

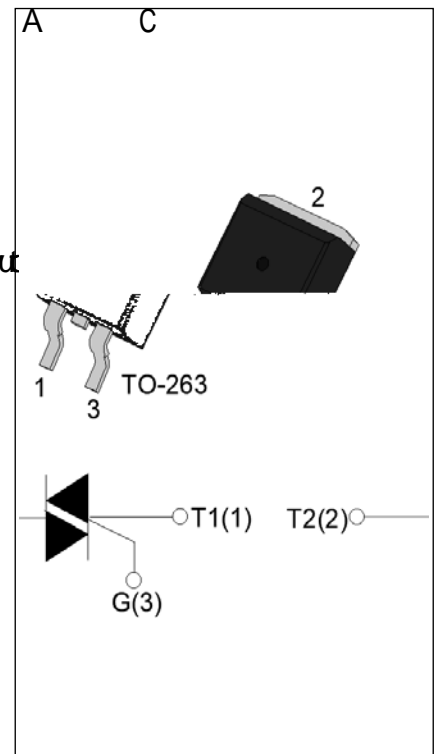


## T0635H-6E 6A TRIAC

Rev.A.1.0

### DESCRIPTION:

The T0635H-6E triac is a bidirectional general purpose switching device. It can be used as an ON/OFF function in applications such as heating regulation, motor starting circuits, phase control, light dimmers, motor speed controllers, and other AC triac applications. T0635H-6E provides a very high switching capability with a junction temperature of 150°C. Package TO-263 is available.



### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	6	A
$V_{DRM} / V_{RRM}$	600	V
$I_{T1} / I_{T2} / I_{GT}$	35/35/35	mA

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{\theta}$	-40-150	°C
Operating temperature range	$T_j$	-40-150	°C
Repetitive peak forward voltage ( $T_c = 25^\circ\text{C}$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $T_c = 25^\circ\text{C}$ )	$V_{RRM}$	600	V
RMS on-state current ( $T_c \leq 132^\circ\text{C}$ )	$I_{T(RMS)}$	6	A
Non-repetitive surge peak on-state current (full cycle, $t_1 = 20\text{ms}$ , $T_c = 25^\circ\text{C}$ )	$I_{TSM}$	60	A
Non-repetitive surge peak on-state current (full cycle, $t_1 = 16.6\text{ms}$ , $T_c = 25^\circ\text{C}$ )		66	
Peak forward surge current ( $t_1 = 10\text{ms}$ , $T_c = 25^\circ\text{C}$ )	$I_{TSM}$	18	A
Critical rate of rise of on-state current ( $dI/dt = 2 \times I_{TSM}$ , $f = 100\text{Hz}$ , $T_c = 150^\circ\text{C}$ )	$dI/dt$	80	A
Peak gate current ( $t_1 = 20\mu\text{s}$ , $T_c = 150^\circ\text{C}$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_c = 150^\circ\text{C}$ )	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	10	W

Peak voltage ( $T_j=25^\circ\text{C}$ ; $V_{GS}$ - relative, of -gate; FIG. 8)	$V_{GT}$	3	V
---	----------	---	---

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

Symbol	Test Condition	Quadrant	Value	Unit
$I_T$	$V_D=12\text{V}$ $R_L=33\Omega$	I - II - III	MAX. 35	m
$V_{GT}$		I - II - III	MAX. 1	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=150^\circ\text{C}$ $R_L=3.3\text{K}$	I - II - III	MIN. 0.2	V
L	$I = 1.2 I_T$	I - III	MAX. 50	m
		II	MAX. 70	
H	$I_T=100\text{mA}$	I - III	MAX. 45	m
$V/t$	$V_D=400\text{V}$ Gate $O_{je}$ $T_j=150^\circ\text{C}$		MIN. 1200	V/ $\mu\text{s}$
$(dI/dt)_c$	$(dV/dt)_c=20\text{V}/\mu\text{s}$ , $T_j=150^\circ\text{C}$		MIN. 3	A/m
$t_o$	$I = 40\text{mA}$ $I = 200\text{mA}$ $k=20\text{mA}$ $T_j=25^\circ\text{C}$	A	TYP. 3	$\mu\text{s}$
$t_{of}$			TYP. 30	

