



## ACJT8 Series 8A TRIACs

Rev.10.0

### DESCRIPTION:

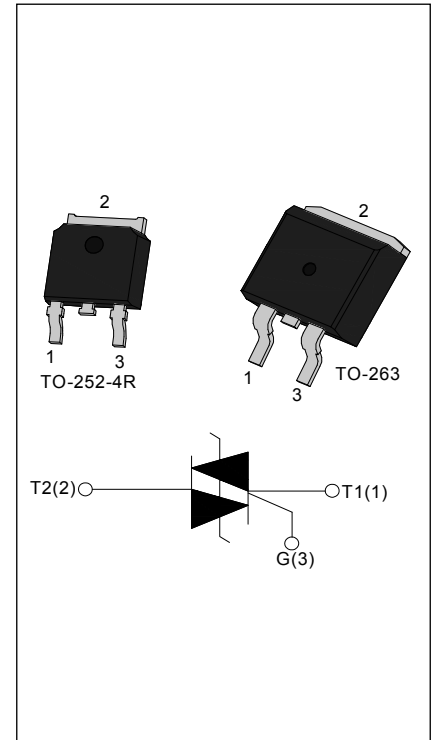
The ACJT8 series of double mesa technology provide high interference immunity, They can be used as an static ON/OFF function in electrical control system, and used as a driver of low power and high inductance or resistive loads, such as jet pumps of dishwashers, fans of air-conditioner ...

Package TO-252-4R & TO-263 are RoHS compliant.

(2011/65/EU)

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
$V_{DRM}/V_{RRM}$	1000	V
$I_{GT1-3}$	$\leq 5$ or $\leq 10$ or $\leq 25$	mA



### ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		$T_{stg}$	-40-150	$^{\circ}C$
Operating junction temperature range		$T_j$	-40-125	$^{\circ}C$
Repetitive peak off-state voltage( $T_j = 25^{\circ}C$ )		$V_{DRM}$	1000	V
Repetitive peak reverse voltage( $T_j = 25^{\circ}C$ )		$V_{RRM}$	1000	V
Non repetitive surge peak Off-state voltage		$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage		$V_{RSM}$	$V_{RRM} + 100$	V
RMS on-state current	TO-263/ TO-252-4R ( $T_c = 95^{\circ}C$ )	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $F = 50Hz$ )		$I_{TSM}$	80	A
$I^2t$ value for fusing ( $t_p = 10ms$ )		$I^2t$	32	$A^2s$
Rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )		$di_T/dt$	50	$A/\mu s$
Peak gate current		$I_{GM}$	1	A

Average gate power dissipation	$P_{G(AV)}$	0.1	W
Peak gate power	$P_{GM}$	1	W

## ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value			Unit
				ACJT805	ACJT810	ACJT825	
I <sub>GT</sub>	V <sub>D</sub> =12V R <sub>L</sub> =33Ω	I - II -III	MAX	5	10	25	mA
V <sub>GT</sub>		I - II -III	MAX	1.3			V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> T <sub>j</sub> =125°C R <sub>L</sub> =3.3KΩ	I - II -III	MIN	0.2			V
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	I -III	MAX	10	25	35	mA
		II		20	30	55	
I <sub>H</sub>	I <sub>T</sub> =100mA		MAX	10	15	30	mA
dV/dt	V <sub>D</sub> =2/3V <sub>DRM</sub> Gate Open T <sub>j</sub> =125°C		MIN	200	600	1000	V/μs

## STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V <sub>TM</sub>	I <sub>TM</sub> =11A tp=380μs	T <sub>j</sub> =25°C	1.55	V
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>RDM</sub>	T <sub>j</sub> =25°C	5	μA
I <sub>RRM</sub>		T <sub>j</sub> =125°C	1	mA

