Phase Control Thyristors

Features

1.1000 PT series Thyristors are deigned for various power controls

2. Voltage rating up to 2000 V.

3. Typical application

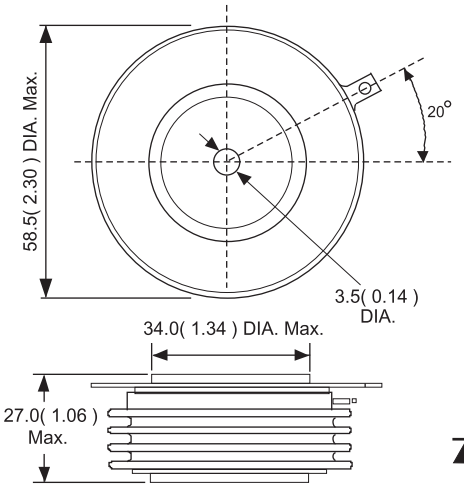
- DC motor control
- Controlled DC power supplies
- AC controllers

Ordering code

1000	PT	xx	C	0
(1)	(2)	(3)	(4)	(5)

(1) Maximum average on-state current , A
(2) For Phase Control Thyristor
(3) Voltage code , code x 100 = V_{RRM} / V_{DRM}
(4) package style : A , B , C , D ,E for Disc Type
(5) Terminal types
0 - for eyelet

C TYPE



All dimensions in millimeters (inches)

Electrical Characteristics

Symbol	Parameter	Condition	Value			Unit
			Min.	Type	Max.	
$I_{T(AV)}$	Mean on-state current	180°half sine wave, 50Hz Double side cooled, T_C=55°C			1000	A
$I_{T(RMS)}$	Max. RMS on-state current	Double side cooled, T_{hs}=25℃			2000	A
V_{RRM} V_{DRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM} & V_{RRM} t_p=10ms V_{DsM} & V_{RsM} = V_{DRM} & V_{RRM} + 100V	1200		2000	V
I_{TSM}	Surge on-state current	10 ms half sine wave V_R=0.6V_{RRM}			17800	A
I^2t	For fusing coordination				1591	KA^2s
$V_{T(TO)}$	Threshold voltage				1.11	V
r_t	On-state slope resistance				0.28	mΩ
V_{TM}	Max. Forward voltage drop	I_{TM}=900A, F=8.0KN			1.62	V
I_H	Holding current	V_A=12V, I_A=1A			600	mA
$d_{i/dt}$	Cirtical rate of rise of turned-on current	Gate drive 20V, 20Ω, t_r ≤ 0.5 μs			1000	A/μs
t_q	Typical turn-off time	I_{TM}=400A, $d_{V/dt}$=30V/μs $d_{iRR/dt}$=-10A/μs			150	μs
$d_{V/dt}$	Cirtical rate of rise of off-state voltage				500	V/μs
P_G	Max. average gate power	Square wavepulse width 100 μs			2	W
P_{GM}	Max. peak gate power square				10	W
I_{GT}	Gate trigger current	V_A=12V, I_A=1A			300	mA
V_{GT}	Gate trigger voltage				3	V
T_{stg}	Storage temperature		- 40		125	°C
T_j	Max.operating temperaturerange		- 40		125	°C
$R_{th(j-h)}$	Thermal resistance(junction to heatsink)	Double side cooled , clamping force 8.0 KN			0.035	℃/ W
F_m	Mounting force		10		20	KN
W_t	Approximate weight			255		g

