Y30KAD

HIGH FREQUENCY THYRISTOR

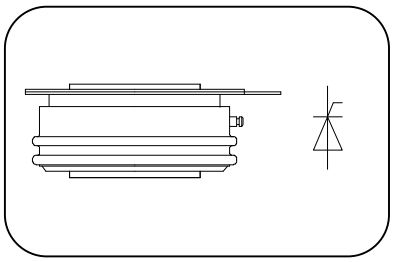
Features:

- **n** Interdigitated amplifying gates
- **n** Fast turn-on and high di/dt
- **n** Low switching losses
- **n** Short turn-off time
- **n** Hermetic metal cases with ceramic insulators

Typical Applications

- **n** Inductive heating
- **n** Electronic welders
- **n** Self-commutated inverters
- **n** AC motor speed control
- **n** General power switching applications

$I_{T(AV)}$	**420A**
V_{DRM}/V_{RRM}	**800~1400V**
t_q	**8~12μs**
I_{TSM}	**2.4KA**



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled, T_{hs}=55°C	125			420	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM}&V_{RRM} ,tp=10ms V_{DSM}&V_{RSM}= V_{DRM}&V_{RRM}+100V	125	800		1400	V
I_{DRM} I_{RRM}	Repetitive peak off-state current Repetitive peak reverse current	V_D= V_{DRM} V_R= V_{RRM}	125			30	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}	125			2.4	KA
I^2t	I^2T for fusing coordination					29	A^2s*10^3
V_{TO}	Threshold voltage		125			1.67	V
r_T	On-state slop resistance					1.32	mW
V_{TM}	Peak on-state voltage	I_{TM}=600A, F=7.0KN	125			2.46	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=0.67V_{DRM}	125			200	V/μs
di/dt	Critical rate of rise of on-state current	V_{DM}= 67%V_{DRM} Gate pulse t_r ≤0.5 μ s I_{GM}=1.5A Repetitive	125			600	A/μs
I_{rm}	Reverse recovery current	I_{TM}=400A,tp=1000μs, di/dt=-20A/μs, V_R=50V	125		30		A
t_{rr}	Reverse recovery time				2.5		μs
Q_{rr}	Recovery charge				38	50	μC
tq	Circuit commutated turn-off time	I_{TM}=400A,tp=1000μs, V_R =50V dv/dt=30V/μs ,di/dt=-20A/μs	125	8		12	μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	30		200	mA
V_{GT}	Gate trigger voltage			0.8		2.5	V
I_H	Holding current			20		250	mA
V_{GD}	Non-trigger gate voltage	V_{DM}=67%V_{DRM}	125	0.3			V
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	At 180^0 sine, double side cooled Clamping force 7.0KN				0.055	°C /W
F_m	Mounting force			5.3		10	KN
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				80		g
Outline	KT25aT						

Outline: