KP2500-POWER THYRISTOR

2600-3000 V_{DRM}

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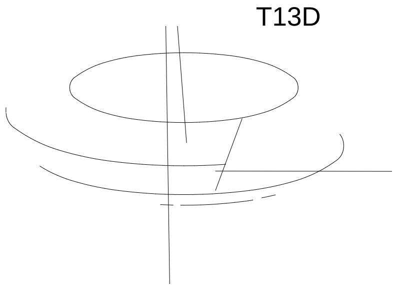
HIGH POWER THYRISTOR FOR PHASE CONTROL APPLICATIONS

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)
KP2500/26	2600	2600	2800
KP2500/28	2800	2800	3000
KP2500/30	3000	3000	3100

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}	5 mA 150 mA (3)
Critical rate of voltage rise	dv/dt (4)	1000 V/

Conducting - On State

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 V;R_L = 3 ohms;T_j = +25 ºC
Gate- trigger voltage	V_{GT}	0.7	3.0		V	V_D = 12 V;R_L = 3 ohms;T_j = +25 ºC
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}=100A; V_D=67%V_{DRM} V_G=30V; R_G=10ohms; t_r=0.1 s; t_p=20 s
Turn-off time (with V_R = -5 V)	t_q		0ꓕ	500	s	I_{TM} =2000A; di/dt =-10A/ s; V_R =100V; dv/dt=30V/ s ; V_D=67%V_{DRM};Tj=125
Reverse recovery charge	Q_{rr}				C	I_{TM}=2000A di/dt=-10A/ s; V_R=100V; T_j=125

THERMAL AND MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		ºC	
Storage temperature	T_{stg}	-40	+140		ºC	
Thermal resistance - junction to case	$R_{\Theta\ (j\text{-}c)}$		0.011			

CA