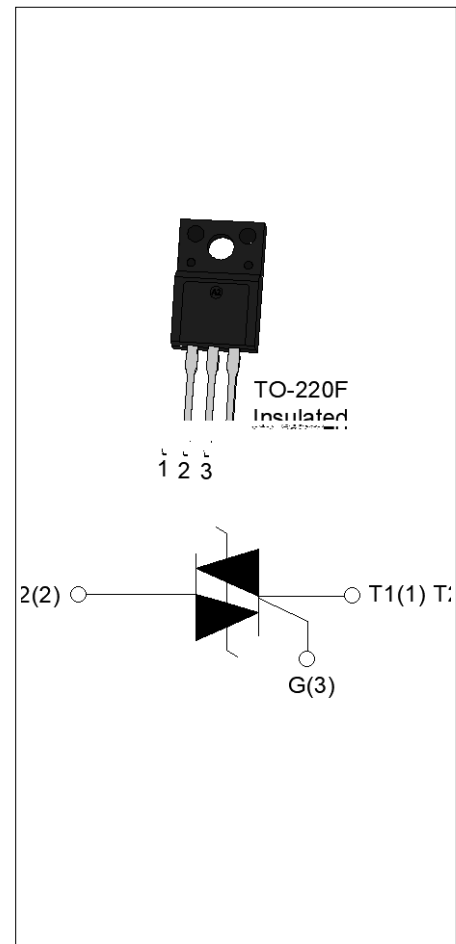


ACJP1625-8F 16A TRIAC

Rev.A.1.0

The ACJP1625-8F triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, ACJP1625-8F provides a very high switching capability up to junction temperatures of 150°C. The ACJP1625-8F embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. By using an external plastic package, ACJP1625-8F provides a rated insulation voltage of 2000 VRMS. Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM}/V_{RRM}	800	V
$I_{GT\ I/II/III}$	25/25/25	mA

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	°C
Operating junction temperature range	T_j	-40-150	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	V
RMS on-state current ($T_c \leq 98^\circ\text{C}$)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (full cycle , $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	160	A
Non repetitive surge peak on-state current (full cycle , $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		176	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	128	A^2s
Critical rate of rise of on-state current ($I_G=2\ I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$)	di/dt	80	$\text{A}/\mu\text{s}$

Peak gate current ($t_p=20\mu s$, $T_j=150^\circ C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=150^\circ C$)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage ($T_j=25^\circ C$; non-repetitive, off-state; FIG. 7)	V_{pp}	2.5	kV

(T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	I - II - III	MAX.	25	mA
V_{GT}		I - II - III	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=150^\circ C$ $R_L=3.3k\Omega$	I - II - III	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	I - III	MAX.	40	mA
		II		60	
I_H	$I_T=500mA$		MAX.	30	mA
dV/dt	$V_D=540V$ Gate Open $T_j=125^\circ C$	MIN.		1000	V/ μs
	$V_D=540V$ Gate Open $T_j=150^\circ C$			500	
(dI/dt) _c	(dV/dt) _c =10V/ μs , $T_j=150^\circ C$	MIN.		15	A/ms
t_{on}	$I_G=40mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25^\circ C$	TYP.		7	μs
t_{off}				70	
V_{CL}	$I_{CL}=0.1mA$ $t_p=1ms$	MIN.		850	V

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=22.5A$ $t_p=380\mu s$	$T_j=25^\circ C$	1.6	V
V_{TO}	Threshold voltage	$T_j=150^\circ C$	0.73	V
R_D	Dynamic resistance	$T_j=150^\circ C$	40	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	3	μA
I_{RRM}		$T_j=150^\circ C$	0.8	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2.2	$^\circ C/W$
$R_{th(j-a)}$	junction to ambient (AC)	43	$^\circ C/W$

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

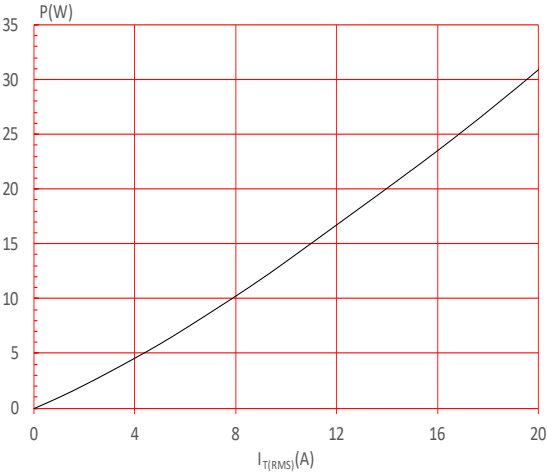


FIG.2: RMS on-state current versus case temperature

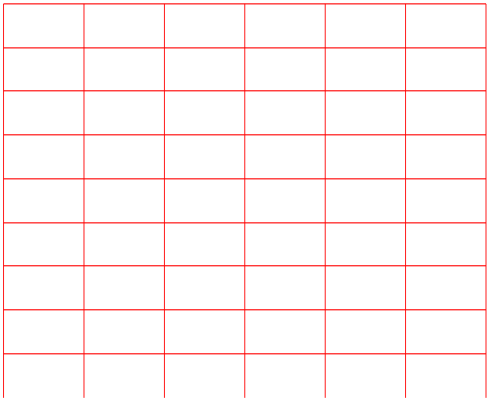
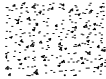


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards

8



/

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.