

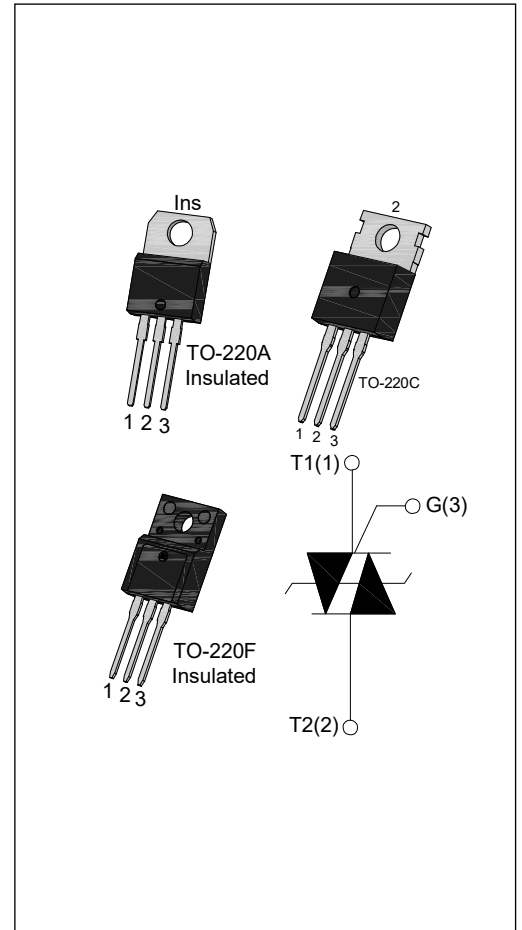


ACJT10 Series 10A TRIACS

Rev.5.0

DESCRIPTION:

The ACJT10 series of double mesa technology provide high interference immunity. They can be used as a 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, ACJT10xx-xxA provides a rated insulation voltage of 2500 V_{RMS}, and ACJT10xx-xxF provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). All the packages listed above are RoHS compliant. (2011/65/EU)



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($T_j=25^{\circ}C$)	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	TO-220A(Ins) ($T_c=90^{\circ}C$)	10	A
	TO-220C ($T_c=100^{\circ}C$)		

RMS on-state current	TO-220F(Ins) ($T_C=84^\circ\text{C}$)	$I_{T(RMS)}$	10	A
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/dt	100	$\text{A}/\mu\text{s}$
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	$\text{V}/\mu\text{s}$

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
		TO-220C	2.1
		TO-220F(Ins)	3.2

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)}:10A</p> <p>10: I_{GT1-3} ≤ 10mA 35: I_{GT1-3} ≤ 35mA 50: I_{GT1-3} ≤ 50mA</p>	<p>10</p>	<p>35</p>	<p>-10</p> <p>10: V_{DRM} / V_{RRM} ≥ 1000V</p>	<p>F</p> <p>A: TO-220A(Ins) F: TO-220F(Ins) C: TO-220C</p>	<p>-/</p> <p>Blank: Tube</p>
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FIG.1 Maximum power dissipation versus RMS on-state current

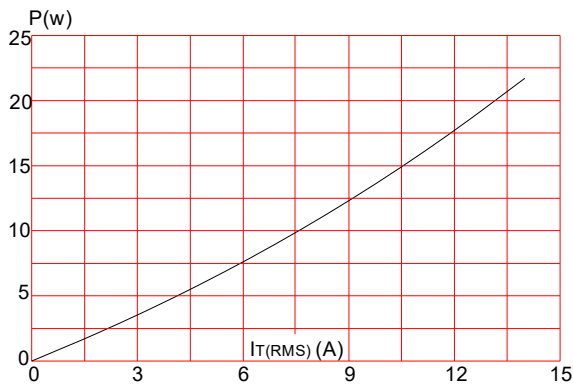


FIG.3: Surge peak on-state current versus number of cycles

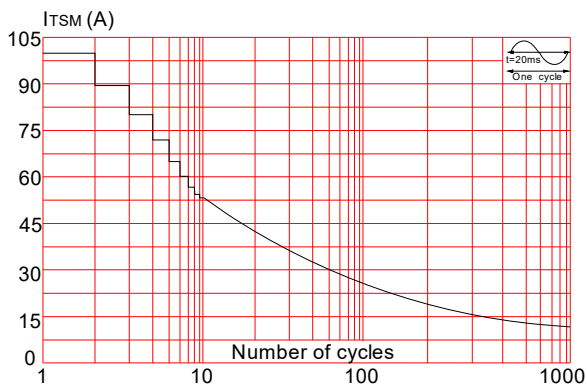


FIG.5: Relative variations of gate trigger current versus junction temperature

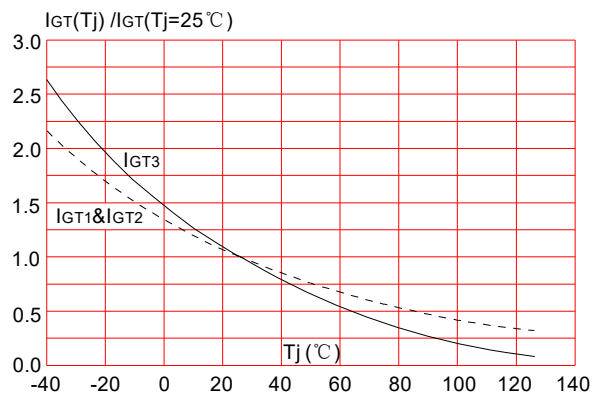


FIG.2: RMS on-state current versus case temperature

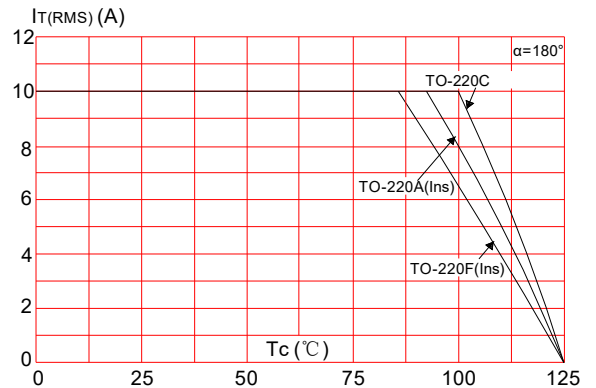


FIG.4: On-state characteristics (maximum values)

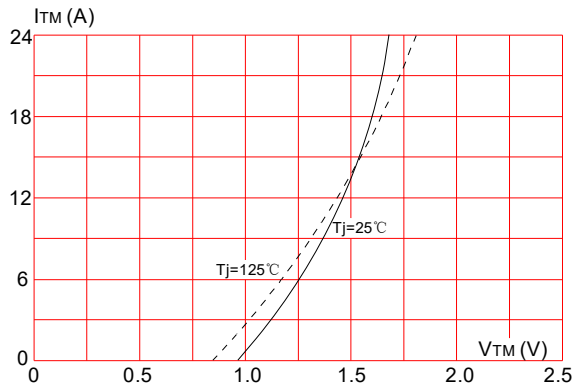
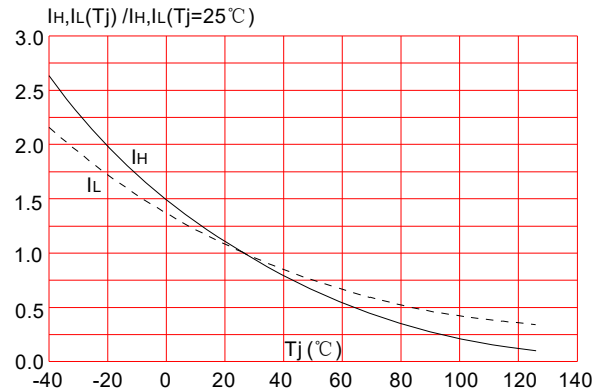


FIG.6: Relative variations of holding current, latching current versus junction temperature



