

/ Descriptions

Triac in a TO-252 Plastic Package.

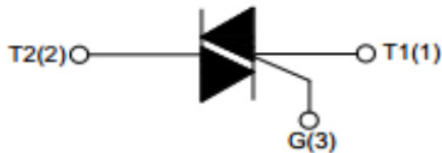
/ Features

Medium current triac, Low on state voltage drop,High reliability and stability,Low thermal resistance, HF Product.

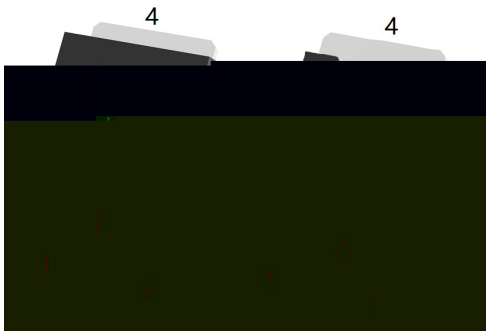
/ Applications

Suitable for general purpose AC switching .Such as static relays,heating regulation,induction motor starting circuits,motor speed controllers,etc.

/ Equivalent Circuit



/ Pinning



PIN1 Main Terminal 1 PIN 2 4 Main Terminal 2 PIN 3: Gate

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

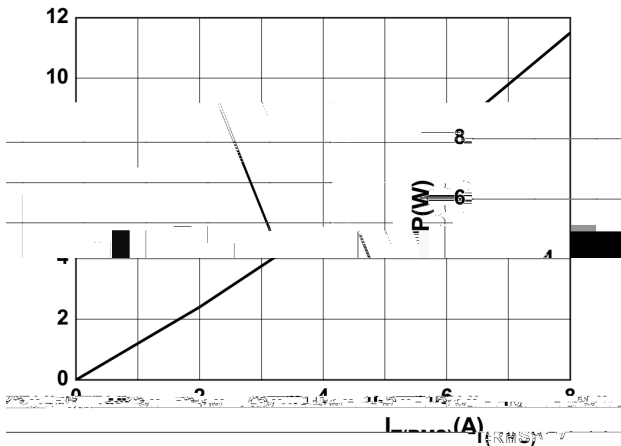
Parameter	Symbol	Rating	Unit
Repetitive peak off-state/reverse voltages($T_j=25^\circ\text{C}$)	$V_{\text{DRM}}/V_{\text{RRM}}$	800	V
RMS on-state current($T_c=110^\circ\text{C}$)	$I_{\text{T(RMS)}}$	8	A
Non repetitive surge peak on-state current(full cycle, $T_j=25^\circ\text{C}$)	$I_{\text{TSM}(t=20\text{ms})}$	65	A
I^2t value for fusing($T_j=25^\circ\text{C}$)	$I^2t_{(tp=10\text{ms})}$	21	A^2s
Critical rate of rise of on-state current ($I_G=2I_{\text{GT}}$, $f=120\text{Hz}$ $T_j=150^\circ\text{C}$)	dI/dt I-II-III	80	$\text{A}/\mu\text{s}$
	dI/dt IV	40	
Peak gate current($t_p=20\mu\text{s}$ $T_j=150^\circ\text{C}$)	I_{GM}	2.0	A
Average gate power dissipation($T_j=150^\circ\text{C}$)	$P_{\text{G(AV)}}$	0.5	W
Operating junction temperature range	T_j	$-40\sim 125$	$^\circ\text{C}$
Storage junction temperature range	T_{stg}	$-40\sim 150$	$^\circ\text{C}$
Junction to ambient(AC)	$R_{\text{th(j-a)}}$	130	$^\circ\text{C}/\text{W}$
Junction to case for(AC)	$R_{\text{th(j-c)}}$	5	

/ Electrical Characteristics($T_j=25^\circ\text{C}$)

4 / Snubberless and logic level 4 quadrants)

Symbol	Test Conditions	Quadrant	Value		Unit
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	Max.	10	mA
		IV		25	
V_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III-IV	Max.	1.3	V
V_{GD}	$V_D=V_{\text{DRM}}$ $R_L=3.3\text{K}\Omega$ $T_j=125^\circ\text{C}$	I-II-III-IV	Min.	0.2	V
I_{L}	$I_G=1.2I_{\text{GT}}$	I-III-IV	Max.	25	mA
		II		35	
I_{H}	$I_T=500\text{mA}$		Max.	20	mA
dV/dt	$V_D=67\% V_{\text{DRM}}$ Gate Open	$T_j=150^\circ\text{C}$	Min.	20	$\text{V}/\mu\text{s}$
V_{TM}	$I_{\text{TM}}=10\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	Max.	1.55	V
I_{DRM}	$V_D=V_{\text{DRM}}$ $V_R=V_{\text{RRM}}$	$T_j=25^\circ\text{C}$		10	μA
I_{RRM}		$T_j=150^\circ\text{C}$		1	mA

