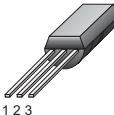


Description

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.

Symbol		Simplified outline	
			
		TO-92MOD	
Pin	Description		
1	Cathode		
2	anode		
3	gate		
TAB	anode		

Applications:

- ◆ Motor control
- ◆ Industrial and domestic lighting
- ◆ Heating
- ◆ Static switching

Features

- ◆ Blocking voltage to 400 V
- ◆ On-state RMS current to 4 A
- ◆ Ultra low gate trigger current

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	400	V
$I_T (RMS)$	RMS on-state current (full sine wave)	4	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)	20	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th} (j-c)$	Thermal resistance	Junction to Case	-	-	10	°C/W
$R_{th} j-a$	Lead Solder Temperature	Junction to Ambient	-	-	75	°C/W

Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN	Rating	UNIT
V_{DRM}	Repetitive peak off-Voltage		-	400	V
$I_{T(RMS)}$	RMS on-state current	all conduction angles	-	4.0	A
I^2t	I^2t for fusing		-	33	A ² S
dv/dt	Critical Rate-of-Rise off-State Voltage	$T_j=100^{\circ}\text{C}$	-	10	V/ μs
I_{FGM}	Peak gate current		-	0.3	A
V_{FGM}	Peak gate voltage		-	6	V
P_{GM}	Peak gate power		-	0.5	W
$P_{G(AV)}$	Average gate power		-	0.1	W
T_{stg}	Storage temperature		-40	110	$^{\circ}\text{C}$
T_j	Operating junction Temperature		-40	125	$^{\circ}\text{C}$

$T_j=25^{\circ}\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	Gate trigger current	$V_D=6\text{V}, I_T=0.1\text{A}, T_j=25^{\circ}\text{C}$	-	-	0.06	mA
V_{TM}	Peak On-Stage Voltage	$I_{TM}=2\text{A}, T_c=25^{\circ}\text{C}$	-	-	1.6	V
I_H	Holding Current	$V_D=24\text{V}, R_{GK}=1\text{k}, I_{TM}=2\text{A}$	-	-	1	mA
V_{GD}	Gate non-trigger voltage	$V_D=1/2V_{DRM}, T_j=110^{\circ}\text{C}, R_{GK}=1\text{K}$	0.1	-	-	V
V_{GT}	Gate trigger voltage	$V_D=6\text{V}, I_T=0.1\text{A}, T_j=25^{\circ}\text{C}$	-	-	0.8	V

Dynamic Characteristics

I_{RRM}	Repetitive peak reverse current	$V_{RRM}=\text{Rated}, T_j=110^{\circ}\text{C}$	-	-	1.0	mA
I_{DRM}	Repetitive peak off-state current	$V_{DRM}=\text{Rated}, T_j=110^{\circ}\text{C}, R_{GK}=1\text{K}$	-	-	1.0	mA