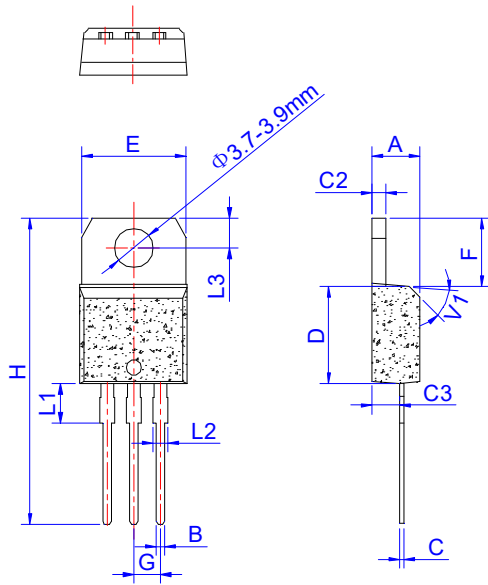
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
ACJT1010-10A	1000	10	TO-220A(Ins)	50	Tube
ACJT1035-10A		35			
ACJT1050-10A		50			
ACJT1010-10C		10	TO-220C		
ACJT1035-10C		35			
ACJT1050-10C		50			
ACJT1010-10F		10	TO-220F(Ins)		
ACJT1035-10F		35			
ACJT1050-10F		50			

Document Revision History

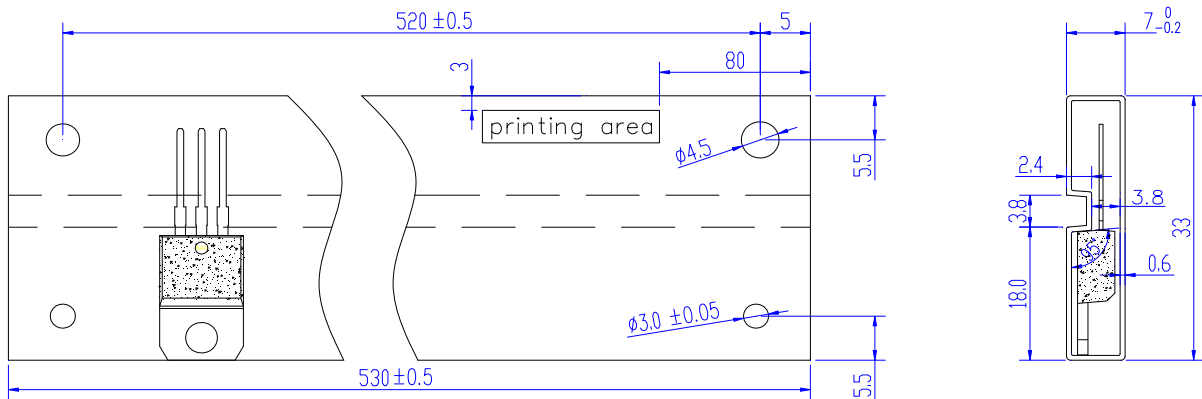
Date	Revision	Changes
Aug 20, 2016	4	Last update
Jan 15, 2022	5	Renew dl/dt

PACKAGE MECHANICAL DATA



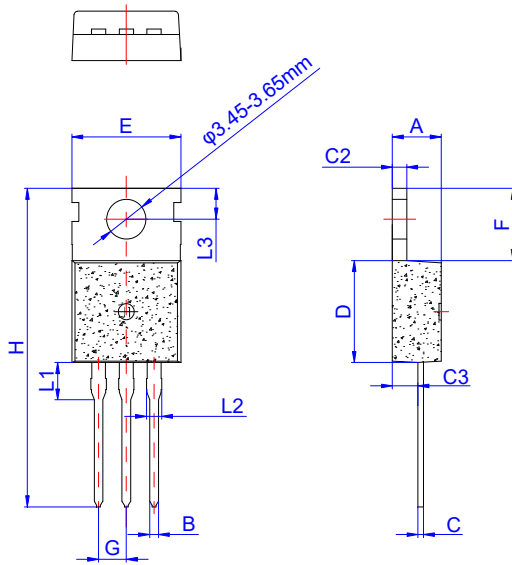
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.45		4.05	0.136		0.159
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



