



## ACJT1 Series 1A TRIACs

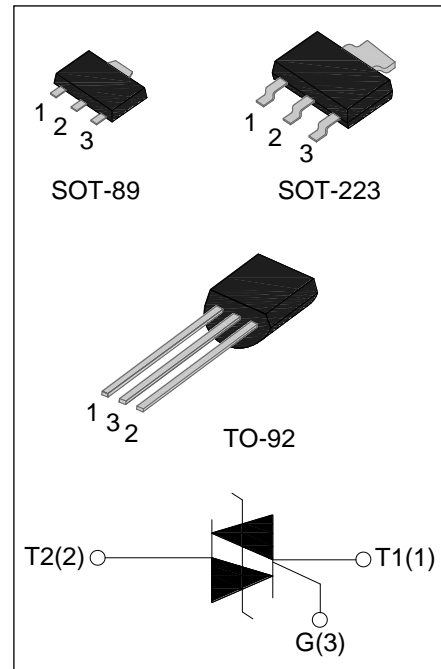
Rev.3.0

### DESCRIPTION:

ACJT1 series 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.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$V_{DRM}/V_{RRM}$	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( $T_j=25^{\circ}C$ )	$V_{DRM}$	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	$I_{T(RMS)}$	SOT-89/ SOT-223 ( $T_C=70^{\circ}C$ )	1	A
		TO-92 ( $T_C=57^{\circ}C$ )		
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 ( $I_G=2 \times I_{GT}$ )	$di_T/dt$	50	$A/\mu s$	
Peak gate current	$I_{GM}$	1	A	
Average gate power dissipation	$P_{G(AV)}$	0.2	W	

Peak gate power	$P_{GM}$	1	W
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**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	1.4	1.5	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
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	0.5	mA

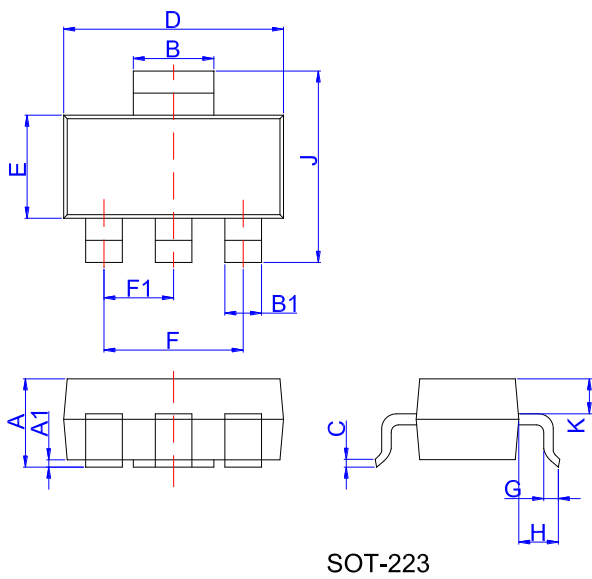
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	$^\circ\text{C/W}$
		SOT-223	31	
		SOT-89	44	

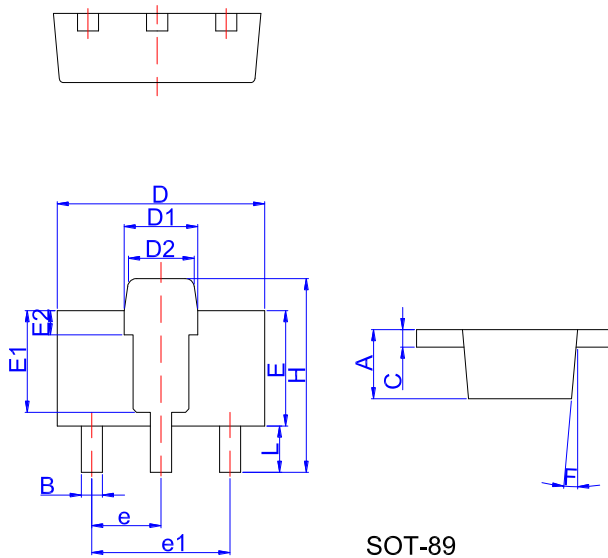
ORDERING INFORMATION

<p><b>AC</b> AC switch</p>	<p><b>J</b></p>	<p><b>T</b> Triacs</p>	<p><b>1</b> <math>I_{T(RMS)}:1A</math></p>	<p><b>05</b> 05: <math>I_{GT1-3} \leq 5mA</math></p>	<p><b>-10</b> 10: <math>I_{GT1-3} \leq 10mA</math></p>	<p><b>U</b> V:SOT-223 U:TO-92 N:SOT-89 10: <math>V_{DRM}/V_{RRM} \geq 1000V</math></p>
<p>JieJie Microelectronics Co.,Ltd</p>						

PACKAGE MECHANICAL DATA

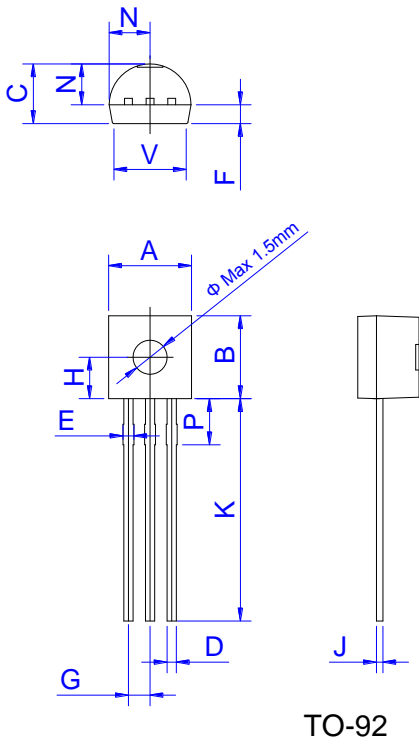


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0	0.06	0.10	0	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
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



