



ACJT1235-10E 12A TRIAC

Rev.A.1.1

DESCRIPTION:

The ACJT1235-10E 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 ACJT1235-10E embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. Package TO-263 is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$		
V_{DRM}/V_{RRM}	1000	V
I_{GT}		

ABSOLUTE MAXIMUM RATINGS

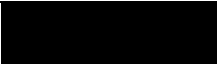
Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage ($T_j=25^\circ C$)	V_{DRM}	1000	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	1000	V
RMS on-state current ($T_c \leq 104^\circ C$)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_j=25^\circ C$)	I_{TSM}	120	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$, $T_j=25^\circ C$)		132	
I^2t value for fusing ($t_p=10ms$, $T_j=25^\circ C$)	I^2t	72	A^2s
Critical rate of rise of on-state current ($I_G=2I_{GT}$, $f=100Hz$, $T_j=125^\circ C$)	di/dt	100	$A/\mu s$
Peak gate current ($t_p=20\mu s$, $T_j=125^\circ C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=125^\circ C$)	$P_{G(AV)}$	0.5	W
Peak gate power dissipation	P_{GM}	10	W

Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.8)	V_{pp}	5	kV
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ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I _{GT}	V _D =12V R _L =33Ω	- -	MAX.	35	mA
V _{GT}		- -	MAX.	1	V
V _{GD}	V _D =V _{DRM} T _j =125 R _L =3.3kΩ	- -	MIN.	0.2	V
I _L	I _G =1.2I _{GT}	-	MAX.	50	mA
				70	
I _H	I _T =500mA		MAX.	45	mA
dV/dt	V _D =670V Gate Open T _j =125		MIN.	800	V/μs
(dI/dt) _c	(dV/dt) _c =20V/μs, T _j =125		MIN.	15	A/ms
t _{on}	I _G =40mA I _A =200mA I _R =20mA T _j =25		TYP.	5	μs
t _{off}				70	
V _{CL}	I _{CL} =0.1mA t _p =1ms		MIN.	1050	V

STATIC CHARACTERISTICS

Symbol	Parameter	Value(MAX.)	Unit
V_{TM}	$I_{TM}=17A$ $t_p=380\mu s$ 	1.45	V
V_{TO}	Threshold voltage $i_{1.45}=1$		

ORDERING INFORMATION

AC	J	T	12	35	-10	E	-/
AC switch		Triacs					Blank:Tube -TR:Tape & Reel
JieJie Microelectronics Co., Ltd.		IT(RMS):12A				E:TO-263	
		35: IGT1-3 ≤ 35mA			10:VDRM /VRRM ≥ 1000V		

MARKING

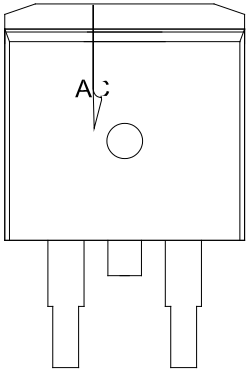


FIG.1: Maximum power dissipation versus RMS on-state current

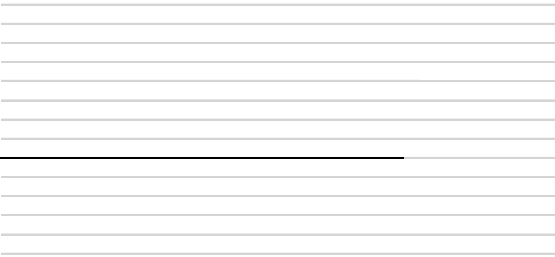


FIG.2: RMS on-state current versus case temperature

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

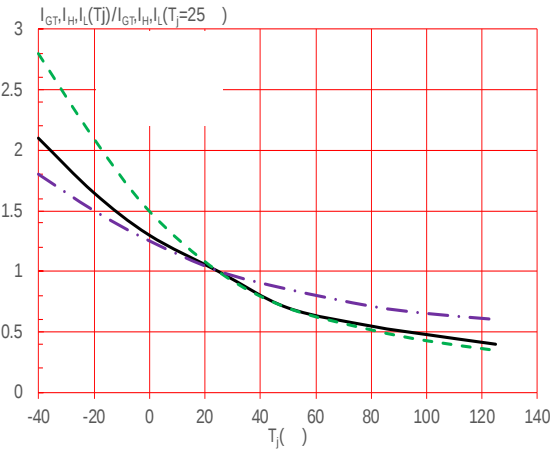
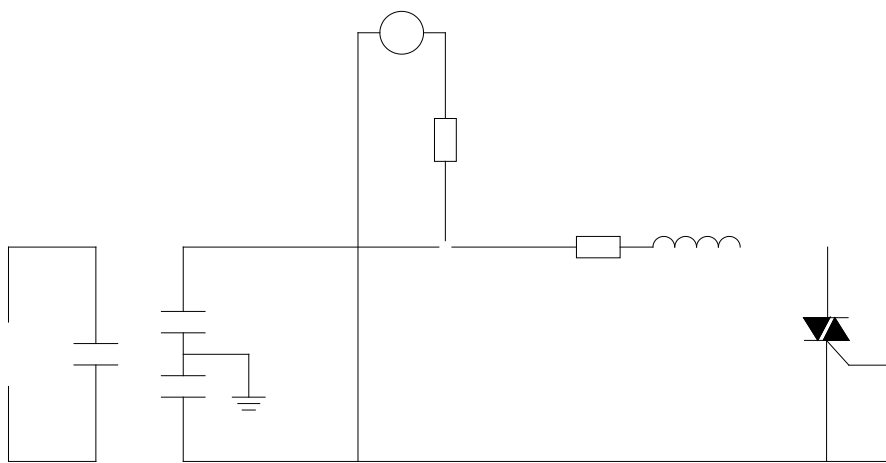


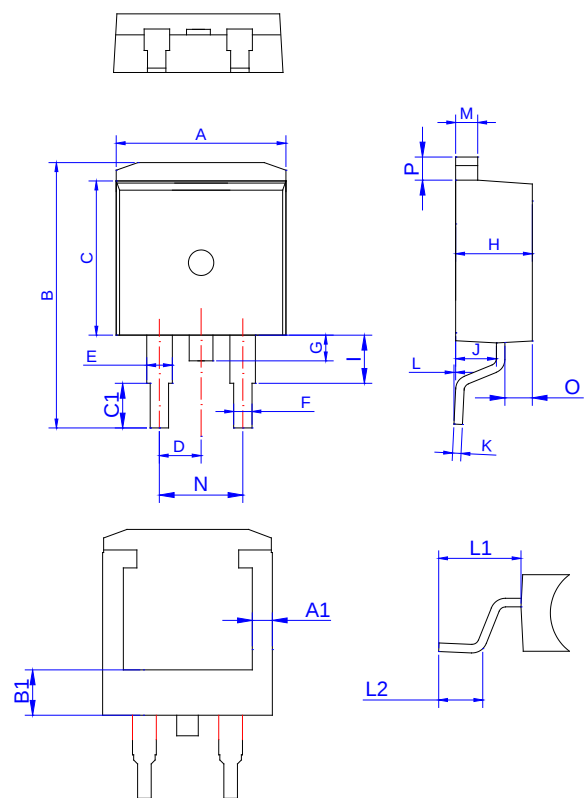
FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



ORDERING INFORMATION

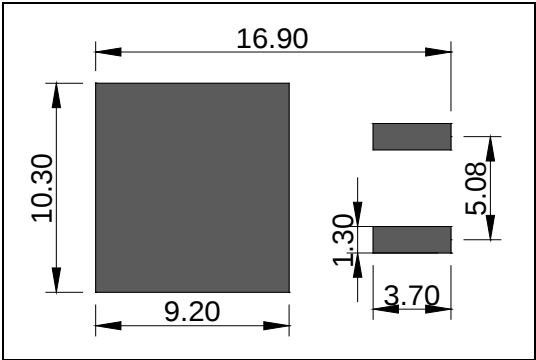
Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
ACJT1235-10E	1000	35	TO-263	50	Tube

PACKAGE MECHANICAL DATA

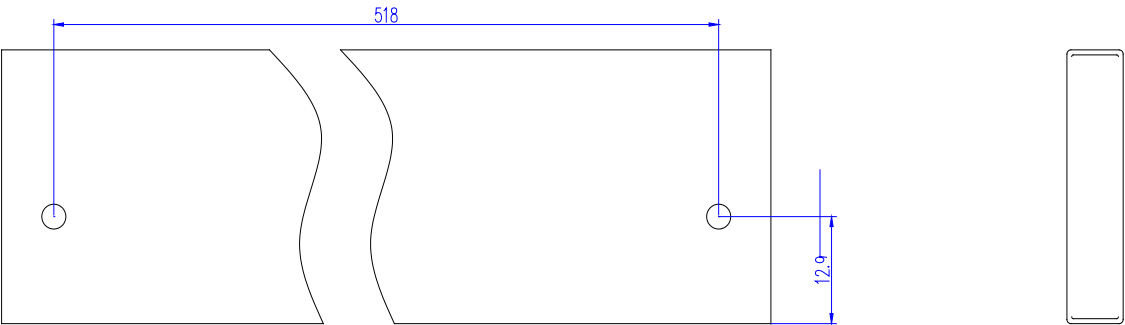


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
A1	0.80		1.20	0.031		0.047
B	14.70		15.80	0.579		0.622
B1	2.15		2.55	0.085		0.100
C	9.40		9.60	0.370		0.378
C1	2.40		2.80	0.094		0.110
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G	1.00		1.50	0.039		0.059
H	4.40		4.70	0.173		0.185
I	1.80		2.20			
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
L1	4.65		5.05	0.183		0.199
L2	1.90			0.075		
M	1.25		1.35	0.049		0.053
N	4.80		5.20			
O	1.30		1.50			
P	1.20		1.50	0.047		0.059

FOOTPRINT-TO-263 (dimensions in mm)



DELIVERY MODE



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