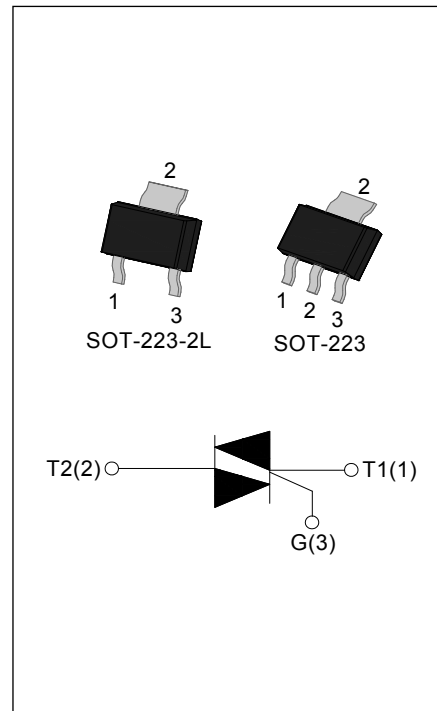




### DESCRIPTION:

ACJT1 triacs with high ability to withstand the shock loading of large current 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/SOT-223-2L are RoHS compliant. (2011/65/EU)



### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$V_{DRM}/V_{RRM}$	600/800/1000	V
$I_{GT}$	$\leq 5$ or $\leq 10$	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( $T_j=25^{\circ}C$ )	$V_{DRM}$	600/800/1000	V
Repetitive peak reverse voltage( $T_j=25^{\circ}C$ )	$V_{RRM}$	600/800/1000	V
RMS on-state current	$I_{T(RMS)}$	1	A
SOT-223/ SOT-223-2L ( $T_C=78^{\circ}C$ )			
Non repetitive surge peak on-state current ( full cycle, F=50Hz)	$I_{TSM}$	10	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	1.12	$A^2s$
Rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	100	$A/\mu s$
Peak gate current	$I_{GM}$	1	A
Average gate power dissipation	$P_{G(AV)}$	0.2	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
				ACJT105	ACJT110	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	5	10	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	15	25	mA
		II		25	35	
$I_H$	$I_T=100\text{mA}$		MAX	10	20	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	400	600	V/ $\mu\text{s}$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=1.4\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^{\circ}\text{C}$	0.5	mA

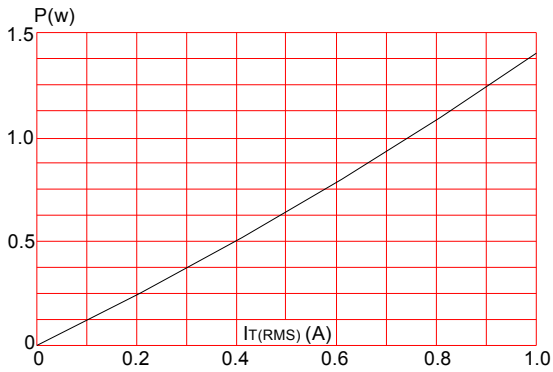
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	SOT-223/ SOT-223-2L	31	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	junction to ambient(AC)		60	