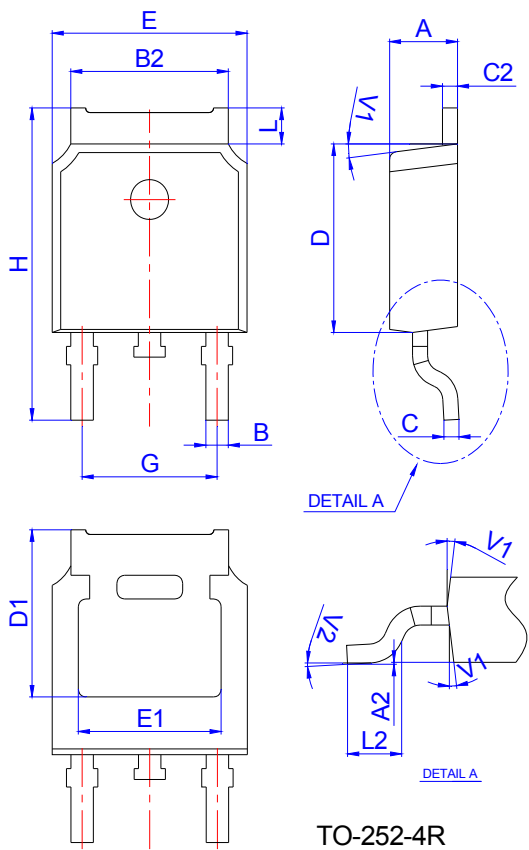
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	junction to case(AC)	TO-252-4R	2.5	°C/W
		TO-263	2.2	
R <sub>th(j-a)</sub>	junction to ambient	TO-252-4R	70	°C/W
		TO-263	45	

ORDERING INFORMATION

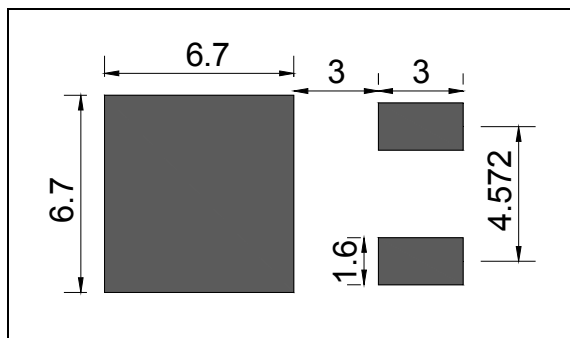
<p><b>AC</b> AC switch</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p><b>J</b></p> <p>Triacs</p>	<p><b>T</b></p> <p><math>I_{T(RMS)}:8A</math></p>	<p><b>8</b></p>	<p><b>10</b></p> <p>05: <math>I_{GT1-3} \leq 5mA</math> 10: <math>I_{GT1-3} \leq 10mA</math> 25: <math>I_{GT1-3} \leq 25mA</math></p>	<p><b>-10</b></p> <p>10: <math>V_{DRM} / V_{RRM} \geq 1000V</math></p>	<p><b>E</b></p> <p>E:TO-263 K:TO-252-4R ETR:TO-263(Tape&amp;Reel) K:TO-252-4R(Tape&amp;Reel)</p>
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PACKAGE MECHANICAL DATA

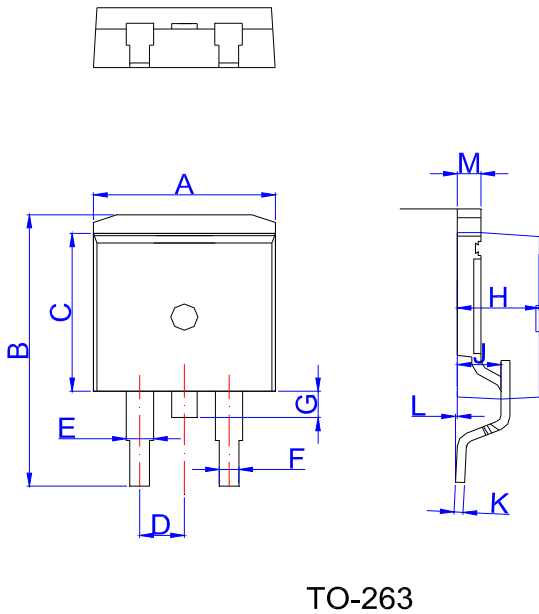


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

FOOTPRINT-TO-252-4R (dimensions in mm)

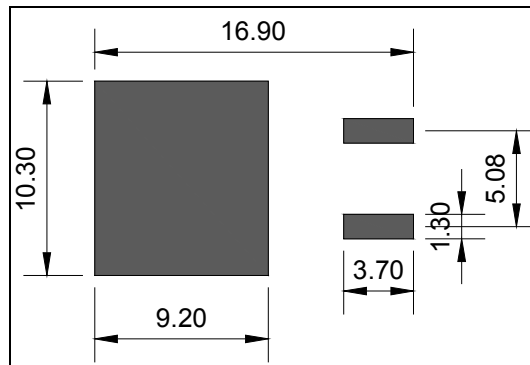


PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.4		9.6	0.37		0.378
D		2.54			0.100	
E	1.20		1.40	0.047		0.055
F	0.75		0.85	0.029		0.033
G			1.75			0.069
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

