

KP1500-POWER THYRISTOR

Jiangsu Yangjie Runau Semiconductor Co.,Ltd

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 _R RM (1)	V _D RM (1)	V _R SM (1)
KP1500/20	2000	2000	2200
KP1500/22	2200	2200	2400
KP1500/24	2400	2400	2600

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 _R RM/I _D RM	5 mA 120 mA (3)
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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 °C
Gate- trigger voltage	V _{GT}	0.70	2.5		V	V _D = 12 V; R _L = 3 ohms; T _j = +25 °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} = 100 A; V _D = 67% V _{DRM} Gate pulse: V _G = 30 V; R _G = 10 ohms; t _r % p %
Turn-off time (with V _R = -5 V)	t _q			300	μs	I _{TM} = 1000 A; di/dt = - 10 A/μs; V _R = 50 V; dV/dt = 30V/μs ; V _D = 67% V _{DRM} ; T _j = 125 °C
Reverse recovery charge	Q _{rr}			3500	μC	I _{TM} = 1000A; di/dt = -10A/s; V _R = 50 V; T _j = 125 °C

THERMAL AND MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T _j	-40	+125		°C	
Storage temperature	T _{stg}	-40	+140		°C	
Thermal resistance - junction to case	R _{θ(j-c)}		0.015		°C/W	Double sided cooled
Thermal resistance - case to heatsink	R _{θ(c-s)}		0.0045		°C/W	Double sided cooled
Mounting force	P	27	33	30	kN	
Weight	W			0.72	kg	

* Mounting surfaces smooth, flat and greased

