TECHSEM

Y40KKE

FAST TURN-OFF THYRISTOR

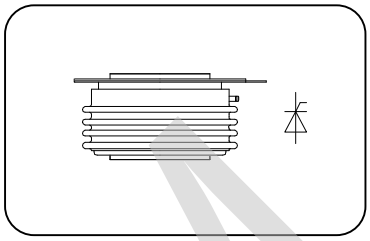
Features:

- **n** Interdigitated amplifying gates
- **n** Fast turn-on and high di/dt
- **n** Low switching losses

Typical Applications

- **n** Inductive heating
- **n** Electronic welders
- **n** Self-commutated inverters

$I_{T(AV)}$	**820A**
V_{DRM}/V_{RRM}	**800~1800V**
t_q	**12~18μs**
I_{TSM}	**8.5KA**
I^2t	**361 10^3A^2S**



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			820	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		1800	V
I_{DRM} I_{RRM}	Repetitive peak current	V_D= V_{DRM} V_R= V_{RRM}	125			50	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			8.5	KA
I^2t	I^2T for fusing coordination					361	A^2s*10^3
V_{TO}	Threshold voltage		125			1.70	V
r_T	On-state slop resistance					0.48	mW
V_{TM}	Peak on-state voltage	I_{TM}=1500A, F=18KN	125			2.42	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=0.67V_{DRM}	125			500	V/μs
di/dt	Critical rate of rise of on-state current	V_{DM}= 67%V_{DRM} to 1600A, Gate pulse t_r ≤0.5μs I_{GM}=1.5A Repetitive	125			300	A/μs
I_{rm}	Reverse recovery current	I_{TM}=800A,tp=1000μs, di/dt=-20A/μs, V_R=50V	125		70		A
t_{rr}	Reverse recovery time				4.4		μs
Q_{rr}	Recovery charge				155	180	μC
tq	Circuit commutated turn-off time	I_{TM}=800A,tp=1000μs, V_R =50V dv/dt=30V/μs ,di/dt=-20A/μs	125	12		18	μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	40		250	mA
V_{GT}	Gate trigger voltage			0.9		2.5	V
I_H	Holding current			20		400	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 18KN				0.032	°C /W
F_m	Mounting force			15		20	KN
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				360		g
Outline	KT39cT40						

Outline: