

**ACJT10 Series 10A TRIACs**

Rev.3.0

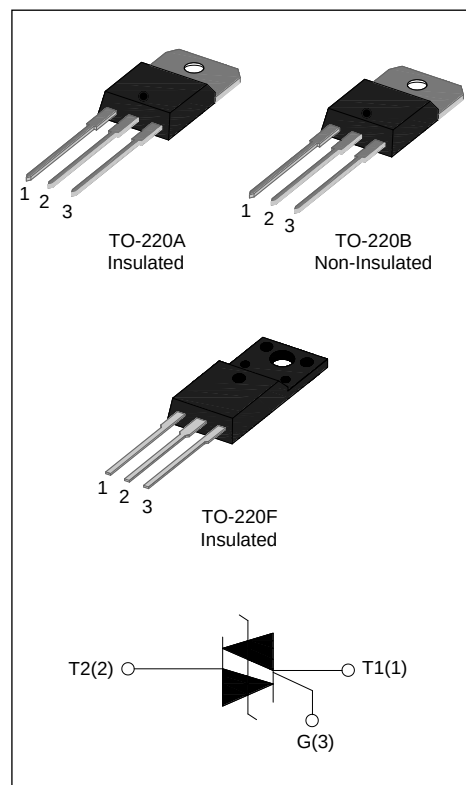
DESCRIPTION:

The ACJT10 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 ...

ACJT10xx-xxA provides insulation voltage rated at 2500V RMS and ACJT10xx-xxF provides insulation voltage rated at 2000V RMS from all three terminals to external heatsink.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	10	A
V_{DRM}/V_{RRM}	1000	V
I_{GT}	≤10 or ≤35 or ≤50	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($T_j=25^{\circ}\text{C}$)		V_{DRM}	1000	V
Repetitive peak reverse voltage($T_j=25^{\circ}\text{C}$)		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	TO-220A(Ins) ($T_C=90^{\circ}\text{C}$)	$I_{T(RMS)}$	10	A
	TO-220B(Non-Ins) ($T_C=100^{\circ}\text{C}$)			
	TO-220F(Ins) ($T_C=84^{\circ}\text{C}$)			
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)		I_{TSM}	100	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	55	A^2s

Rate of rise of on-state current ($I_G=2\times I_{GT}$)	di_T/dt	50	A/ μ s
Peak gate current	I_{GM}	2	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
				ACJT1010	ACJT1035	ACJT1050	
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I - II -III	MAX	10	35	50	mA
V_{GT}		I - II -III	MAX	1.4	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	20	70	80	mA
		II		35	80	100	
I_H	$I_T=100\text{mA}$		MAX	20	50	70	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	500	1500	2000	V/ μ s

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=14\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	1.5	mA

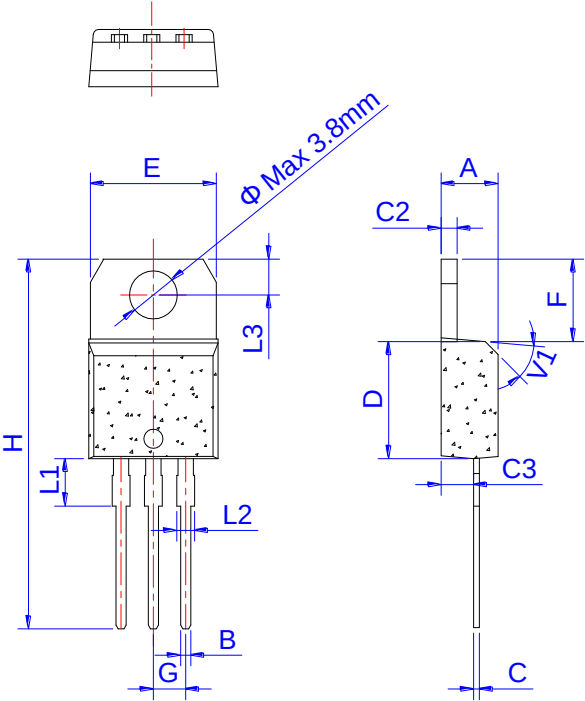
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)	3.1	$^\circ\text{C/W}$
		TO-220B(Non-Ins)	2.3	
		TO-220F(Ins)	3.5	

