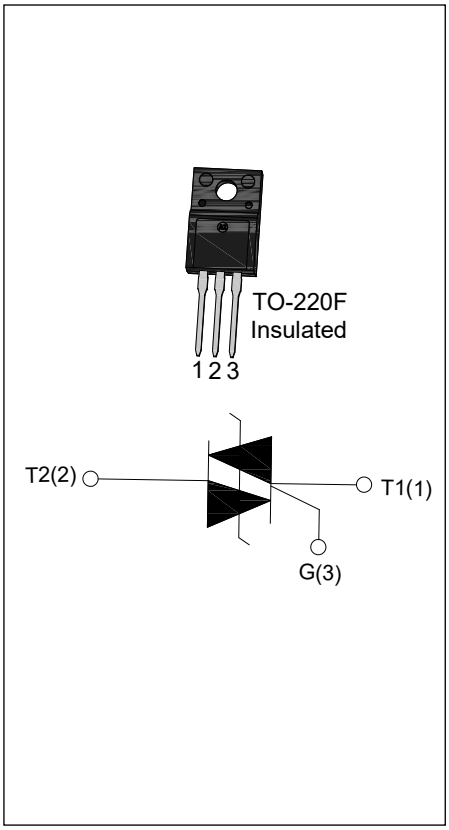
ACJT610-8F 6A TRIACs

Rev.1.0

DESCRIPTION:

The ACJT610-8F 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 ACJT610-8F provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906).Packages TO-220F is RoHS compliant (2011/65/EU).



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	6	A
V_{DRM} /V_{RRM}	800	V
$I_{GT\ I\ /\ II\ /\ III}$	10/10/10	mA

BSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40 – 150	℃
Operating junction temperature range		T_j	-40 – 125	℃
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	800	V
RMS on-state current	TO-220F(Ins) (T_C=103℃)	$I_{T(RMS)}$	6	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	60	A
Non repetitive surge peak on-state current (full cycle, F=60Hz)			66	A
I^2t value for fusing (tp=10ms)		I^2t	18	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})	Ⅰ-Ⅱ-Ⅲ	dI/dt	100	A/μs

Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage (Tj=25℃; non-repetitive,off-state;FIG.7)	Vpp	3	kV

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D =12V R_L =30Ω	Ⅰ-Ⅱ-Ⅲ	MAX	10	mA
V_{GT}		Ⅰ-Ⅱ-Ⅲ	MAX	1	V
V_{GD}	V_D =V_{DRM} T_j =125℃ R_L =3.3KΩ	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
I_L	I_G =1.2I_{GT}	Ⅰ-Ⅲ	MAX	20	mA
		Ⅱ		35	
I_H	I_{TM} =0.2A		MAX	20	mA
dv/dt	V_D=540V Gate Open T_j =125℃		MIN	1000	V/μs

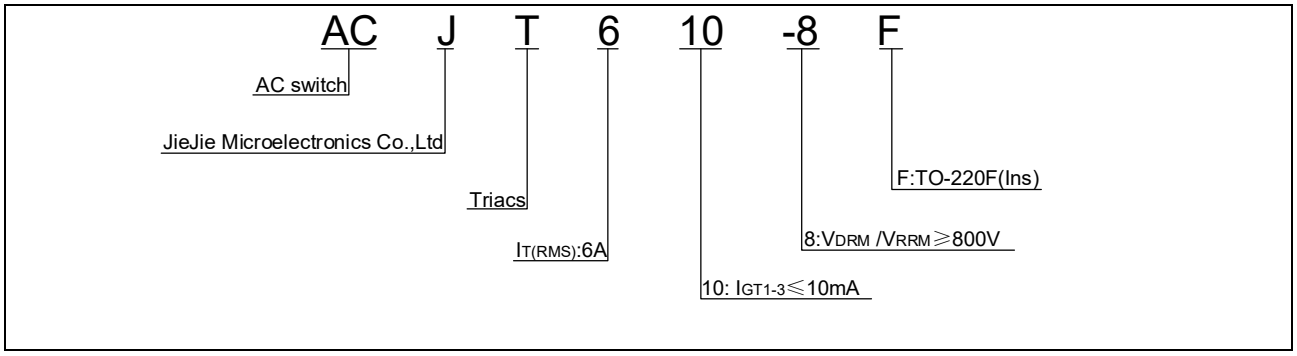
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM} =8.5A tp=380μs	T_j=25℃	1.5	V
V_{TO}	Threshold voltage	T_j=125℃	0.94	V
Rd	Dynamic resistance	T_j=125℃	0.04	Ω
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25℃	5	uA
I_{RRM}		T_j=125℃	0.5	mA

