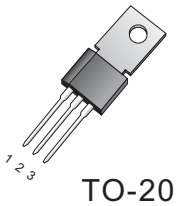
5P4M，5P6M

SCRs

HAOPIN MICROELECTRONICS CO.,LTD.

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.

Symbol	Simplified outline
	 TO-202

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,Tj initial=25℃)		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	℃/W

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	Tc=103,=180Singe phase half wave	-	5	A
$\int i^2T^2dt$	Fusing Current	1ms≤t≤10ms	-	28	A^2s
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≥50 Hz,Duty ≤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	JunctionTemperature		-40	125	°C

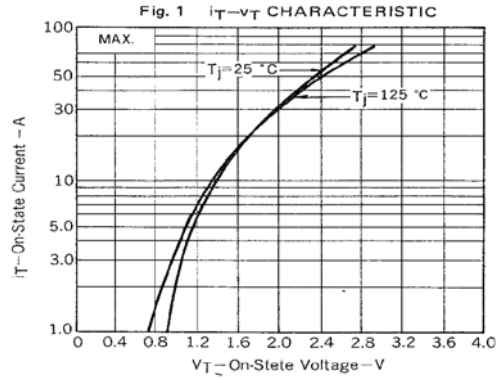
T_J=25°C unless otherwise stated

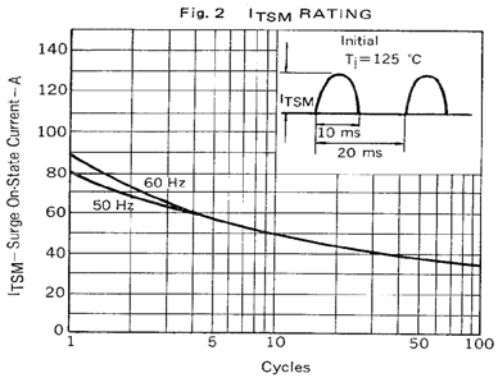
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}	Gate-Trigger Current	V_{DM}=6V; R_L=100Ω	-	-	10	mA
V_{GT}	Gate-Trigger Voltage	V_{DM}=6V; R_L=100Ω	-	-	1.5	V
I_{RRM}	Repetitive Peak Reverse Current	V_{RM}=V_{RRM}; T_j=125℃	-	-	2	mA
I_{DRM}	Repetitive Peak Off-State Current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

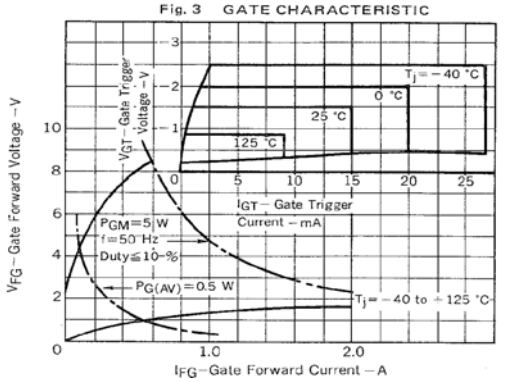
Dynamic Characteristics

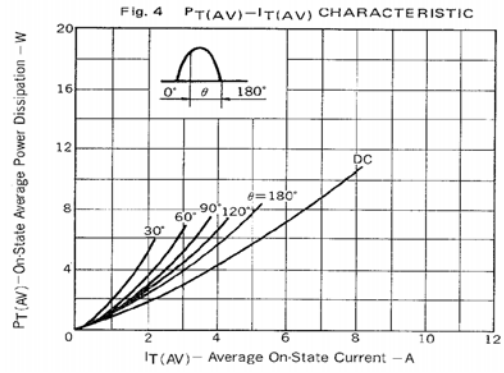
dv/dt	Critical Rate of Rise of Off Sate Voltage	V_{DM}=V_{DRM}, T_j=125℃	-	40	-	V/μs
tq	Circuit Commuted Turn-Off Time	I_{TM}=5A;V_R≥25V V_{DM}=2/3V_{DRM},diR/dt=15A/μs dv/dt=10v/μs,T_j=125℃	-	80	-	μs

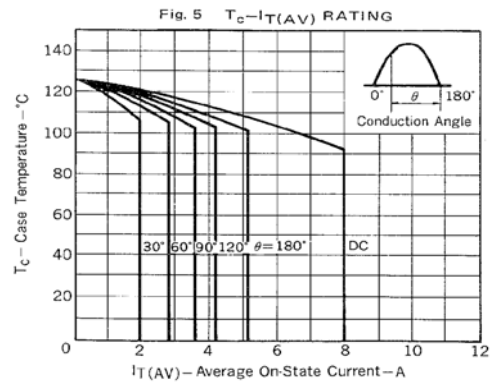
Description

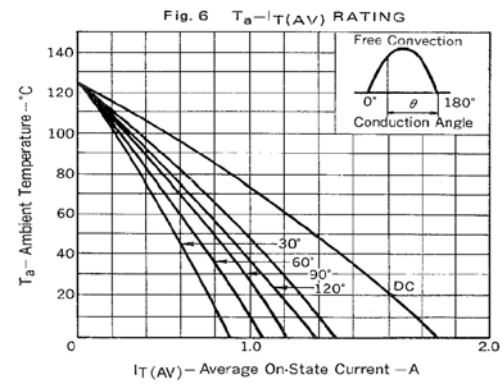












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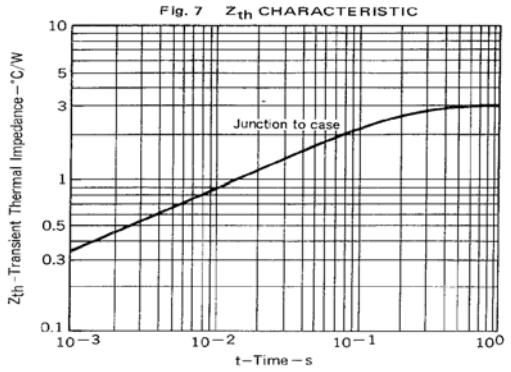

MECHANICAL DATA

Dimensions in mm

Net Mass:2 g

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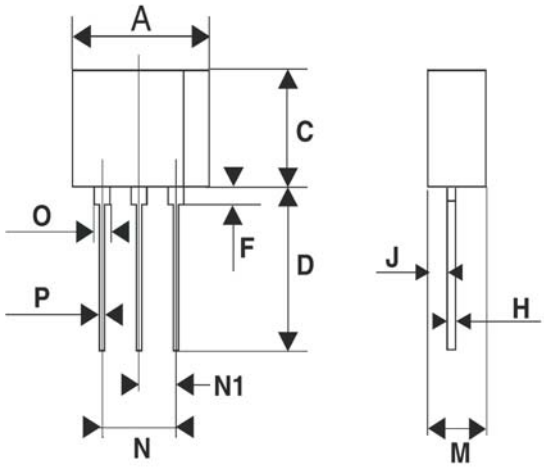

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			10.1			0.398
C		7.3			0.287	
D		10.5			0.413	
F			1.5			0.059
H		0.51			0.020	
J		1.5			0.059	
M		4.5			0.177	
N			5.3			0.209
N1		2.54			0.100	
O			1.4			0.055
P			0.7			0.028