

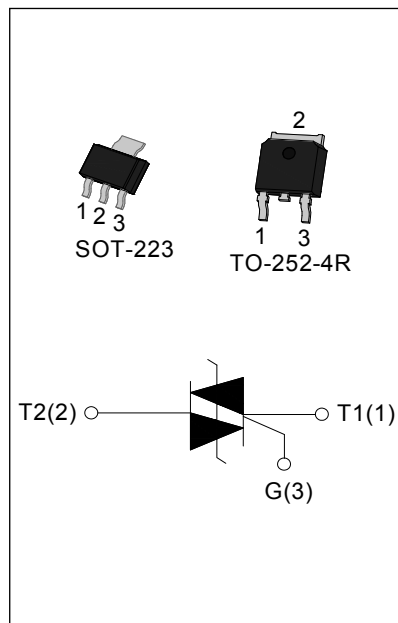


### DESCRIPTION:

With high ability to withstand the shock loading of large current, ACJT2 series triacs provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on inductive load and serious electromagnetic interference place.

Package SOT-223 & TO-252-4R are RoHS compliant.

(2011/65/EU)



### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
$V_{DRM}/V_{RRM}$	1000	V

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	°C
Operating junction temperature range	$T_j$	-40-125	°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
RMS on-state current	$I_{T(RMS)}$	2	A
SOT-223/ TO-252-4R ( $T_C=105^{\circ}C$ )			
Non repetitive surge peak on-state current ( full cycle, F=50Hz)	$I_{TSM}$	20	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	2	A <sup>2</sup> s
Rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	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
				ACJT210	ACJT225	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	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	25	50	mA
		II		35	60	
$I_H$	$I_T=100\text{mA}$		MAX	10	40	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	600	1000	V/ $\mu\text{s}$

## STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=2.8\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.55	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j=125^{\circ}\text{C}$	1	mA

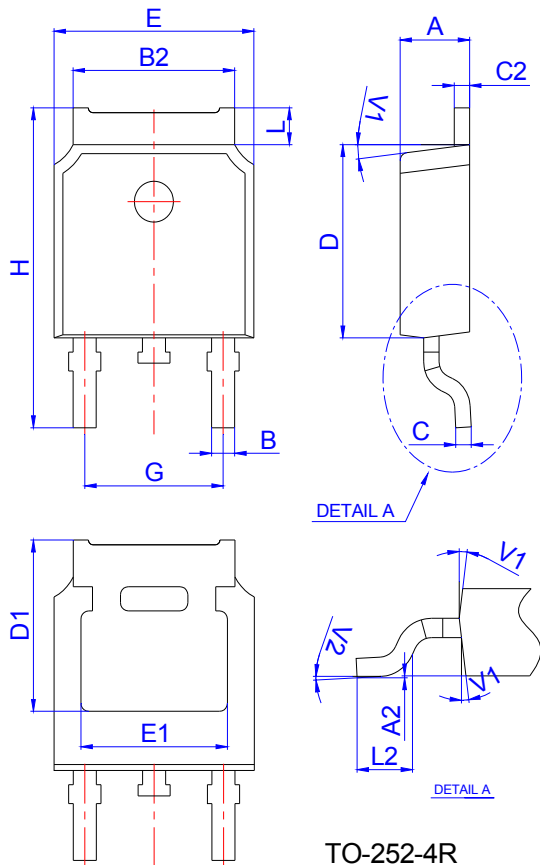
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	4.5	$^{\circ}\text{C/W}$
		SOT-223	5.8	
$R_{th(j-a)}$	junction to ambient	TO-252-4R	70	$^{\circ}\text{C/W}$
		SOT-223	60	

ORDERING INFORMATION

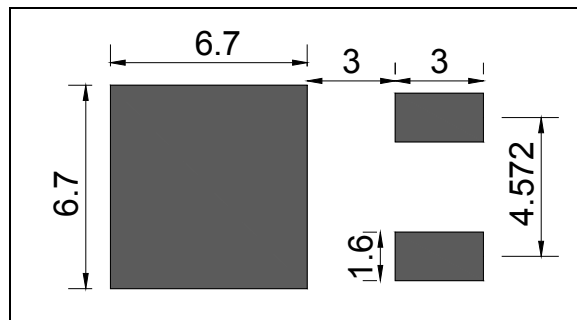
<p><b>AC</b> AC switch JieJie Microelectronics Co.,Ltd</p>	<p><b>J</b></p>	<p><b>T</b> Triacs I<sub>T(RMS)</sub>:2A 10: I<sub>GT1-3</sub>≤10mA 25: I<sub>GT1-3</sub>≤25mA</p>	<p><b>2</b></p>	<p><b>10</b></p>	<p><b>-10</b></p>	<p><b>K</b> V:SOT-223 K:TO-252-4R KTR:TO-252-4R(Tape&amp;Reel) 10:V<sub>DRM</sub> /V<sub>RRM</sub>≥1000V</p>
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PACKAGE MECHANICAL DATA

