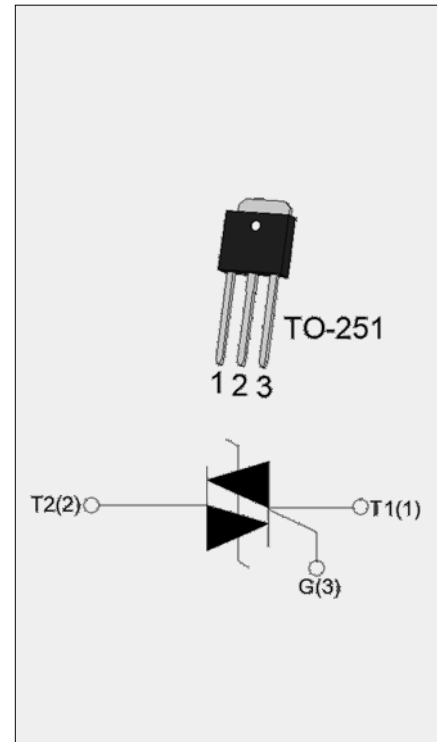




ACJT08H-1000CW 8A TRIAC

Rev.A.1.0

The ACJT08H-1000CW 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 ACJT08H-1000CW embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. Package TO-251 is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	1000	V
$I_{GT} / /$	35/35/35	mA

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 ($T_c = 92^\circ C$)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_j=25^\circ C$)	I_{TSM}	80	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$, $T_j=25^\circ C$)		88	
I^2t value for fusing ($t_p=10ms$, $T_j=25^\circ C$)	I^2t	32	A^2s
Critical rate of rise of on-state current ($I_G=2 I_{GT}$, $f=100Hz$, $T_j=125^\circ C$)	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	P_{GM}	10	W

Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.7)	V_{pp}	2.75	kV
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(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V R_L=33$	- -	MAX.	35	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM} T_j=125$ $R_L=3.3K$	- -	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	35	mA
				55	
I_H	$I_T=100mA$		MAX.	30	mA
dV/dt	$V_D=670V$ Gate Open $T_j=125$		MIN.	1600	V/ μs
(dI/dt) _c	(dV/dt) _c =10V/ μs , $T_j=125$		MIN.	10	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

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=10A t_p=380\mu s$	$T_j=25$	1.45	V
V_{TO}	Threshold voltage	$T_j=125$	0.78	V
R_D	Dynamic resistance	$T_j=125$	48	m
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	8	μA
I_{RRM}		$T_j=125$	0.8	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	3	/W
$R_{th(j-a)}$	junction to ambient (AC)	100	/W