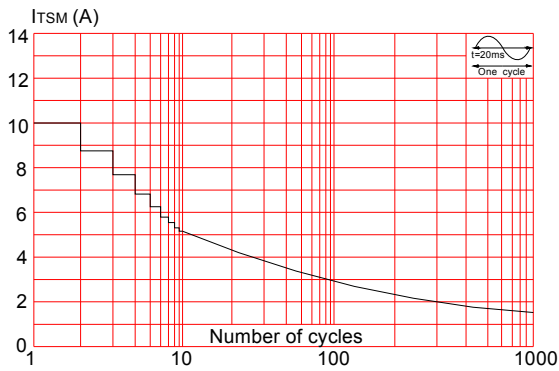
**ORDERING INFORMATION**

<p><b>AC</b> AC switch JieJie Microelectronics Co.,Ltd</p>	<p><b>J</b> Triacs</p>	<p><b>T</b> <math>I_{T(RMS)}:1\text{A}</math></p>	<p><b>1</b> 05: <math>I_{GT1-3}\leq 5\text{mA}</math> 10: <math>I_{GT1-3}\leq 10\text{mA}</math></p>	<p><b>05</b></p>	<p><b>-6</b></p>	<p><b>W</b> V:SOT-223 W:SOT-223-2L 6: <math>V_{DRM} /V_{RRM}\geq 600\text{V}</math> 8: <math>V_{DRM} /V_{RRM}\geq 800\text{V}</math> 10: <math>V_{DRM} /V_{RRM}\geq 1000\text{V}</math></p>	<p><b>-TR</b> TR: Tape &amp; Reel</p>
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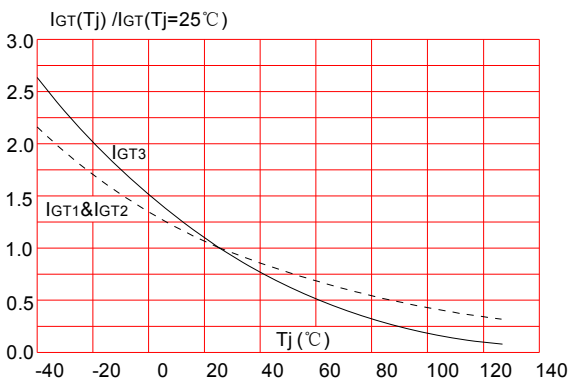
**FIG.1** Maximum power dissipation versus RMS on-state current



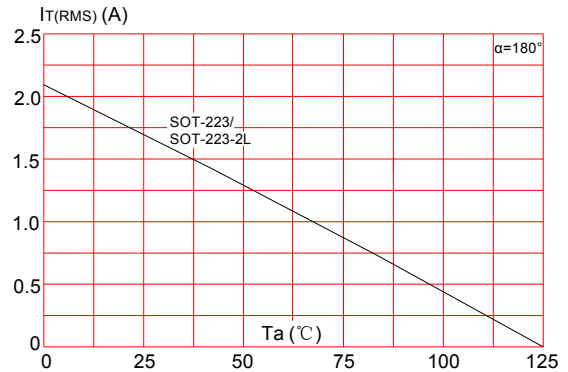
**FIG.3:** Surge peak on-state current versus number of cycles



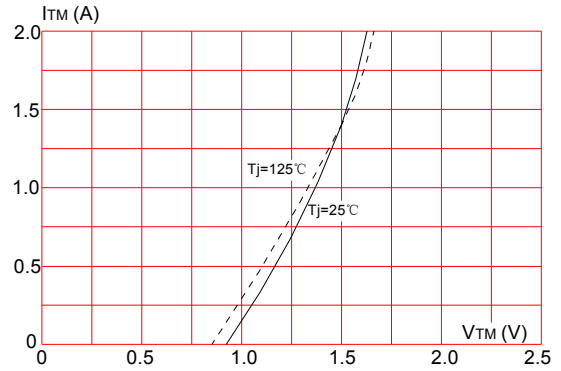
**FIG.5:** Relative variations of gate trigger current versus junction temperature



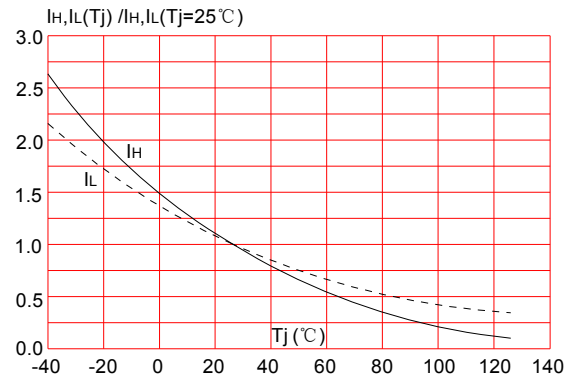
**FIG.2:** RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35μm) (full cycle)



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

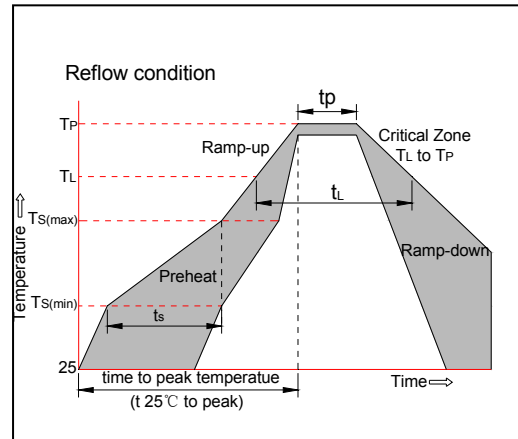


**FIG.6:** Relative variations of holding current, latching current versus junction temperature



**SOLDERING PARAMETERS**

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



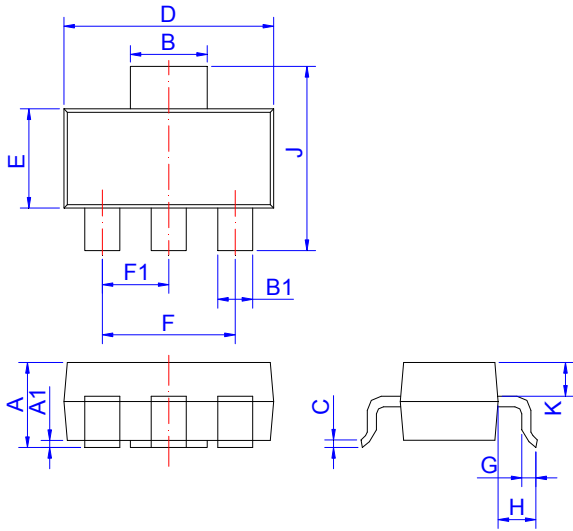
**ORDERING INFORMATION**

Order code	Voltage V <sub>DRM</sub> /V <sub>RPM</sub> (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
ACJT105-6(8/10)V	600/800/1000	5	SOT-223	4,000	Tape & Reel
ACJT110-6(8/10)V	600/800/1000	10	SOT-223		
ACJT105-6(8/10)W	600/800/1000	5	SOT-223-2L		
ACJT110-6(8/10)W	600/800/1000	10	SOT-223-2L		

**Document Revision History**

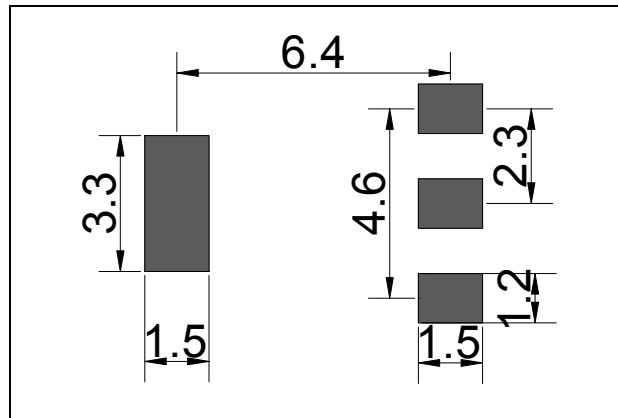
Date	Revision	Changes
April 19, 2021	8	Last update

PACKAGE MECHANICAL DATA

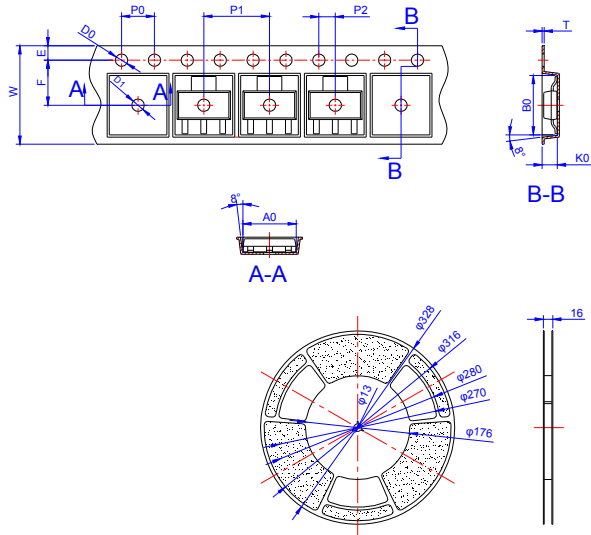


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	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)



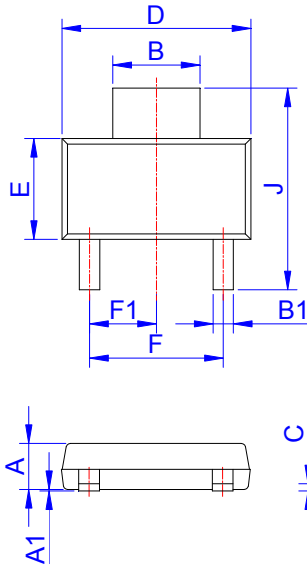
DELIVERY MODE



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
W	-	12.00	12.20	-	0.472	0.480
E	1.65	1.75	1.85	0.065	0.069	0.073
F	5.45	5.50	5.55	0.215	0.217	0.219
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.55	1.80	-	0.061	0.071
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	7.90	8.00	8.10	0.311	0.315	0.319
P2	1.95	2.00	2.05	0.077	0.079	0.081
10P0	39.80	40.00	40.20	1.567	1.575	1.583
A0	6.73	6.83	6.93	0.265	0.269	0.273
B0	7.30	7.40	7.50	0.287	0.291	0.295
K0	1.78	1.88	1.98	0.070	0.074	0.078
T	0.25	0.30	0.35	0.010	0.012	0.014

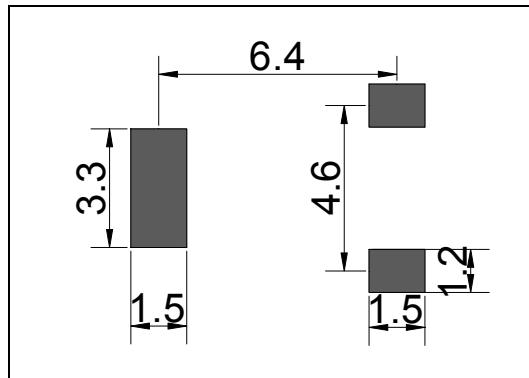
PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
SOT-223	TAPING	4,000	40,000	13 inch

PACKAGE MECHANICAL DATA



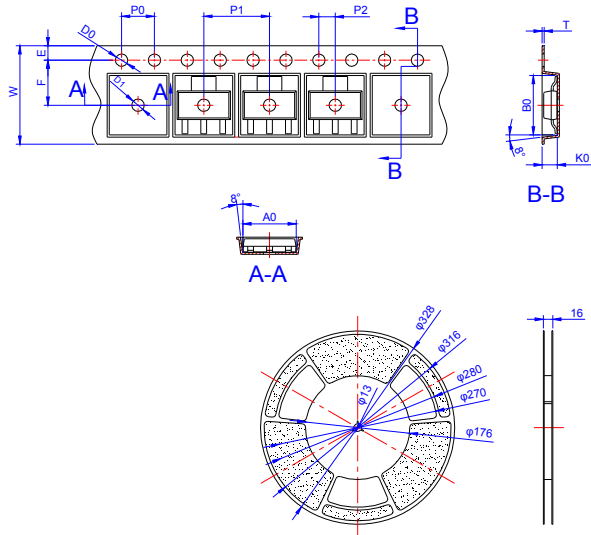
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50	1.60	1.80	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.90	3.00	3.10	0.114	0.118	0.122
B1	0.60	0.70	0.80	0.024	0.028	0.031
C	0.22	0.254	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
E	3.30	3.50	3.70	0.130	0.138	0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70	0.90	1.10	0.028	0.035	0.043
H	1.50	1.75	2.00	0.059	0.069	0.079
J	6.70	7.00	7.30	0.264	0.276	0.287
K		0.90			0.035	

FOOTPRINT-SOT-223-2L (dimensions in mm)





DELIVERY MODE




Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
W	-	12.00	12.20	-	0.472	0.480
E	1.65	1.75	1.85	0.065	0.069	0.073
F	5.45	5.50	5.55	0.215	0.217	0.219
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.55	1.80	-	0.061	0.071
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	7.90	8.00	8.10	0.311	0.315	0.319
P2	1.95	2.00	2.05	0.077	0.079	0.081
10P0	39.80	40.00	40.20	1.567	1.575	1.583
A0	6.73	6.83	6.93	0.265	0.269	0.273
B0	7.30	7.40	7.50	0.287	0.291	0.295
K0	1.78	1.88	1.98	0.070	0.074	0.078
T	0.25	0.30	0.35	0.010	0.012	0.014

PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
SOT-223-2L	TAPING	4,000	40,000	13 inch



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