

Phase Control Thyristors

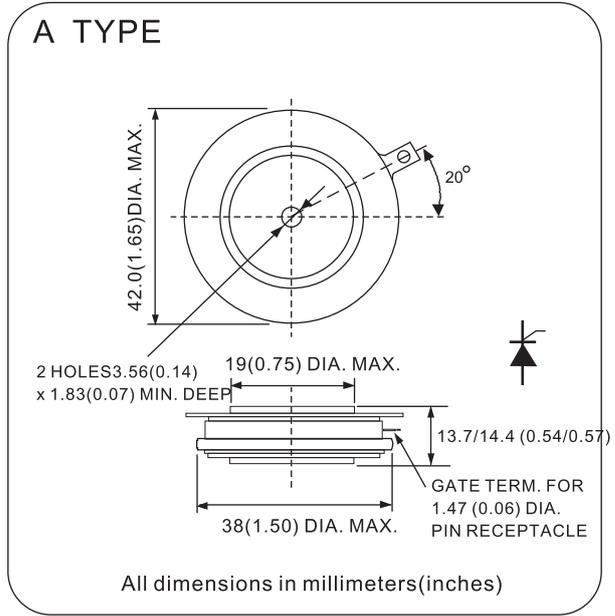
Features

1. 195 PT series Thyristors are deigned for various power controls
2. Voltage rating up to 1600 V.
3. Typical application
 - DC motor control
 - Controlled DC power supplies
 - AC controllers

Ordering code

195	PT	xx	A	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



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 , $T_C = 55^\circ C$			195	A
$I_T(RMS)$	Max. RMS on-state current	Double side cooled , $T_{hs} = 25^\circ C$			407	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		1600	V
I_{TSM}	Surge on-state current	10 ms half sine wave			1700	A
I_t^2	For fusing coordination	$V_R = 0.6V_{RRM}$			14	Ka^2s
$V_{T(TO)}$	Threshold voltage				1.57	V
r_t	On-state slope resistance				2.21	mΩ
V_{TM}	Max. Forward voltage drop	$I_{TM} = 900A, F = 8.0KN$			2.66	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 , 20Ω , $t_r \leq 0.5\mu s$			1000	A/ μs
t_q	Typical turn-off time	$I_{TM} = 400A, d_v/dt = 30V/\mu s$ $d_iRR/dt = -10 A/\mu s$			130	μs
d_v/dt	Critical rate of rise of off-state voltage	$V_{DM} = 0.67 V_{DRM}$			1000	V/ μs
P_G	Max. average gate power	Square wavepulse width 100 μs			2	W
P_{GM}	Max. peak gate power square				30	W
I_{GT}	Gate trigger current	$V_A = 12V, I_A = 1A$			150	mA
V_{GT}	Gate trigger voltage				3	V
T_{stg}	Storage temperature		- 40		150	$^\circ C$
T_j	Max. operating temperature range		- 40		125	$^\circ C$
$R_{th(j-h)}$	Thermal resistance(junction to heatsink)	Double side cooled , clamping force 8.0 KN			0.135	$^\circ C/W$
F_m	Mounting force		3.3		5.5	KN
W_t	Approximate weight				70	g