Fig. 1
Peak on-state voltage Vs. Peak on-state Current

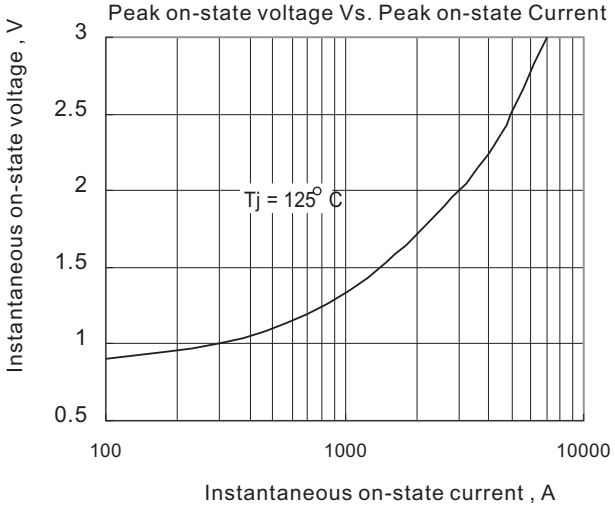


Fig. 2
Max. Junction to heatsink thermal impedance Vs. Time

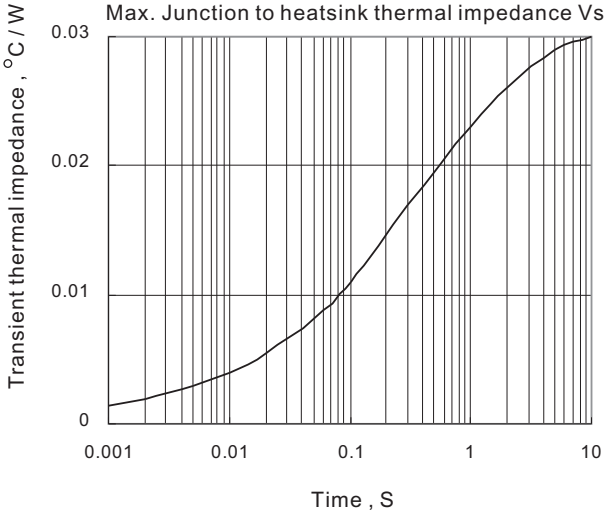


Fig. 3
Max. Power Dissipation Vs. Mean on-state Current

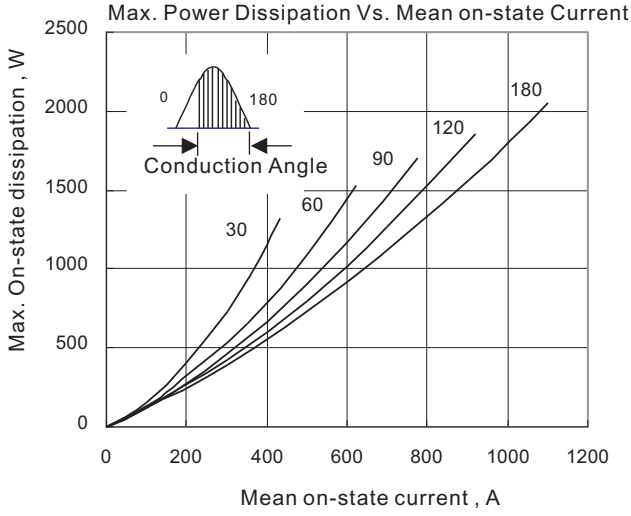


Fig. 4
Max. heatsink Temperature Vs. Mean on-state Current

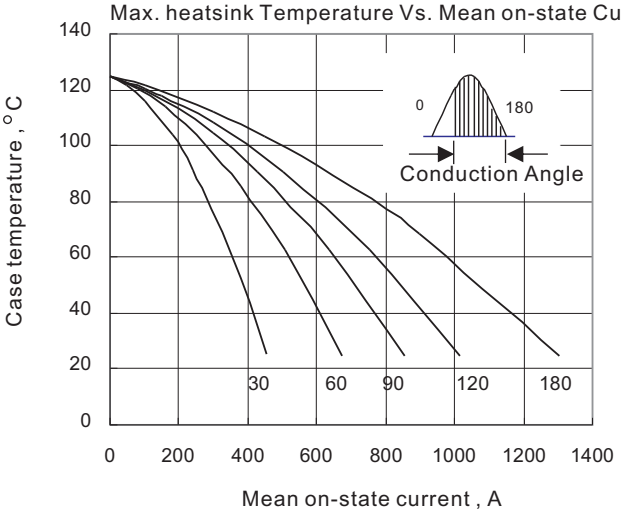


Fig. 5
Max. Power Dissipation Vs. Mean on-state Current

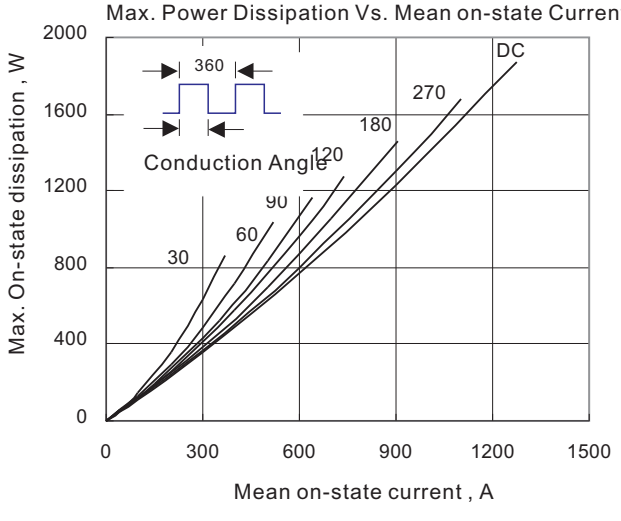


Fig. 6
Max. heatsink Temperature Vs. Mean on-state Current