TECHSEM

H89KPN
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

$I_{T(AV)}$ **2300 A**
V_{DRM}/V_{RRM} **4500-5500V**
I_{TSM} **32 kA**
I^2t **5120 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			2820	A
			T_C=70°C				2300	
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	4500		5500	V
I_{DRM} I_{RRM}	Repetitive peak current	V_{DM}= V_{DRM} V_{RM}= V_{RRM}		125			400	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}		125			32	kA
I^2t	I^2T for fusing coordination						5120	A^2s*10^3
V_{TO}	Threshold voltage			125			1.03	V
r_T	On-state slop resistance						0.25	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=3000A, F=70kN		125			1.70	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 3000A, Gate pulse tr ≤0.5μs IGM＝1.5A		125			200	A/μs
Q_{rr}	Recovery charge	I_{TM}=2000A,tp=2000μs, di/dt=-5A/μs, V_R =50V		125		4500		μC
I_{GT}	Gate trigger current	VA=12V, IA=1A		25	40		300	mA
V_{GT}	Gate trigger voltage				0.8		3.0	V
I_H	Holding current				25		250	mA
V_{GD}	Non-trigger gate voltage	V_{DM}=67%V_{DRM}		125	0.3			V
$R_{th(j-C)}$	Thermal resistance Junction tocase	At 180^0 sine double side cooled Clamping force 70.0kN					0.009	°C /W
$R_{th(c-hs)}$	Thermal resistance case to heatsink						0.002	°C /W
F_m	Mounting force				63	70	84	kN
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					1920		g
Outline	KT78dT							

