

## Phase Control Thyristors

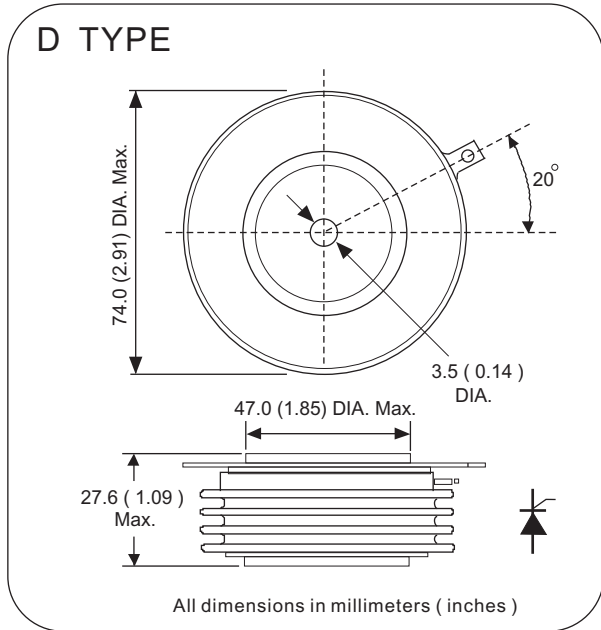
### Features

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

Ordering code

<b>1450</b>	<b>PT</b>	<b>xx</b>	<b>D</b>	<b>0</b>
(1)	(2)	(3)	(4)	(5)

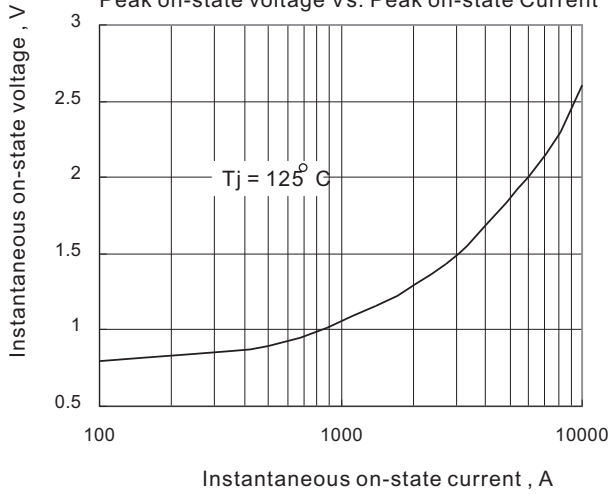
- (1) Maximum average on-state current , A  
 (2) For Phase Control Thyristor  
 (3) Voltage code , code x 100 =  $V_{RRM} / V_{DRM}$   
 (4) package style : A , B , C , D , E for Disc Type  
 (5) Terminal types  
 0 - for eyelet



