

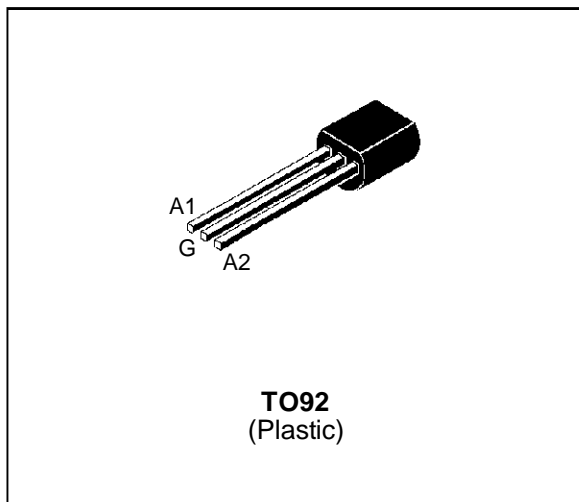
SENSITIVE GATE TRIACS

FEATURES

- $I_{T(RMS)} = 0.8A$
- $V_{DRM} = 400V$ to $800V$
- $I_{GT} \leq 3mA$ to $\leq 25mA$

DESCRIPTION

The Z01xxxA series of triacs uses a high performance TOP GLASS PNP technology. These parts are intended for general purpose applications where gate high sensitivity is required.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_I = 70\text{ }^\circ\text{C}$	0.8	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = 25°C)	$t_p = 8.3\text{ ms}$	8.5	A
		$t_p = 10\text{ ms}$	8	
I^2t	I^2t Value for fusing	$t_p = 10\text{ ms}$	0.32	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 50\text{ mA}$ $di_G/dt = 0.1\text{ A}/\mu\text{s}$.	Repetitive $F = 50\text{ Hz}$	10	$A/\mu\text{s}$
		Non Repetitive	50	
T_{stg} T_j	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ\text{C}$
T_I	Maximum lead temperature for soldering during 10s at 2mm from case		260	$^\circ\text{C}$

Symbol	Parameter	Voltage				Unit
		D	M	S	N	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage $T_j = 125^\circ\text{C}$	400	600	700	800	V

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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction to ambient	150	°C/W
Rth(j-l)	Junction to leads for D.C	80	°C/W
Rth(j-l)	Junction to leads for A.C 360° conduction angle (F=50Hz)	60	°C/W

GATE CHARACTERISTICS (maximum values)

$P_G (AV) = 0.1 \text{ W}$ $P_{GM} = 2 \text{ W}$ ($t_p = 20 \mu\text{s}$) $I_{GM} = 1 \text{ A}$ ($t_p = 20 \mu\text{s}$)

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Sensitivity				Unit
					03	07	09	10	
I _{GT}	V _D =12V (DC) R _L =140Ω	T _j = 25°C	I-II-III	MAX	3	5	10	25	mA
			IV	MAX	5	7	10	25	
V _{GT}	V _D =12V (DC) R _L =140Ω	T _j = 25°C	I-II-III-IV	MAX	1.5				V
V _{GD}	V _D =V _{DRM} R _L =3.3kΩ	T _j = 125°C	I-II-III-IV	MIN	0.2				V
t _{gt}	V _D =V _{DRM} I _G = 40mA I _T = 1.1A dI _G /dt = 0.5A/μs	T _j = 25°C	I-II-III-IV	TYP	2				μs
I _H *	I _T = 50 mA Gate open	T _j = 25°C		MAX	7	10	10	25	mA
I _L	I _G = 1.2 I _{GT}	T _j = 25°C	I-III-IV	TYP	7	10	10	25	mA
			II	TYP	14	20	20	50	
V _{TM} *	I _{TM} = 1.1A t _p = 380μs	T _j = 25°C		MAX	1.5				V
I _{DRM} I _R RM	V _D = V _{DRM} V _R = V _R RM	T _j = 25°C		MAX	10				μA
		T _j = 110°C		MAX	200				
dV/dt*	V _D =67%V _{DRM} Gate open	T _j = 110°C		MIN	10	20	50	100	V/μs
				TYP	20	50	150	400	
(dV/dt) _c *	(dI/dt) _c = 0.35 A/ms	T _j = 110°C		MIN			2	5	V/μs
				TYP	1	1			

* For either polarity of electrode A₂ voltage with reference to electrode A₁

ORDERING INFORMATION

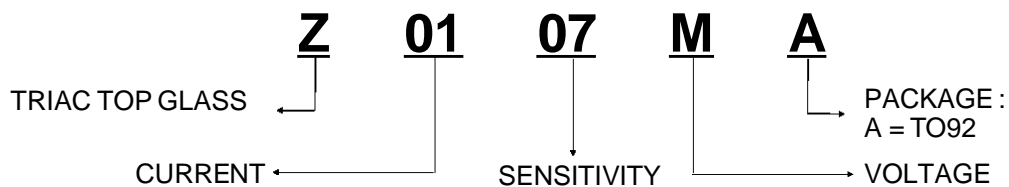


Fig.1 : Maximum RMS power dissipation versus RMS on-state current.

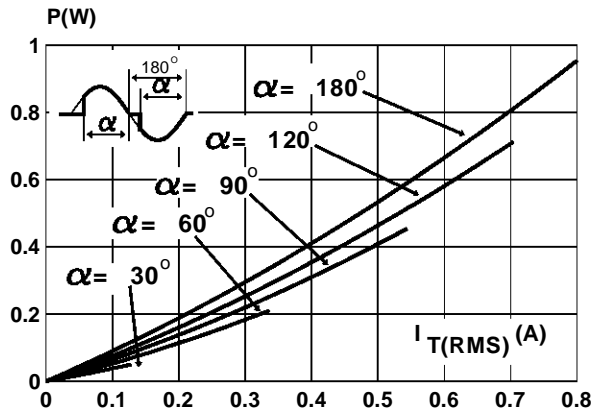


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperature (Tamb and Tlead).

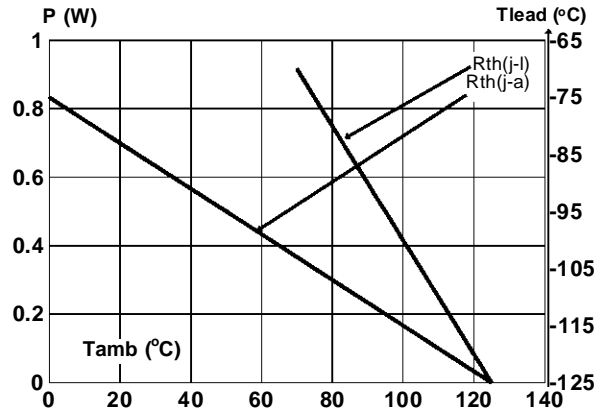


Fig.3 : RMS on-state current versus case temperature.

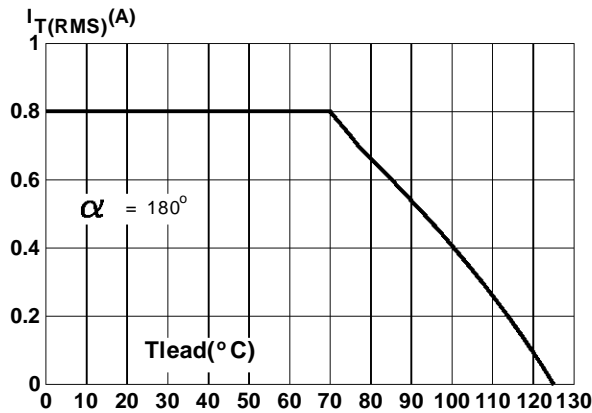


Fig.4 : Relative variation of thermal impedance junction to ambient versus pulse duration.

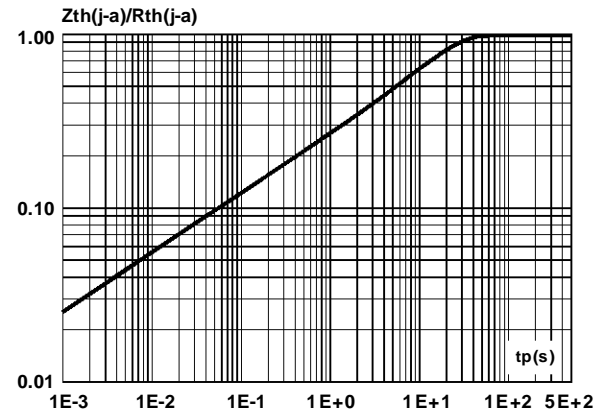


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

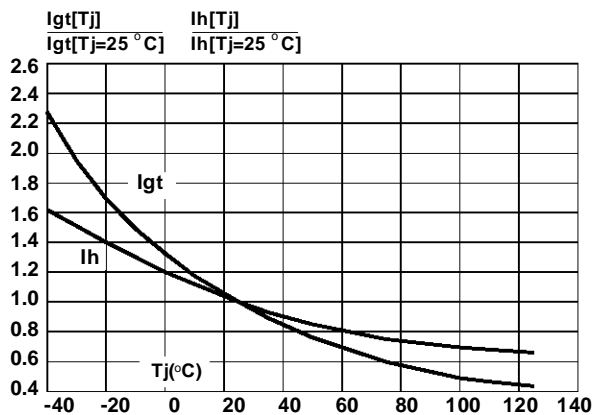
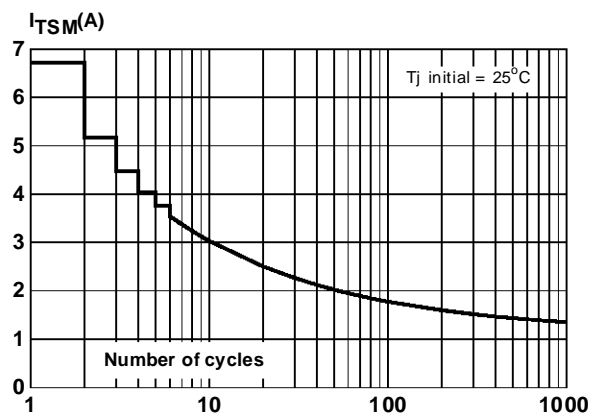


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.



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Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t_p \leq 10\text{ms}$, and corresponding value of I^2t .

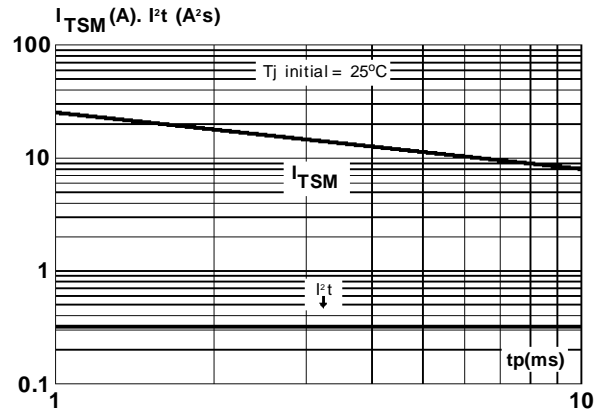
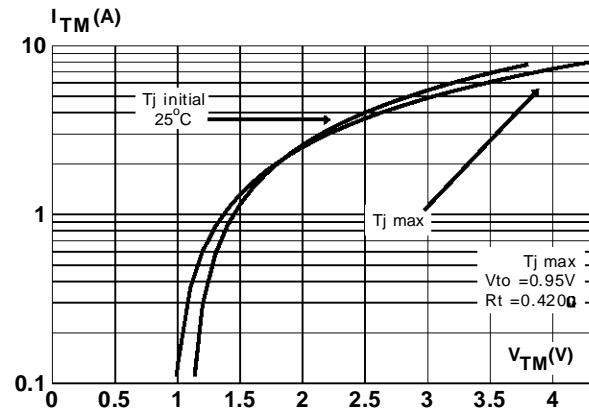
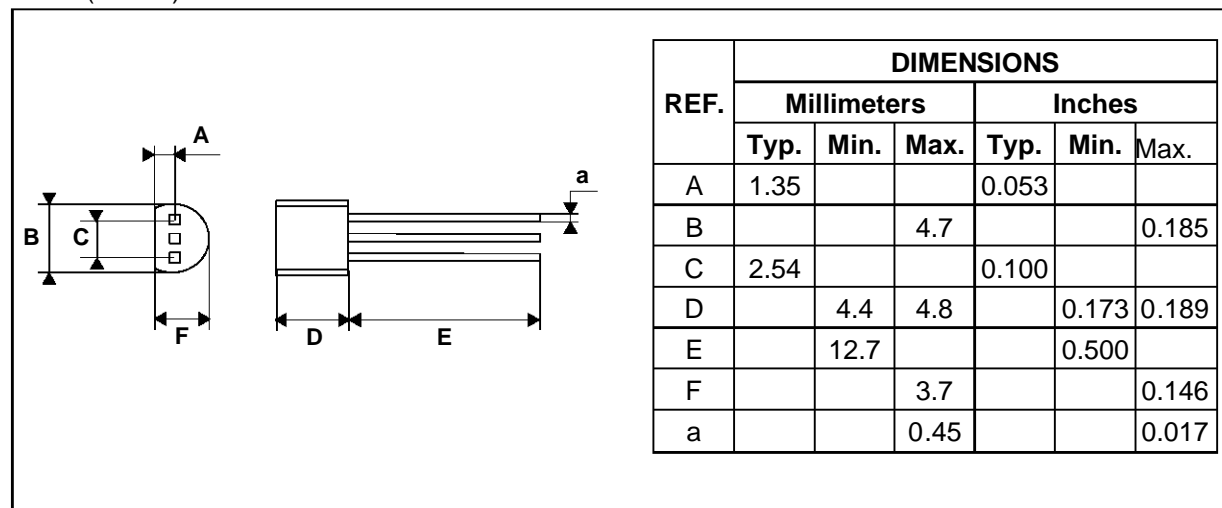


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO92 (Plastic)



Marking : type number

Weight : 0.2 g

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