



ACJT8 Series 8A TRIACs

Rev.11.0

DESCRIPTION:

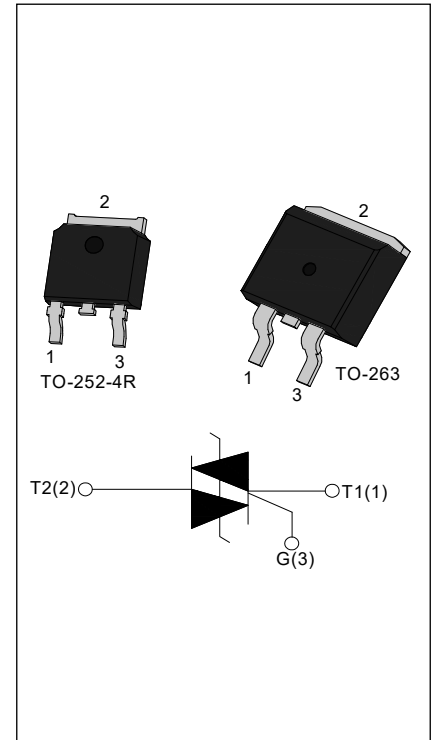
The ACJT8 series of double mesa technology provide high interference immunity, They can be used as an static ON/OFF function in electrical control system, and used as a driver of low power and high inductance or resistive loads, such as jet pumps of dishwashers, fans of air-conditioner ...

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}	800/1000	V
I_{GT1-3}	≤ 5 or ≤ 10 or ≤ 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}	800/1000	V
Repetitive peak reverse voltage($T_j=25^{\circ}C$)		V_{RRM}	800/1000	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 ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value			Unit
				ACJT805	ACJT810	ACJT825	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	5	10	25	mA
V_{GT}		I - II -III	MAX	1.3			V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2			V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	10	25	35	mA
		II		20	30	55	
I_H	$I_T=100\text{mA}$		MAX	10	15	30	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	200	600	1000	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=11\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	μA
I_{RRM}		$T_j=125^\circ\text{C}$	1	mA

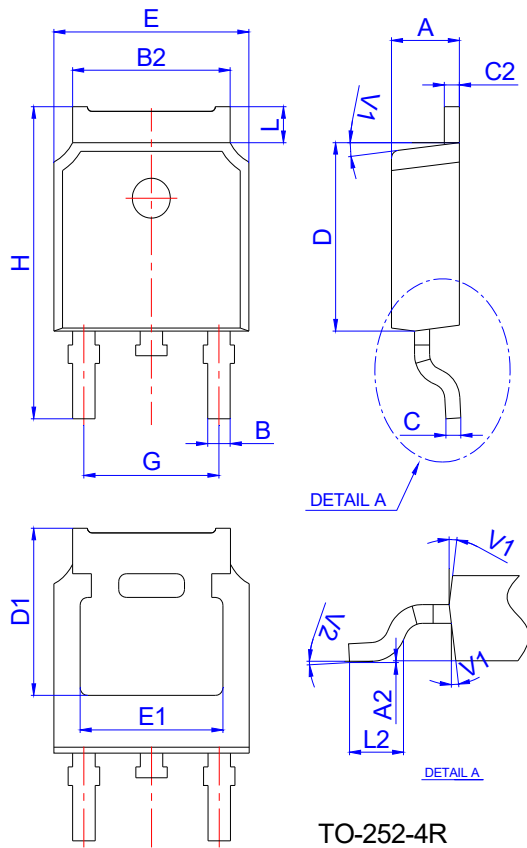
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	2.5	$^\circ\text{C/W}$
		TO-263	2.2	
$R_{th(j-a)}$	junction to ambient	TO-252-4R	70	$^\circ\text{C/W}$
		TO-263	45	

ORDERING INFORMATION

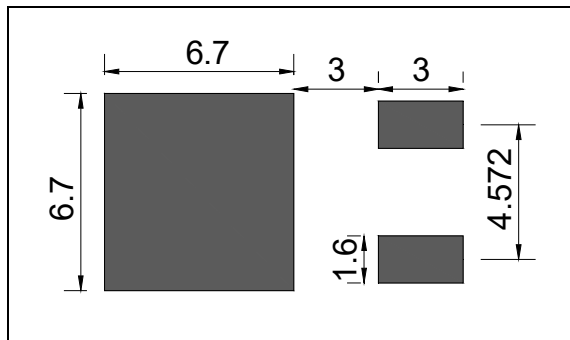
<p>AC AC switch</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p>J</p>	<p>T Triacs</p> <p>$I_T(RMS): 8A$</p>	<p>8</p>	<p>10</p>	<p>-10</p>	<p>E</p> <p>E:TO-263 K:TO-252-4R ETR:TO-263(Tape&Reel) K:TO-252-4R(Tape&Reel)</p> <p>8:$V_{DRM} / V_{RRM} \geq 800V$ 10:$V_{DRM} / V_{RRM} \geq 1000V$</p> <p>05: $I_{GT1-3} \leq 5mA$ 10: $I_{GT1-3} \leq 10mA$ 25: $I_{GT1-3} \leq 25mA$</p>
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PACKAGE MECHANICAL DATA

