TECHSEM

Y50KAC

HIGH FREQUENCY THYRISTOR

Features：

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

Typical Applications

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

$I_{T(AV)}$	**1430A**
V_{DRM}/V_{RRM}	**800~1200V**
t_q	**10~20μs**
I_{TSM}	**15 kA**

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			1430	A
			T_C=85°C				960	
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		1200	V
I_{DRM} I_{RRM}	Repetitive peak off state current Repetitive peak reverse current	V_D= V_{DRM} V_R= V_{RRM}		125			80	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}		125			15	kA
I^2t	I^2T for fusing coordination						1125	A^2s*10^3
V_{TO}	Threshold voltage			125			1. 32	V
r_T	On-state slop resistance						0.32	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=2000A, F=24kN		125			2.02	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} ,to2000A Gate pulse t_r ≤0.5μs I_{GM}=1.5A		125			1500	A/μs
Q_{rr}	Recovery charge	I_{TM}=2000A,tp=2000μs, di/dt=-60A/μs,V_R=50V		125		77	100	μC
tq	Circuit commutated turn-off time	I_{TM}=1200A,tp=1000μs, V_R =50V dv/dt=30V/μs ,di/dt=-20A/μs		125	10		20	μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A		25	30		300	mA
V_{GT}	Gate trigger voltage				0.8		3.0	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 24kN					0.020	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.005	
F_m	Mounting force				19		26	kN
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					440		g
Outline	KT50cT							

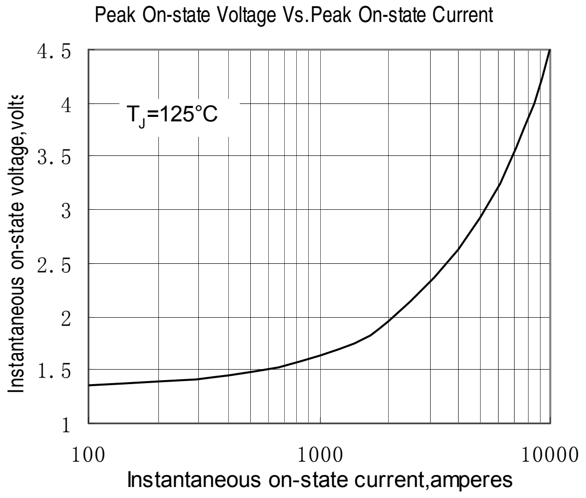

Fig.1

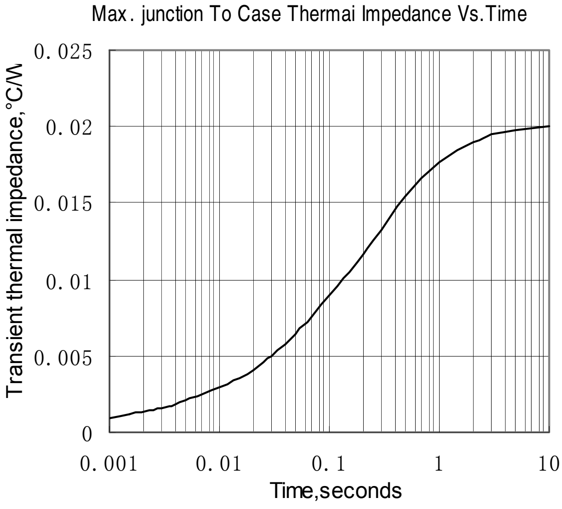

Fig.2

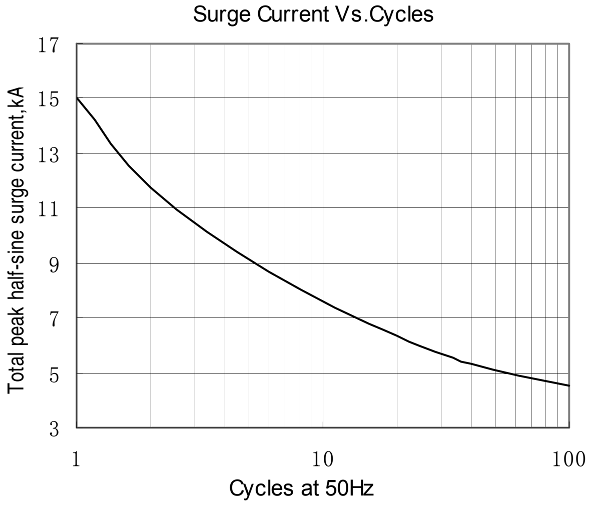

Fig.3

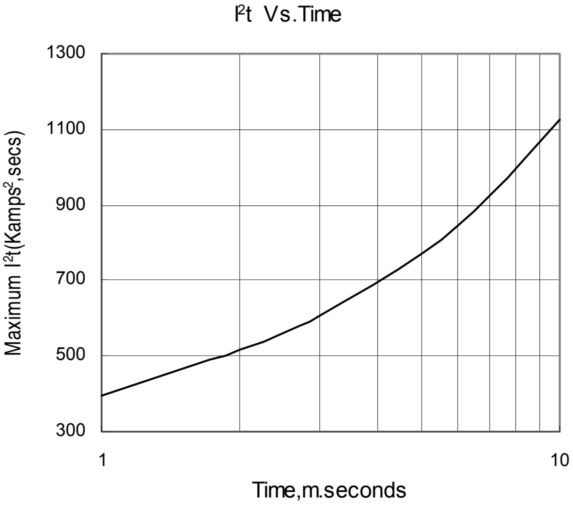

Fig.4

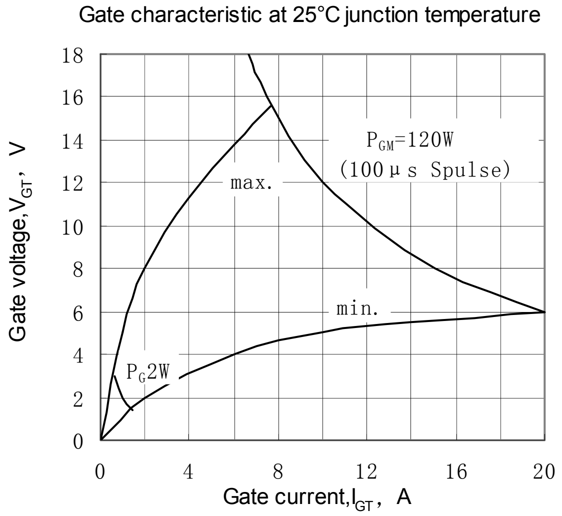

Fig.5

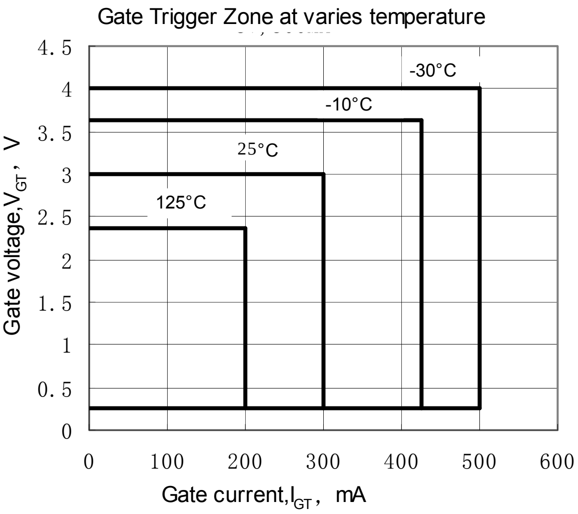

Fig.6

Outline: