

Electrical Characteristics and Ratings KK2500-FAST SWITCHING THYRISTOR

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Peak gate power dissipation	P_{GM}		10		W	
Average gate power dissipation	$P_{G(AV)}$		4		W	
Gate-trigger current	I_{GT}		150		mA	$V_D=12V; R_L=30\text{ohms}; T_j=+25^\circ\text{C}$
Gate- trigger voltage	V_{GT}	0.70	2.5		V	$V_D=12V; R_L=30\text{ohms}; T_j=+25^\circ\text{C}$
Peak negative voltage	V_{GRM}		5		V	

Dynamic

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Delay time	t_d		3.0	2.5	s	$I_{TM}=1000A; V_D=67\%V_{DRM}$ Gate pulse: $V_G=30V; R_G=10\text{ohms};$ $t_r=0.1\text{ s}; t_p=20\text{ s}$
Turn-off time (with $V_R = -5\text{ V}$)	t_q		70		s	$I_{TM}=2500\text{ A}; di/dt=-25\text{ A/ s};$ $V_R=50\text{ V}; dv/dt=30V/ \text{ s};$ $V_D=67\%V_{DRM}; T_j=125^\circ\text{C}$
Reverse recovery charge	Q_{rr}				C	$I_{TM}=2500\text{ A}; di/dt=-25A/ \text{ s};$ $V_R=50\text{ V}; T_j=125^\circ\text{C}$

THERMAL AND MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		$^\circ\text{C}$	
Storage temperature	T_{stg}	-40	+140		$^\circ\text{C}$	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.01		$^\circ\text{C/W}$	Double sided cooled
Thermal resistance - case to heat sink	$R_{\Theta(c-s)}$		0.003		$^\circ\text{C/W}$	Double sided cooled
Mounting force	F	33	37	35	kN	