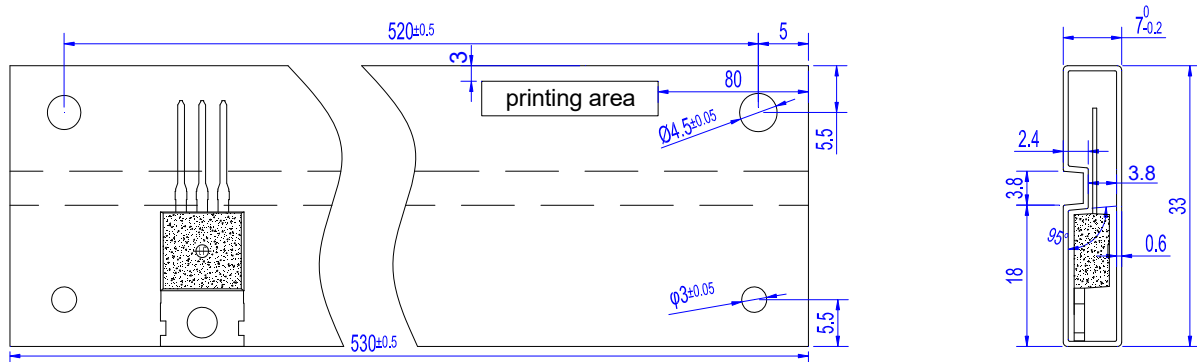
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



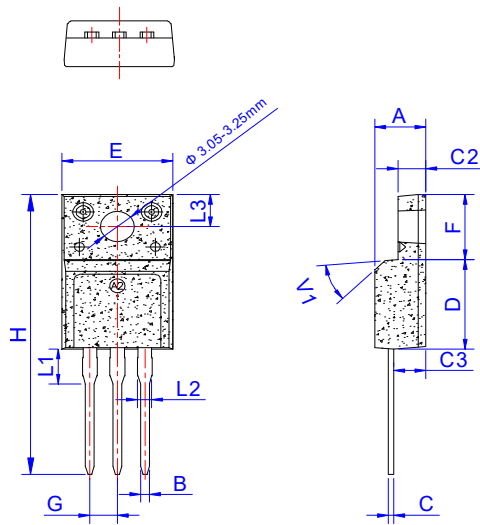
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.25		1.35	0.049		0.053
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	2.70		3.30	0.106		0.130
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116

DELIVERY MODE



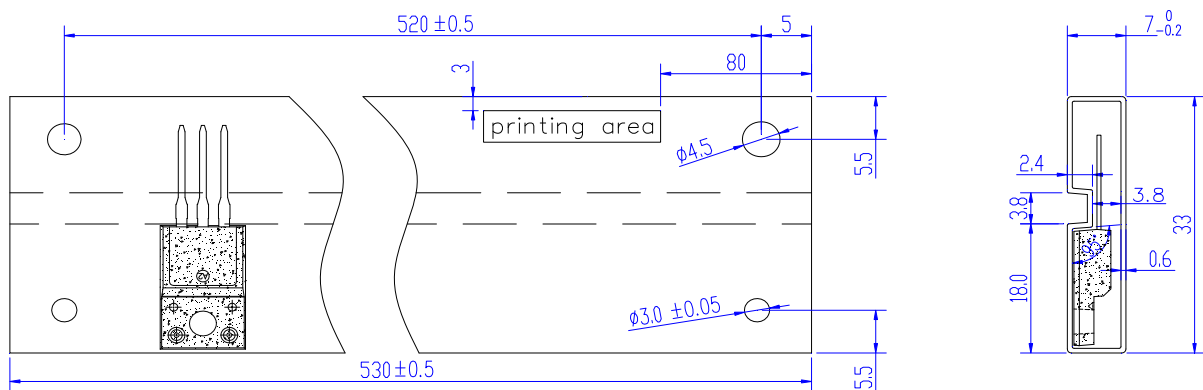
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220C	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



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	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.20		3.80	0.126		0.150
L2	1.14		1.70	0.045		0.067
L3	3.20		3.60	0.126		0.142
V1		45°			45°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220F	TUBE	50	1,000	5,000



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