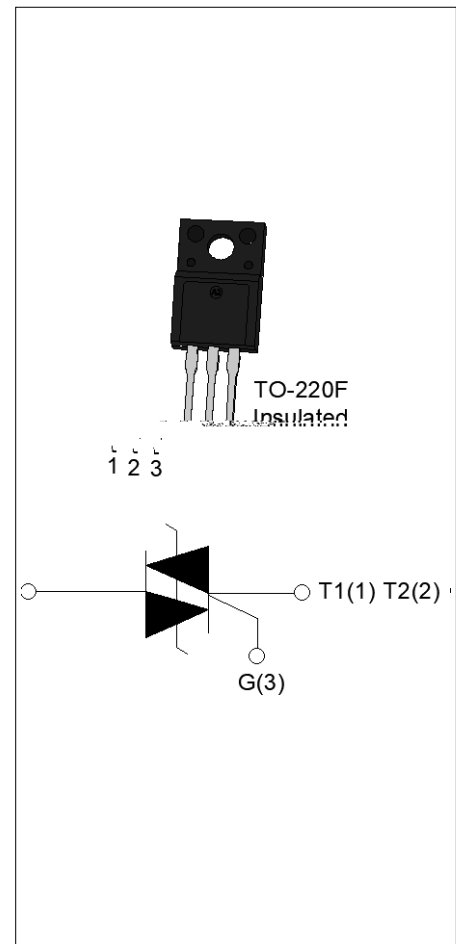


ACJP1625-8F 16A TRIAC

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 ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$)	di/dt	80	A s

Peak gate current ($t_p=20\text{ s}$, $T_j=150^\circ\text{C}$)	I_{GM}	4	A
Average gate power dissipation ($T_j=150^\circ\text{C}$)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage ($T_j=25^\circ\text{C}$; 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}	$V_D=12V\ R_L=33$	I - II - III	MAX.	25	mA
V_{GT}		I - II - III	MAX.	1	V
V_{GD}	$V_D=V_{DRM}\ T_j=150^\circ\text{C}$ $R_L=3.3k$	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 $T_j=125^\circ\text{C}$		MIN.	1000	V/s
	$V_D=540V$ Gate Open $T_j=150^\circ\text{C}$			500	
$(dI/dt)_c$	$(dV/dt)_c=1$ $T_j=150^\circ\text{C}$		MIN.	15	A/ms
t_{on}	$I_G=40mA\ I_A=200mA\ I_R=20mA$ $T_j=25^\circ\text{C}$		TYP.	7	s
t_{off}				70	
V_{CL}	$I_{CL}=0.1mA\ t_p=1ms$		MIN.	850	V

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

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

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

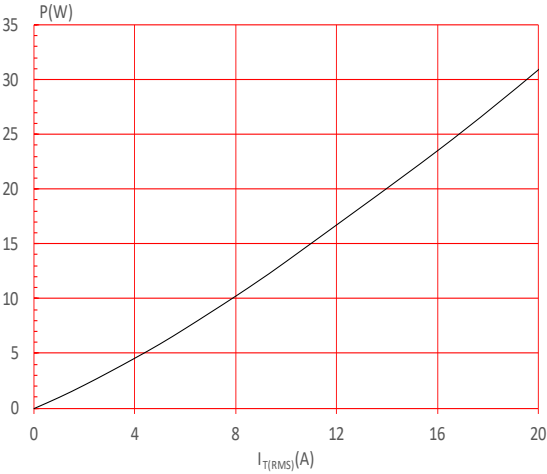


FIG.2: RMS on-state current versus case temperature

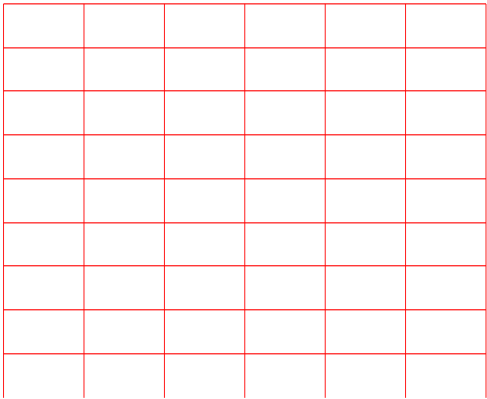


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



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