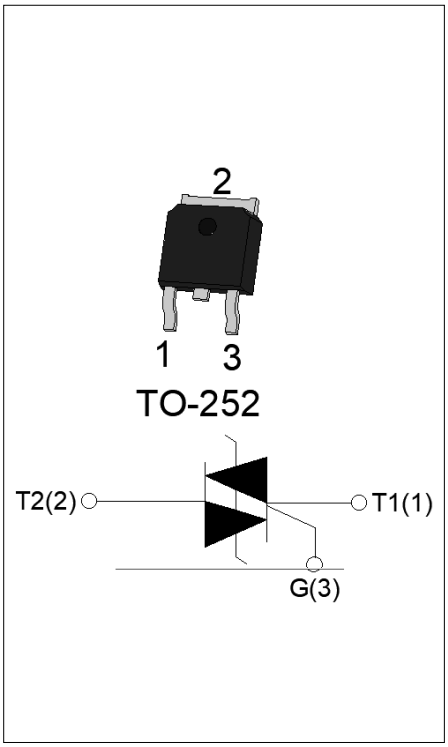
ACJT425-8K 4A TRIAC

Rev.A.1.1

DESCRIPTION:

The ACJT425-8K 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. The ACJT425-8K embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. Package TO-252 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} /V_{RRM}	800	V
I_{GT} / /	25/25/25	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	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 (T_C 99)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		44	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	8	A^2s
Critical rate of rise of on-state current (I_G=2× I_{GT} , f=100Hz , T_j=125)	dI/dt	100	A s
Peak gate current (t_p=20 s , T_j=125)	I_{GM}	4	A
Average gate power dissipation (T_j=125)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W

	D =V$_{DRM}$ T$_j$ =125 R$_L$ =3.3k	- -	MIN.	0.2V	
L	G =1.2I$_{GT}$	-	MAX. 40	mA 60	
H	T =100mA		MAX35	mA	
dV/dtV	D=540V Gate Open T$_j$ =125		MIN250		
(dI/dt)c	G 9 G W F j=9125V 7		MIN.8	A/ms	
on I off30	G=40mA I$_A$=200mA I$_R$=20mA 3 TYP. S j=25 T				
CL I	CL=0.1mA t$_p$=1ms		MIN.	850V	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX .)	Unit
V$_{TM}$ I	TM =5.6A t$_p$=380 S T	j=25	1.55 V	
TO	Threshold voltage	j=125	0.73V	
D	Dynamic resistance T	j=125 171	P	
DRM	D =V$_{DRM}$ V$_R$ =V$_{RRM}$ T	j=25 5	A	
RRM		j=125	0.25	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R$_{th(j-c)}$	junction to case (AC)	4.5	/W
th(j-a)	junction to ambient (AC)	120	/W

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

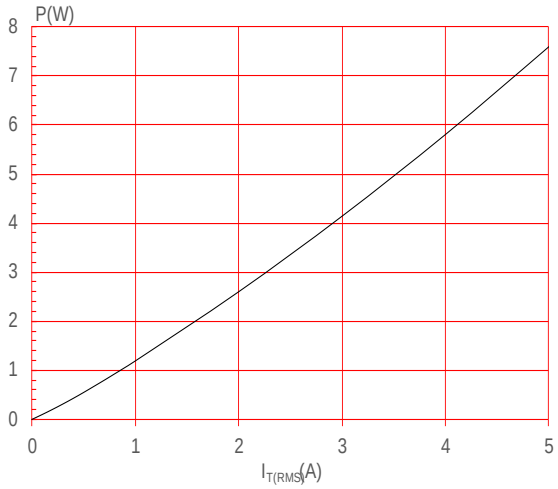


FIG.2: RMS on-state current versus case temperature

FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

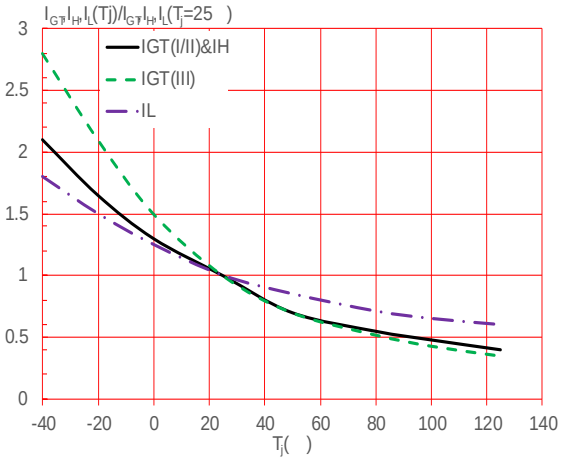
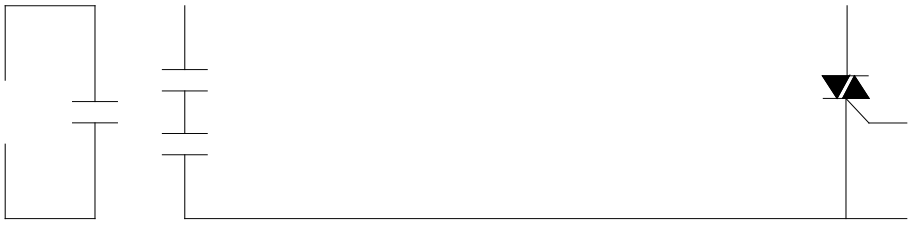


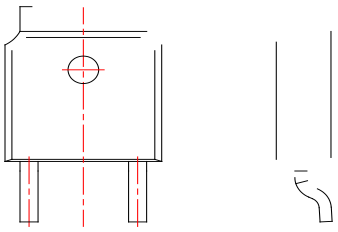
FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



ORDERING INFORMATION



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.15	0		0.006
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1						
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
G1	2.18		2.38	0.086		0.094
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065

DELIVERY MODE

