



ACJT4 Series 4A TRIACs

Rev.10.0

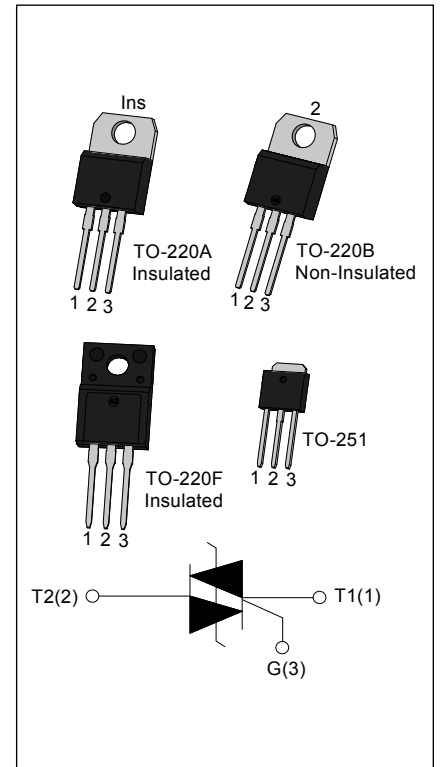
DESCRIPTION:

The ACJT4 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 ...

From all three terminals to external heatsink, ACJT4xx-xxA provides a rated insulation voltage of 2500 V_{RMS}, and ACJT4xx-xxF provides a rated insulation voltage of 2000 V_{RMS}. All the packages listed above are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	4	A
V _{DRM} /V _{RPM}	800/1000	V
I _{GT}	≤5 or ≤10 or ≤25	mA



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°C)		V _{DRM}	800/1000	V
Repetitive peak reverse voltage(T _j =25°C)		V _{RPM}	800/1000	V
RMS on-state current	TO-251/ TO-220A(Ins) (T _C =110°C)	I _{T(RMS)}	4	A
	TO-220B(Non-Ins) (T _C =115°C)			
	TO-220F(Ins) (T _C =103°C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	30	A
I ² t value for fusing (tp=10ms)		I ² t	4.5	A ² s
Rate of rise of on-state current (I _G =2×I _{GT})		di _T /dt	50	A/μs

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
				ACJT405	ACJT410	ACJT425	
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	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	30	40	mA
		II		20	45	60	
I_H	$I_T=100\text{mA}$		MAX	10	25	35	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	300	600	1000	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=5.6\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	1	mA

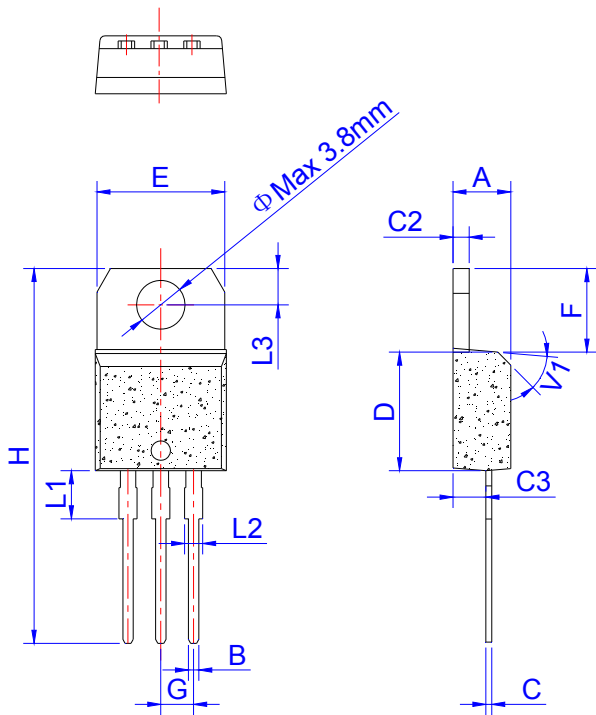
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-251	2.9	$^\circ\text{C/W}$
		TO-220A(Ins)	3.9	
		TO-220B(Non-Ins)	2.6	
		TO-220F(Ins)	4.3	