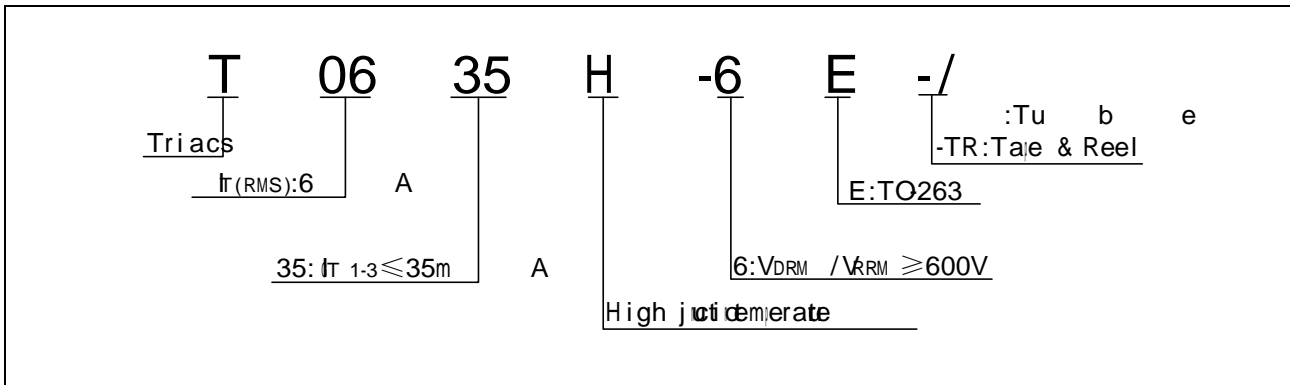
**STATIC CHARACTERISTICS**

Symbol	Parameter	Value(MAX.)	Unit	
$V_{TM}$	$I_{TM}=8.5\text{A}$ $t_j=380\mu\text{s}$ $T_j=25^\circ\text{C}$	1.4	V	
$V_{TO}$	Threshold voltage $T_j=150^\circ\text{C}$	0.8	V	
$R_D$	Dynamic resistance $T_j=150^\circ\text{C}$	63	m	
$b_{RM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	$\mu$ A
$k_{RM}$		$T_j=150^\circ\text{C}$	0.8	m A

**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(jc)}$	junction case (A C)	2.3	$^\circ\text{C}/\text{W}$
$R_{th(ja)am}$	A Case a6.4 1r		

ORDERING INFORMATION



MARKING

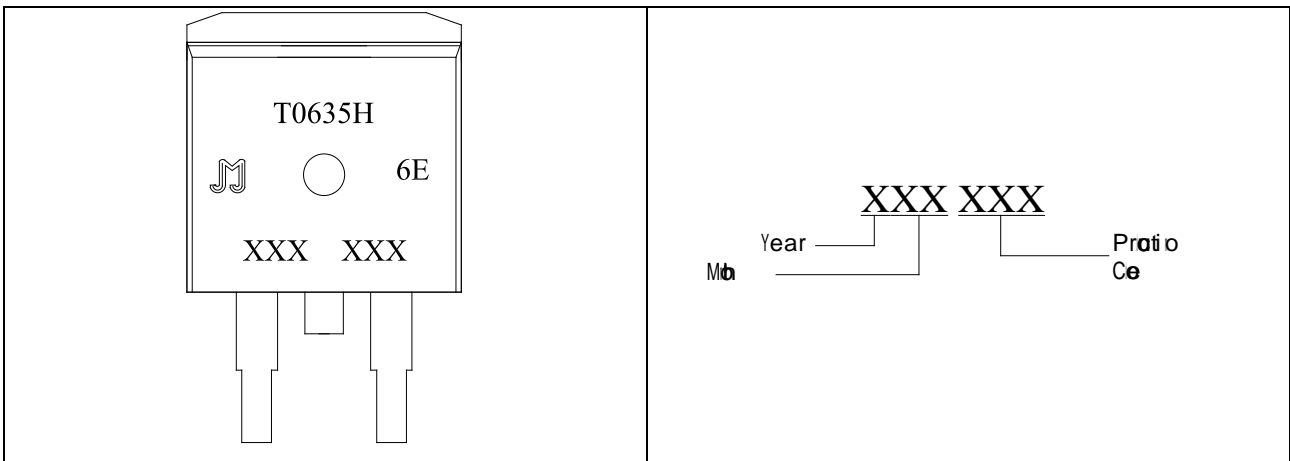


FIG.1 Maximum dissipation power  
at 25°C

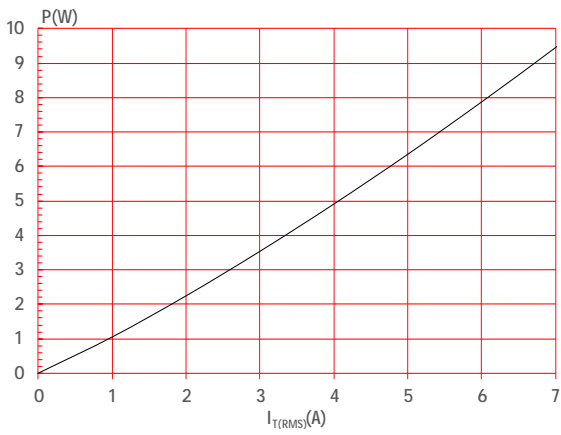


FIG.3: RMS current limit  
temperature (reference circuit board FR4, core  
thickness:35μm)(full cycle)

