

Phase Control Thyristors

Features

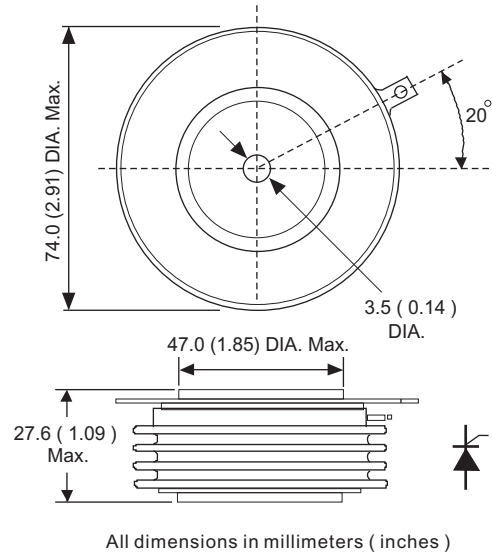
1. Center amplifying gate.
2. Metal Case With Ceramic insulator.
3. Typical application
 - DC motor control
 - Controlled DC power supplies
 - AC controllers

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



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 , $T_C=55^\circ C$			1450	A
$I_T(RMS)$	Max. RMS on-state current	Double side cooled , $T_{hs}=55^\circ C$			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			21000	A
I_t^2	For fusing coordination	$V_R=0.6V_{RRM}$			2.65×10^6	A ² s
$V_{T(TO)}$	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	Critical rate of rise of turned-on current	Gate drive 20V , 20 Ω , $t_r \leq 0.5 \mu s$			1000	A/μs
t_q	Typical turn-off time	$I_{TM}=600A$, $d_v/dt=30V/\mu s$ $d_iRR/dt=-10 A/\mu s$			300	μs
d_v/dt	Critical 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 temperature range		- 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

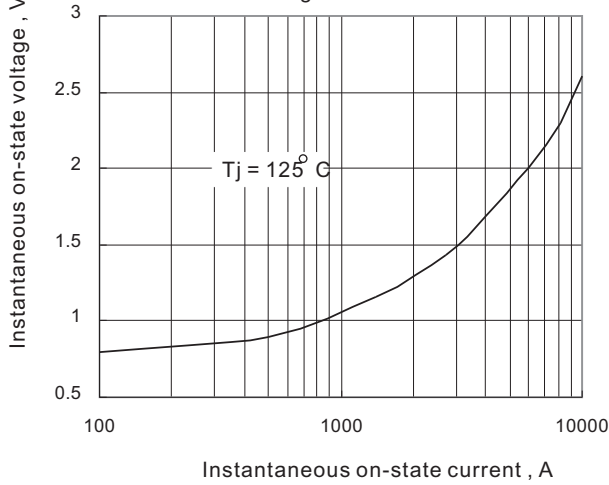


Fig. 2
Max. Junction to heatsink thermal impedance Vs. Time

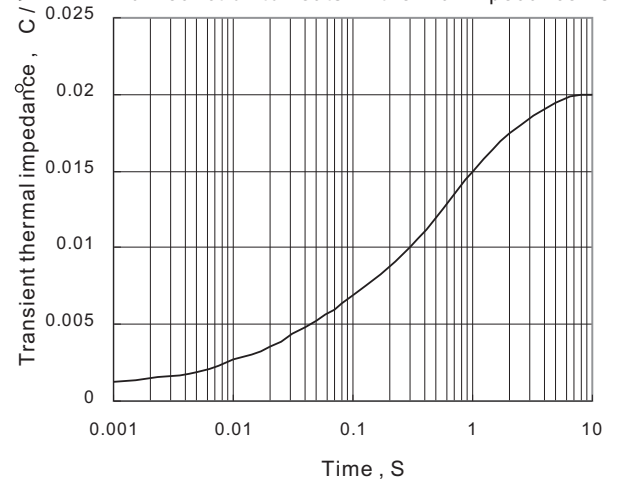


Fig. 3
Max. Power Dissipation Vs. Mean on-state Current

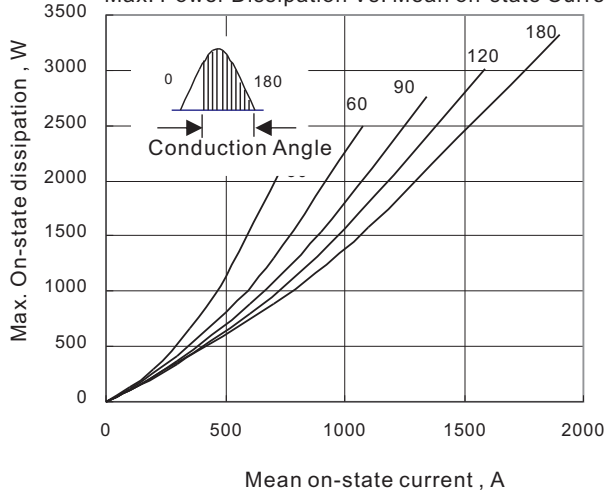


Fig. 4
Max. heatsink Temperature Vs. Mean on-state Current

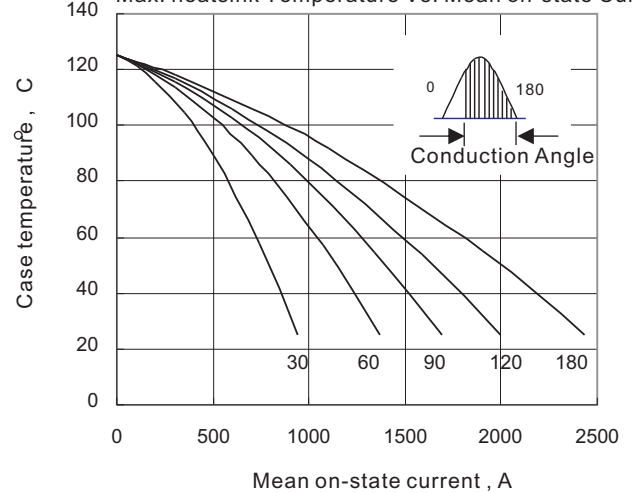


Fig. 5
Max. Power Dissipation Vs. Mean on-state Current

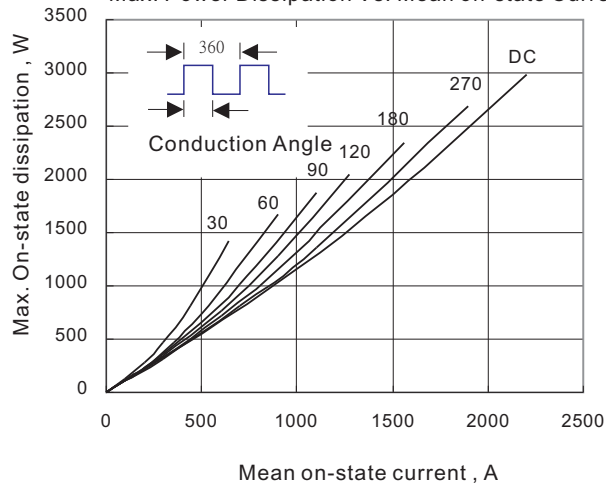


Fig. 6
Max. heatsink Temperature Vs. Mean on-state Current