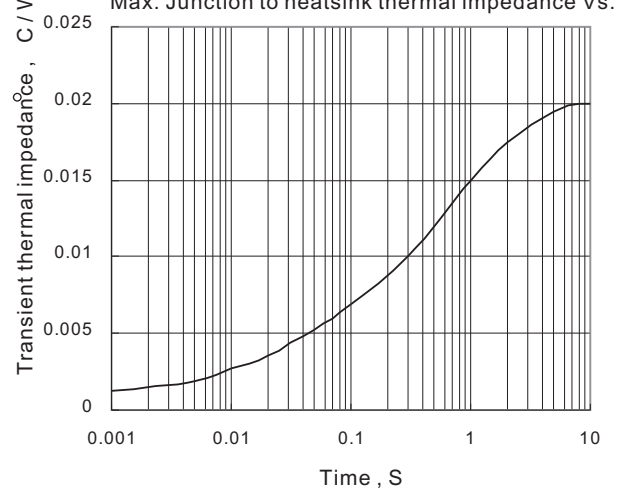
### Electrical Characteristics

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	$V_R=0.6V_{RRM}$			$2.65 \times 10^6$	$A^2s$
$V_T(TO)$	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
$d_i/dt$	Critical rate of rise of turned-on current	Gate drive 20V , 20 Ω , $t_r \leq 0.5 \mu s$			1000	A/ $\mu s$
$t_q$	Typical turn-off time	$I_{TM}=600A$ , $d_v/dt=30V/\mu s$ $d_iRR/dt=-10 A/\mu s$			300	$\mu s$
$d_v/dt$	Critical rate of rise of off-state voltage	$V_{DM}=0.67 V_{DRM}$		500		V/ $\mu s$
$P_G$	Max. average gate power	Square wavepulse width 100 $\mu s$			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	$^\circ C$
$T_{stg}$	Storage temperature		- 40		150	$^\circ C$
$R_{th}(j-h)$	Thermal resistance(junction to heatsink)	Double side cooled , clamping force 24 KN			0.020	$^\circ C/W$
$F_m$	Mounting force		19		26	KN
M	Approximate weight				425	g

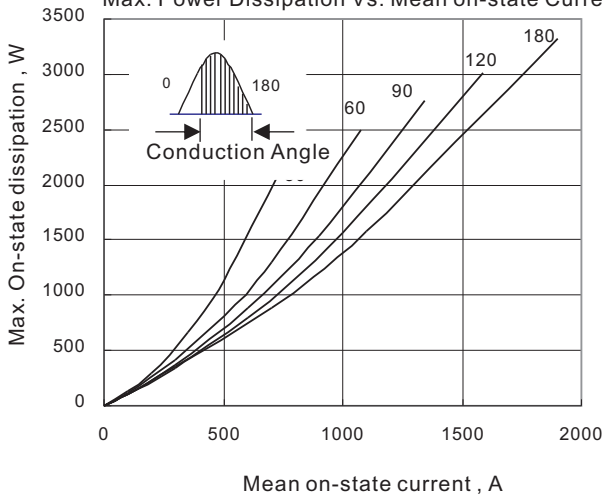
**Fig. 1**  
Peak on-state voltage Vs. Peak on-state Current



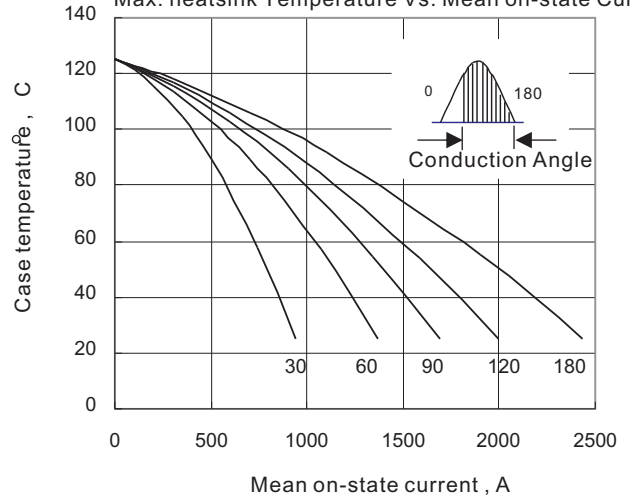
**Fig. 2**  
Max. Junction to heatsink thermal impedance Vs. Time



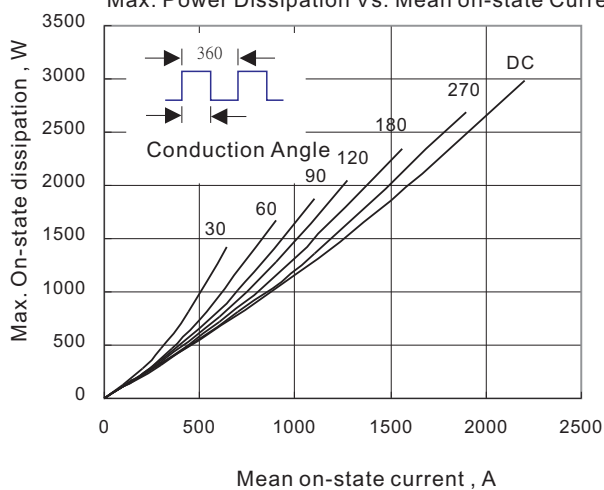
**Fig. 3**  
Max. Power Dissipation Vs. Mean on-state Current



**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