ORDERING INFORMATION

AC	J	T	10	35	-10	F
AC switch		Triacs				A:TO-220A(Ins) F:TO-220F(Ins) B:TO-220B(Non-Ins)
JieJie Microelectronics Co.,Ltd		IT(RMS):10A		10: $I_{GT1-3} \leq 10mA$ 35: $I_{GT1-3} \leq 35mA$ 50: $I_{GT1-3} \leq 50mA$	10: $V_{DRM} / V_{RRM} \geq 1000V$	

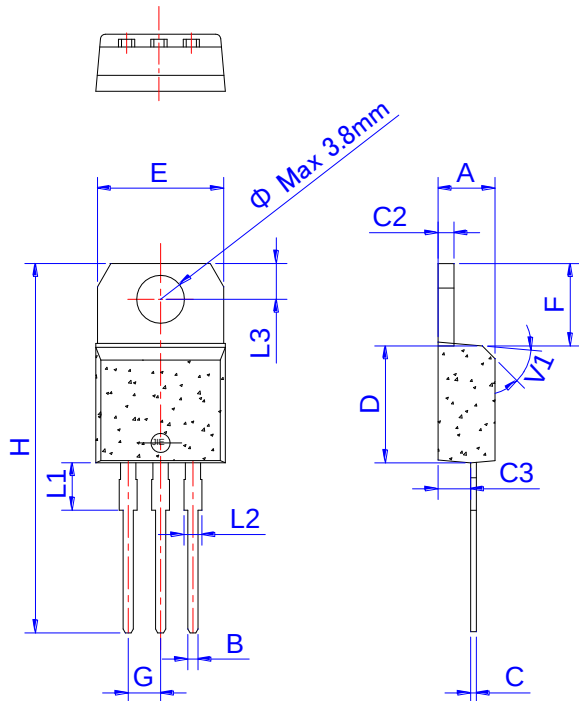
PACKAGE MECHANICAL DATA



TO-220A Ins

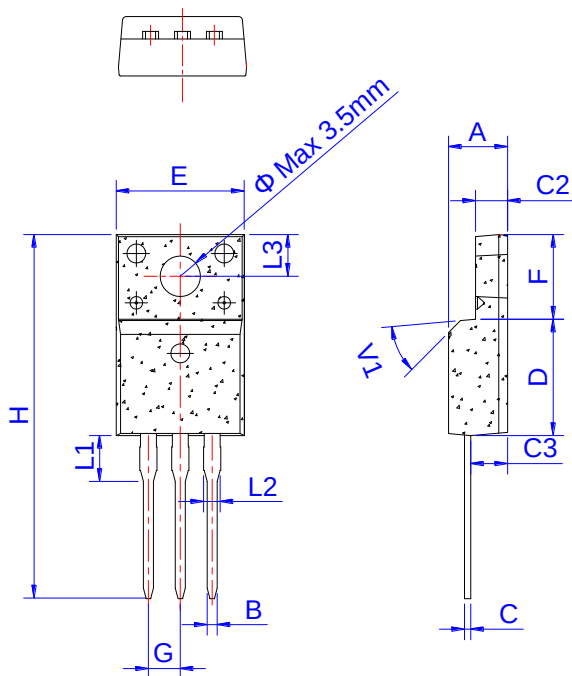
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
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



TO-220B Non-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	9.60		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°	



TO-220F Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.48		0.75	0.019		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.3	0.382		0.406
F	6.40		7.00	0.252		0.276
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°	

