

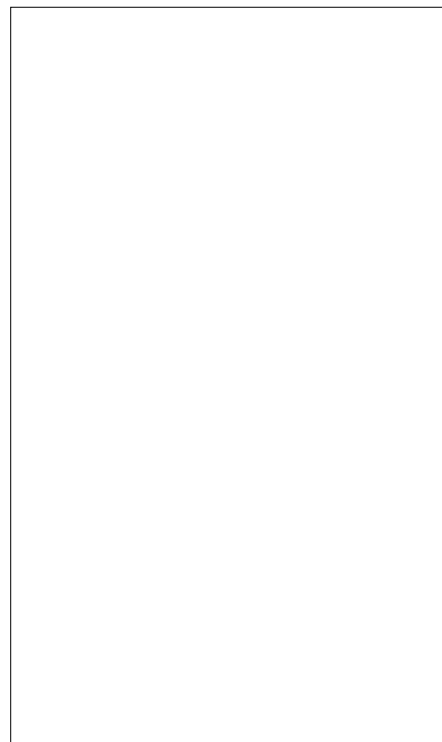


## ACJT110-8N2 1A TRIAC

Rev.A.1.0

### DESCRIPTION:

The ACJT110-8N2 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 ACJT110-8N2 embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. Package SOT-89-2L is RoHS compliant.



### MAIN FEATURES

### 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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
RMS on-state current ( $T_c=77^\circ\text{C}$ )	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	15	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		16.5	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	1.25	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ , $f=100\text{Hz}$ , $T_j=125^\circ\text{C}$ )	$di/dt$	60	$\text{A/s}$

Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.8)	$V_{pp}$	3.5	kV
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**ELECTRICAL CHARACTERISTICS** ( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	10	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.	20	mA
				30	
$I_H$	$I_T=100mA$		MAX.	20	mA
$dV/dt$	$V_D=540V$ Gate Open $T_j=125$		MIN.	700	V/s
$(dI/dt)_c$	$(dV/dt)_c=1$ $f_j=125$		MIN.	1.2	A/ms
$t_{on}$	$I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	2.5	s
$t_{off}$				25	
$V_{CL}$	$I_{CL}=0.1mA t_p=1ms$		MIN.	850	V

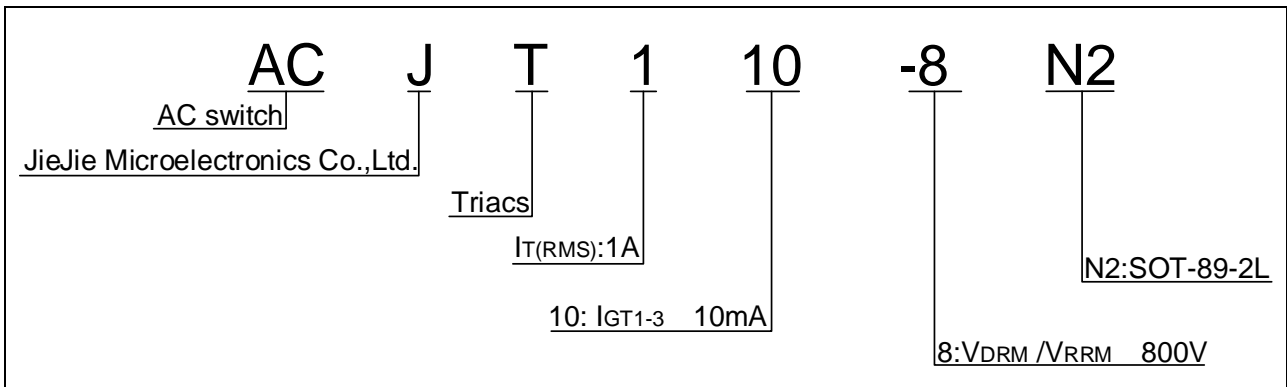
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=1.1A t_p=380$ s	$T_j=25$	1.4	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.8	V
$R_D$	Dynamic resistance	$T_j=125$	287	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	A
$I_{RRM}$		$T_j=125$	0.2	mA

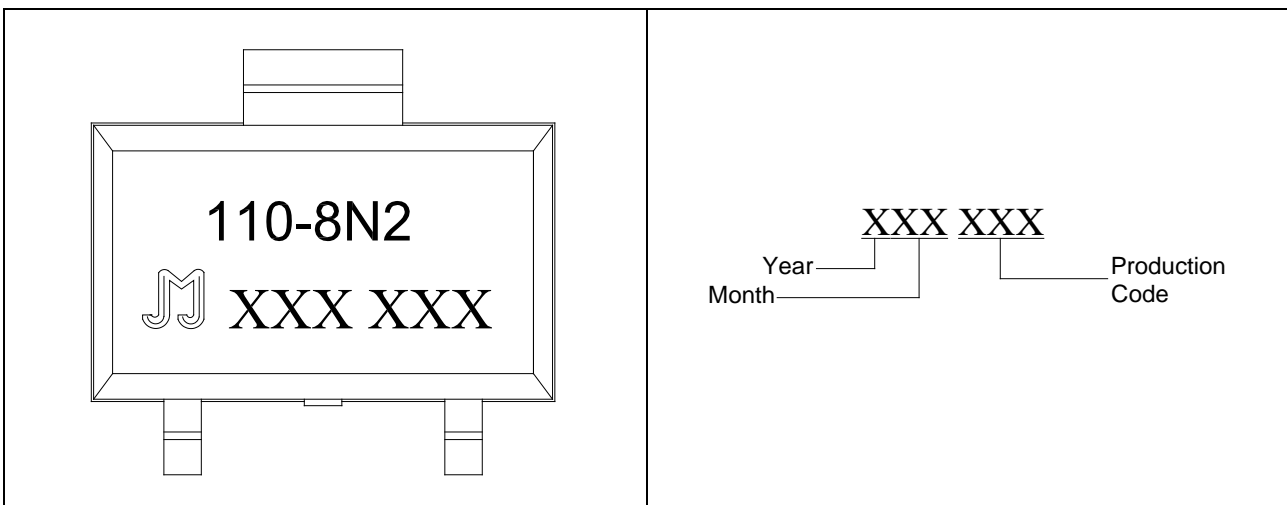
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	35	$^{\circ}W$
$R_{th(j-a)}$	junction to ambient (AC,in free air, $S=5cm^2$ )	80	$^{\circ}W$

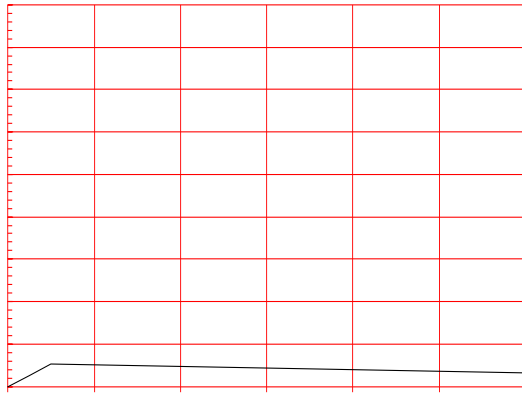
ORDERING INFORMATION



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

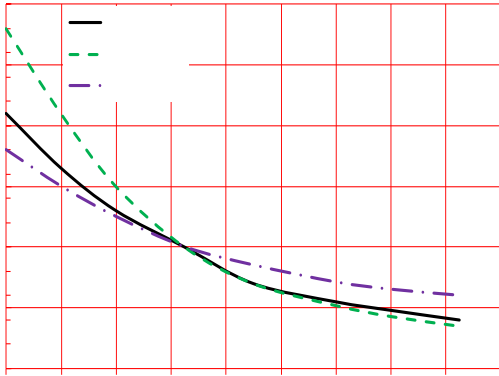
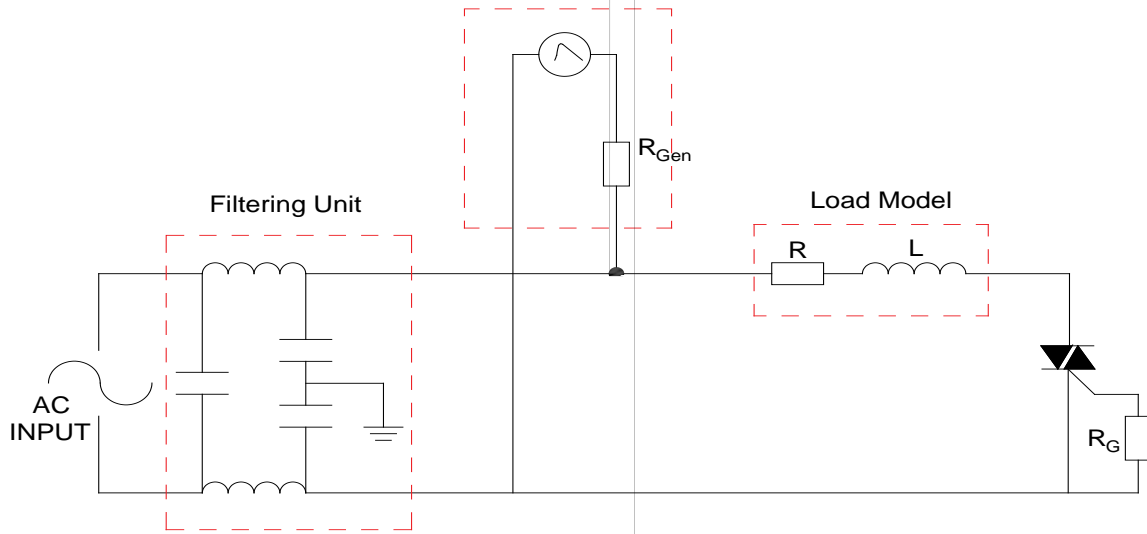


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards

IEC61000-4-5 Standards  
Surge Generator





PACKAGE MECHANICAL DATA





DELIVERY MODE

Ref.	Dimensions		Inches
	Millimeters		
	Min.	Typ.	

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