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.40		1.60	0.055		0.063
B	0.35		0.52	0.014		0.020
C	0.35		0.46	0.014		0.018
D	4.30		4.70	0.169		0.185
D1	1.50		1.70	0.059		0.067
D2	1.30		1.50	0.051		0.059
E	2.30		2.70	0.091		0.106
E1		2.20			0.087	
E2		0.52			0.020	
e		1.50			0.059	
e1		3.00			0.118	
F		5°			5°	
H	3.94		4.0	0.155		0.157
L	0.80		1.20	0.031		0.047

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169

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

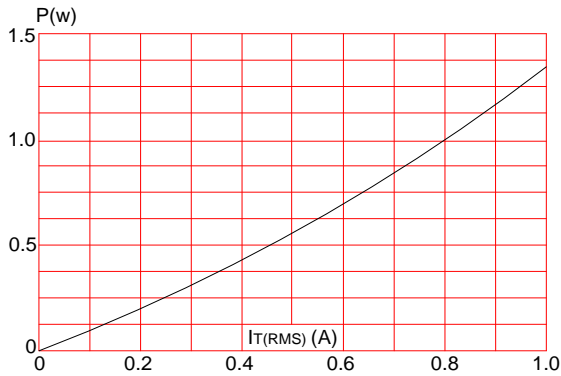


FIG.2: RMS on-state current versus case temperature

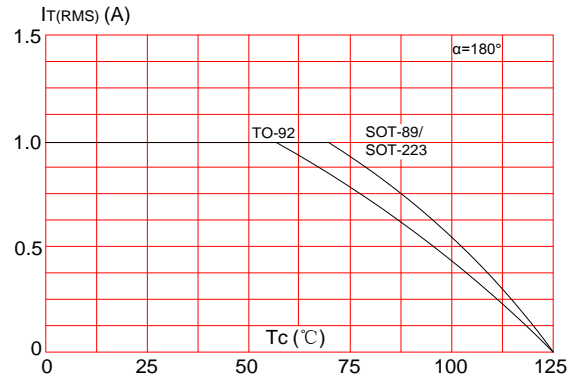


FIG.3: Surge peak on-state current versus number of cycles

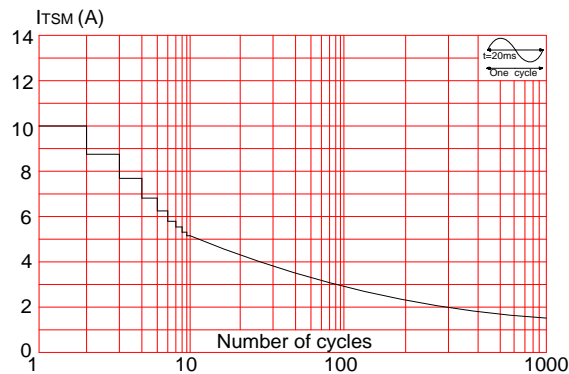
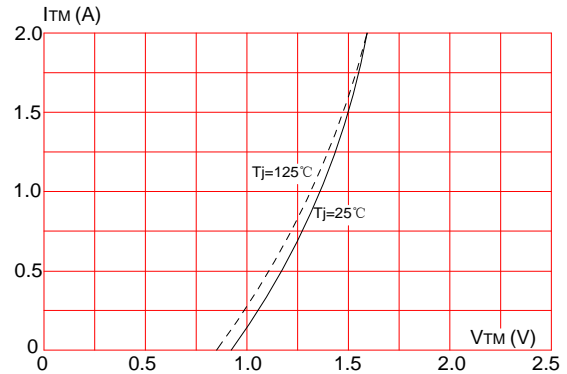
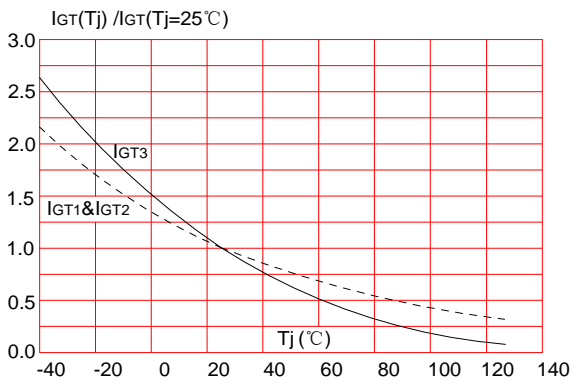


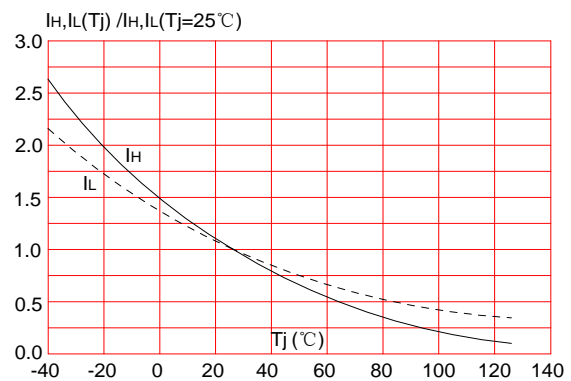
FIG.4: On-state characteristics (maximum values)



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



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




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