\circ}\text{C}$	0.7	V
R_D	Dynamic resistance	$T_j=150^{\circ}\text{C}$	16	$\text{m}\Omega$
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=150^{\circ}\text{C}$	5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.45	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	junction to ambient (AC)	60	$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION

T	30	50	H	-6	A
Triacs	$I_{T(RMS)}:30A$	$50:I_{GT1-3} \leq 50mA$	High junction temperature	$6:V_{DRM} / V_{RRM} \geq 600V$	A:TO-220A(Ins)

MARKING

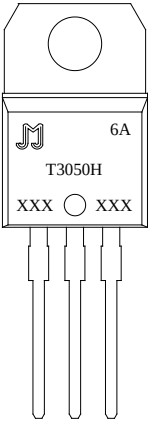
	XXX XXX Year Month Production Code
---	---

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

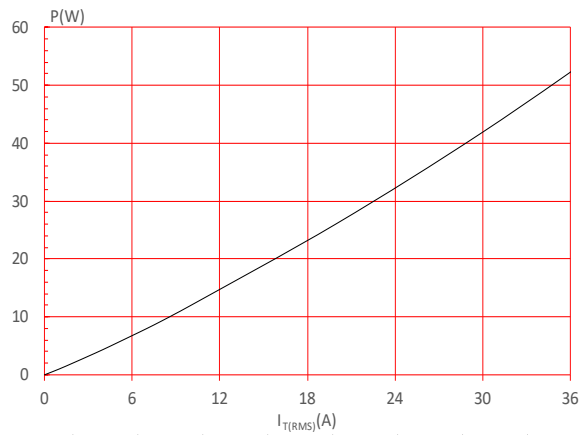


FIG.3: Surge peak on-state current versus number of cycles

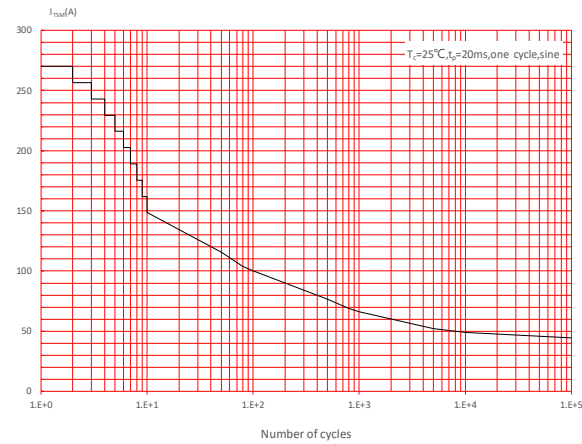


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

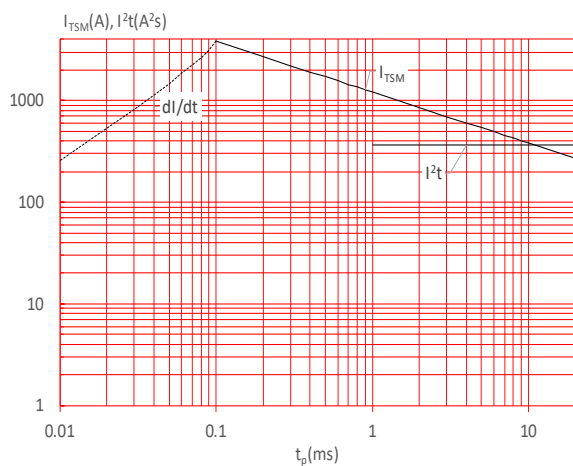


FIG.2: RMS on-state current versus case temperature

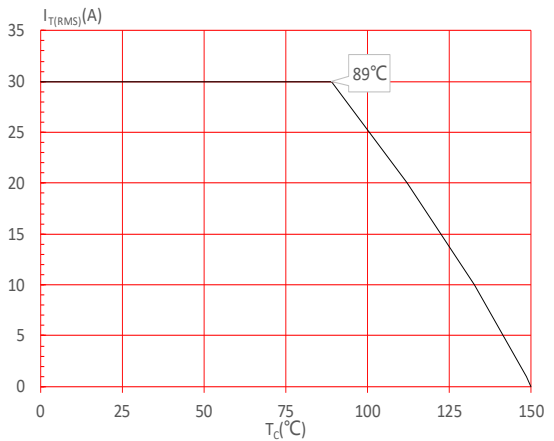


FIG.4: On-state characteristics

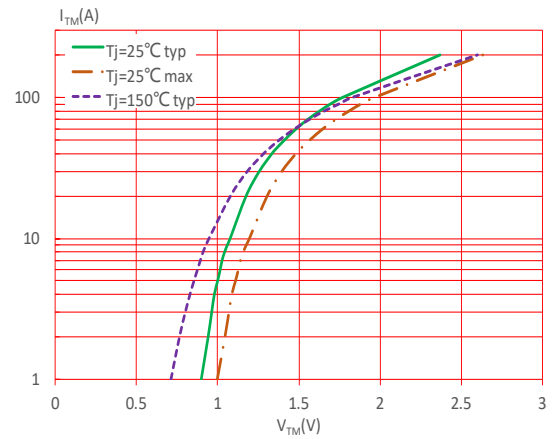


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

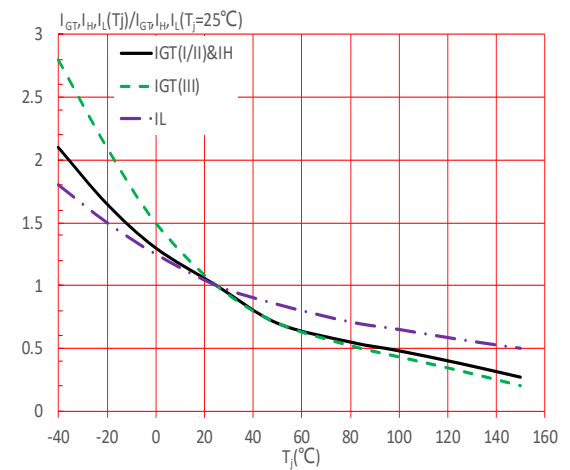
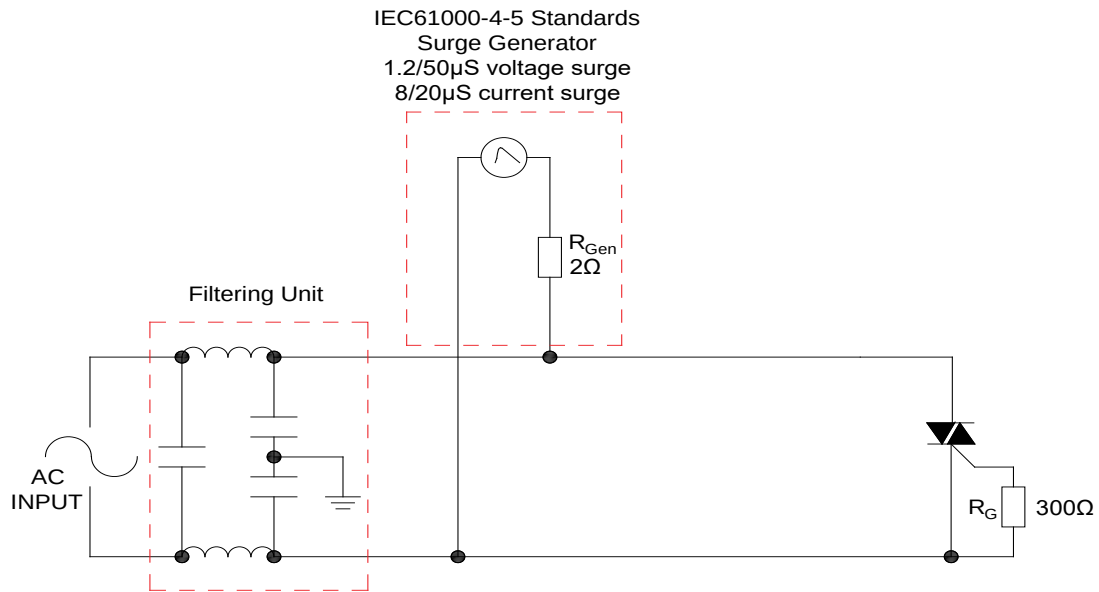


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



LEAD FORMING AND SOLDERING

Refer to the application note "Assembly Instructions for Thyristors in Through-hole Package" released by JieJie Microelectronics

ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		I - II - III			
T3050H-6A	600	50	TO-220A(Ins)	50	Tube

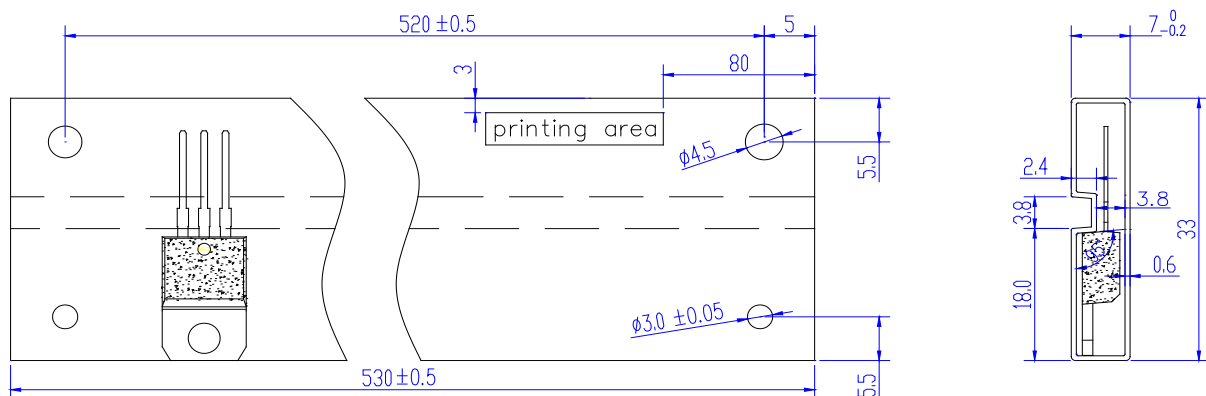
Document Revision History

Date	Revision	Changes
Apr.10, 2023	A.1.0	Last updated
Oct.11, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

Technical drawing of a 3-pin connector. The drawing includes a top view, a front view, and a side view. Dimensions are labeled as follows:

- Top View:** Shows the connector's footprint with dimensions E (total width), I (width of the top section), and $L3$ (width of the bottom section).
- Front View:** Shows the connector's profile with dimensions H (total height), $L1$ (height of the top section), J (height of the bottom section), $L2$ (width of the bottom section), B (width of the bottom section), G (width of the bottom section), and K (width of the bottom section).
- Side View:** Shows the connector's profile with dimensions A (width of the top section), $C2$ (width of the top section), D (height of the bottom section), F (height of the bottom section), $C3$ (width of the bottom section), and C (width of the bottom section).
- Bottom View:** Shows the connector's profile with dimensions $H1$ (height of the bottom section) and $E1$ (width of the bottom section).
- Note:** A note indicates a hole diameter of $\Phi 3.7-3.9\text{mm}$.

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

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 in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information. This document supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright © 2025 Jiangsu JieJie Microelectronics Co., Ltd. All rights reserved.