ORDERING INFORMATION

<p>AC</p> <p>AC switch</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p>J</p> <p>Triacs</p>	<p>T</p> <p>$I_{T(RMS)}:4A$</p>	<p>4</p> <p>05: $I_{GT1-3} \leq 5mA$</p> <p>10: $I_{GT1-3} \leq 10mA$</p> <p>25: $I_{GT1-3} \leq 25mA$</p>	<p>05</p>	<p>-8</p> <p>8: $V_{DRM} / V_{RRM} \geq 800V$</p> <p>10: $V_{DRM} / V_{RRM} \geq 1000V$</p>	<p>A</p> <p>H:TO-251</p> <p>A:TO-220A(Ins)</p> <p>F:TO-220F(Ins)</p> <p>B:TO-220B(Non-Ins)</p>
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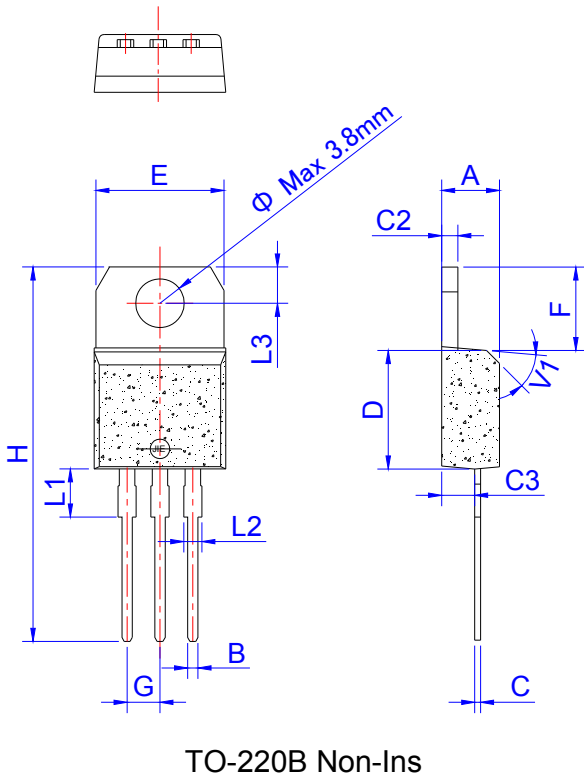
PACKAGE MECHANICAL DATA



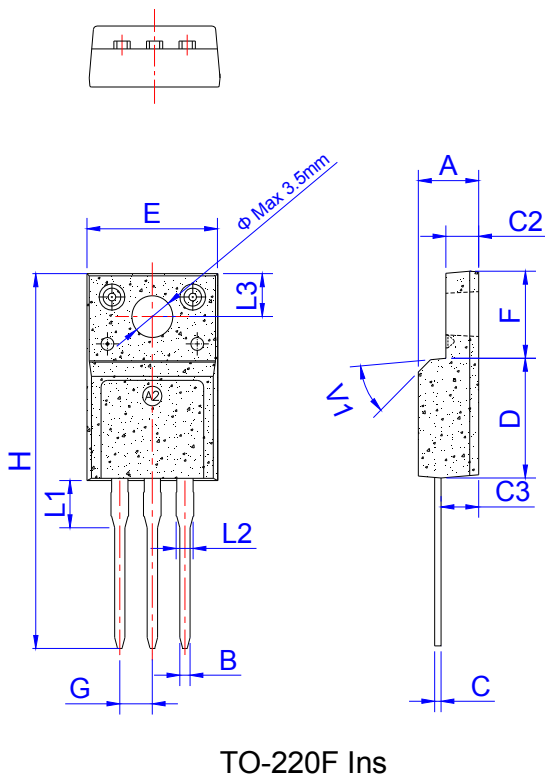
TO-220A Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

PACKAGE MECHANICAL DATA

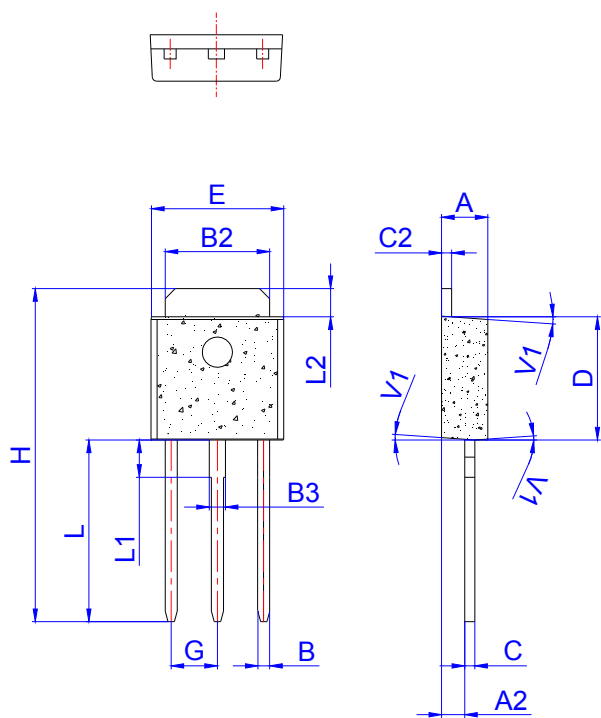


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

PACKAGE MECHANICAL DATA



TO-251

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	

PACKAGE INFORMATION

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	8,000
TO-220B	TUBE	50	1,000	8,000
TO-220F	TUBE	50	1,000	8,000
TO-251	TUBE	80	4,000	32,000