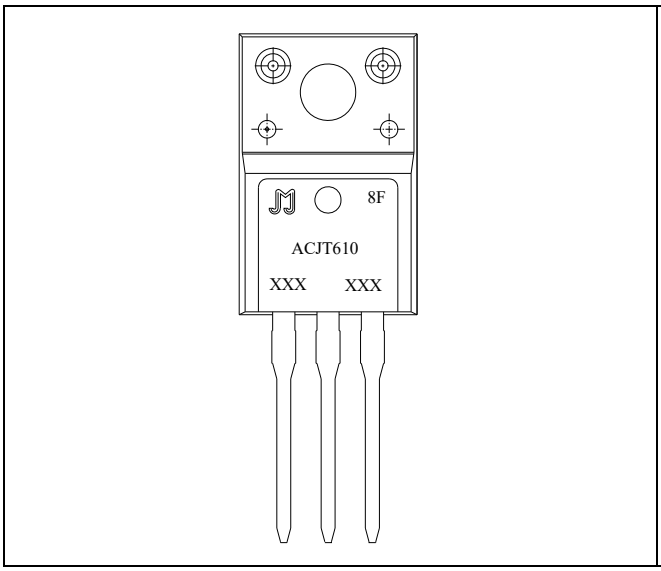
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220F(Ins)	2.7	℃/W

ORDERING INFORMATION



MARKING



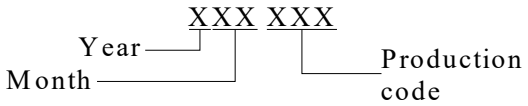


FIG.1: Maximum power dissipation versus RMS on-state current

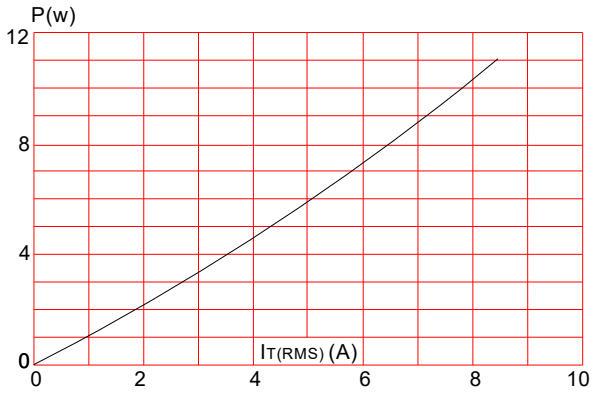


FIG.2: RMS on-state current versus case temperature

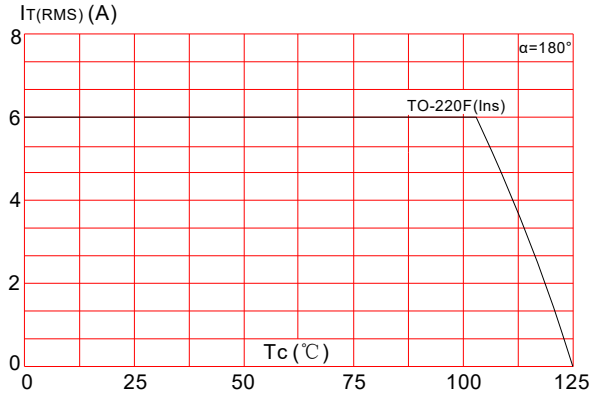


FIG.3: Surge peak on-state current versus number of cycles

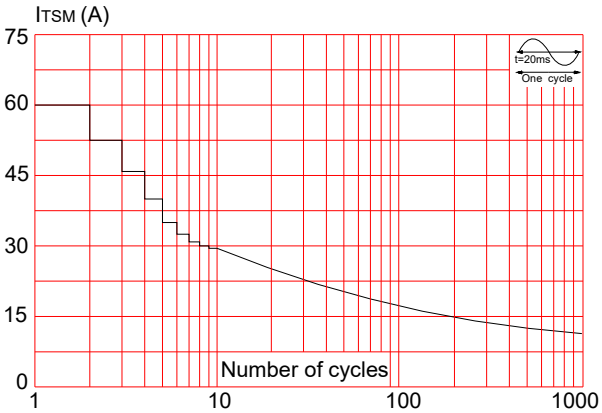


FIG.4: On-state characteristics (maximum values)

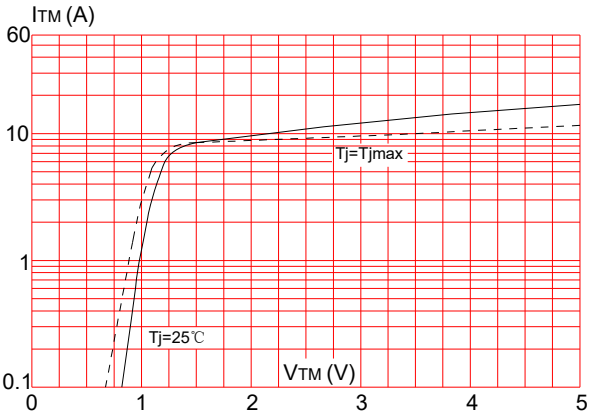


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

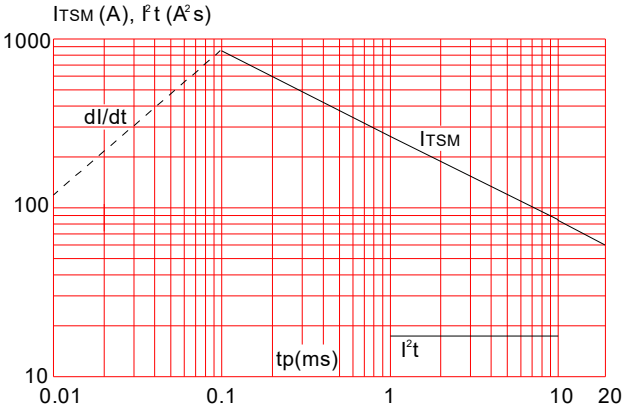


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

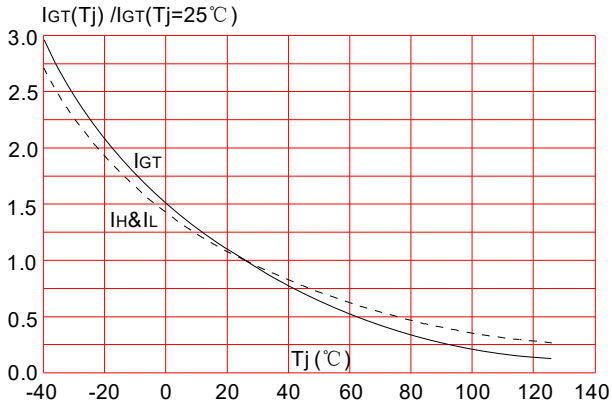
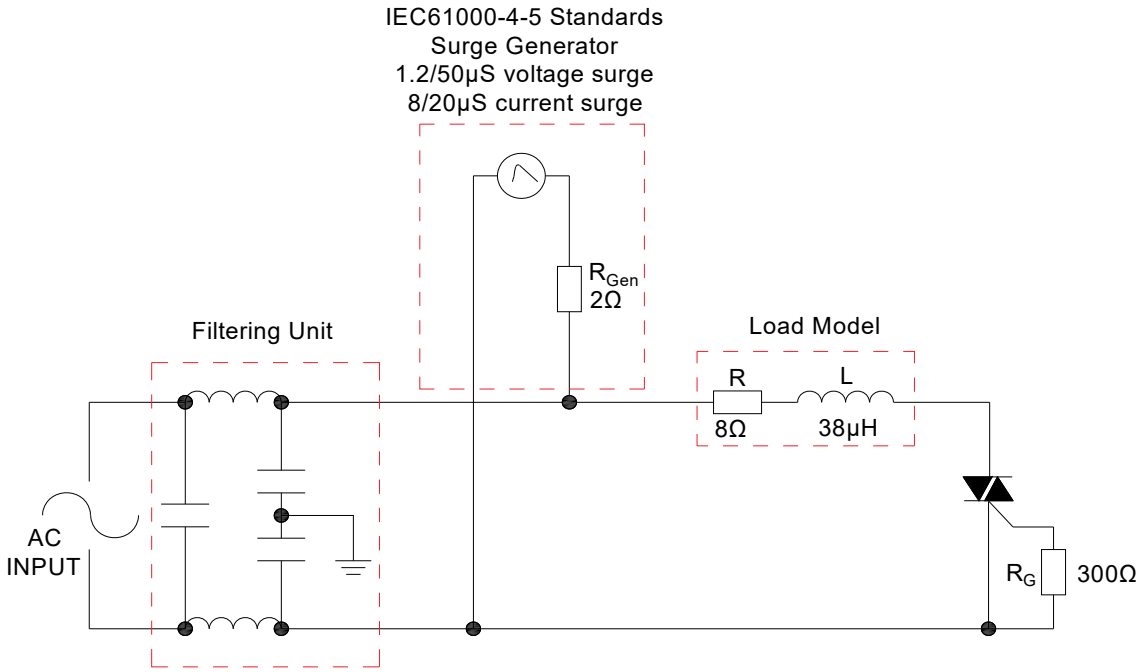


FIG.7：Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



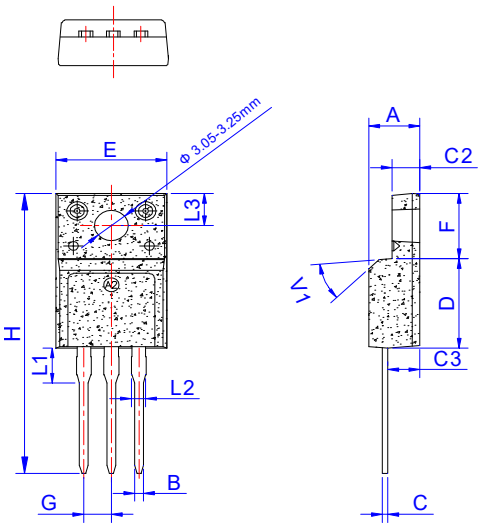
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		Ⅰ-Ⅱ-Ⅲ			
ACJT610-8F	800	10	TO-220F(Ins)	50	Tube

Document Revision History

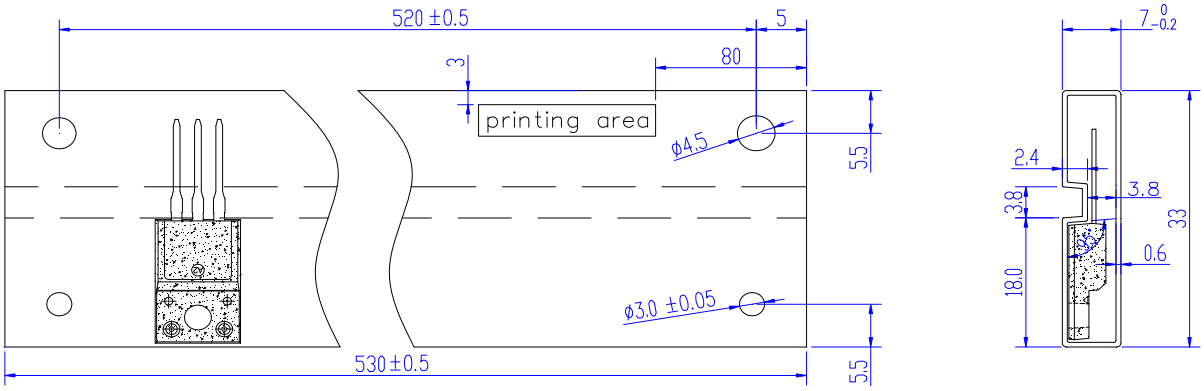
Date	Revision	Changes
Dec 09, 2022	1.0	Last update

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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