NELL SEMICONDUCTOR

910PT Series RoHS

Phase Control Thyristors

Features

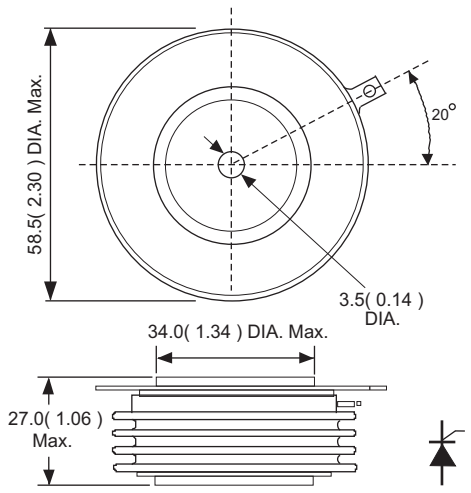
1. 910PT series Thyristors are designed for various power controls
2. Voltage rating up to 2600V
3. Typical application
   - DC motor control
   - Controlled DC power supplies
   - AC controllers

Ordering code

910	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			910	A
$I_{T(RMS)}$	Max. RMS on-state current	Double side cooled , T_{hs}=55 ℃			1788	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	2000		2600	V
I_{TSM}	Surge on-state current	10 ms half sine wave V_R = 0.6V_{RRM}			9200	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}=2000A , F=14.1KN			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 , 20 Ω, t_r ≤ 0.5 μs			600	A/μs
t_q	Typical turn-off time	I_{TM}=400A , $d_{v/dt}$=30V/μs $d_{iRR/dt}$=-10 A/μs			150	μs
$d_{v/dt}$	Cirtical rate of rise of off-state voltage	V_{DM}=0.67 V_{DRM}	200		1000	V/μs
I_{RRM} I_{DRM}	Repetitive peak reverse current	V_R = V_{RRM} V_D = V_{DRM}			80	mA
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	100		200	mA
V_{GT}	Gate trigger voltage		1.1		3.0	V
V_{GD}	DC voltage not to trigger	At 67% V_{DRM} , T_j=T_j max.	0.25			V
I_{FGM}	Max. peak positive gate current	T_j=T_j max. t_p ≤ 3s			4	A
V_{FGM}	Max. peak positive gate voltage				16	V
V_{RGM}	Max. peak negative gate voltage				5	V
T_{stg}	Storage temperature		- 40		140	°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	°C/ 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