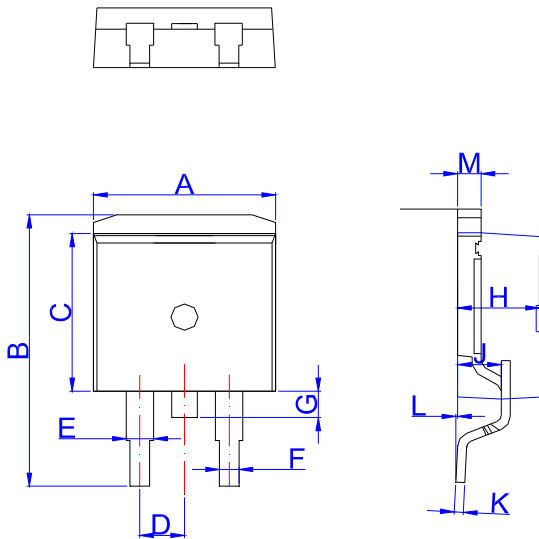


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
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)



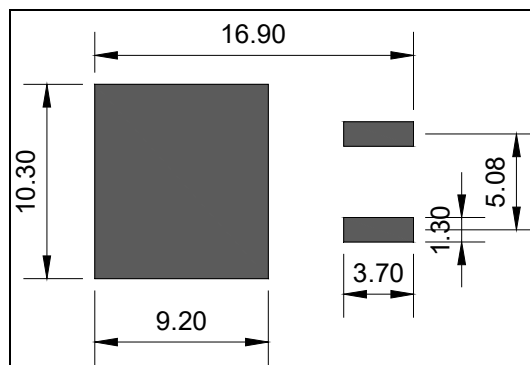
PACKAGE MECHANICAL DATA



TO-263

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

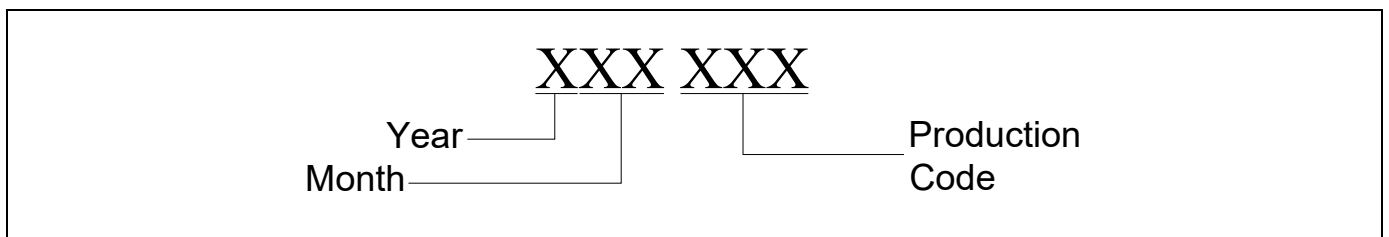
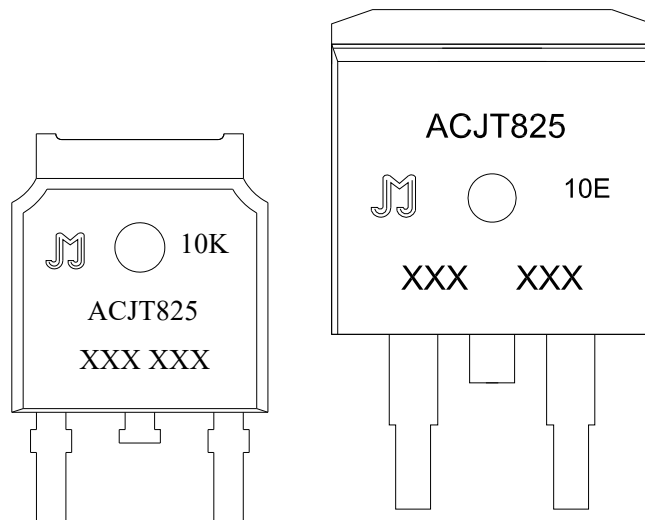


