TECHSEM

Y38KKE
FAST TURN-OFF THYRISTOR

Features

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

Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

$I_{T(AV)}$	**820A**
V_{DRM}/V_{RRM}	**800~1800V**
t_q	**18~50μs**
I_{TSM}	**9.0kA**
I^2t	**405 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_C=55°C	125			820	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	800		1800	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			40	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}		125			9.0	kA
I^2t	I^2t for fusing coordination						405	A^2s*10^3
V_{TO}	Threshold voltage			125			1.36	V
r_T	On-state slope resistance						0.53	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1500A, F=15kN		25			3.15	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=0.67V_{DRM}		125			1000	V/μs
di/dt	Critical rate of rise of on-state current	V_{DM}= 67%V_{DRM} to 1000A, Gate pulse t_r ≤0.5μs I_{GM}=1.5A		125			1200	A/μs
Q_{rr}	Recovery charge	I_{TM}=1000A,tp=2000μs, di/dt=-60A/μs,V_R=50V		125		460		μC
tq	Circuit commutated turn-off time	I_{TM}=800A,tp=1000μs, V_R =50V dv/dt=30V/μs ,di/dt=-20A/μs		125	18		50	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
$R_{th(j-c)}$	Thermal resistance Junction to case	At 180^0 sine, double side cooled Clamping force 15kN					0.035	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.008	
F_m	Mounting force				10		20	kN
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					250		g
Outline	KT33cT							

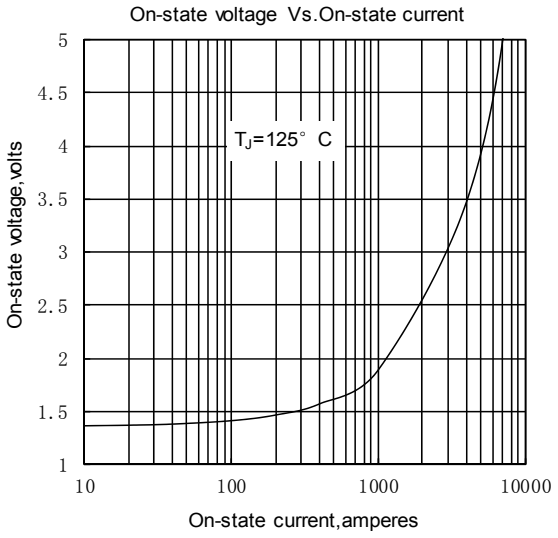

Fig. 1

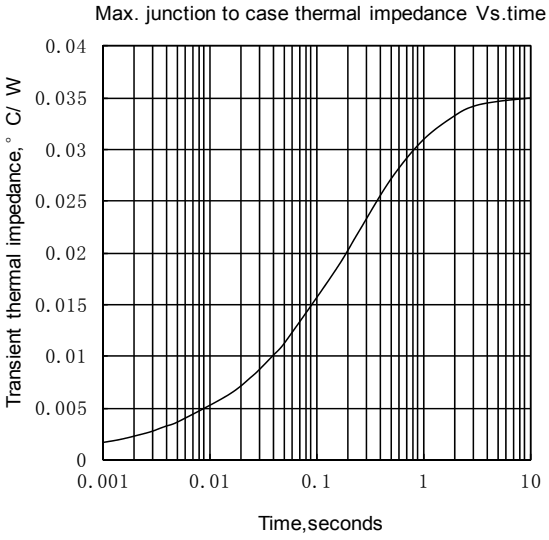

Fig. 2

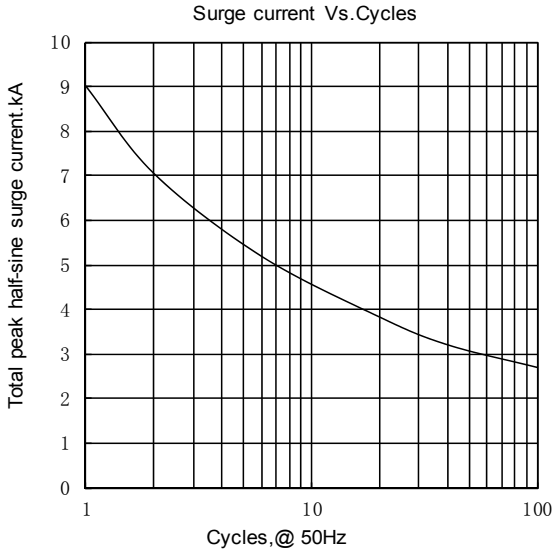

Fig. 3

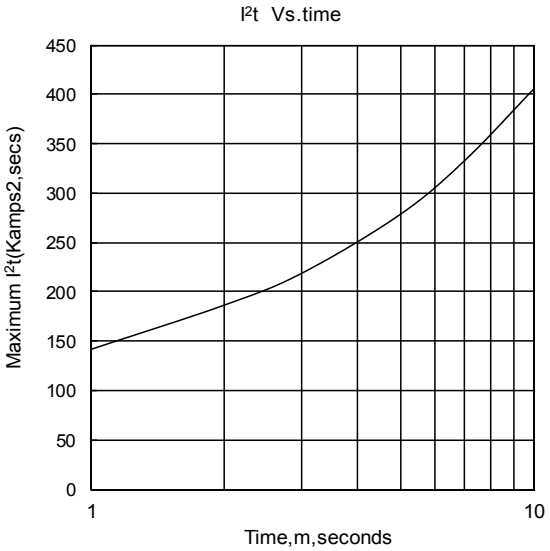

Fig. 4

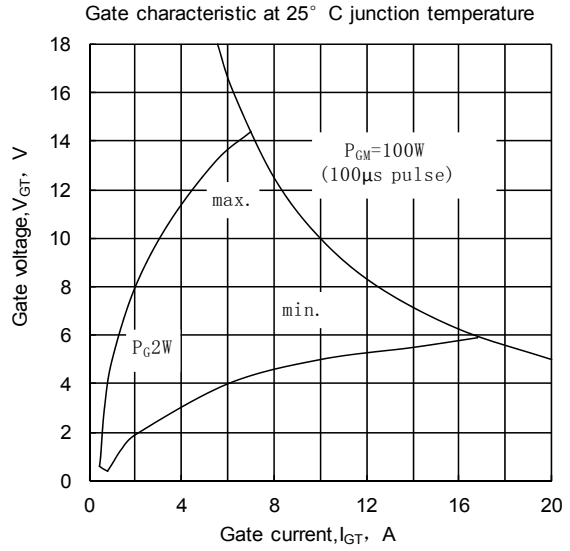

Fig. 5

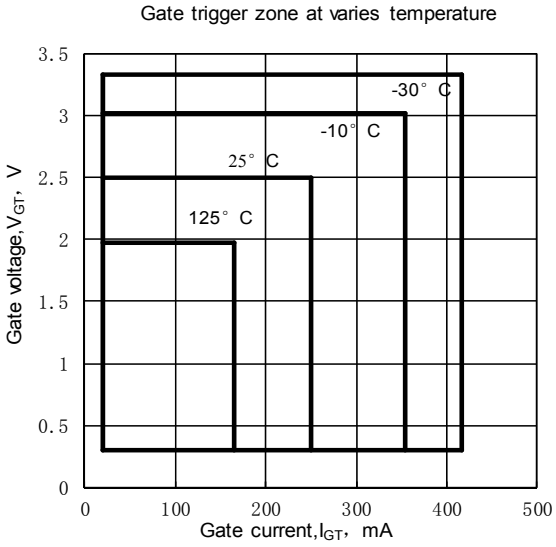

Fig. 6

Outline: