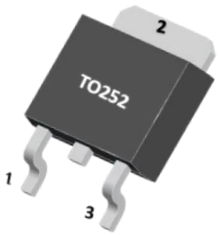
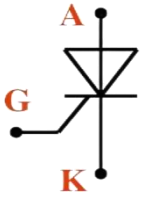
2P4M&2P6M

SCRS

■ 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.





Pin1:K（Cathode）
Pin2:A（Anode）
Pin3:G（Gate）

■ MARKING

Type Code: Marking: 2P4M
2P6M

: HY LOGO
2P4/6M=Device Code
XXXX=Date Code
Solid Dot=Green molding compound

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

SYMBOL	PARAMETER	TEST CONDITION	VALUE	UNIT
VDRM	Repetitive Peak off-state voltage	2P4M 2P6M	400 600	V
IT(AV)	Average On-State Current(180° IT(AV) Conduction Angle)	Tj=60°C	2	A
IT(RMS)	R.M.S On-State Current(180° Conduction Angle)	Tc=60°C	4	A
ITSM	Surge On-State Current	t=20ms,F=50HZ	20	A
I²t	I²t for Fusing	t=10ms	33	A²S
dI/dt	Critical rate of rise of on-state current	Tj=125℃	50	A/μs
PG(AV)	Forward Average Gate Power Dissipation	Tj=125°C	0.1	W
PGM	Forward Peak Gate Power Dissipation		0.5	W
IFGM	Forward Peak Gate Current		0.2	A
Tstg	Storage Temperature		-40 to +150	℃
Tj	Operating junction temperature		125	℃

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL RESISTANCES

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-89	RθJA	165	℃/W
	TO-252		62.5	℃/W
Junction to Case	SOT-89	RθJC	60	℃/W
	TO-252		2.6	℃/W

■ ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Gate Trigger current(note 2)	I	IGT	VD=6V,RL=100Ω	10		200	μA
Gate Trigger voltage(note 2)	I	VGT	VD=6V,RL=100Ω			0.8	V
The voltage is not triggered(note 1)		VGD	VDM=1/2VDRM RGK=1 KΩ,Tj=125℃	0.2			V
Latching Current		IL	IT=1mA, RGK=1 KΩ			4	mA
Holding Current		IH	IT=50mA, RGK=1 KΩ	1		3	mA
Critical Rate of Rise of Off-state Voltage		dV/dt	The voltage is not triggered		10		V/us

■ STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Peak On-State Voltage(note 1)	VTM	ITM=12A, tP=380μs	TJ=25°C			2.2	V
Threshold Voltage	VTD		TJ=125°C			0.92	V
Dynamic Resistance	RD		TJ=125°C			36.8	mΩ
Repetitive Peak Off-State Current	IDRM/IRRM	VD=VDRM; VR=VRRM	TJ=25°C			10	uA
	IDRM/IRRM		TJ=125°C			100	uA

■ TYPICAL CHARACTERISTICS（1）

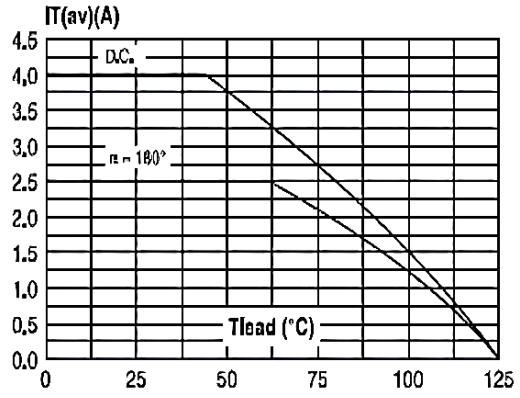


Fig.1*Average and D.C.on-state current versusrsus ambient temperature (device mounted on with recommended pad layout)*

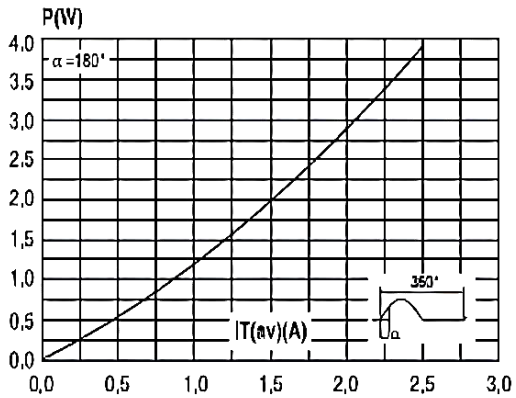


Fig. 2*Maximum average power dissipation versus average on-state current*

■ TYPICAL CHARACTERISTICS（2）

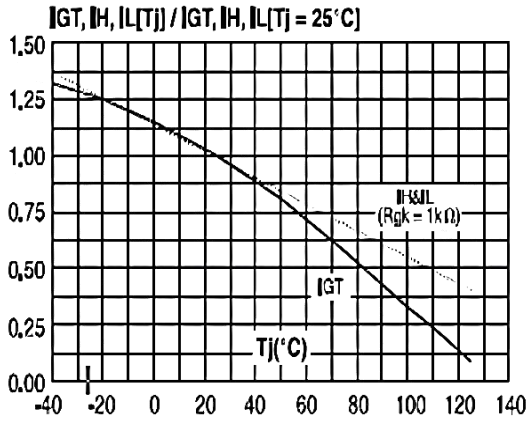


Fig. 3 *Relative variation of gate trigger current And holding current versus junction temperature*

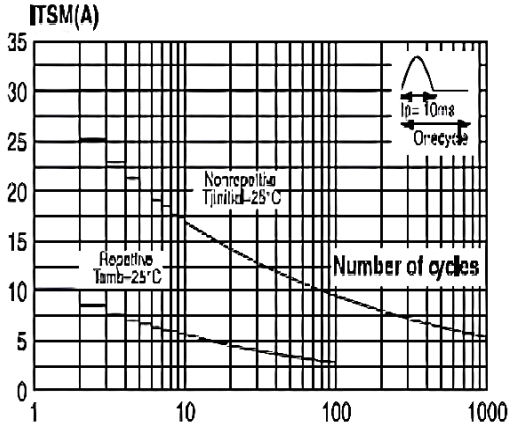


Fig. 4*Surge peak on-state current versus Number of cycles.*

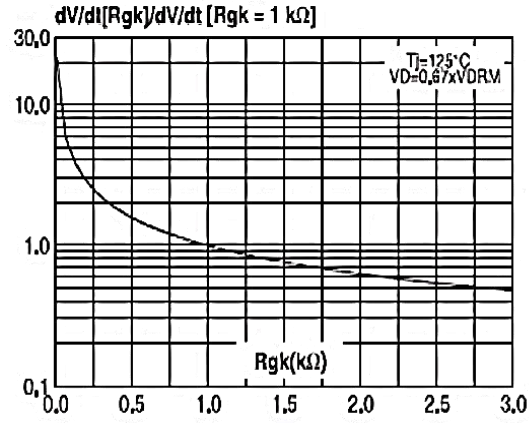


Fig.5*Relative variation of dV/dt immunity versus gate-cathode resistance(typical values)*

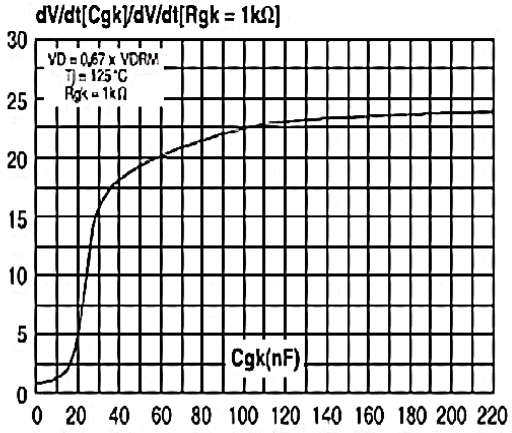


Fig.6 *Relative Variation of dV/dt immunity versus gate-cathode capacitance (typical values)*

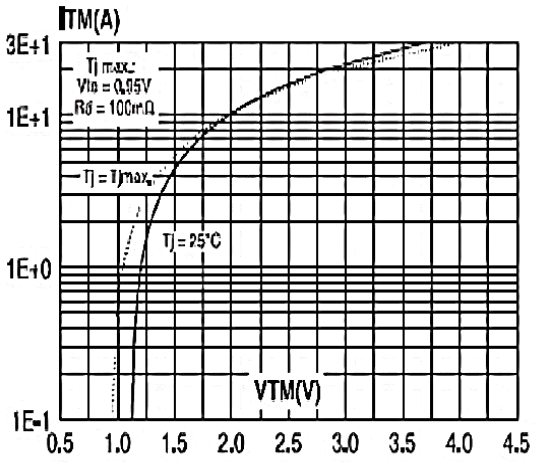


Fig.7*On-state Characteristics (maximum values)*

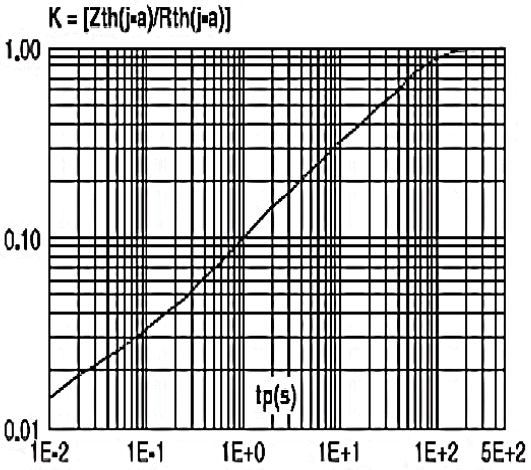
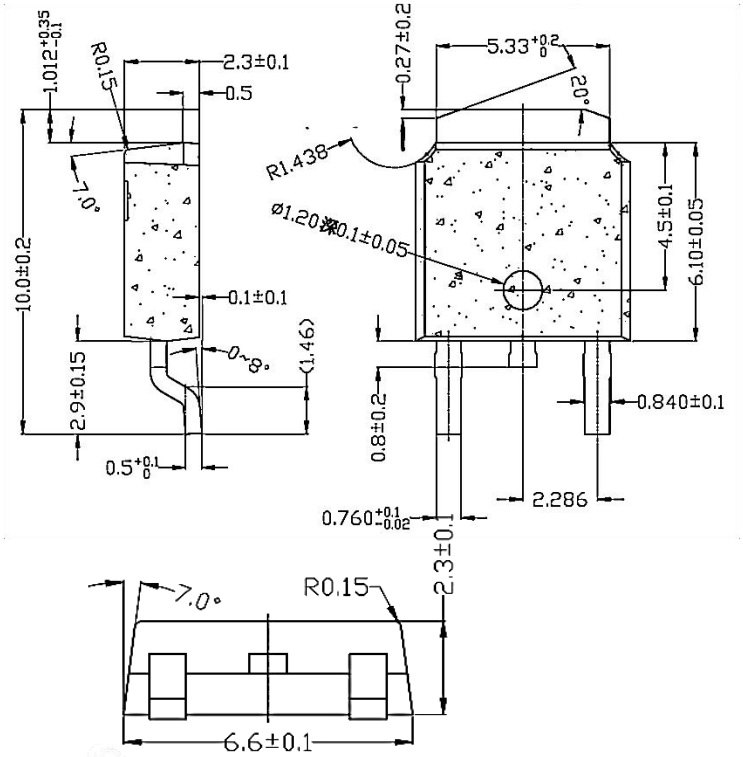


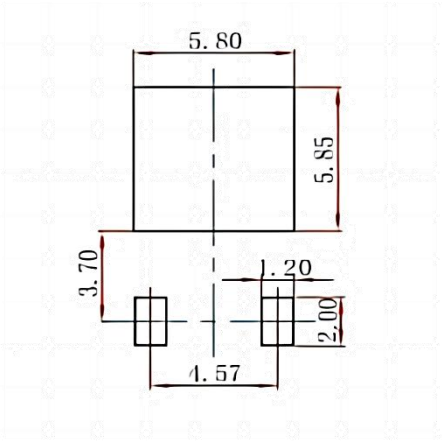
Fig.8*Thermal Resistance junction to ambient versus copper surface under tab (Epoxy printed circuit board FR4,copper thickness:35mm)*

2P4M&2P6M

SCRS

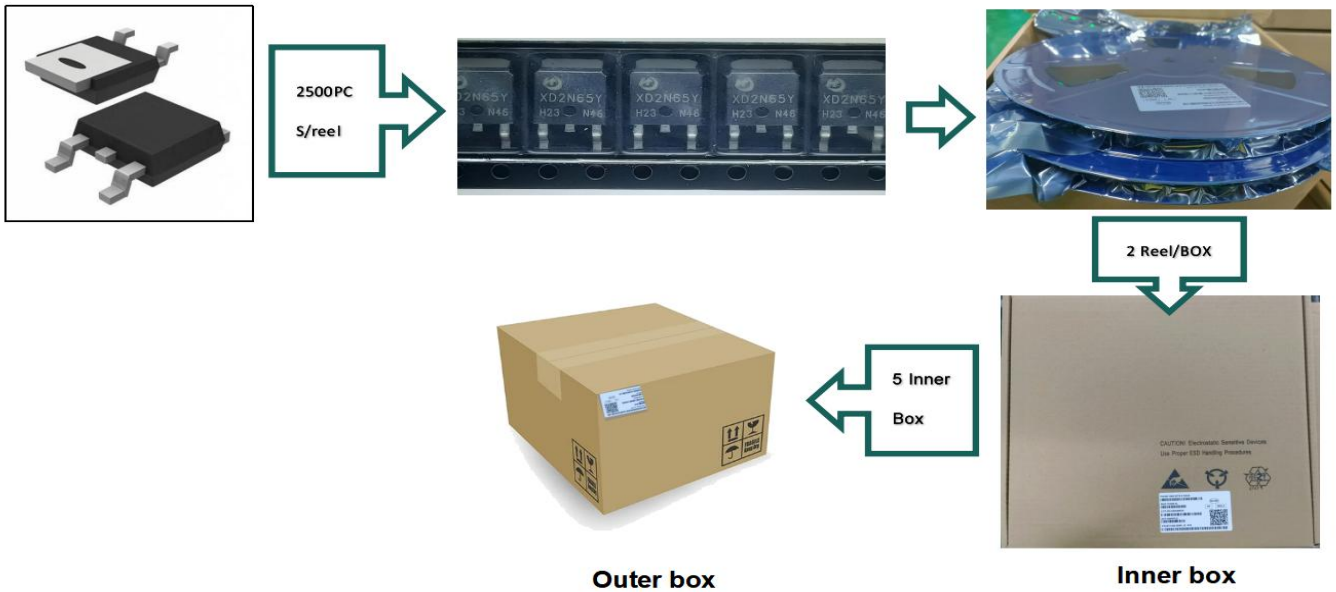
■ TO- 252 Package Outline Dimensions





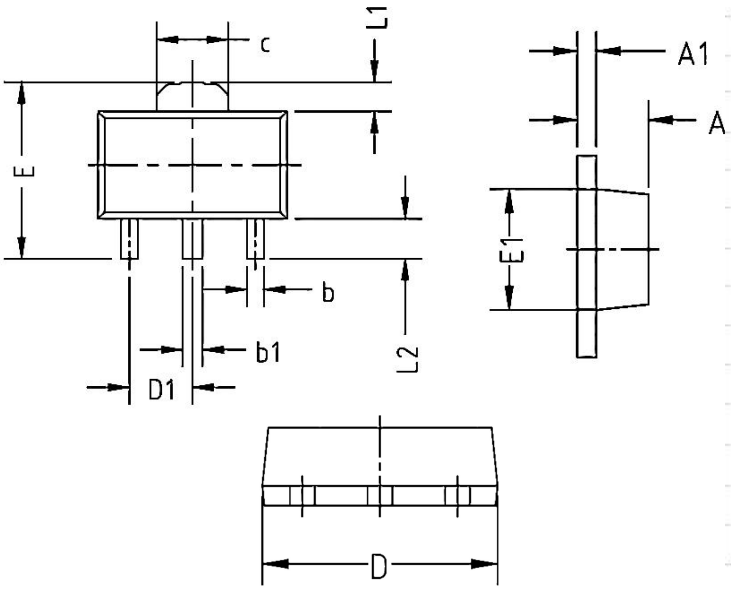
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

■ TO - 252 Packing Information



Package version	Reel dimensions Φ×H (mm)	Per Reel (pcs)	Reels per box	Inner box dimensions L×W×H(mm)	Outer box (pcs)	Outer box dimensions L×W×H (mm)
TO-252	Φ330*20	2500	2	360*340*50	25000	375*375*280

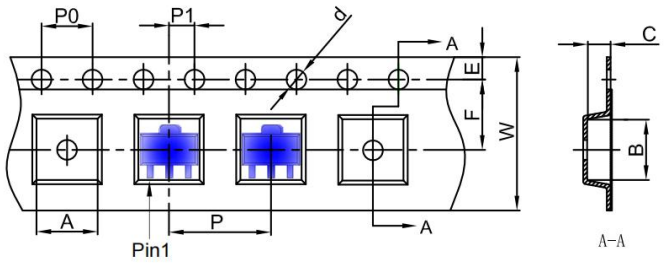
■ SOT - 89 Package Outline Dimensions



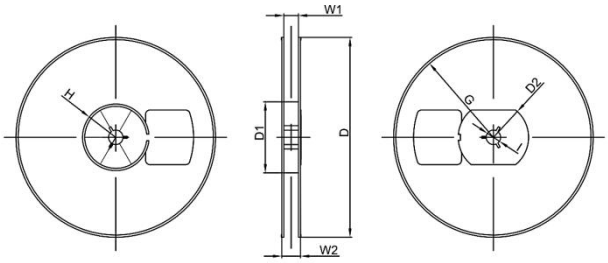
COMMON DIMENSION(MM)			
PKG	SOT-89		
Symbol	MIN	MON	MAX
A	1.450	1.500	1.550
A1	0.350	0.400	0.450
b	0.350	0.400	0.48
b1	0.430	0.480	0.550
C	1.500	1.550	1.650
D	4.450	4.550	4.700
D1	1.470	1.500	1.550
E	4.100	4.200	4.300
E1	2.500	2.550	2.650
L1	0.650	0.700	0.750
L2	0.900	0.950	1.000

■ SOT89 Packaging Information

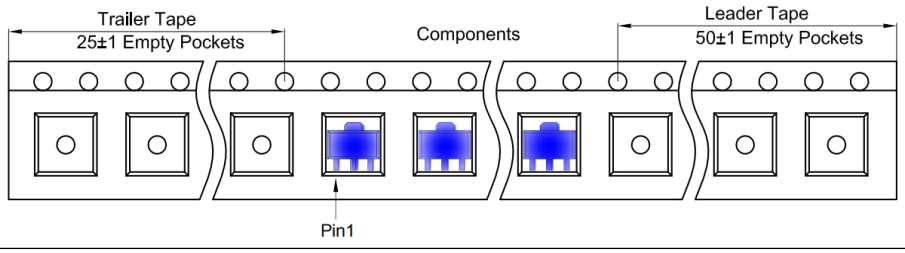
SOT-89 Embossed Carrier Tape



SOT-89 Reel



SOT-89 Tape Leader and Trailer



REEL	Reel Size
1000 pcs	7 inch

Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00