
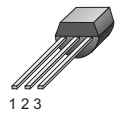


Description

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.

<p>Symbol</p> 		<p>Simplified outline</p>  <p>TO-92</p>	
Pin	Description		
1	Cathode		
2	anode		
3	gate		
TAB	anode		

Applications:

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

Features

- ◆ Blocking voltage to 600 V
- ◆ On-state RMS current to 1.25 A
- ◆ Ultra low gate trigger current

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_T (RMS)$	RMS on-state current (full sine wave)	1.25	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)	25	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th j-l}$	Junction to leads		-	-	60	°C/W
$R_{th j-a}$	Junction to Ambient		-	-	150	°C/W



X0205MA

SCRs

HAOPIN MICROELECTRONICS CO.,LTD.

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

SYMBOL	PARAMETER	CONDITIONS	MIN	Value	UNIT
V_{DRM}	Repetitive peak off-state Voltages		-	600	V
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)	$T_I=55^{\circ}C$	-	1.25	A
$I_{T(AV)}$	Average On-state current (180° conduction angle)	$T_I=55^{\circ}C$	-	0.8	A
di/dt	Critical rate of rise of on-state current	$I_G=2* I_{GT}, tr \leq 100 ns \quad F=60 Hz \quad T_j=125^{\circ}C$	-	50	A/ μs
I_{TSM}	Non repetitive surge peak on-state current	$tp=8.3ms \quad T_j=25^{\circ}C$	-	25	A
		$tp=10ms \quad T_j=25^{\circ}C$	-	22.5	A
I^2t	I^2t Value for fusing	$tp=10ms \quad T_j=25^{\circ}C$	-	2.5	A ² s
I_{GM}	Peak gate current	$T_p=20 \mu s \quad T_j=125^{\circ}C$	-	1.2	A
$P_{G(AV)}$	Average gate power dissipation	$T_j=125^{\circ}C$	-	0.2	W
T_j	Operating junction temperature range		-40	125	$^{\circ}C$
T_{stg}	Storage junction temperature range		-40	150	$^{\circ}C$

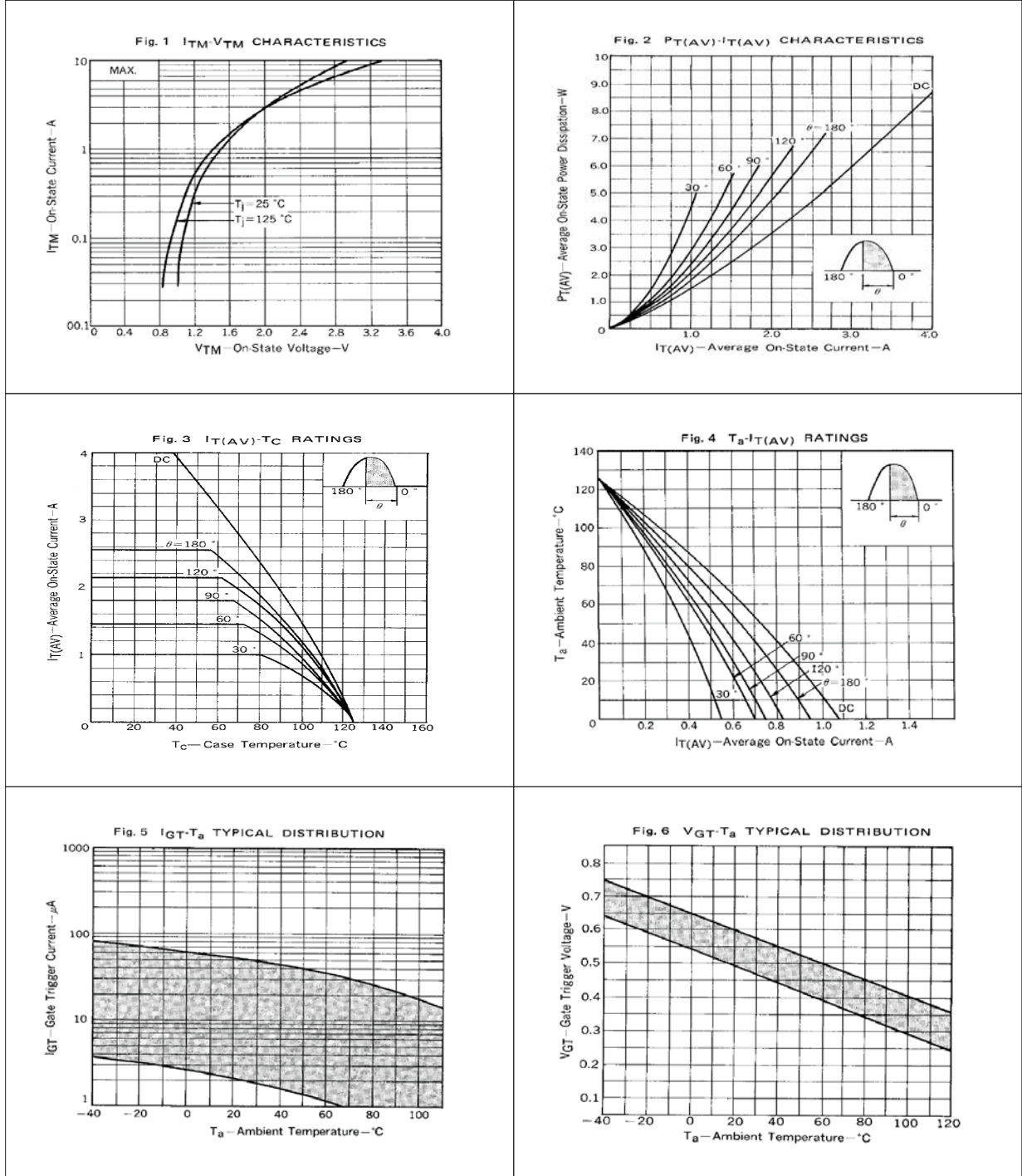
$T_j=25^{\circ}C$ unless otherwise stated

SYMBOL	TEST	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	$V_D=12V \quad R_L=140 \Omega$		20	-	50	μA
V_{GT}	$V_D=12V \quad R_L=140 \Omega$		-	-	0.8	V
V_{GD}	$V_D=V_{DRM} \quad R_L=3.3 K \Omega$ $R_{GK}=1K \Omega$	$T_j=125^{\circ}C$	0.1	-	-	V
V_{RG}	$I_{RG}=10 \mu A$		8	-	-	V
I_L	$I_G=1 mA \quad R_{GK}=1K \Omega$		-	-	6	mA
I_{DRM} I_{RRM}	$V_D=V_{DRM} \quad R_{GK}=1K \Omega$ $V_R=V_{RRM}$	$T_j=25^{\circ}C$	-	-	5	μA
		$T_j=125^{\circ}C$	-	-	500	
I_H	$I_T=50 mA \quad R_{GK}=1K \Omega$		-	-	5	mA
V_{TM}	$V_{TM}=2.5 A \quad tp=380 \mu s$	$T_j=25^{\circ}C$	-	-	1.45	V

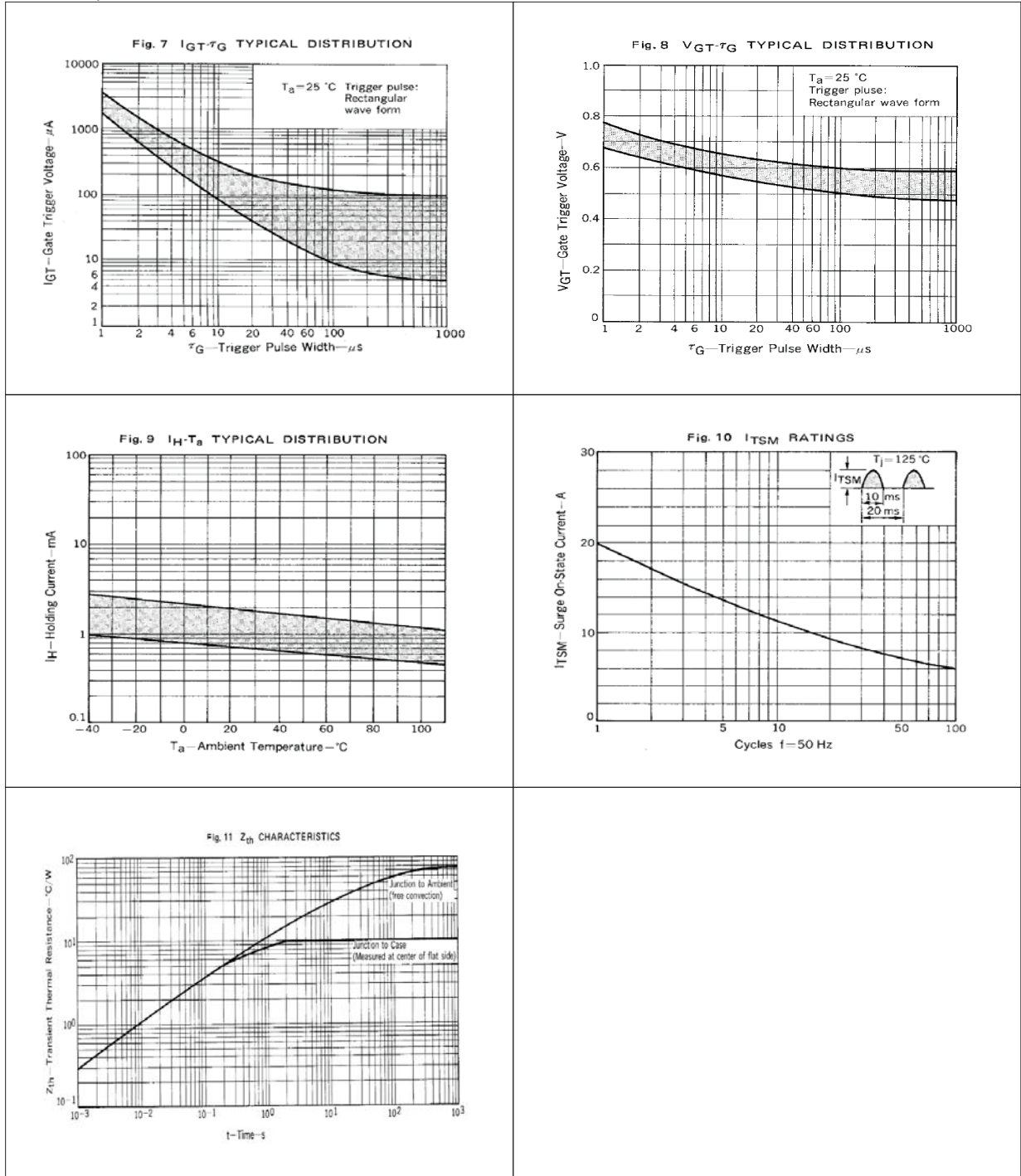
Dynamic Characteristics

Dv/dt	$V_D=67\%V_{DRM} \quad R_{GK}=1K \Omega$	$T_j=110^{\circ}C$	15	-	-	V/ μs
V_{to}	Threshold voltage	$T_j=125^{\circ}C$	-	-	0.9	V
R_d	Dynamic resistance	$T_j=125^{\circ}C$	-	-	200	m Ω

Description



Description

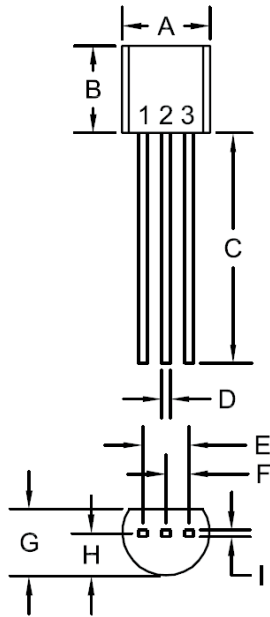


MECHANICAL DATA

Dimensions in mm

Net Mass:0.2 g

TO-92



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

R1