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

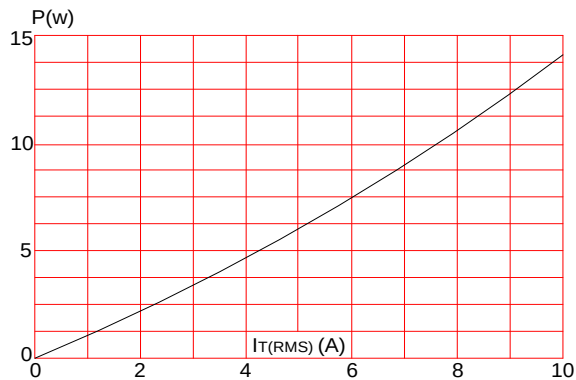


FIG.3: Surge peak on-state current versus number of cycles

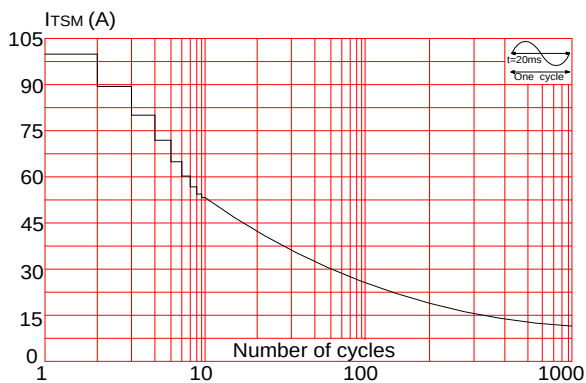


FIG.5: Relative variations of gate trigger current versus junction temperature

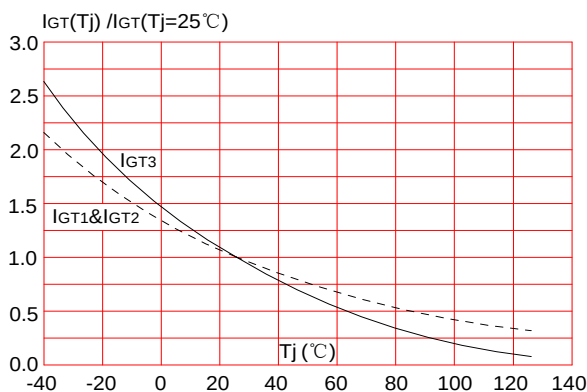


FIG.2: RMS on-state current versus case temperature

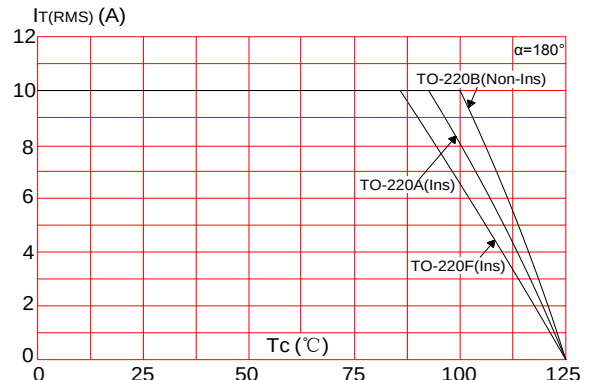


FIG.4: On-state characteristics (maximum values)

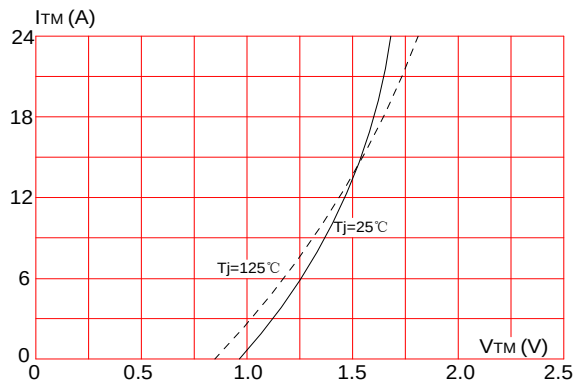
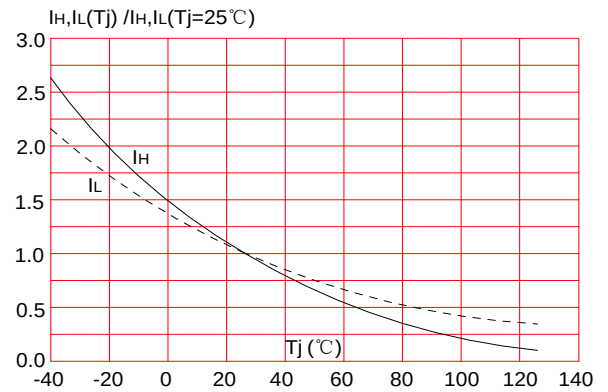


FIG.6: Relative variations of holding current, latching current versus junction temperature



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