

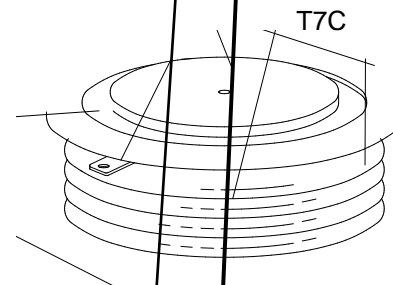
KP1000-POWER THYRISTOR

2000-2400 V_{DRM}

HIGH POWER THYRISTOR FOR PHASE CONTROL APPLICATIONS

Features:

- . All Diffused Structure
- . Amplifying Gate Configuration
- . Blocking capability up to 2400 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)
KP1000/20	2000	2000	2200
KP1000/22	2200	2200	2400
KP1000/24	2400	2400	2500

V_{RRM} = Repetitive peak reverse voltage

V_{DRM} = Repetitive peak off state voltage

V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage and off state leakage	I_{RRM}/I_{DRM}	2 mA 55 mA (3)
Critical rate of voltage rise	dv/dt (4)	1000 V/

Conducting - On State

ELECTRICAL CHARACTERISTICS AND RATINGS

KP1000-POWER THYRISTOR

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}		150		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	2.5		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	$I_{TM}=100\text{A}; V_D=67\%V_{DRM}$ $V_G=30\text{V}; R_G=10\text{ohms};$ $t_r=0.1\text{ s}; t_p=20\text{ s}$
Turn-off time (with $V_R = -5\text{ V}$)	t_q			250	s	$I_{TM} = 1000\text{A}; di/dt = -10\text{A/ s};$ $V_R = 100\text{V}; dv/dt = 30\text{V/ s};$ $V_D = 67\%V_{DRM}; T_j = 125$
Reverse recovery charge	Q_{rr}				C	$I_{TM}=1000\text{A } di/dt=-10\text{A/ s};$ $V_R=100\text{V}; T_j=125$

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	$R_{(j-c)}$		0.03		$^\circ\text{C/W}$	Double sided cooled
Thermal resistance - case to heatsink	$R_{(c-s)}$		0.006		$^\circ\text{C/W}$	Double sided cooled
Mounting force	F	19	21	20	kN	
Weight	m			0.33	kg	

* Mounting surfaces smooth, flat and greased

