



KP2050-POWER THYRISTOR

1200-1800 V_{DRM}

HIGH POWER THYRISTOR FOR PHASE CONTROL APPLICATIONS

Features:

- . All Diffused Structure
- . Amplifying Gate Configuration
- . Blocking capability up to 1800 volts
- . High dv/dt Capability
- . Pressure Assembled Device

ELECTRICAL CHARACTERISTICS AND RATINGS

Blocking - Off Statq2 2 †

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		mA	$V_D = 12\text{ V}; R_L = 3\text{ ohms}; T_j = +25\text{ }^\circ\text{C}$
Gate- trigger voltage	V_{GT}	0.7	3.0		V	$V_D = 12\text{ V}; R_L = 3\text{ ohms}; T_j = +25\text{ }^\circ\text{C}$
Peak negative voltage	V_{GRM}		5		V	

Dynamic

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Delay time	t_d		3.0	2.5	s	$I_{TM}=100\text{A}; V_D=67\%V_{DRM}$ Gate pulse: $V_G=30\text{V}; R_G=10\text{ohms};$ $t_r=0.1\text{ s}; t_p=20\text{ s}$
Turn-off time (with $V_R = -5\text{ V}$)	t_q			300	s	$I_{TM} = 2000\text{A}; di/dt = -10\text{A/ s};$ $V_R = 100\text{V}; dv/dt = 30\text{V/ s};$ $V_D = 67\%V_{DRM}; T_j = 125$
Reverse recovery charge	Q_{rr}				C	$I_{TM}=2000\text{A } di/dt=-10\text{A/ s};$ $V_R=100\text{V}; T_j=125$

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	$R_{(j-c)}$		0.015		$^\circ\text{C/W}$	Double sided cooled
Thermal resistance - case to heatsink	$R_{(c-s)}$		0.0045		$^\circ\text{C/W}$	Double sided cooled
Mounting force	F	28	32	30	kN	
Weight	m			α		