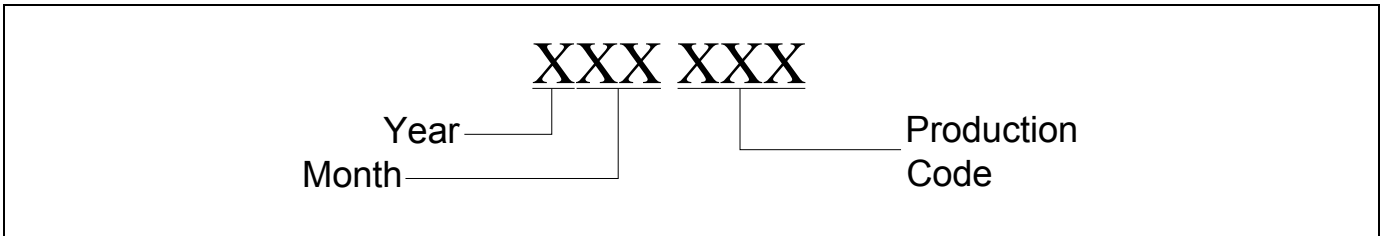
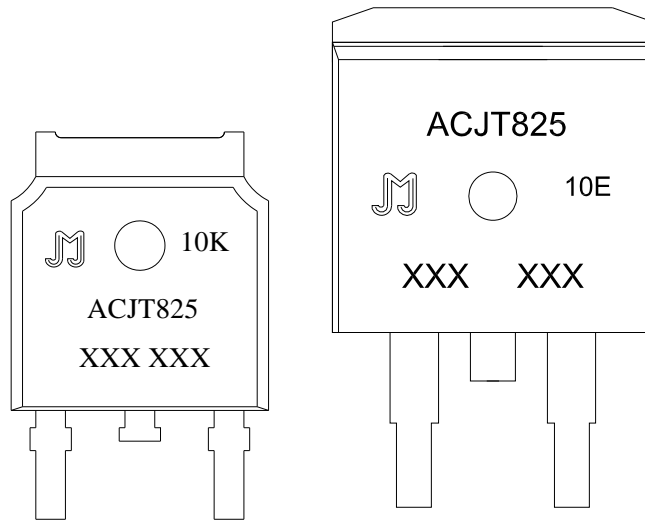
FOOTPRINT-TO-263 (dimensions in mm)



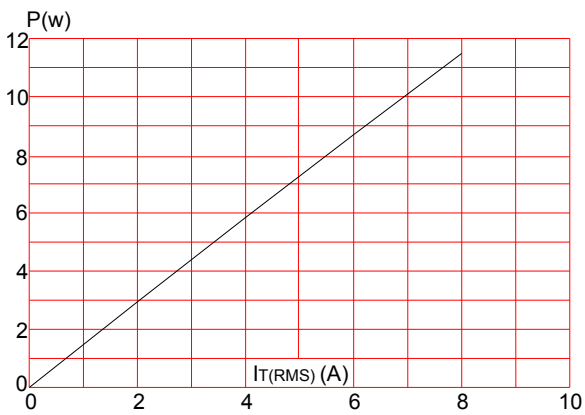
PACKAGE INFORMATION

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-263	TUBE	50	1,000	6,000
TO-252-4R	TUBE	80	4,000	32,000
PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
TO-263	TAPING	800	4,000	13 inch
TO-252-4R	TAPING	2,500	25,000	13 inch