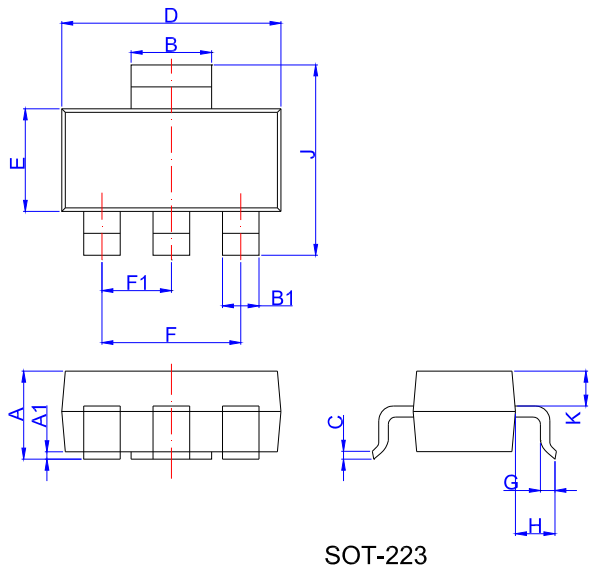


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268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

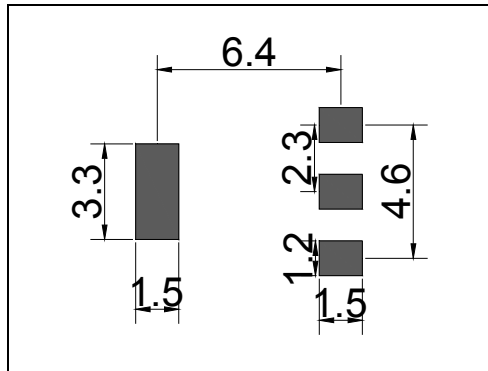


PACKAGE MECHANICAL DATA

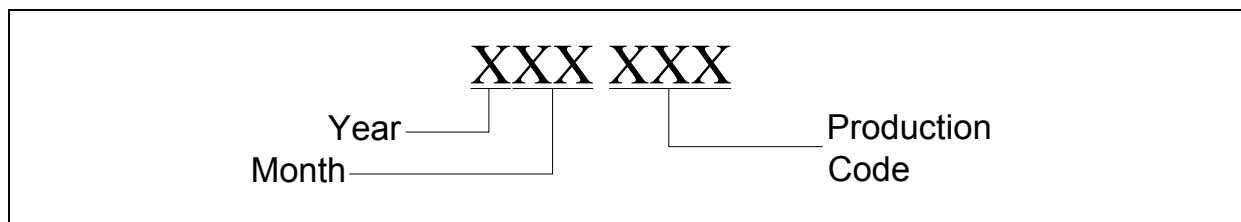
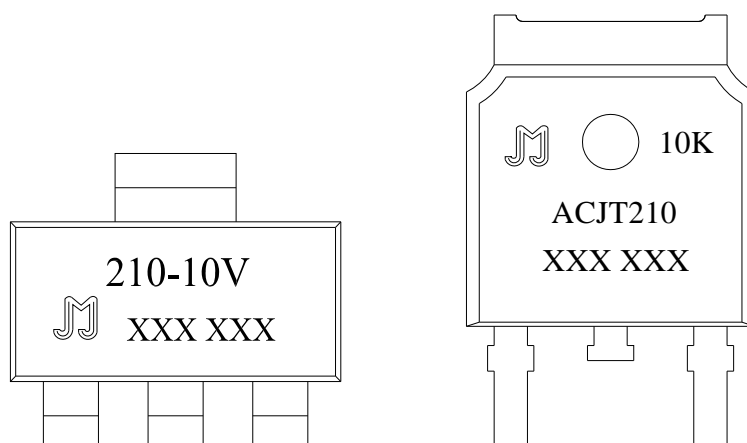


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

FOOTPRINT-SOT-223 (dimensions in mm)



