



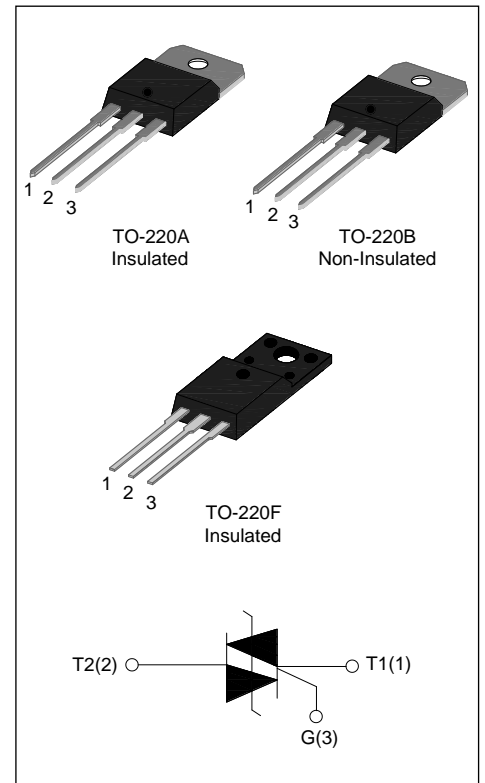
ACJT12 Series 12A TRIACS

Rev.3.0

DESCRIPTION:

The ACJT12 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 ...

ACJT12xx-xxA provides insulation voltage rated at 2500V RMS and ACJT12xx-xxF provides insulation voltage rated at 2000V RMS from all three terminals to external heatsink.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	12	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)/ TO-220F(Ins) ($T_C=92^\circ\text{C}$)	12	A
	TO-220B(Non-Ins) ($T_C=103^\circ\text{C}$)		
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	120	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	72	A^2s
Rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di_T/dt	50	$\text{A}/\mu\text{s}$

Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value			Unit
				ACJT1210	ACJT1235	ACJT1250	
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	1.5			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	50	70	mA
		II		30	70	100	
I_H	$I_T=100\text{mA}$		MAX	15	45	60	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	1000	1500	2000	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=17\text{A } tp=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.65	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	3.0	mA

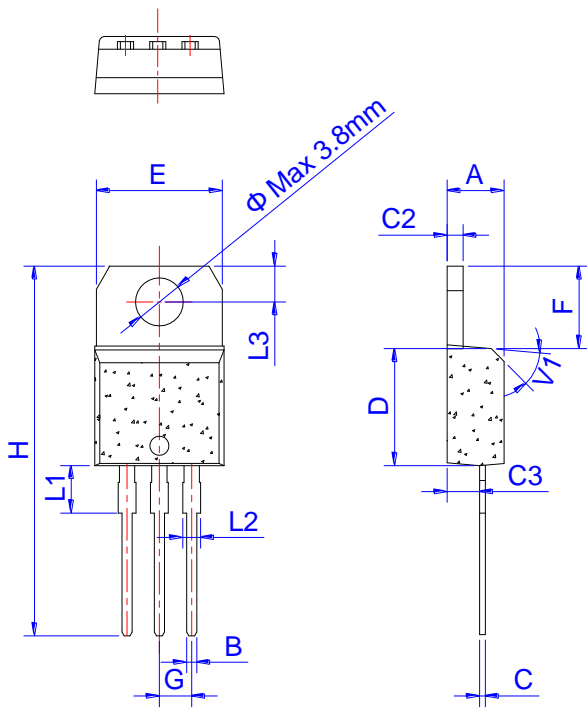
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)/ TO-220F(Ins)	4.0	$^\circ\text{C/W}$
		TO-220B(Non-Ins)	2.8	

ORDERING INFORMATION

<p>AC</p> <p>AC switch</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p>J</p>	<p>T</p> <p>Triacs</p> <p>$I_{T(RMS)}:12A$</p>	<p>12</p>	<p>35</p> <p>10: $I_{GT1-3} \leq 10mA$ 35: $I_{GT1-3} \leq 35mA$ 50: $I_{GT1-3} \leq 50mA$</p>	<p>-10</p> <p>10: $V_{DRM} / V_{RRM} \geq 1000V$</p>	<p>F</p> <p>A:TO-220A(Ins) F:TO-220F(Ins) B:TO-220B(Non-Ins)</p>
--	-----------------	--	------------------	--	--	---

