
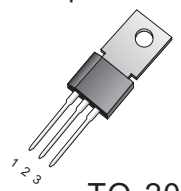


Description

Standard gate triggering SCR is fully isolated package suitable for the application where requiring high bidirectional blocking voltage capability and also suitable for over voltage protection ,motor control circuit in power tool, inrush current limit circuit and heating control system.

<p>Symbol</p> 		<p>Simplified outline</p>  <p>TO-202</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 5 A
- ◆ Ultra low gate trigger current

SYMBOL	PARAMETER		Value	Unit
V_{DRM}	Repetitive peak off-state voltages	5P4M 5P6M	400 600	V
$I_T (RMS)$	RMS on-state current (full sine wave)		5	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)		80	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
R_{th}		Full cycle	-	-		K/W
		Half cycle	-	-		K/W
R_{th}	Thermal Resistance	Junction to case	-	-	3	°C/W



5P4M, 5P6M

SCRs

HAOPIN MICROELECTRONICS CO.,LTD.

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{DRM}	Repetitive peak off-state Voltages		-	400	V
$I_{T(AV)}$	Average On-state Current	$T_c=103, =180$ Singe phase half wave	-	5	A
$\int I^2 dt$	Fusing Current	$1ms \leq t \leq 10ms$	-	28	A ² s
V_{RSM}	Non-Repetitive Peak Reverse Voltage		-	500	V
V_{DSM}	Non-Repetitive Peak Off-State Voltage		-	500	V
V_{RRM}	Repetitive Peak Reverse Voltage		-	400	V
I_{FGM}	Peak Gate Forward current	$F \geq 50$ Hz, Duty $\leq 10\%$	-	2	A
V_{RGM}	Peak Gate Reverse Voltage		-	10	V
P_{GM}	Peak gate power		-	5	W
$P_{G(AV)}$	Average gate power		-	0.5	W
T_{stg}	Storage temperature		-40	150	°C
T_j	Junction Temperature		-40	125	°C

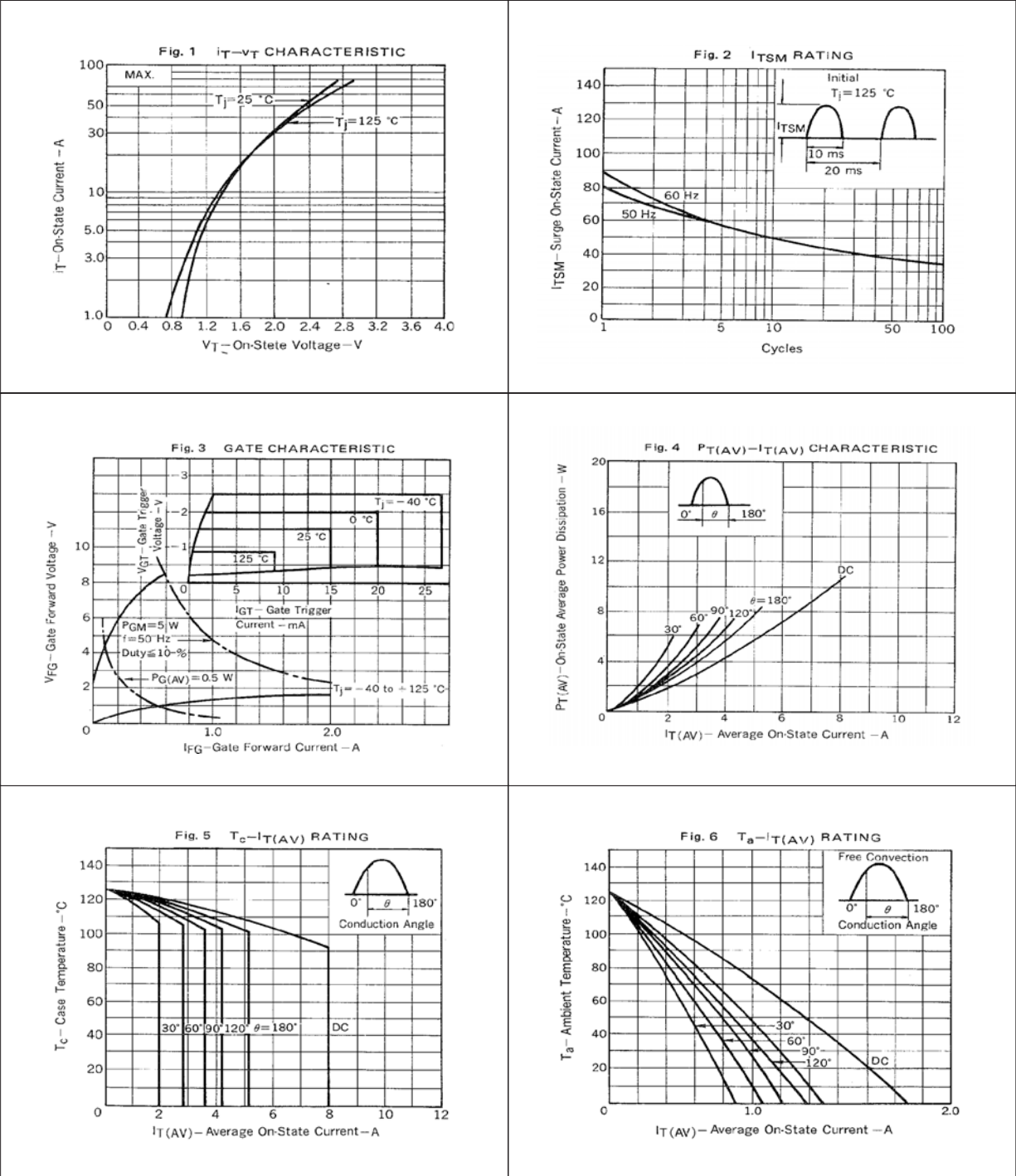
$T_j=25^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	Gate-Trigger Current	$V_{DM}=6V; R_L=100\Omega$	-	-	10	mA
V_{GT}	Gate-Trigger Voltage	$V_{DM}=6V; R_L=100\Omega$	-	-	1.5	V
I_{RRM}	Repetitive Peak Reverse Current	$V_{RM}=V_{RRM}; T_j=125^\circ\text{C}$	-	-	2	mA
I_{DRM}	Repetitive Peak Off-State Current	$V_{DM}=V_{DRM}; T_j=125^\circ\text{C}$	-	-	2	mA
I_H	Holding Current	$V_D=24V$	-	10	-	mA
V_{GD}	Gate Non-Trigger Voltage	$V_{DM}=1/2V_{DRM}; T=125^\circ\text{C}$	0.2	-	-	V
V_{TM}	On-Sate Voltage	$I_{TM}=10A$	-	-	1.4	V
R_{th}	Thermal Resistance	Junction to case	-	-	3	°C/W

Dynamic Characteristics

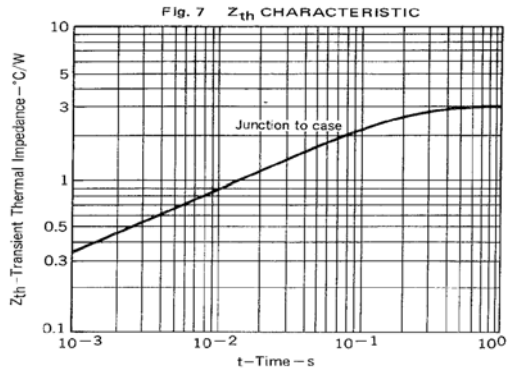
dv/dt	Critical Rate of Rise of Off Sate Voltage	$V_{DM}=V_{DRM}; T_j=125^\circ\text{C}$	-	40	-	V/ μs
t_q	Circuit Commuted Turn-Off Time	$I_{TM}=5A; V_D \geq 25V$ $V_{DM}=2/3V_{DRM}; diR/dt=15A/\mu\text{s}$ $dv/dt=10V/\mu\text{s}; T_j=125^\circ\text{C}$	-	80	-	μs

Description



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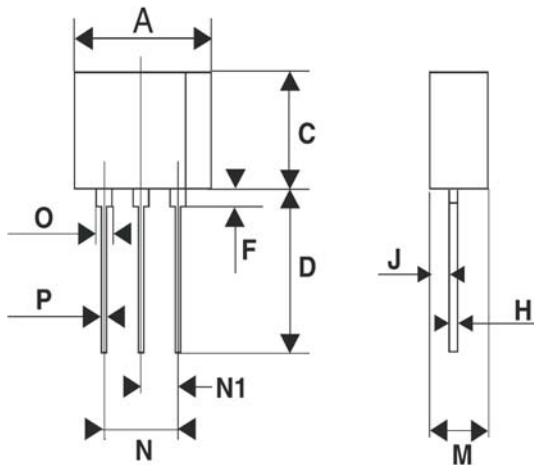


MECHANICAL DATA

Dimensions in mm

Net Mass:2 g

TO-202



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			10.1			0.398
C		7.3			0.287	
D		10.5			0.413	
F			1.5			0.059
H		0.51			0.020	
J		1.5			0.059	
M		4.5			0.177	
N			5.3			0.209
N1		2.54			0.100	
O			1.4			0.055
P			0.7			0.028