

Phase Control Thyristors

Type:PST-T700123503BY

Features

- Center amplifying gate configuration
- Compression bonded encapsulation
- High dV/dt Capability
- Stud type, thread inch or metric

Typical Applications

- Medium power switching
- DC power supplies

Maximum Ratings And Characteristics

Symbol	Parameter		Values	Units	Test Conditions
ON-STATE					
I _{TAV}	Mean on-state current		350	A	Sinewave,180° conduction,T _c =85℃
I _{TRMS}	RMS value of on-state current		550	A	Nominal value
I _{TSM}	Peak one cycle surge (non repetitive) current		9.1	KA	10.0 msec (50Hz), sinusoidal wave- shape, 180° conduction, T _j = 125 °C
I ² t	I square t		416	KA ² s	8.3 msec and 10.0 msec
I _L	Latching current		-	mA	V _D = 24 V; R _L = 12 ohms
I _H	Holding current		-	mA	V _D = 24 V; I = 2.5 A
V _{TM}	Peak on-state voltage		1.4	V	I _{TM} = 625 A; Duty cycle ≤ 0.01%
di/dt	Critical rate of rise of on-state current	non-repetitive	800	A/μs	Gate drive 20V, 20Ω, t _r ≤1μs, T _j =T _j max, anode voltage≤80% V _{DRM}
		repetitive	150		
BLOCKING					
V _{DRM} V _{RRM}	Repetitive peak off state voltage Repetitive peak reverse voltage		1200	V	
V _{DSM} V _{RSM}	Non repetitive peak off state voltage Non repetitive peak reverse voltage		1300	V	
I _{DRM} I _{RRM}	Repetitive peak off state current Repetitive peak reverse current		30	mA	T _j = 125 °C ,V _{RRM} V _{DRM} applied
dV/dt	Critical rate of voltage rise		1000	V/μs	T _j =T _j max, linear to 80% rated V _{DRM}
TRIGGERING					
P _{G(AV)}	Average gate power dissipation		3	W	
P _{GM}	Peak gate power dissipation		16	W	
I _{GM}	Peak gate current		-	A	
I _{GT}	Gate trigger current		150	mA	T _C = 25 °C
V _{GT}	Gate trigger voltage		3.0	V	T _C = 25 °C
V _{GD}	Gate non-trigger voltage		0.15	V	T _j = 125 °C
SWITCHING					
t _q	Turn-off time		150	μs	I _{TM} =550A, T _j =T _j max, di/dt=40A/μs, V _R =50V, dv/dt=20V/μs, Gate 0V 100Ω

				$t_p=500\mu s$
t_d	Delay time	-		Gate current A, $di/dt=40A/\mu s$, $V_d=0.67\%V_{DRM}$, $T_J=25^\circ C$
Q_{rr}	Reverse recovery charge	-		

Thermal And Mechanical

Symbol	Parameter	Values	Units	Test Conditions
T_j	Operating temperature	-40~125	$^\circ C$	
T_{stg}	Storage temperature	-40~150	$^\circ C$	
$R_{th(j-c)}$	Thermal resistance - junction to case	0.1	$^\circ C/W$	DC operation , Single sided cooled
$R_{th(c-s)}$	Thermal resistance - case to sink	0.05	$^\circ C/W$	Single sided cooled
P	Mounting force	3.5	Nm	
W	Weight	-	g	about

OUTLINE

DIMENSIONS in millimeters (inches)