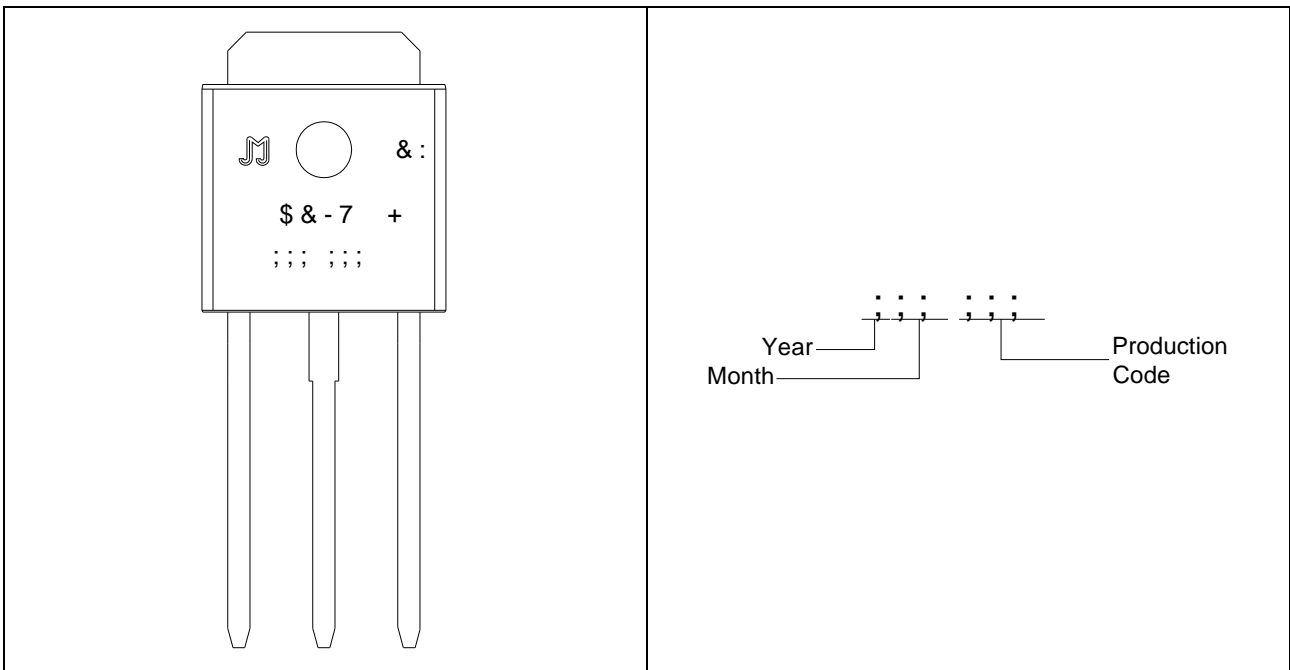
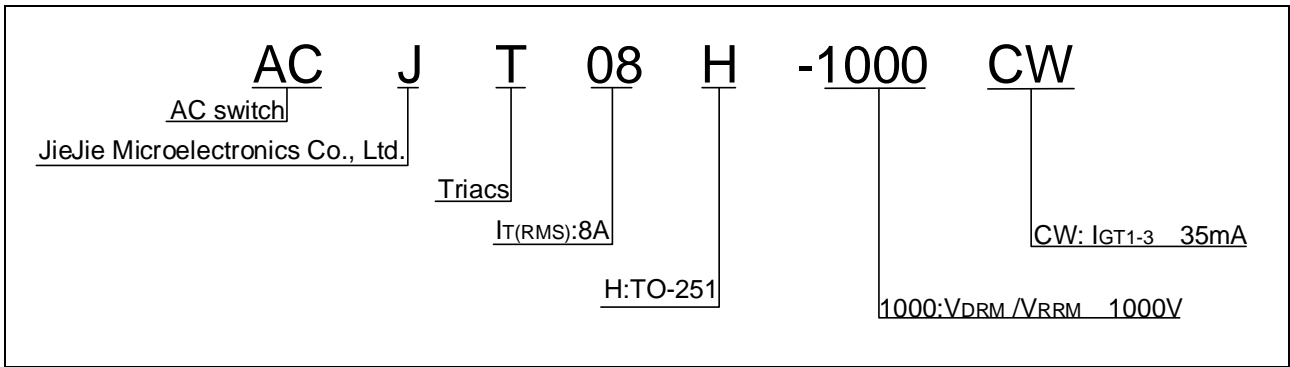