/ Electrical Characteristic Curve



case

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

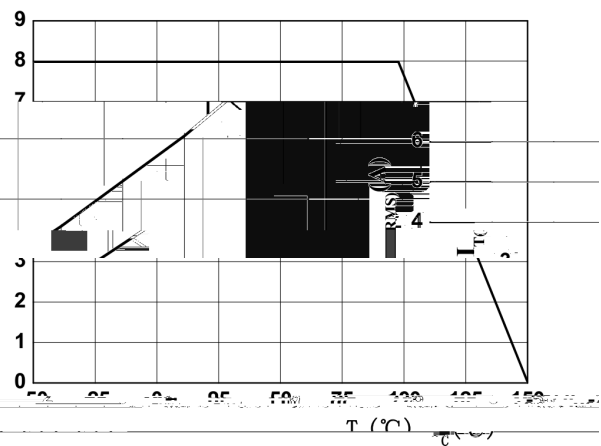


FIG.2: RMS on-state current versus temperature

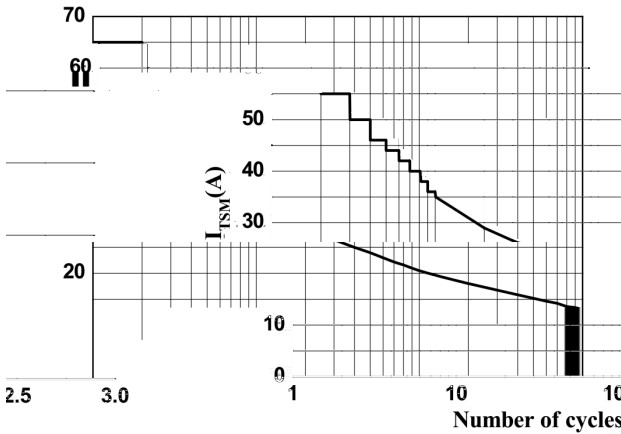


FIG.3: Surge peak on-state current versus number of cycles

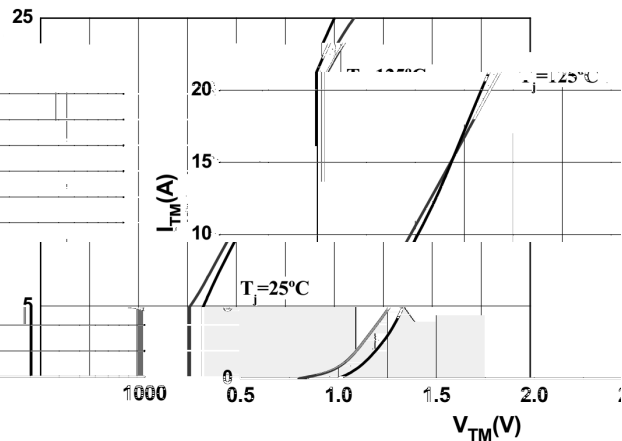
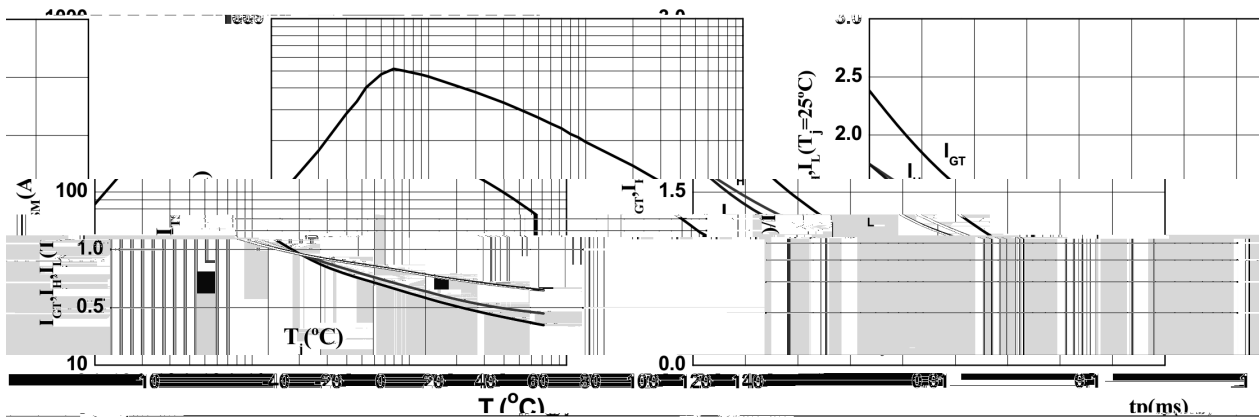


FIG.4: On-state characteristics

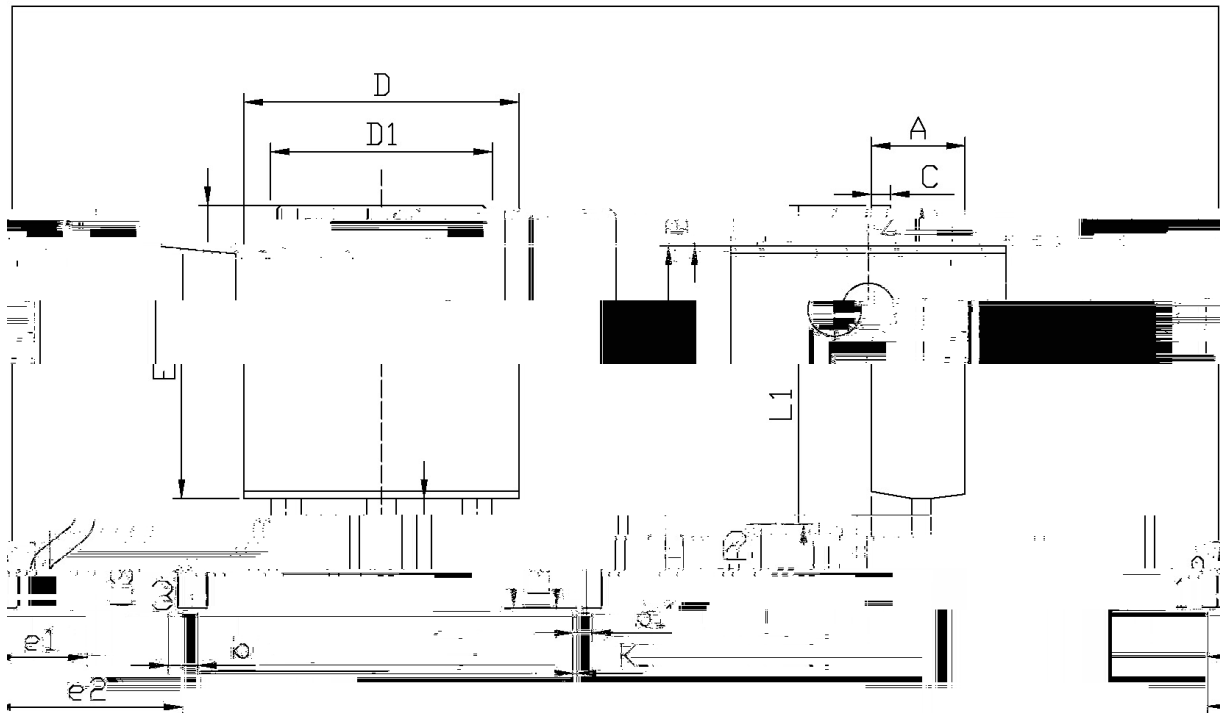


repetitive surge peak on-state current

FIG.5: Non-repetitive surge peak on-state current

FIG.5: Non-repetitive surge peak on-state current

/ Package Dimensions



单位：mm

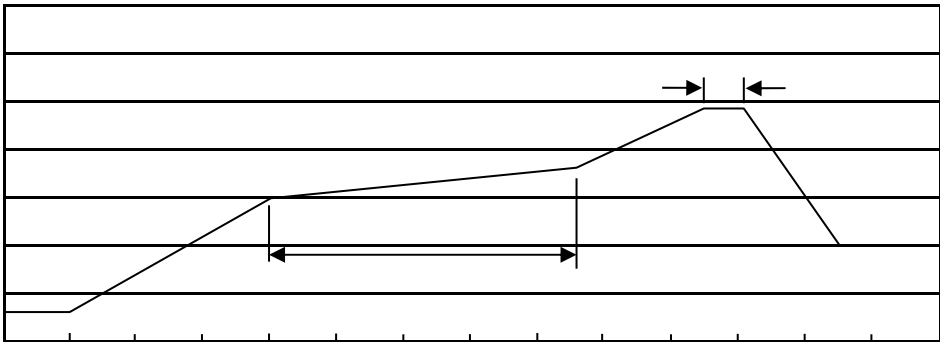
Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.50	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.45	9.95
C	0.45	0.55	L2	1.25	1.75
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

T0-252

/ Marking Instructions

Note:

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260±5℃ Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices