

KK2000-Fast Switching Thyristor

Jiangsu Yangjie Runau Semiconductor Co.,Ltd

2500-3000 V_{DRM}

HIGH POWER THYRISTOR FOR INVERTER APPLICATION

Features:

- . All Diffused Structure
- . Amplifying Gate Configuration
- . Blocking capability up to 3000 volts
- . High dV/dt Capability
- . Pressure Assembled Device

ELECTRICAL CHARACTERISTICS AND RATINGS

Blocking-Off State

Device Type	V_{RRM} (1)	V_{DRM} (1)	V_{RSM} (1)
KK2000/25	2500	2500	2700

K

Gating

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Peak gate power dissipation	P_{GM}		20		W	
Average gate power dissipation	$P_{G(AV)}$		4		W	
Gate trigger current	I_{GT}		200	150	mA	$V_D=12V; R_L=30\text{ohms}; T_j=+25^\circ\text{C}$
Gate trigger voltage	V_{GT}	0.70	3.0	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	μs	$I_{TM}=50\text{A}; V_D=67\%V_{DRM}$ Gate pulse: $V_G=30\text{V}; R_G=10\text{ohms};$ $t_r=0.1\mu\text{s}; t_p=20\mu\text{s}$
Turn-off time ($V_R=-5\text{V}$)	t_q		60		μs	$I_{TM}=2000\text{A}; di/dt=-10\text{A}/\mu\text{s};$ $V_R=50\text{V}; dV/dt=30\text{V}/\mu\text{s};$ $V_D=67\%V_{DRM}; T_j=125^\circ\text{C}$
Reverse recovery current	Q_{rr}				μC	$I_{TM}=2000\text{A}; di/dt=-10\text{A}/\mu\text{s};$ $V_R=50\text{V}; T_j=125^\circ\text{C}$

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	$R_{\Theta(j-c)}$		0.0125		$^\circ\text{C}/\text{W}$	Double sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.004		$^\circ\text{C}/\text{W}$	Double sided cooled
Mounting force	P	30	37	33	kN	
Weight	W			0.85	kg.	

* Mounting surfaces smooth, flat and greased