FIG.1 Maximum power dissipation versus RMS on-state current

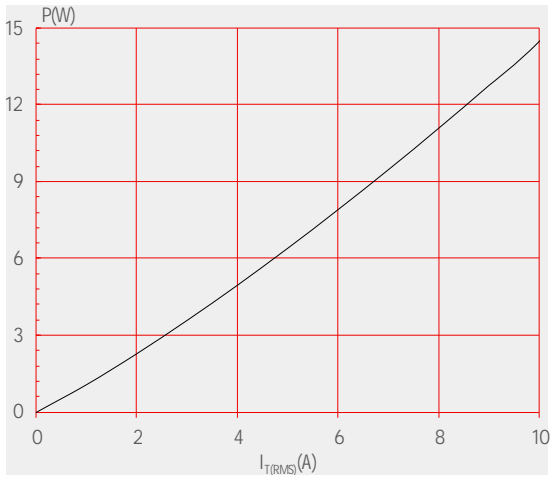


FIG.2: RMS on-state current versus case temperature

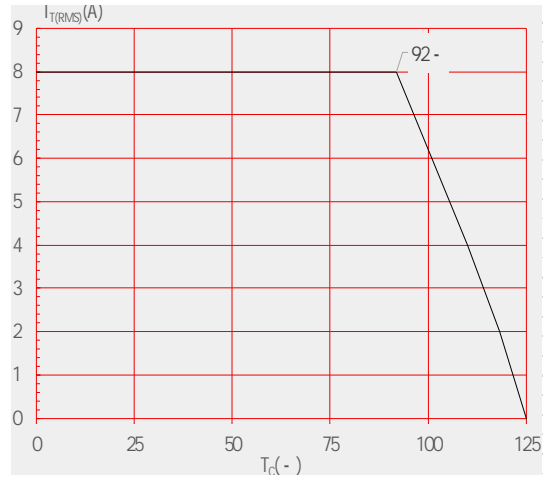


FIG.3: Surge peak on-state current versus number of cycles

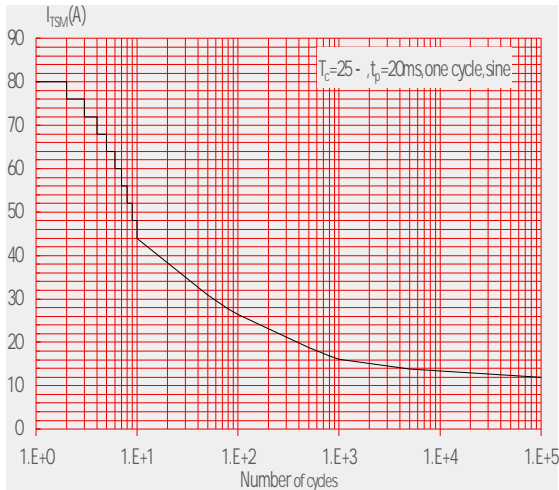


FIG.4: On-state characteristics

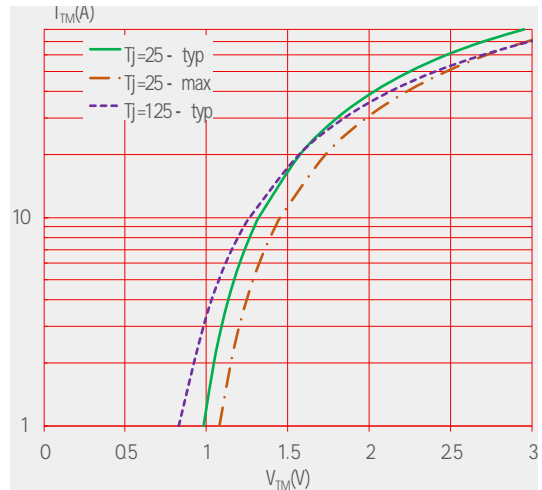


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

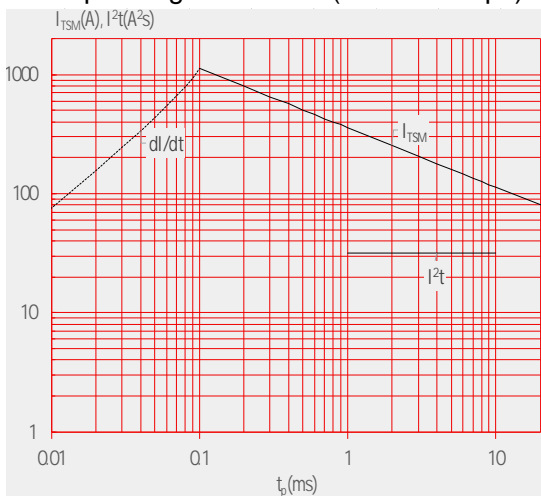


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

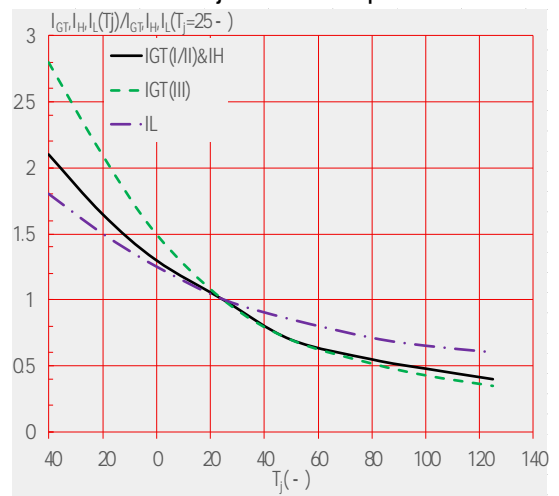
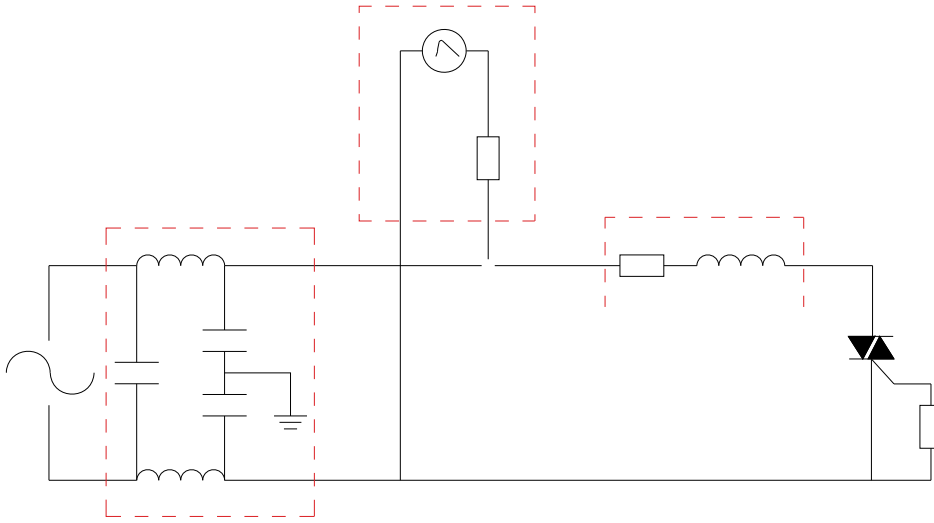


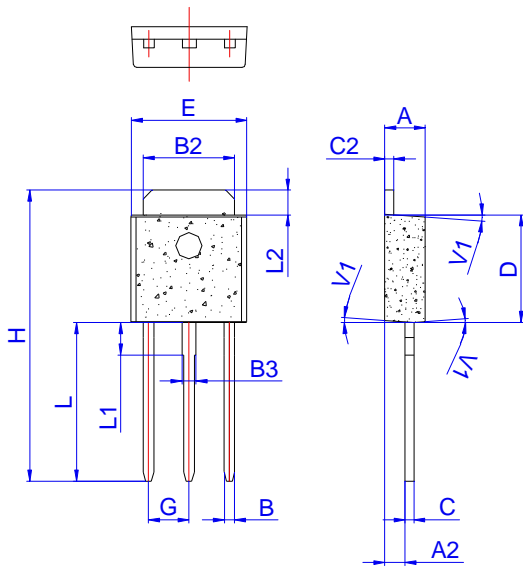
FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