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

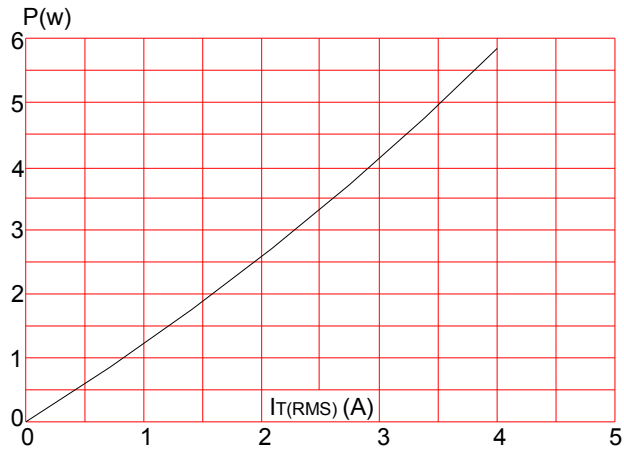


FIG.3: Surge peak on-state current versus number of cycles

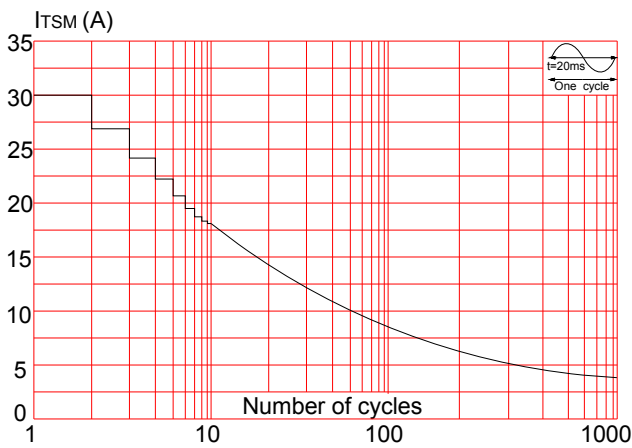


FIG.5: Relative variations of gate trigger current versus junction temperature

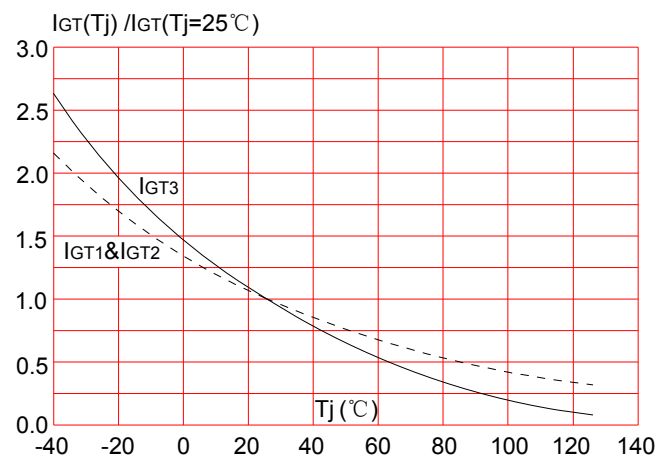


FIG.2: RMS on-state current versus case temperature

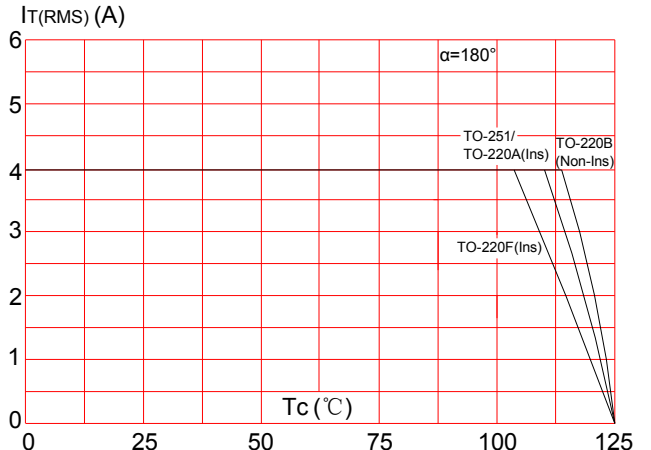


FIG.4: On-state characteristics (maximum values)

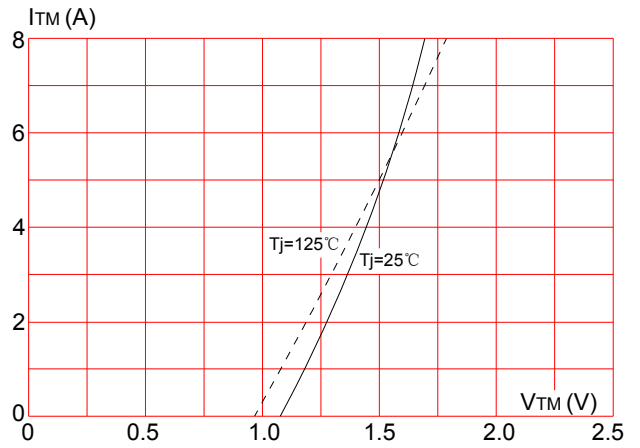
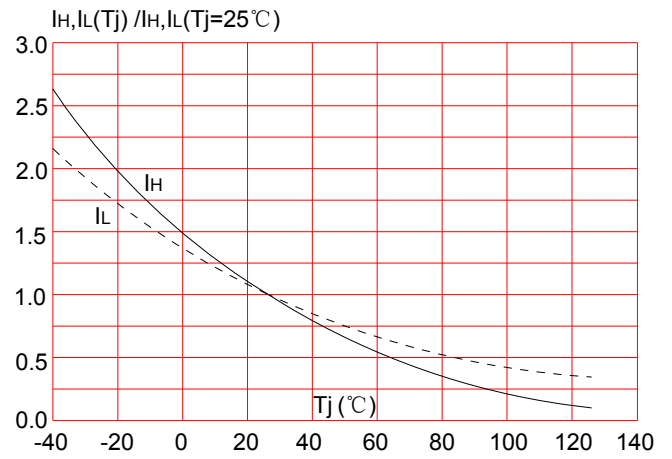


FIG.6: Relative variations of holding current, latching current versus junction temperature



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