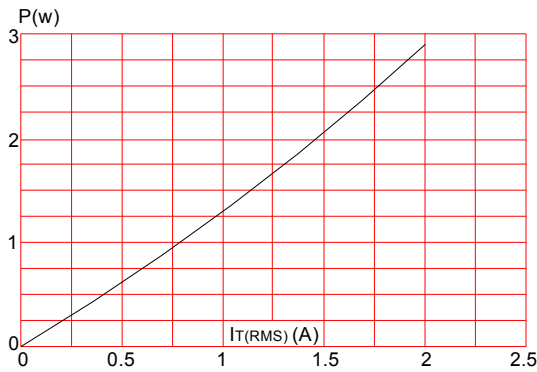
MARKING



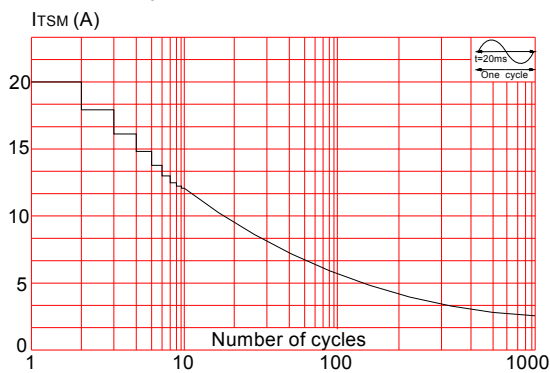
PACKAGE INFORMATION

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-252-4R	TUBE	80	4,000	32,000
PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
SOT-223	TAPING	4,000	40,000	13 inch
TO-252-4R	TAPING	2,500	25,000	13 inch

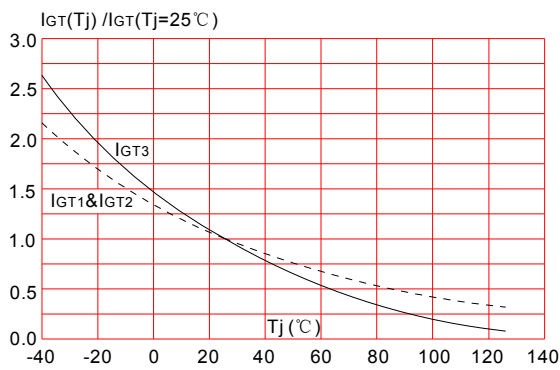
**FIG.1:** Maximum power dissipation versus RMS on-state current



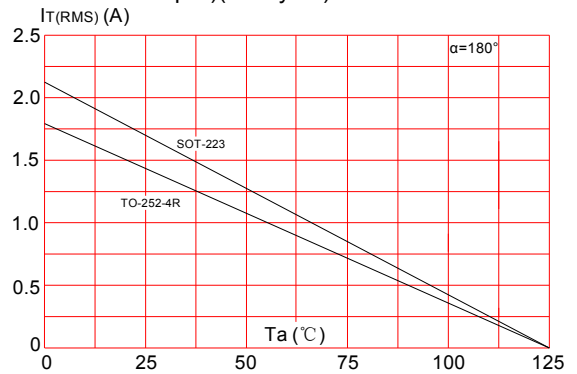
**FIG.3:** Surge peak on-state current versus number of cycles



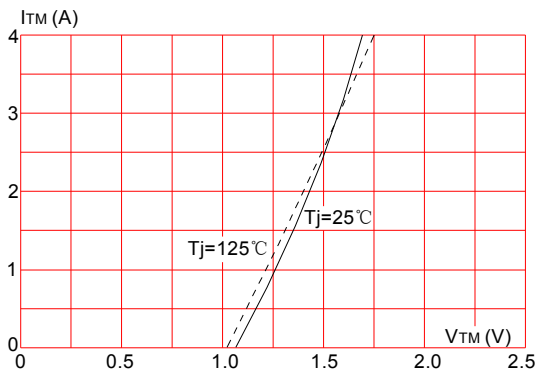
**FIG.5:** Relative variations of gate trigger current versus junction temperature



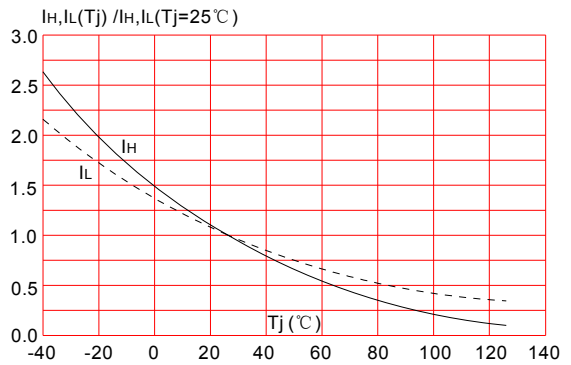
**FIG.2:** RMS on-state current versus ambient temperature (printed circuit board FR4,copper thickness:35μm)(full cycle)



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

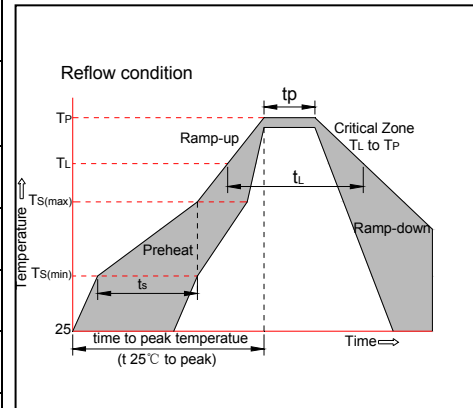


**FIG.6:** Relative variations of holding current, latching current versus junction temperature



**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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