FIG.1 Maximum power dissipation versus RMS on-state current

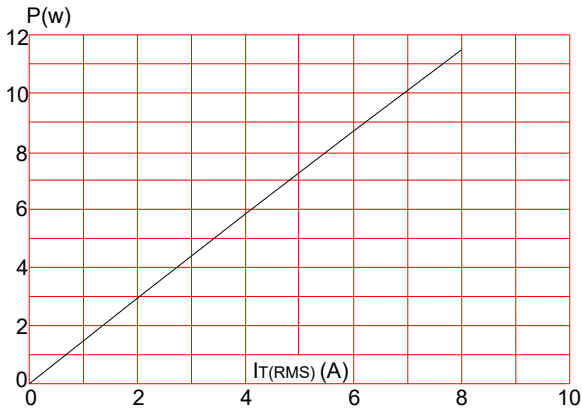


FIG.3: Surge peak on-state current versus number of cycles

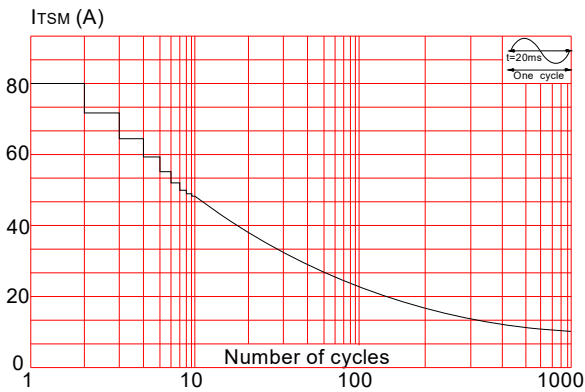


FIG.5: Relative variations of gate trigger current versus junction temperature

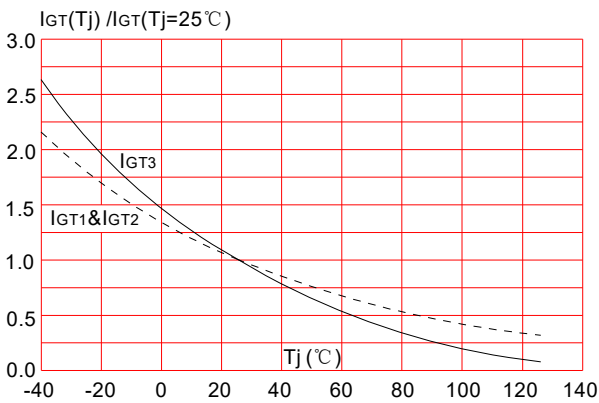


FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35μm)(full cycle)

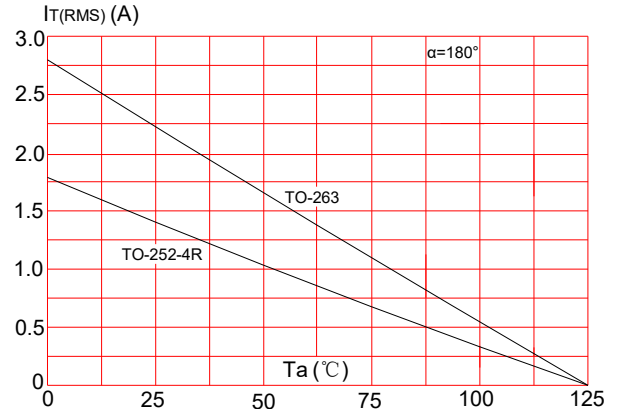


FIG.4: On-state characteristics (maximum values)

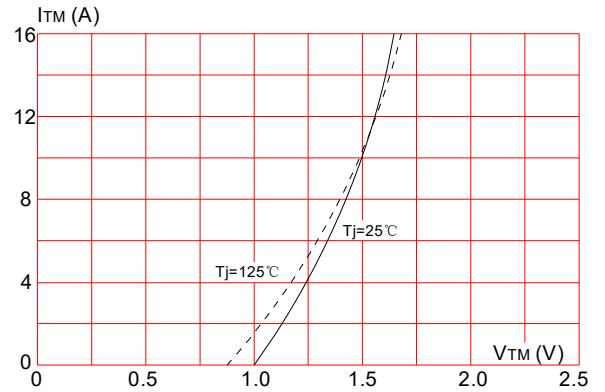
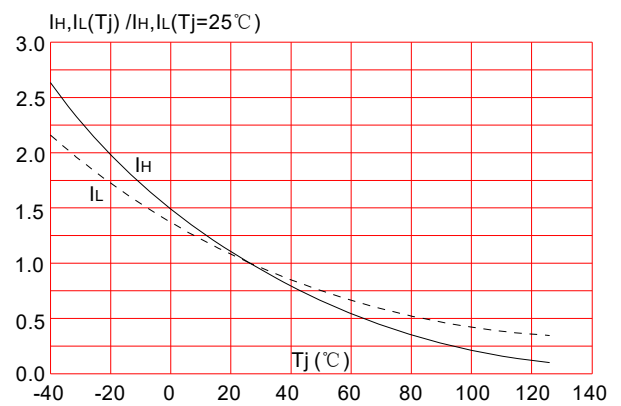
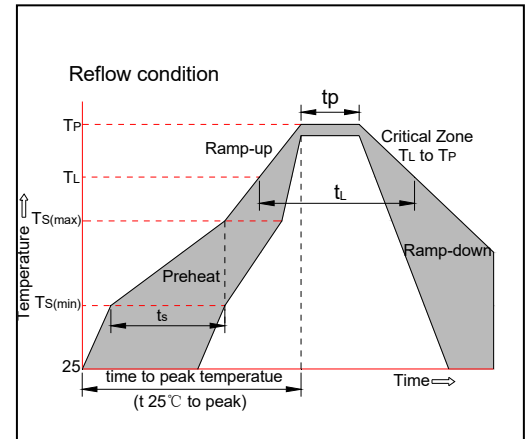


FIG.6: Relative variations of holding current, latching current versus junction temperature



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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