Phase Control Thyristors
Type: KP100A/600V

Features

- All diffused design
- High current capabilities
- High surge current capabilities
- High rates voltages
- High dV/dt
- Low gate current
- Dynamic gate
- Low thermal impedance
  Compact size and small weight

Typical Applications

- High Power Drives
- DC Motor Control
- High Voltage Power Supplies
- Medium power switching
- DC power supplies

Maximum Ratings And Characteristics

Symbol	Parameter		Values	Units	Test Conditions
ON-STATE					
I_{TAV}	Mean on-state current		-	A	Sinewave,180° conduction,Tc=100°C
I_{TRMS}	RMS value of on-state current		100	A	Nominal value
I_{TSM}	Peak one cycle surge (non repetitive) current		900	A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T_j = 125 °C
I^2t	I square t		4050	A^2s	8.3 msec and 10.0 msec
I_L	Latching current		100	mA	V_D = 12 V; R_L= 12 ohms
I_H	Holding current		30	mA	V_D = 12 V; I = 1 A
V_{TM}	Peak on-state voltage		2.0	V	I_{TM} = 150 A; Duty cycle ≤ 0.01%; T_j = 25 °C
di/dt	Critical rate of rise of on-state current	non-repetitive	300	A/μs	Gate drive 20V, 20Ω, t_r≤1μs, T_j=$T_j$max, anode voltage≤80% V_{DRM}
		repetitive	50		
BLOCKING					
V_{DRM} V_{RRM}	Repetitive peak off state voltage Repetitive peak reverse voltage		600	V	
V_{DSM} V_{RSM}	Non repetitive peak off state voltage Non repetitive peak reverse voltage		700	V	
I_{DRM} I_{RRM}	Repetitive peak off state current Repetitive peak reverse current		10	mA	T_j = 125 °C ,V_{RRM} V_{DRM} applied
dV/dt	Critical rate of voltage rise		100	V/μs	T_J=$T_J$max, linear to 80% rated V_{DRM}
TRIGGEING					
$P_{G(AV)}$	Average gate power dissipation		-	W	
P_{GM}	Peak gate power dissipation		-	W	
I_{GM}	Peak gate current		-	A	
I_{GT}	Gate trigger current		200	mA	T_C = 25 °C
V_{GT}	Gate trigger voltage		3.0	V	T_C = 25 °C
$V_{T(T0)}$	Treshold voltage		1	V	
r_T	Slope resistance		2.4	mΩ	
V_{GD}	Gate non-trigger voltage		0.2	V	T_j = 125 °C
SWITCHING					
t_q	Turn-off time		-	μs	T_j = 125 °C

Tel: +86-514-87782298, 87782296 FAX:+86-514-87782297, 87367519
E-mail:positioning@china.com; info@yzpst.com; info@stt.tm;info@goldstar.tm
Web Site:www.pst888.com www. stt.tm www. goldstar.tm
www. positioning.en.alibaba.com www. pst.manufacturer.globalsources.com

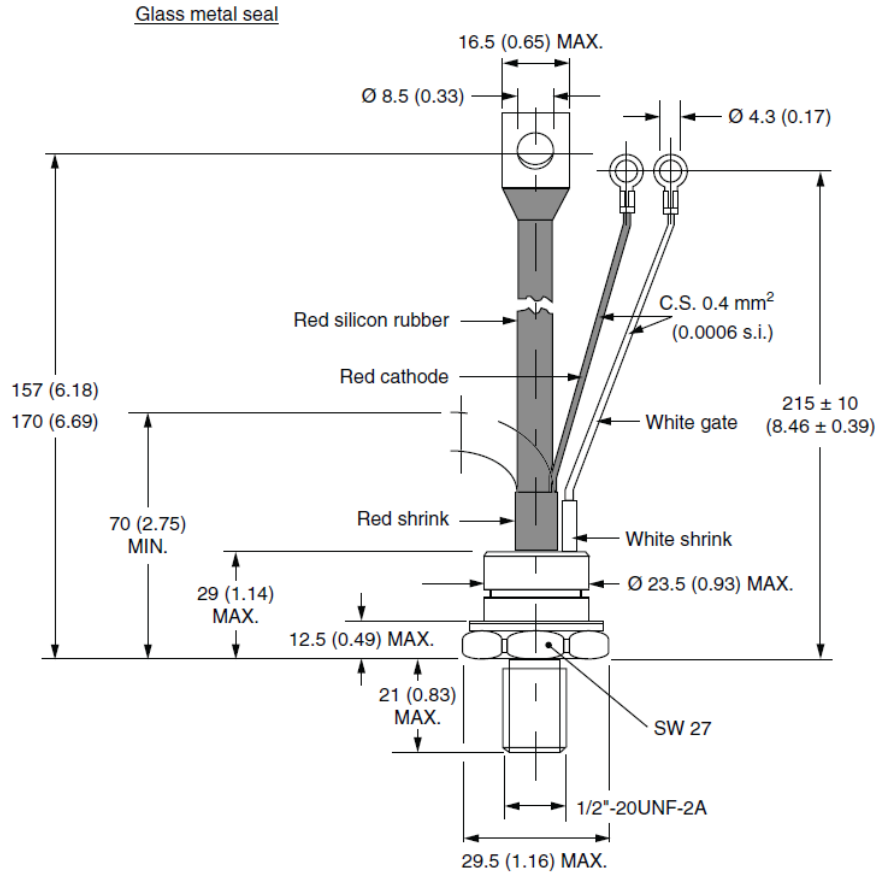
t_d	Delay time	-		Gate current 1A, di/dt=1A/μs, V_d=0.67%V_{DRM}, T_J=25 °C
Q_{rr}	Reverse recovery charge	-		

Thermal And Mechanical

Symbol	Parameter	Values	Units	Test Conditions
T_j	Operating temperature	-40~125	°C	
T_{stg}	Storage temperature	-40~150	°C	
$R_{th\ (j-c)}$	Thermal resistance - junction to case	0.4	°C/W	DC operation ， Single sided cooled
$R_{th\ (c-s)}$	Thermal resistance - case to sink	0.08	°C/W	Single sided cooled
P	Mounting force	-	Nm	
W	Weight	-	g	about

OUTLINE

DIMENSIONS in millimeters (inches)



Tel: +86-514-87782298, 87782296 FAX:+86-514-87782297, 87367519
E-mail:positioning@china.com; info@yzpst.com; info@stt.tm;info@goldstar.tm
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