

Type: YZPST-KS150A / 1800V
Maximum Ratings And Characteristics

Symbol	Parameter	Values	Units	Test Conditions
ON-STATE				
I_{TRMS}	RMS value of on-state current	150	A	Nominal value
I_{TSM}	Peak one cycle surge (non repetitive) current	2000	A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125\text{ °C}$
I^2t	I square t	16	KA ² s	8.3 msec and 10.0 msec
I_L	Latching current	-	mA	$V_D = 24\text{ V}$; $R_L = 12\text{ ohms}$
I_H	Holding current	-	mA	$V_D = 24\text{ V}$; $I = 2.5\text{ A}$
V_{TM}	Peak on-state voltage	1.65	V	$I_{TM} = 450\text{ A}$; $T_j = 25\text{ °C}$
di/dt	Critical rate of rise of on-state current	non-repetitive	-	A/ μ s Gate drive 20V, 20 Ω , $t_r \leq 1\mu$ s, $T_j = T_{jmax}$, anode voltage $\leq 80\% V_{DRM}$
		repetitive	10	
BLOCKING				
V_{DRM}	Repetitive peak off state voltage	1800	V	
V_{RRM}	Repetitive peak reverse voltage			
V_{DSM}	Non repetitive peak off state voltage	1900	V	
V_{RSM}	Non repetitive peak reverse voltage			
I_{DRM}	Repetitive peak off state current	25	mA	$T_j = 100\text{ °C}$, V_{RRM} V_{DRM} applied
I_{RRM}	Repetitive peak reverse current			
dV/dt	Critical rate of voltage rise	300	V/ μ s	$T_j = T_{jmax}$, linear to 80% rated V_{DRM}
TRIGGERING				
$P_{G(AV)}$	Average gate power dissipation	4	W	
P_{GM}	Peak gate power dissipation	15	W	
I_{GM}	Peak gate current	-	A	
I_{GT}	Gate trigger current	150	mA	$T_C = 25\text{ °C}$
V_{GT}	Gate trigger voltage	3.0	V	$T_C = 25\text{ °C}$
V_{GD}	Gate non-trigger voltage	-	V	$T_j = 125\text{ °C}$
SWITCHING				
t_q	Turn-off time	-	μ s	$I_{TM} = 550\text{ A}$, $T_j = T_{jmax}$, $di/dt = 40\text{ A}/\mu$ s, $V_R = 50\text{ V}$, $dv/dt = 20\text{ V}/\mu$ s, Gate 0V 100 Ω , $t_p = 500\mu$ s
t_d	Delay time	-		
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	0.13	°C/W	DC operation , Single sided cooled
$R_{th(c-s)}$	Thermal resistance - case to sink	0.075	°C/W	Single sided cooled
P	Mounting force	31	Nm	± 10 %
W	Weight	-	g	about

OUTLINE
