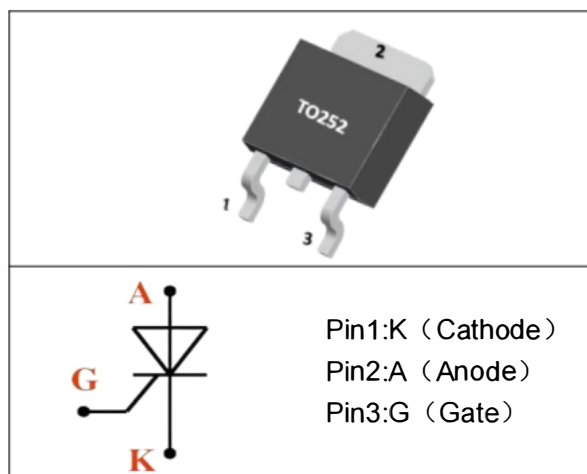


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GENERAL DESCRIPTION

Glass passivated, sensitive gate thyristors in a plastic envelope, intended for use in general purpose switching and phase control applications. These devices are intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.



ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

SYMBOL	PARAMETER	CONDITION	VALUE	UNIT
VDRM	Repetitive Peak off-state voltage	2P4M	600	V
IT(AV)	Average On-State Current (180° IT(AV) Conduction Angle)	Tj=60°C	3	A
IT(RMS)	R.M.S On-State Current(180° Conduction Angle)	Tc=60°C	2	A
ITSM	Surge On-State Current	t=20ms,F=50HZ	20	A
I ² t	I ² t for Fusing	t=10ms	1.7	A ² S
di/dt	Critical rate of rise of on-state current	Tj=125°C	50	A/μs
PG(AV)	Forward Average Gate Power Dissipation	Tj=125 °C	0.5	W
PGM	Forward Peak Gate Power Dissipation		1	W
Tstg	Storage Temperature		-40 to +150	°C
Tj	Operating junction temperature		125	°C

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■ THERMAL RESISTANCES

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-252	R θ JA	62.5	°C/W
Junction to Case	TO-252	R θ JC	2.6	°C/W

■ ELECTRICAL CHARACTERISTICS(T_j=25°C unless otherwise specified)

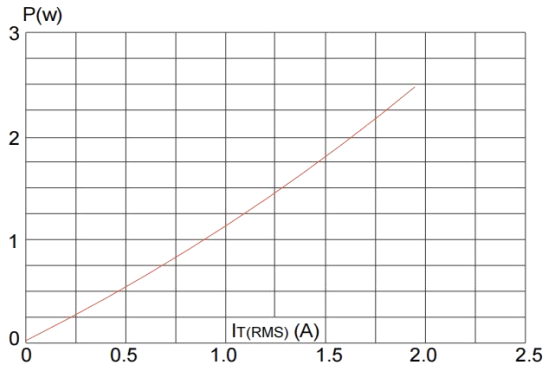
Symbol	Parameter	Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current	T _c =25°C	≤5	uA
		T _c = 110°C	≤100	uA
IRRM	Repetitive Peak Reverse Current	T _c =25°C	≤5	uA
		T _c = 110°C	≤100	uA
VTM	Forward "on" voltage	I _T =2A t _p =380us	≤1.7	V
VGD	Gate nontrigger voltage	V _D =V _{DRM} , T _j = 110°C R _{GK} = 1K Ω ,R _L =3.3K Ω	≥0.2	V
IL	Latching current	I _G = 1.2IGT	≤6	mA
IH	Holding current	V _D = 12V ,I _{GT} =0. 1A	≤5	mA
VGT	Gate trigger voltage	V _D = 12V ,I _{GT} =0. 1A	≤0.8	V
IGT	Gate trigger current	V _D = 12V,I _T =0. 1A	≤120	uA
dv/dt	Critical-rate of rise of commutation voltage	V _D =2/3V _{DRM} , T _j = 110°C R _{GK} = 1K Ω	≥10	V/us
R _{th(j-c)}	Thermal resistance	Junction to case	3.0	°C/W

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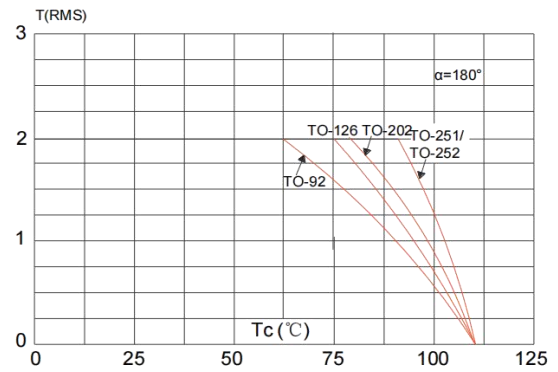
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TYPICAL CHARACTERISTICS

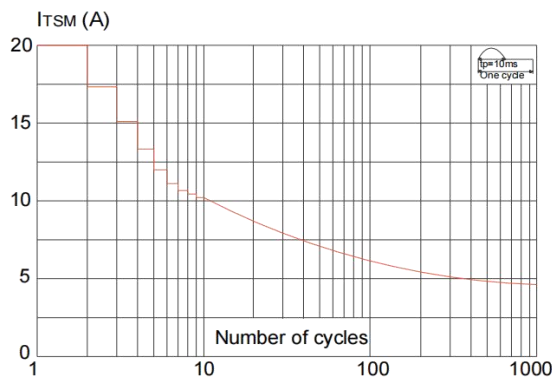
Maximum power dissipation versus RMS on-state current



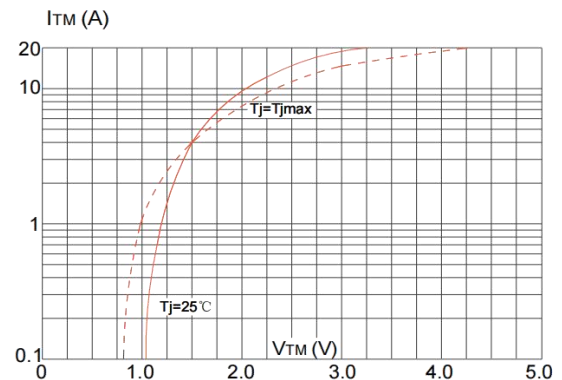
RMS on-state current versus case temperature



Surge peak on-state current versus number of cycles



On-state characteristics (maximum values)



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

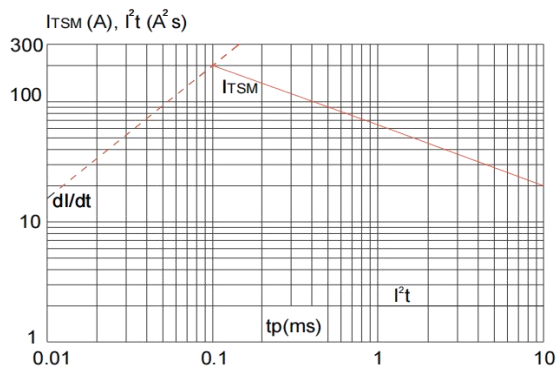
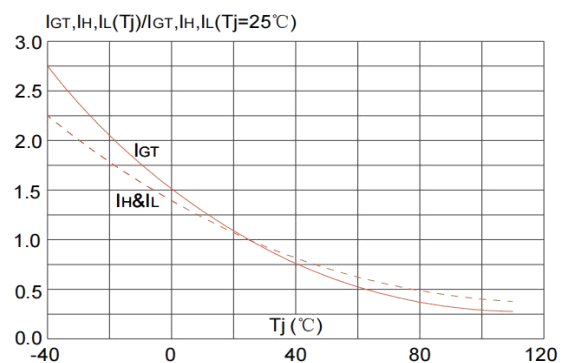


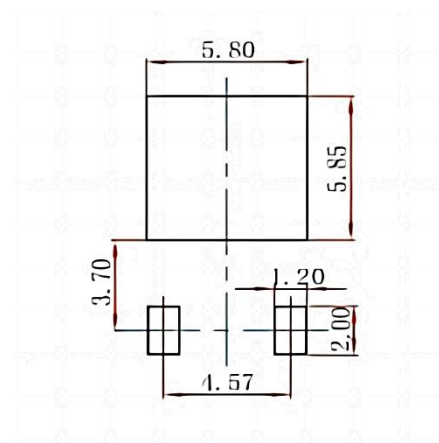
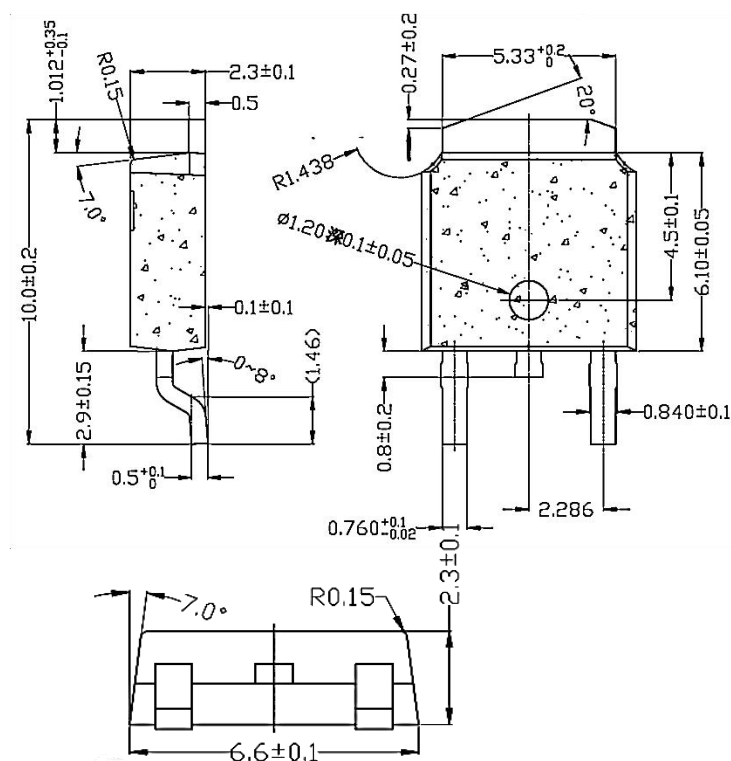
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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TO-252 Package Outline Dimensions



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

TO - 252 Packing Information

Package version	Reel dimensions $\Phi \times H$ (mm)	Per Reel (pcs)	Reels per box	Inner box dimensions $L \times W \times H$ (mm)	Outer box (pcs)	Outer box dimensions $L \times W \times H$ (mm)
T0-252	$\Phi 330 \times 20$	2500	2	360*340*50	25000	375*375*280