

Type: YZPST-KS500A/ 1600V
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		-	A	Sinewave, 180° conduction, $T_c=125^\circ\text{C}$
I_{TRMS}	RMS value of on-state current		500	A	Nominal value
I_{TSM}	Peak one cycle surge (non repetitive) current		4200	A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$
I^2t	I square t		245	kA^2s	8.3 msec and 10.0 msec
I_L	Latching current(I - II-III-IV)		-	mA	$I_G = 1.2 I_{GT}$
I_H	Holding current		-	mA	$I_T = 500 \text{ mA}$
V_{TM}	Peak on-state voltage		2.4	V	$I_{TM} = 750\text{A}$; Duty cycle $\leq 0.01\%$
di/dt	Critical rate of rise of on-state current	non-repetitive		A/ μs	$T_j=100^\circ\text{C}$ $V_D = 1/2 V_{DRM}$, $I_{TM}=(2x I_{TAV}) \text{ A}$ Gate pulse: $t_w \geq 20\mu\text{s}$, $t_r \leq 0.5\mu\text{s}$ $f_G=50\text{HZ}$ $I_{GM} \geq 5 I_{GT}$
		repetitive	50		
BLOCKING					
V_{DRM}	Repetitive peak off state voltage		1600	V	
V_{RRM}	Repetitive peak reverse voltage				
V_{DSM}	Non repetitive peak off state voltage		1700	V	
V_{RSM}	Non repetitive peak reverse voltage				
I_{DRM}	Repetitive peak off state current		25	mA	$T_j = 125^\circ\text{C}$, V_{RRM} V_{DRM} applied
I_{RRM}	Repetitive peak reverse current				
dV/dt	Critical rate of voltage rise		500	V/ μs	$T_j = 125^\circ\text{C}$ $V_D = 0.67 V_{DRM}$ Gate open
TRIGGERING					
$P_{G(AV)}$	Average gate power dissipation		-	W	
P_{GM}	Peak gate power dissipation		-	W	
I_{GM}	Peak gate current		-	A	
I_{GT}	Gate trigger current(I - II-III-IV)		300	mA	$T_c = 25^\circ\text{C}$
V_{GT}	Gate trigger voltage(I - II-III-IV)		3.0	V	$T_c = 25^\circ\text{C}$
V_{GD}	Gate non-trigger voltage		-	V	$T_j = 125^\circ\text{C}$
SWITCHING					

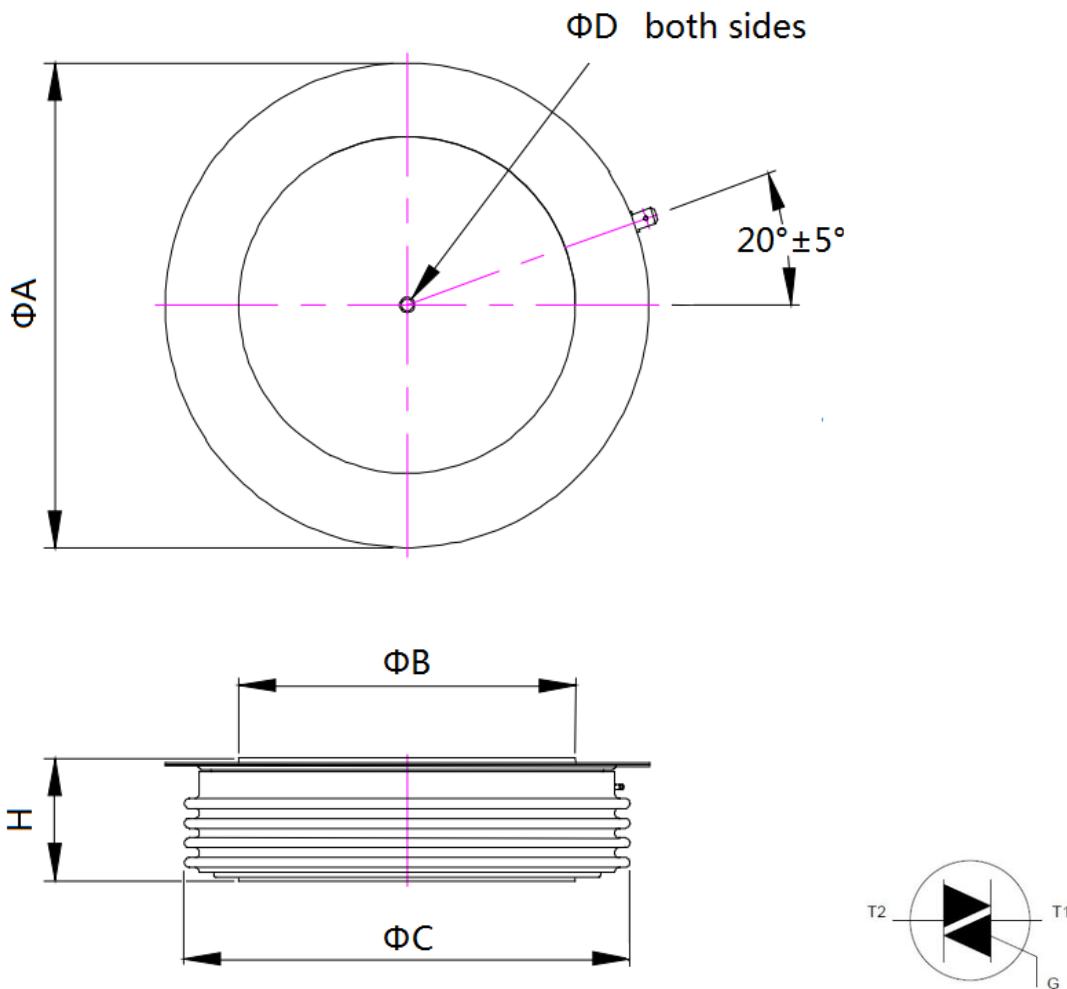


t_q	Turn-off time	-	μs	
Q_{rr}	Reverse recovery charge	-		

Thermal And Mechanical

Symbol	Parameter	Values	Units	Test Conditions
T_j	Operating temperature	-40~125	°C	
T_{stg}	Storage temperature	-40~125	°C	
$R_{th(j-c)}$	Thermal resistance - junction to case	0.043	°C/W	DC operation , Single sided cooled
$R_{th(c-s)}$	Thermal resistance - case to sink	-	°C/W	Single sided cooled
P	Mounting force	5.3 ~ 10	kN	
W	Weight	-	g	

OUTLINE



Sym	A	B	C	D	H
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mm	59	34	53	3.5x3	26±1
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