Description

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

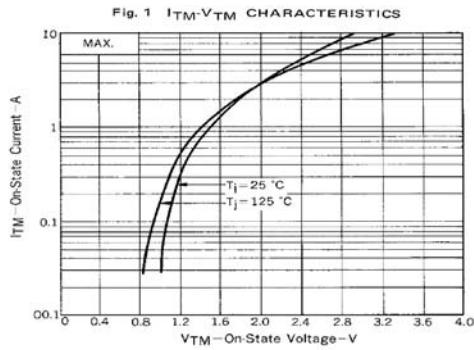


Fig. 2 $P_T(AV)-I_T(AV)$ CHARACTERISTICS

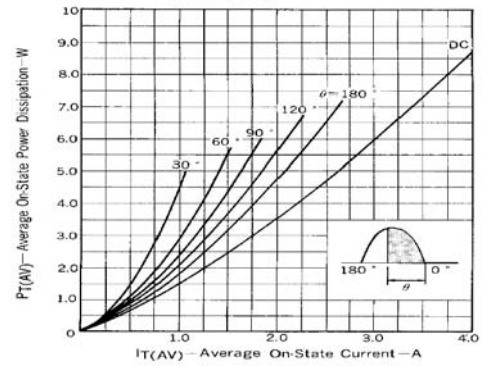


Fig. 3 $I_T(AV)-T_C$ RATINGS

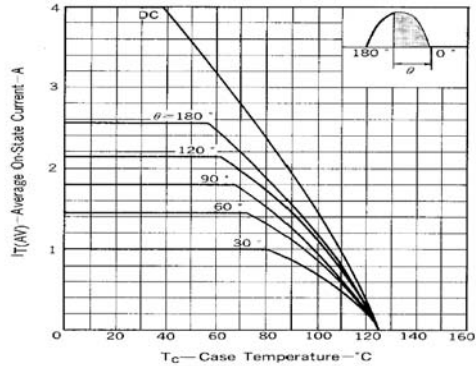


Fig. 4 $T_a-I_T(AV)$ RATINGS

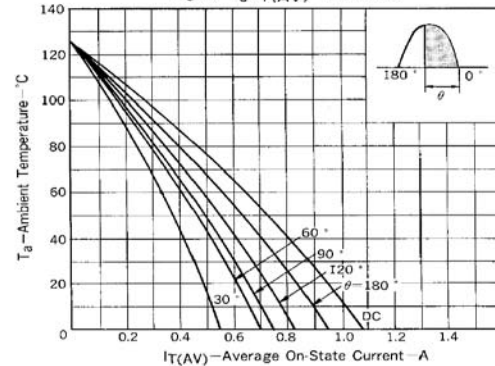


Fig. 5 $I_{GT}-T_a$ TYPICAL DISTRIBUTION

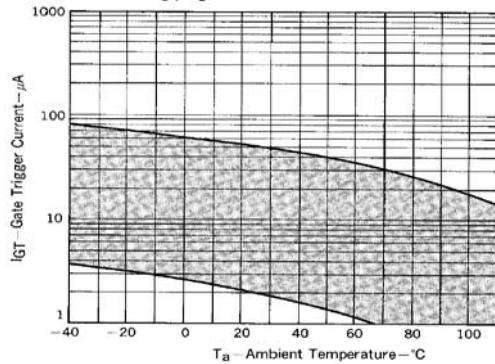
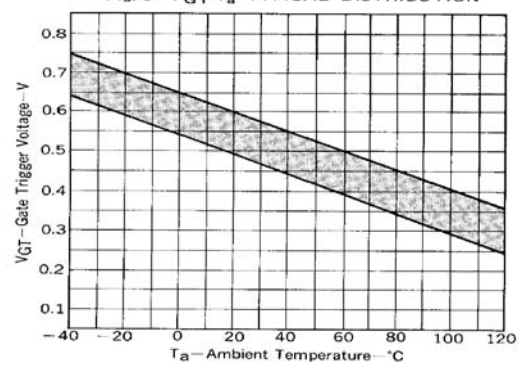
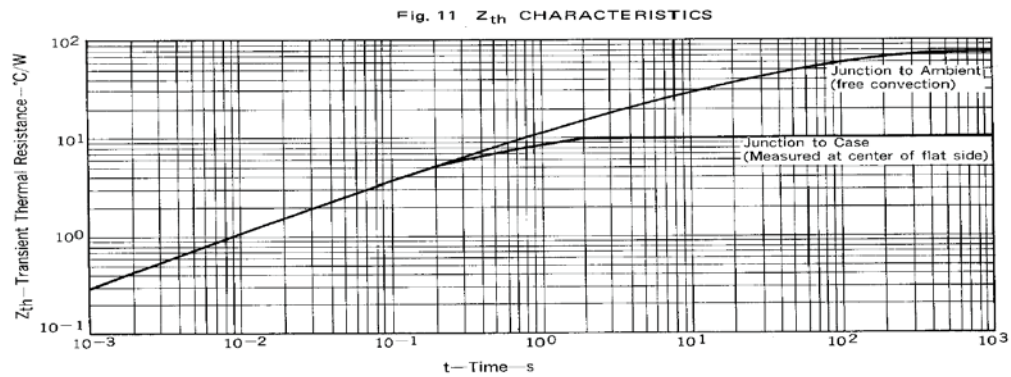
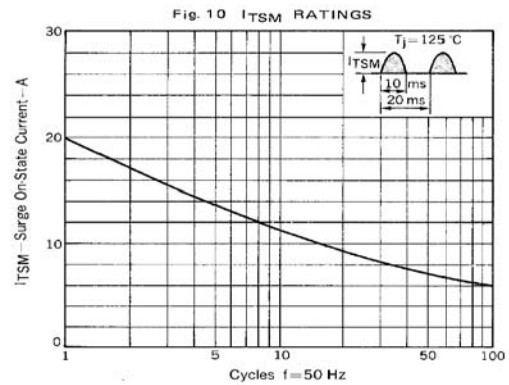
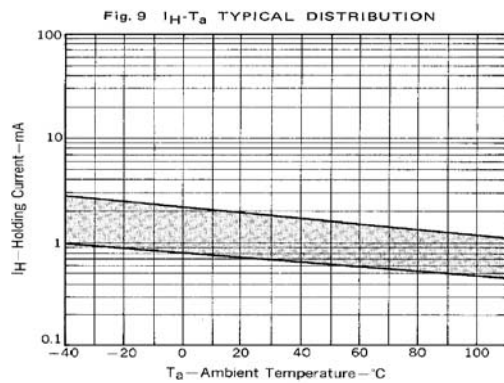
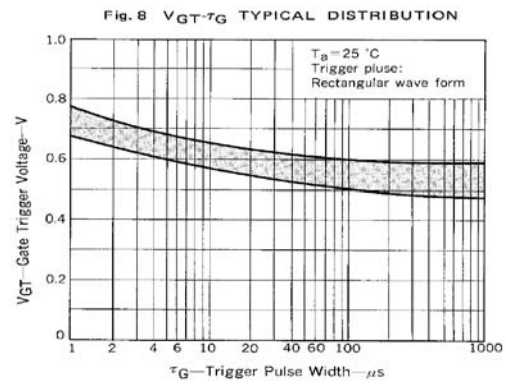
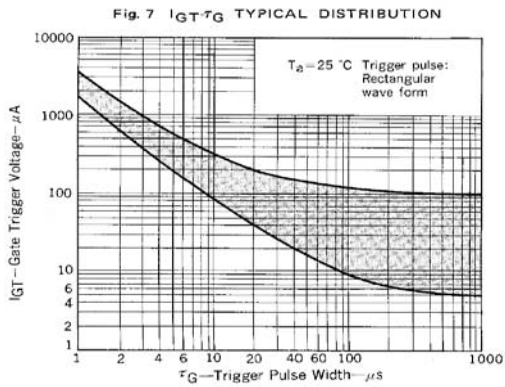


Fig. 6 $V_{GT}-T_a$ TYPICAL DISTRIBUTION



Description





CT502

SCRs

HAOPIN MICROELECTRONICS CO.,LTD.

MECHANICAL DATA

Dimensions in mm

Net Mass:0.2 g

TO-92