TECHSEM

H50KPN
PHASE CONTROL THYRISTOR

Features
- Center amplifying gate
- Metal case with ceramic insulator
- Low on-state and switching losses

Typical Applications
- AC controllers
- DC and AC motor control
- Controlled rectifiers

$I_{T(AV)}$	920 A
V_{DRM}/V_{RRM}	4600-5500V
I_{TSM}	12 kA
I^2t	703 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=70°C	125			920	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	4600		5500	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			200	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}		125			12	kA
I^2t	I^2t for fusing coordination						703	A^2s*10^3
V_{TO}	Threshold voltage			125			1.07	V
r_T	On-state slope resistance						0.83	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1000A, F=24kN		25			1.90	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=0.67V_{DRM}		125			2000	V/μs
di/dt	Critical rate of rise of on-state current	V_{DM}= 67%V_{DRM} to 2000A, Gate pulse tr ≤0.5μs I_{GM}=2.0A		125			150	A/μs
Q_{rr}	Recovery charge	I_{TM}=2000A,tp=2000μs, di/dt=-5A/μs, V_R =50V		125		2500		μC
I_{GT}	Gate trigger current	V_A=12V, $_{IA}$=1A		25	40		300	mA
V_{GT}	Gate trigger voltage				0.8		3.0	V
I_H	Holding current				25		200	mA
V_{GD}	Non-trigger gate voltage	V_{DM}=0.67V_{DRM}		125	0.3			V
$R_{th(j-C)}$	Thermal resistance Junction to case	At 180^0 sine, double side cooled Clamping force 24.0kN					0.020	°C /W
$R_{th(C-h)}$	Thermal resistance case to heatsink						0.005	°C /W
F_m	Mounting force				19	24	26	kN
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					440		g
Outline	KT50cT							

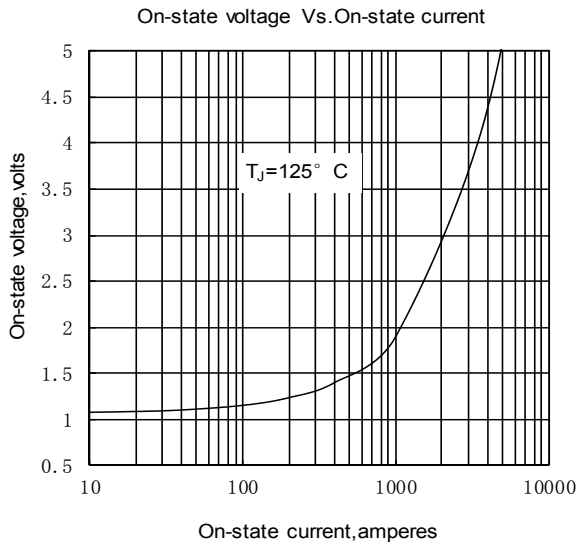

Fig.1

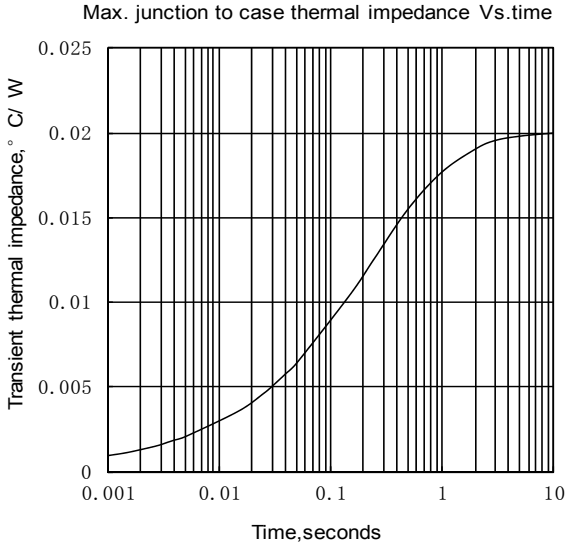

Fig.2

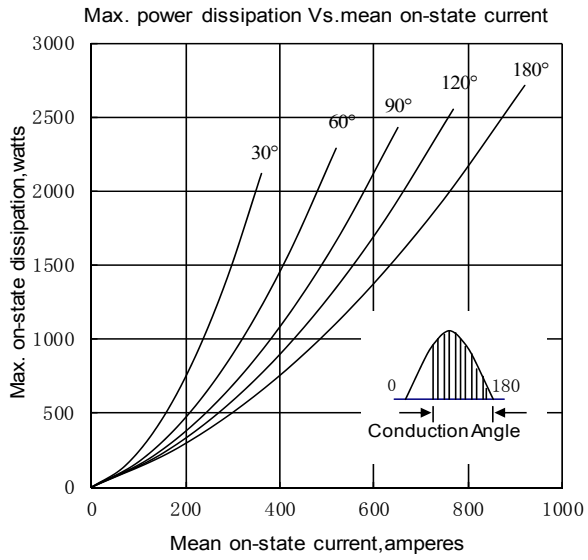

Fig.3

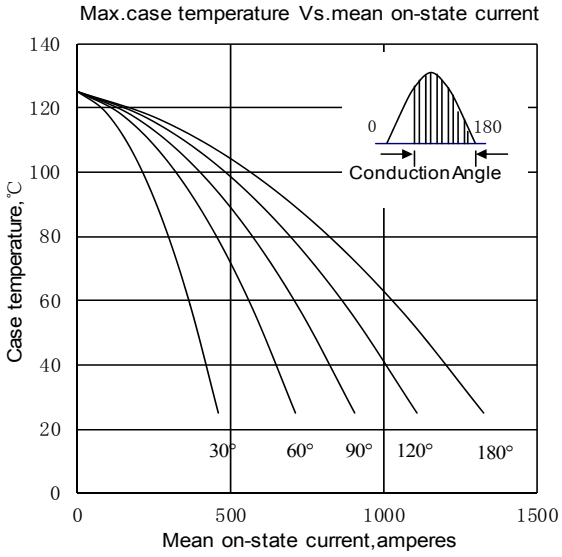

Fig.4

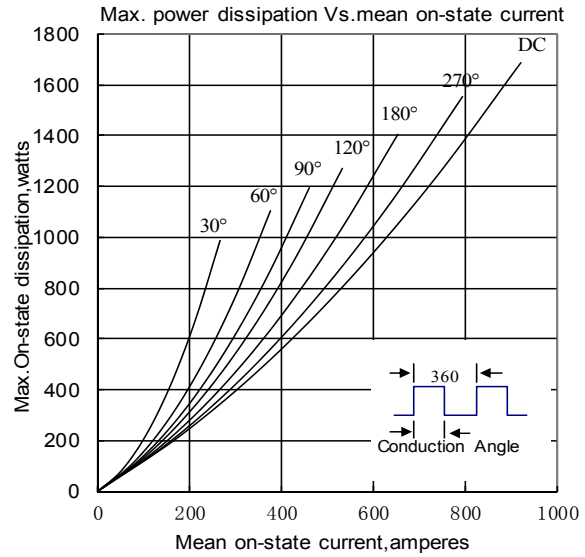

Fig.5

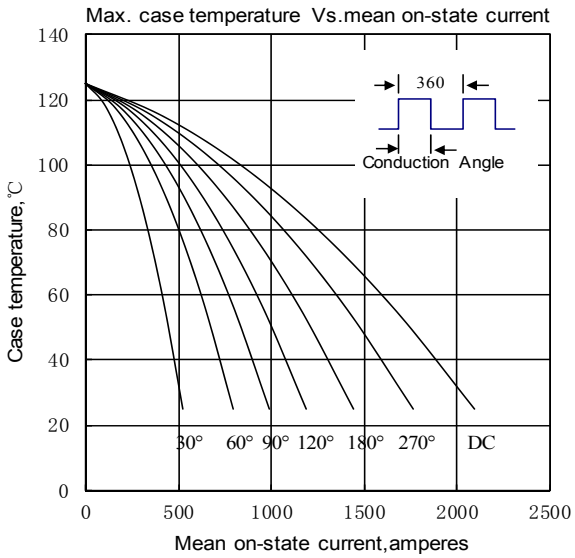

Fig.6

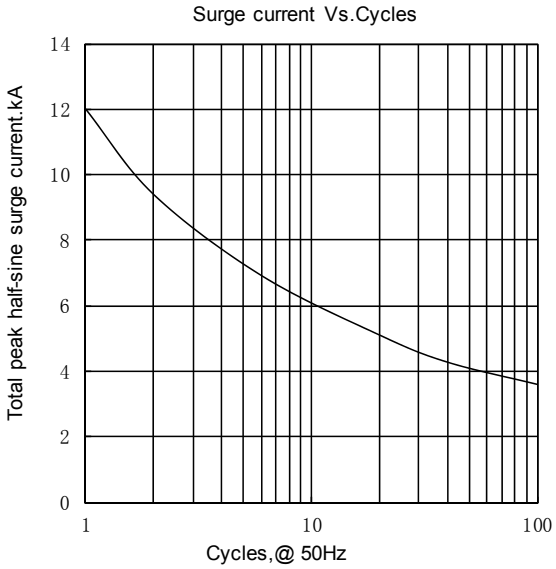

Fig.7

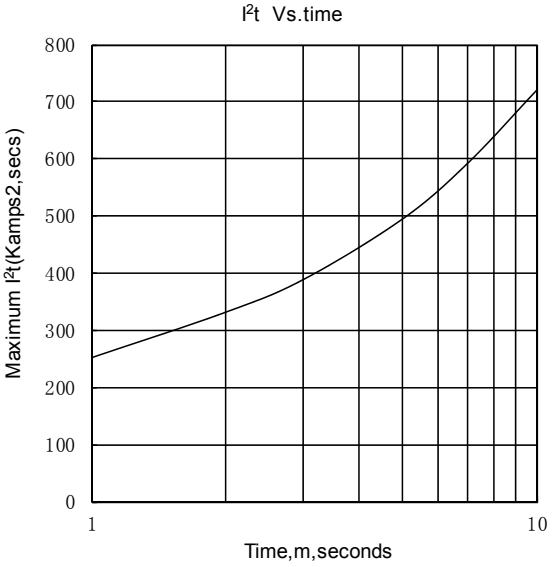

Fig.8

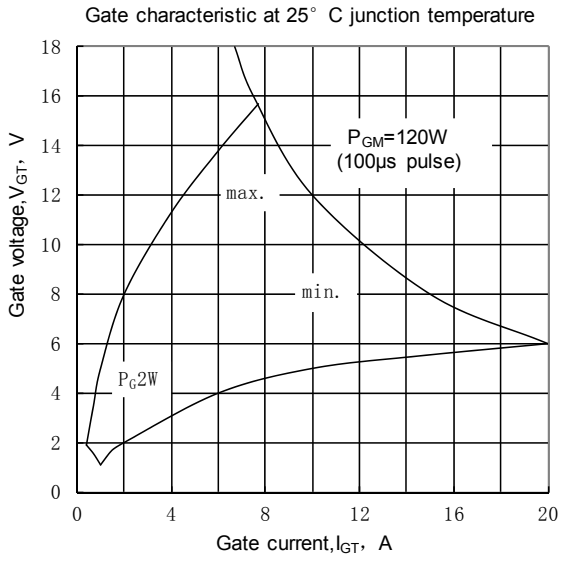

Fig.9

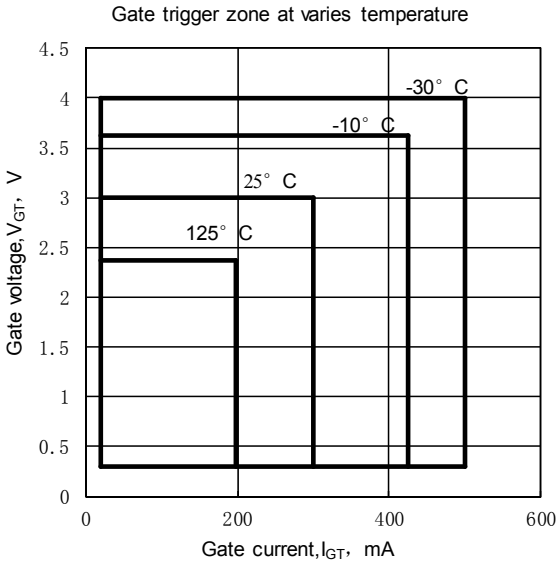

Fig.10

Outline: