Phase Control Thyristors

Features

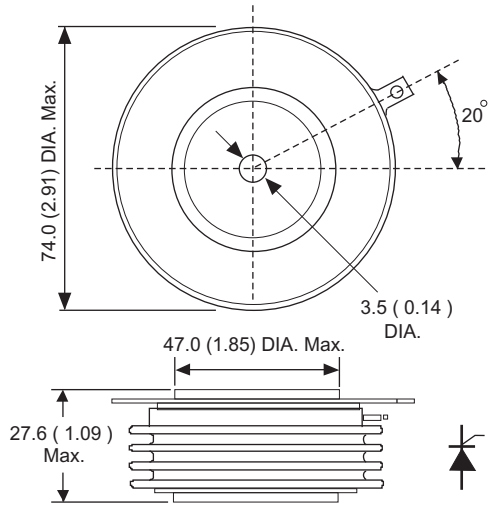
1. Center amplifying gate.
2. Metal Case With Ceramic insulator.
3. Typical application
   - DC motor control
   - Controlled DC power supplies
   - AC controllers

Ordering code

1450	PT	xx	D	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

D 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			1450	A
$I_{T(RMS)}$	Max. RMS on-state current	Double side cooled , T_{hs}=55°C			2900	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	2400		3000	V
I_{TSM}	Surge on-state current	10 ms half sine wave V_R=0.6V_{RRM}			21000	A
I^2t	For fusing coordination				$2.65x10^6$	A^2s
$V_{T(TO)}$	Threshold voltage				0.95	V
r_t	On-state slope resistance				0.283	mΩ
V_{TM}	Max. Forward voltage drop	I_{TM}=4000A , F=24.0KN			1.8	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 ,20 Ω,t_r ≤ 0.5 μs			1000	A/μs
t_q	Typical turn-off time	I_{TM}=600A , $d_{v/dt}$=30V/μs $d_{iRR/dt}$=-10 A/μs			300	μs
$d_{v/dt}$	Cirtical rate of rise of off-state voltage	V_{DM}=0.67 V_{DRM}		500		V/μs
P_G	Max. average gate power	Square wavepulse width 100 μs			3	W
P_{GM}	Max. peak gate power square				16	W
I_{GT}	Gate trigger current	V_A=12V , I_A=1A			200	mA
V_{GT}	Gate trigger voltage				3.0	V
T_j	Max.operating temperaturerange		- 40		125	°C
T_{stg}	Storage temperature		- 40		150	°C
$R_{th(j-h)}$	Thermal resistance(junction to heatsink)	Double side cooled , clamping force 24 KN			0.020	°C/W
F_m	Mounting force		19		26	KN
M	Approximate weight			425		g

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

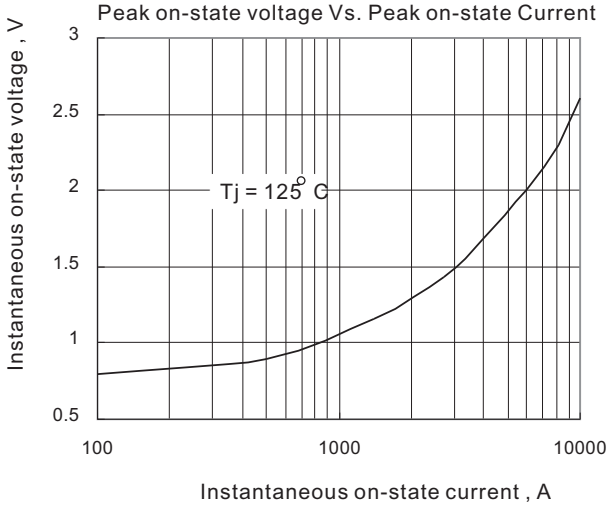


Fig. 2
Max. Junction to heatsink thermal impedance Vs. Time

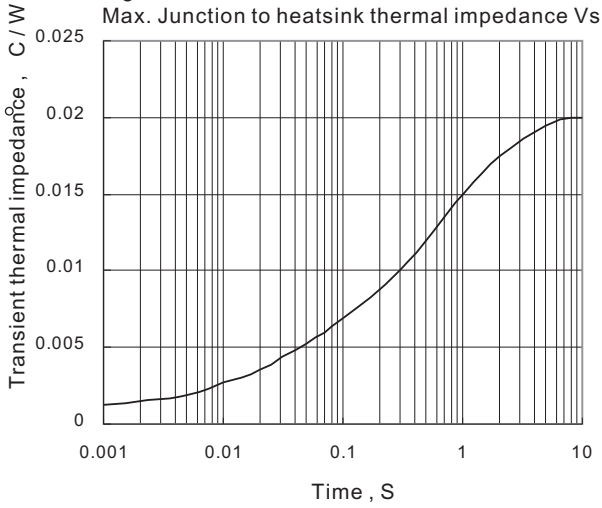


Fig. 3
Max. Power Dissipation Vs. Mean on-state Current

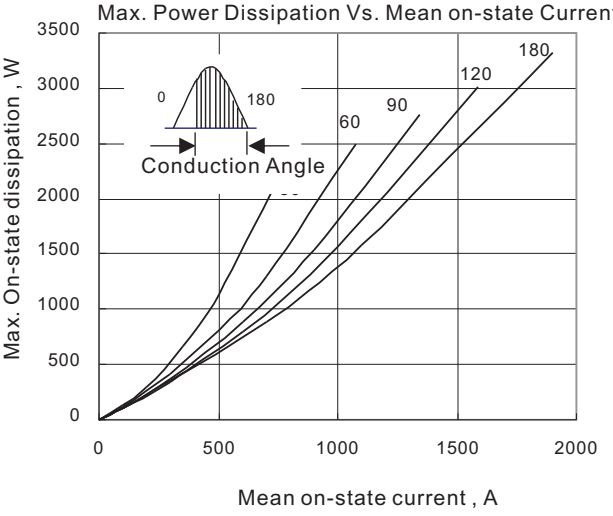


Fig. 4
Max. heatsink Temperature Vs. Mean on-state Current

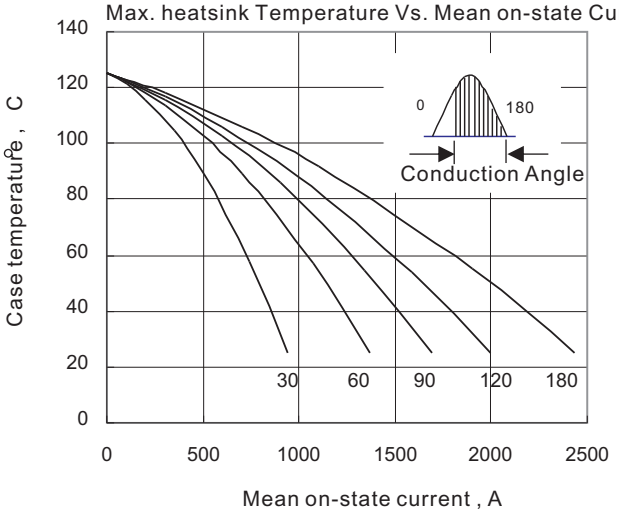


Fig. 5
Max. Power Dissipation Vs. Mean on-state Current

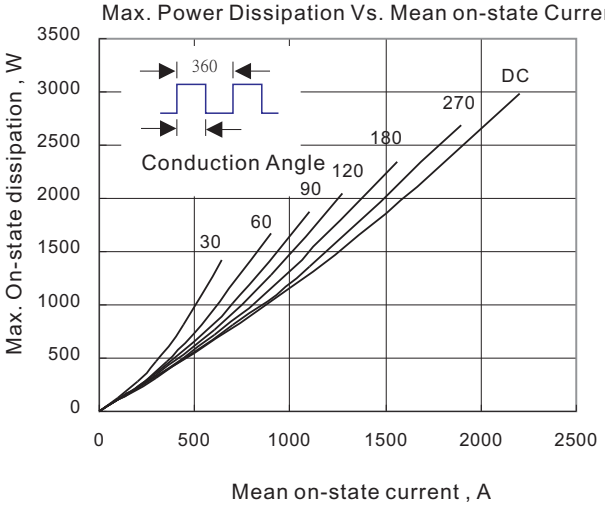


Fig. 6
Max. heatsink Temperature Vs. Mean on-state Current