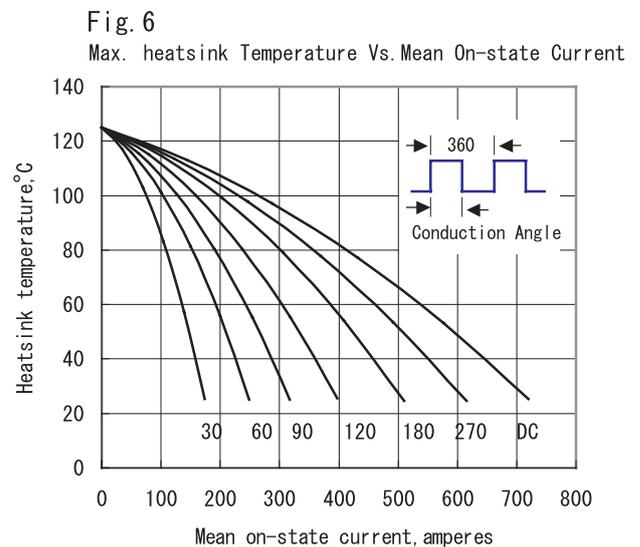
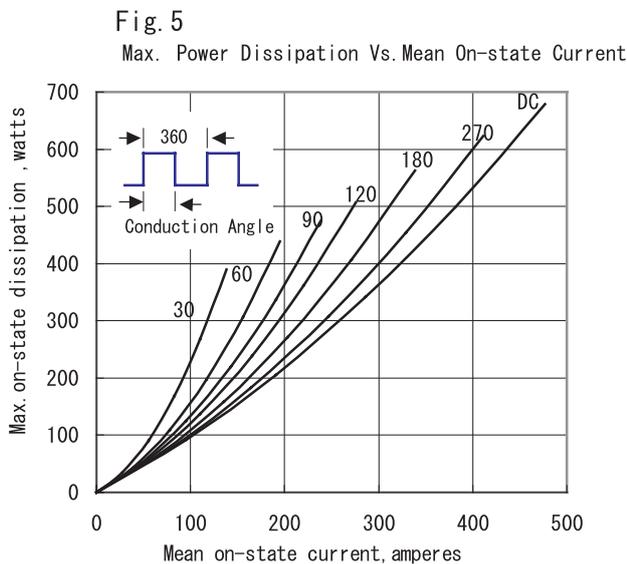
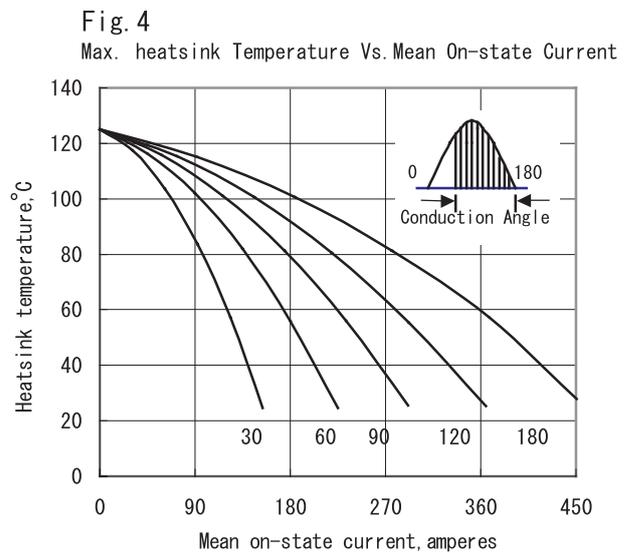
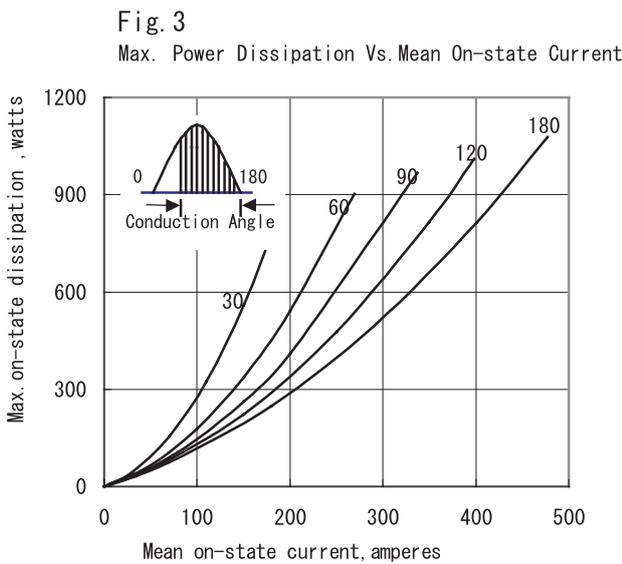
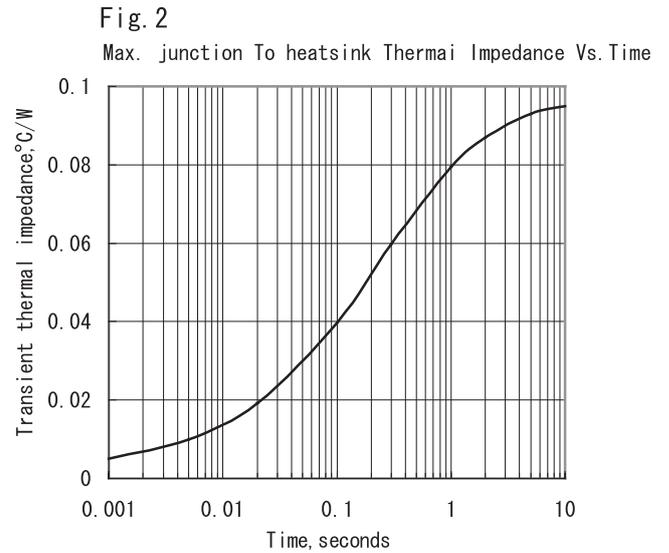
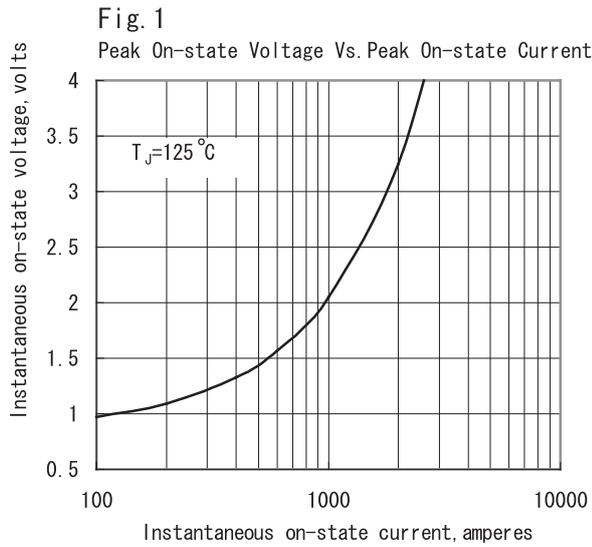


Fig. 7
Surge Current Vs. Cycles

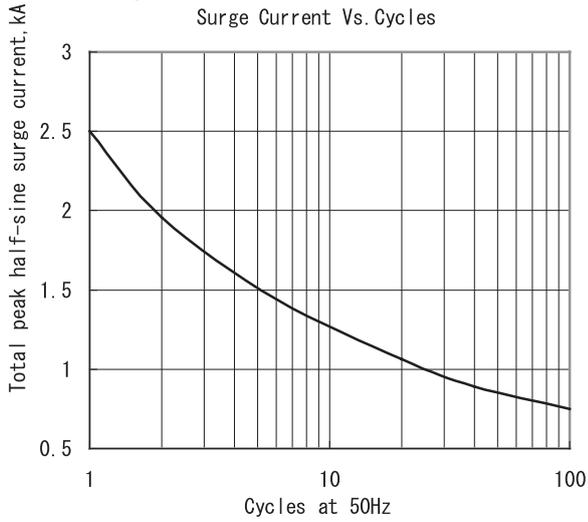


Fig. 8
 I^2t Vs. Time

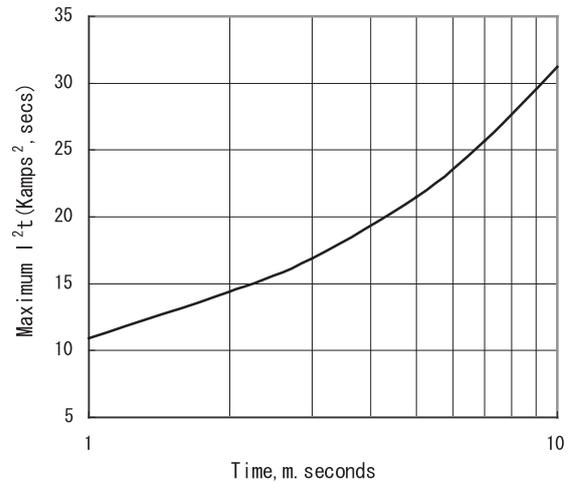


Fig. 9
Gate characteristic at 25°C junction temperature

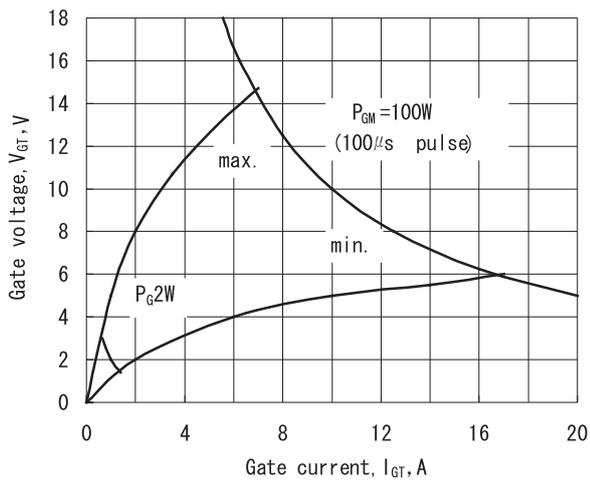


Fig. 10
Gate Trigger Zone at varies temperature