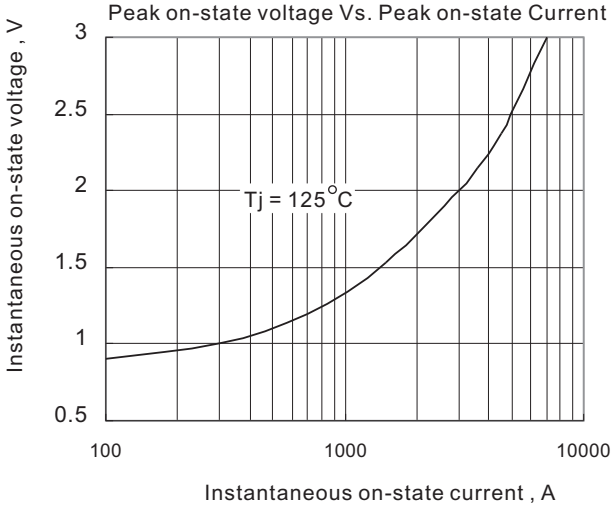


Fig. 2
Max. Junction to heatsink thermal impedance Vs. Time

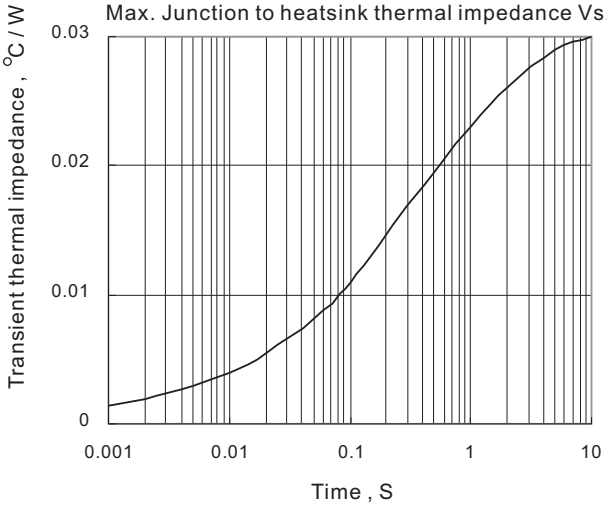


Fig. 3
Max. Power Dissipation Vs. Mean on-state Current

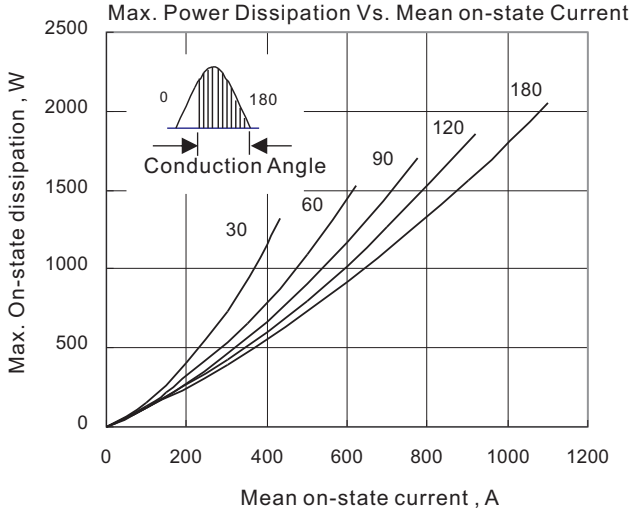


Fig. 4
Max. heatsink Temperature Vs. Mean on-state Current

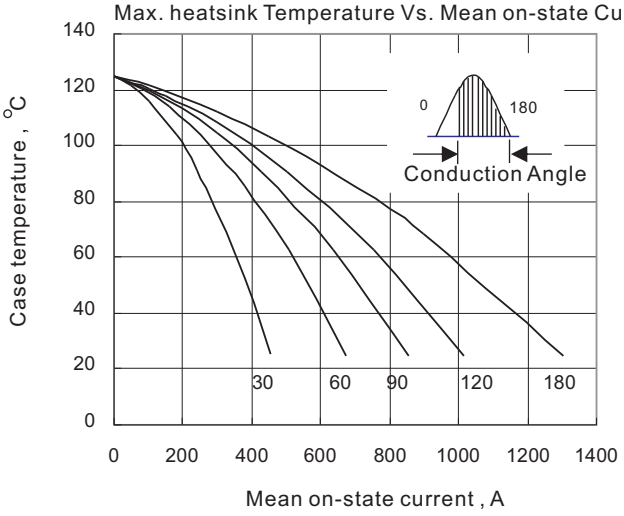


Fig. 5
Max. Power Dissipation Vs. Mean on-state Current

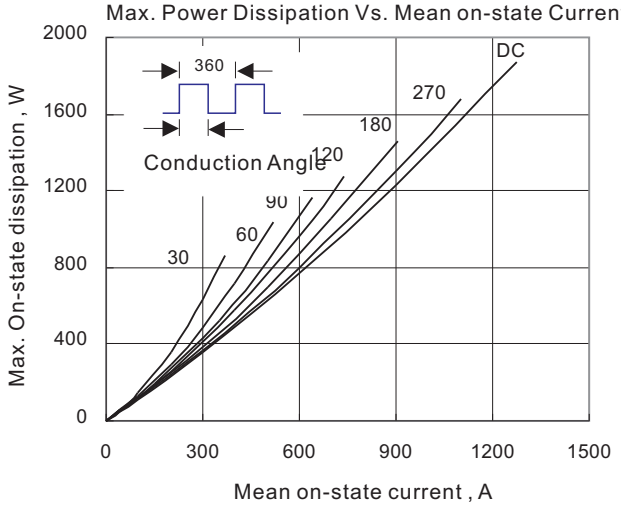


Fig. 6
Max. heatsink Temperature Vs. Mean on-state Current