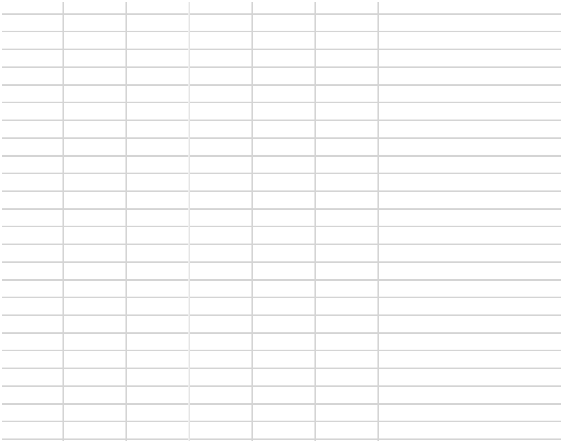


FIG.2: RMS current limit  
temperature

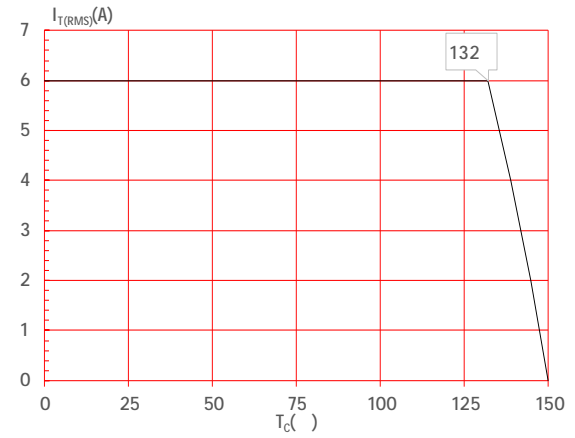


FIG.4: Surge peak current  
in 100μs

FIG.7: Relative variation of gate trigger current  
 holding current and latching current  
 with temperature

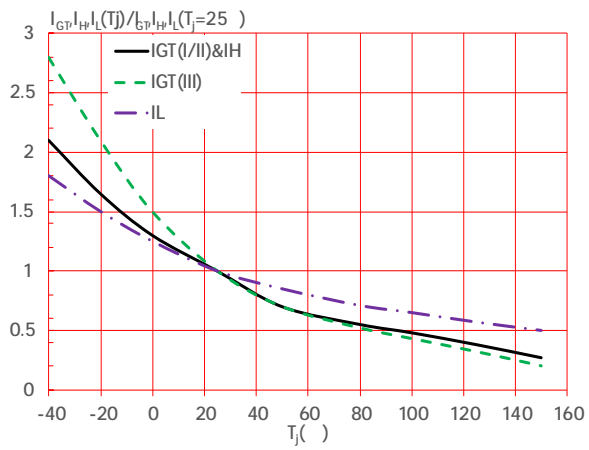
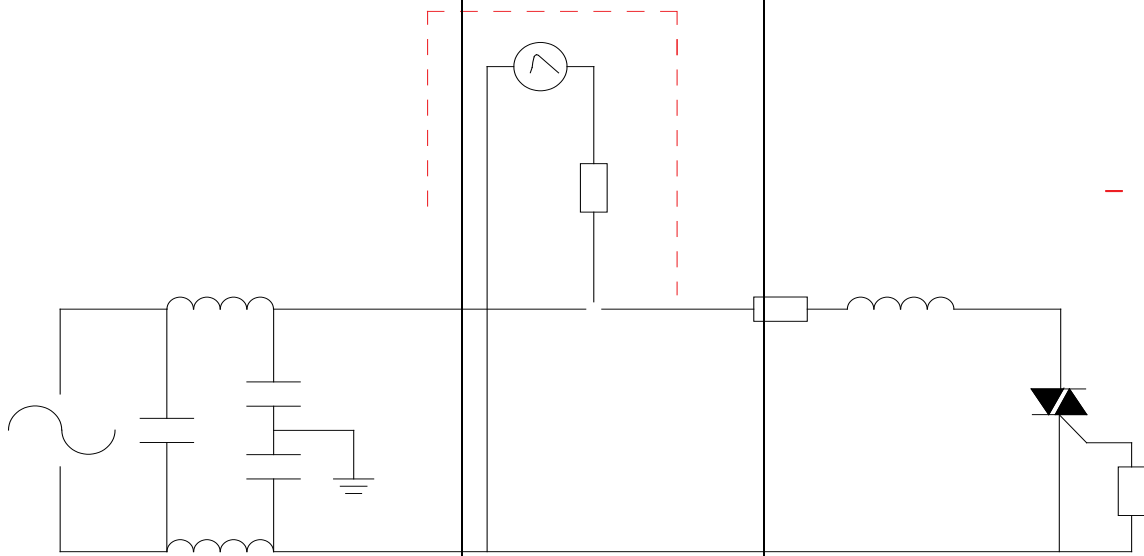


FIG.8: Test circuit for the address label EC

-61000-4-5 stars



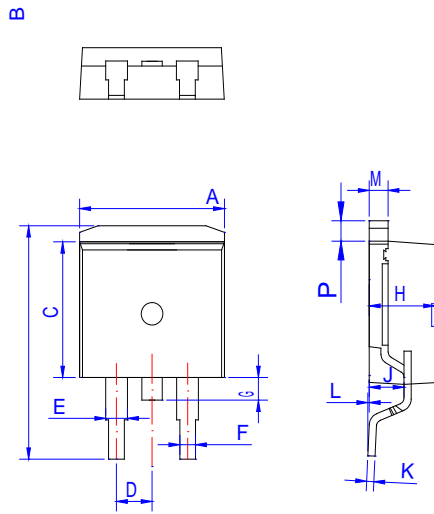
ORDERING INFORMATION

Order code	Voltage V <sub>DRM</sub> /V <sub>RRM</sub> (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
T0635H-6E	600	35	TO-263	50	Tube
T0635H-6E-TR				800	Tape & Reel

Document Revision History

Date	Rev. No	Changes
10/2023	1.0 A	Initial

PACKAGE MECHANICAL DATA

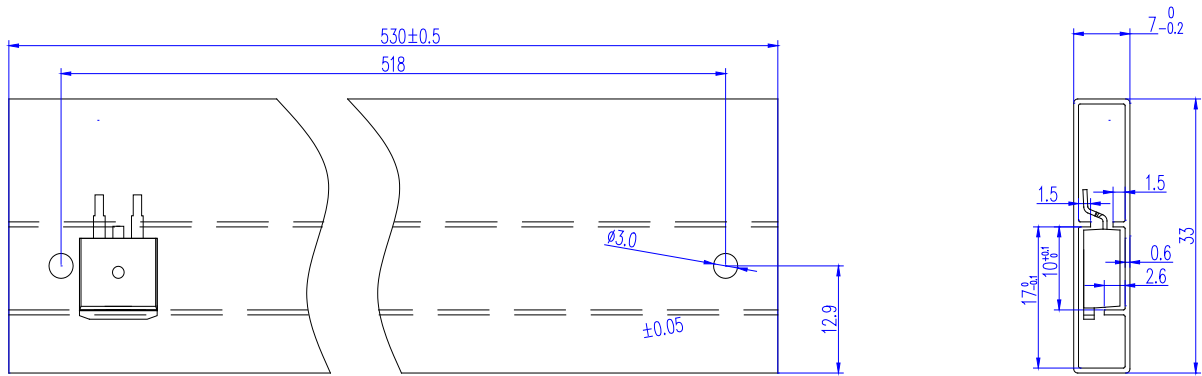


Ref.	Dimesi					
	Millimeters			Inches		
	Min.	Ty	Max	Min.	Ty	Max
	A9.90		10.20	0.390		0.402
	14.70		15.80	B0.579		0.622
C	9.40		9.60	0.37		0.378
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G	1.00		1.50	0.039		0.059
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053
P	1.20		1.50	0.047		0.059

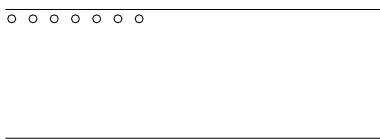
FOOTPRINT-



DELIVERY MODE




PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-263	TU	50	B,000	5,000 E



Ref.	Dimens					
	Millimeters			Inches		
	Min.	Ty	Max	Min.	Ty	Max
W	23.70	24.00	24.30	0.933	0.945	0.957
E	1.65	1.75	1.85	0.065	0.069	0.073
F	11.40	11.50	11.60	0.449	0.453	0.457
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.50	1.60	-	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	15.90	16.00	16.10	0.626	0.630	0.634
P2	1.90	2.00	2.10	0.075	0.079	0.083
	A 0.80	10.90	11.00	0.425	0.429	0.433
	16.20	16.30	16.40	B 0.638	0.642	0.646
K0	4.80	4.90	5.00	0.189	0.193	0.197
t	0.35	0.40	0.45	0.014	0.016	0.018

Information in this document is believed to be accurate and reliable. However, JieJie Microelectronics Co., Ltd. does not assume any liability for errors or omissions in this document. Information in this document is subject to change without notice, apart from that in agreements in force. JieJie Microelectronics Co., Ltd. does not assume any liability for infringement of patents or other rights of third parties which may result from the use of the information in this document. This document replaces all information previously issued.

 is a registered trademark of JieJie Microelectronics Co., Ltd.  
 Copyright © 2023 JieJie Microelectronics Co., Ltd. All rights reserved.