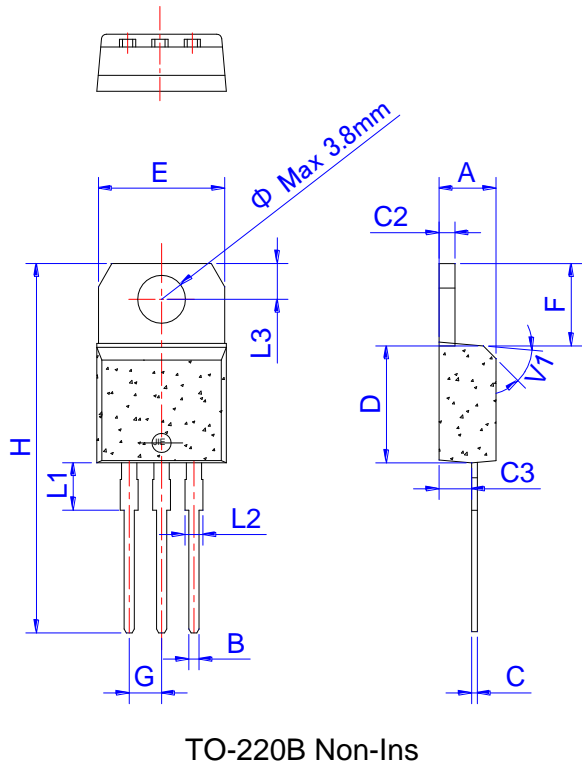
PACKAGE MECHANICAL DATA



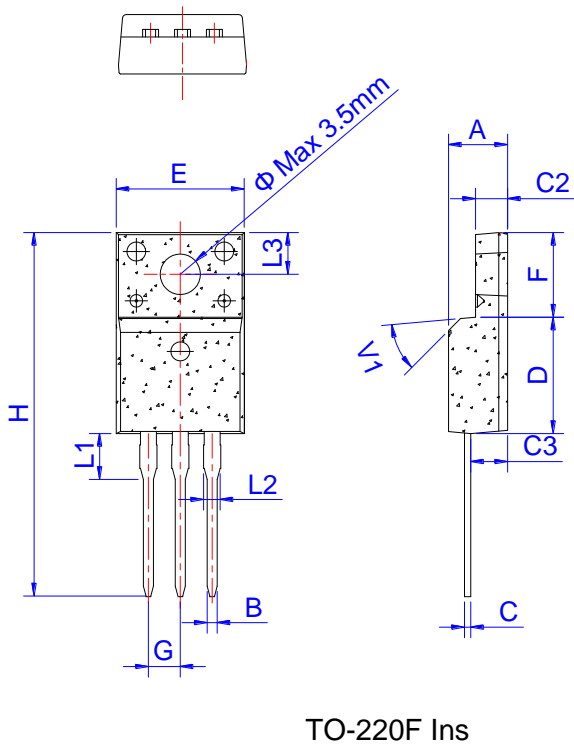
TO-220A Ins

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	4.40		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

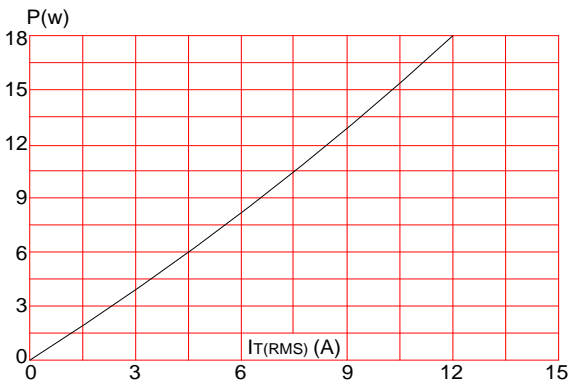


FIG.3: Surge peak on-state current versus number of cycles

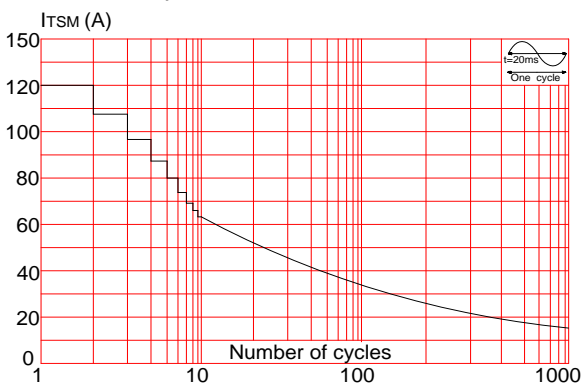


FIG.5: Relative variations of gate trigger current versus junction temperature

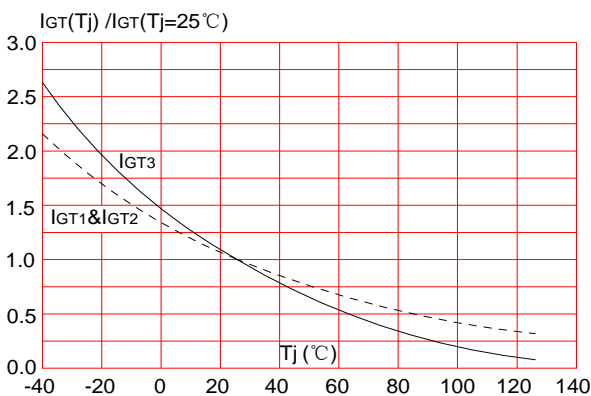


FIG.2: RMS on-state current versus case temperature

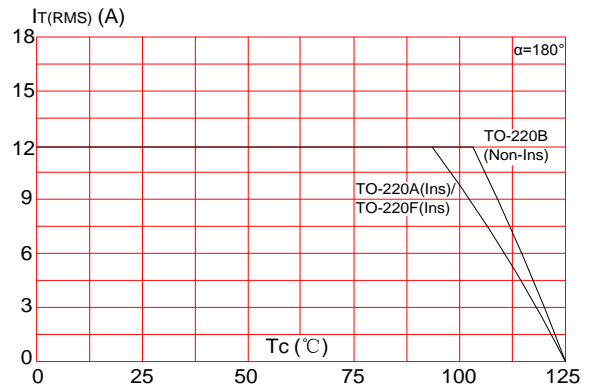


FIG.4: On-state characteristics (maximum values)

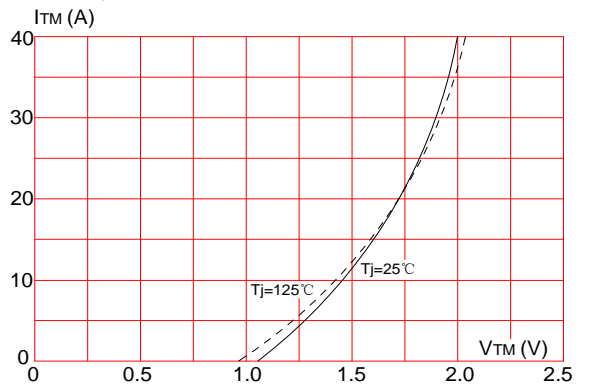
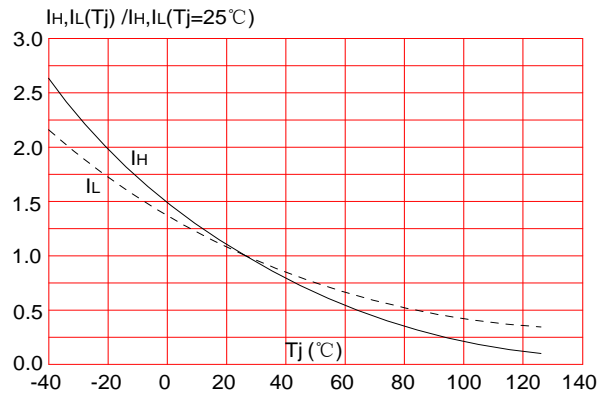


FIG.6: Relative variations of holding current, latching current versus junction temperature



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the third version which is made in 12-June-2015. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright ©2015 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.