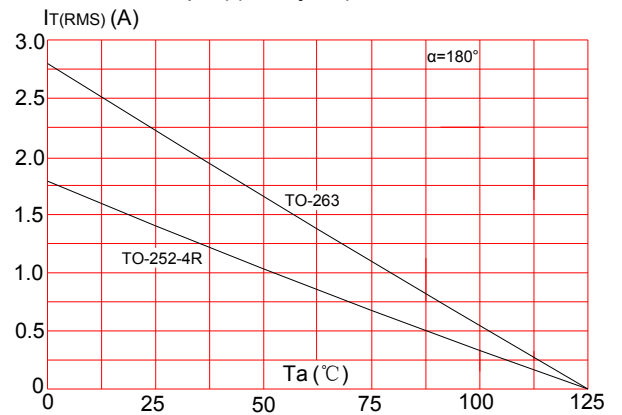
MARKING



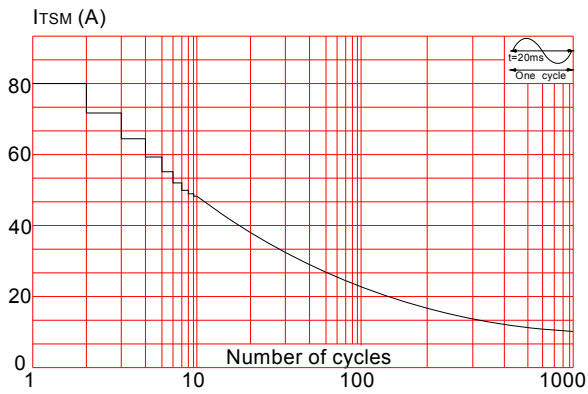
**FIG.1** Maximum power dissipation versus RMS on-state current



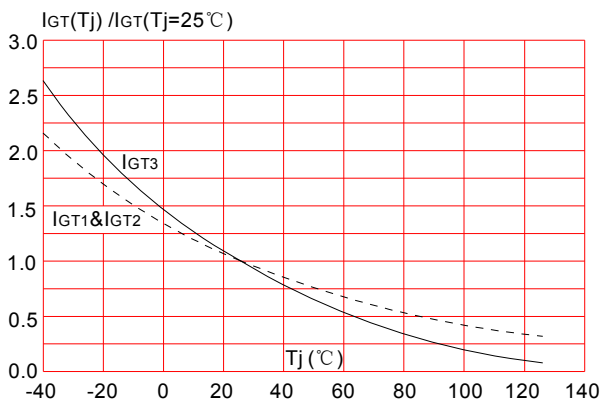
**FIG.2:** RMS on-state current versus ambient temperature (printed circuit board FR4,copper thickness:35 $\mu$ m)(full cycle)



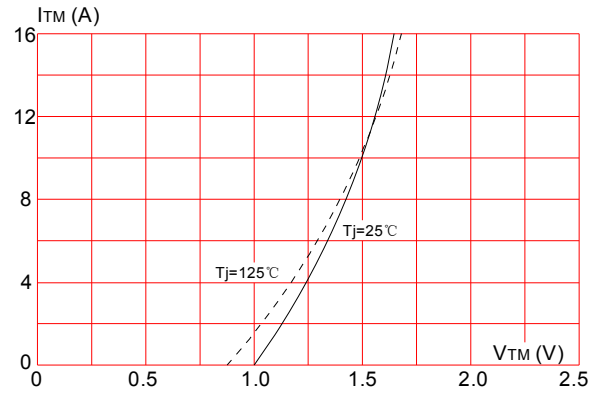
**FIG.3:** Surge peak on-state current versus number of cycles



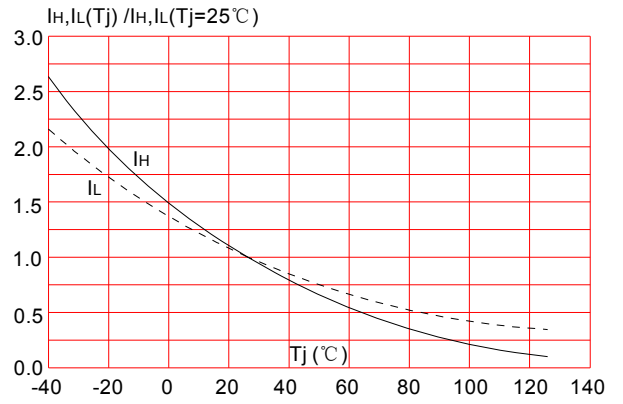
**FIG.5:** Relative variations of gate trigger current versus junction temperature



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

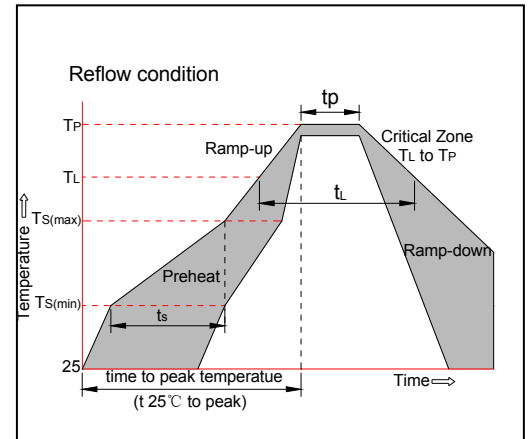


**FIG.6:** Relative variations of holding current, latching current versus junction temperature




**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C



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