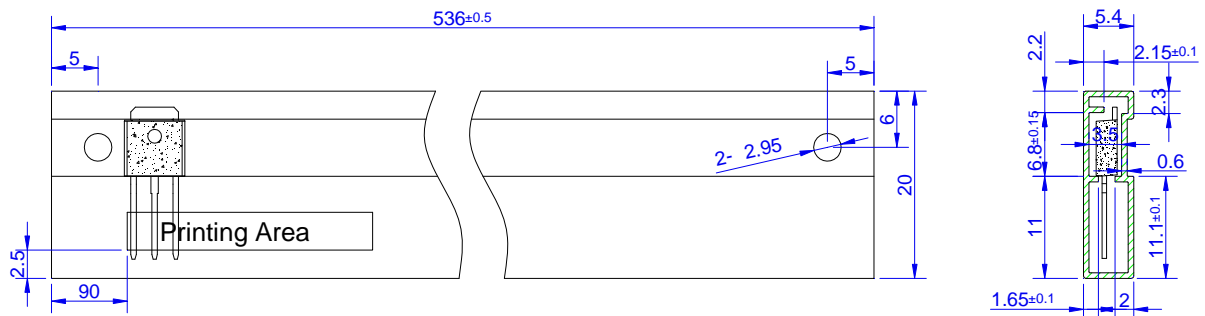
Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
ACJT08H-1000CW	1000	35	TO-251	80	Tube

Document Revision History

Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated




Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	1.00		1.30	0.039		0.051
B	0.50		0.70	0.020		0.028
B2	5.10		5.40	0.200		0.213
B3	0.70		1.00	0.028		0.039
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	2.20		2.40	0.087		0.094
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		2.20	0.071		0.087
L2	1.25		1.55	0.049		0.061
V1		4°			4°	



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-251	TUBE	80	4,000	20,000

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