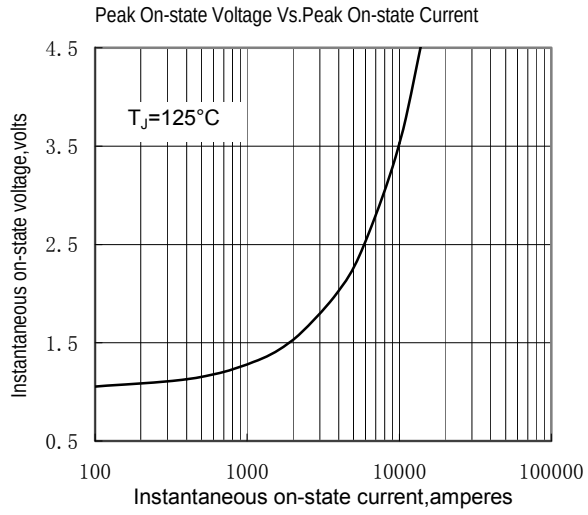

Fig.1

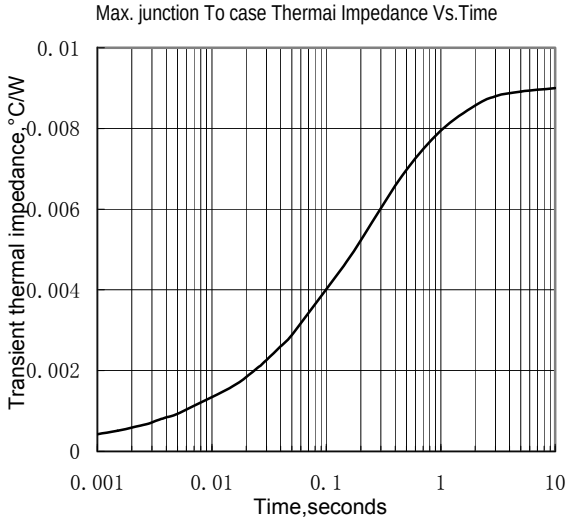

Fig.2

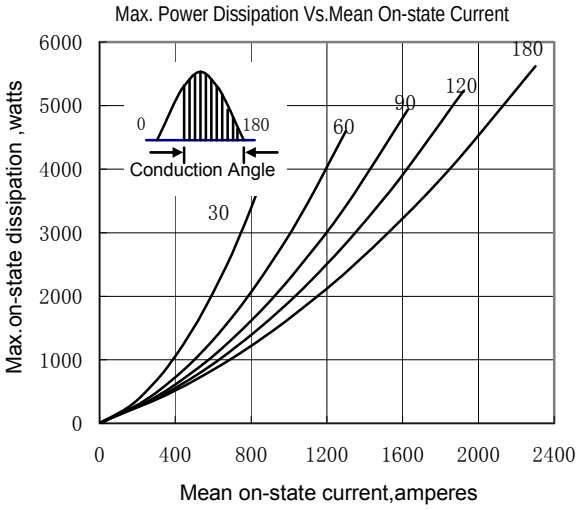

Fig.3

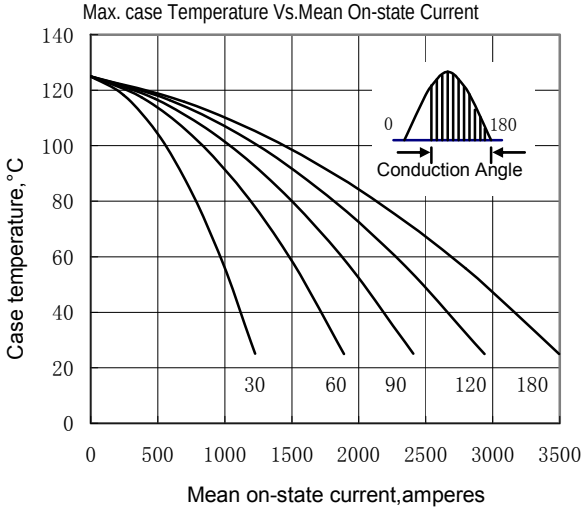

Fig.4

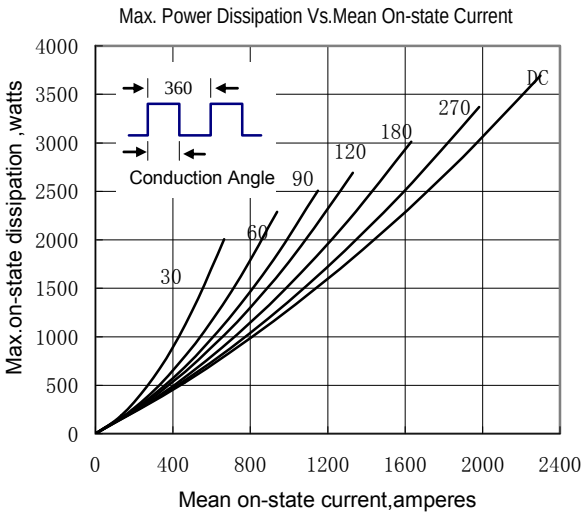

Fig.5

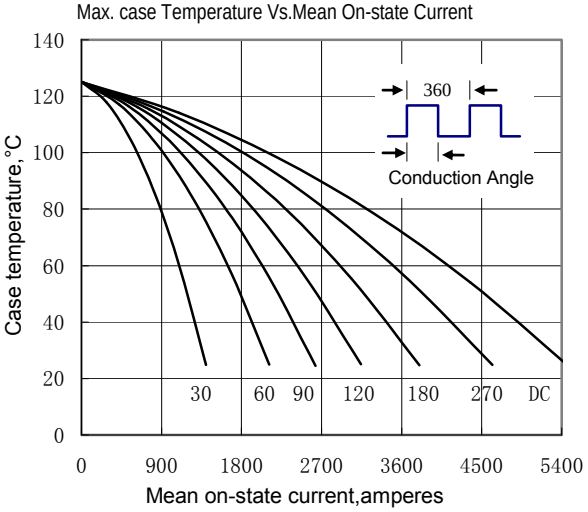

Fig.6

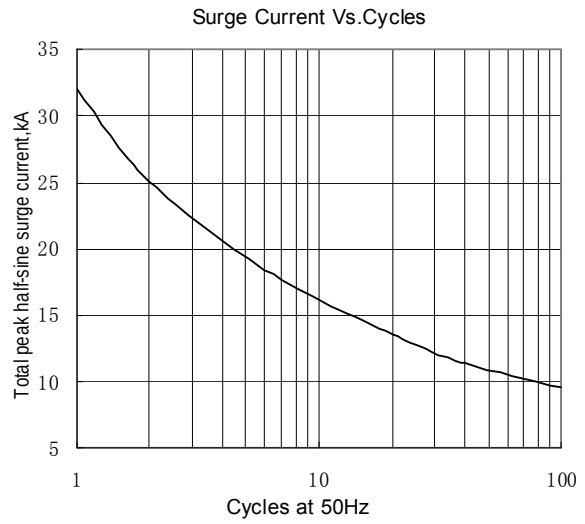

Fig.7

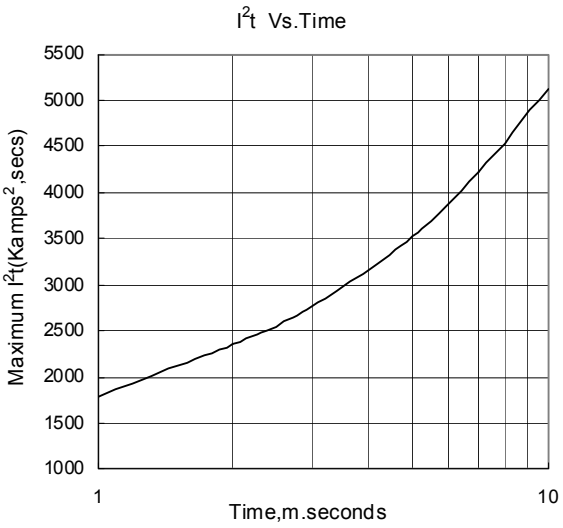

Fig.8

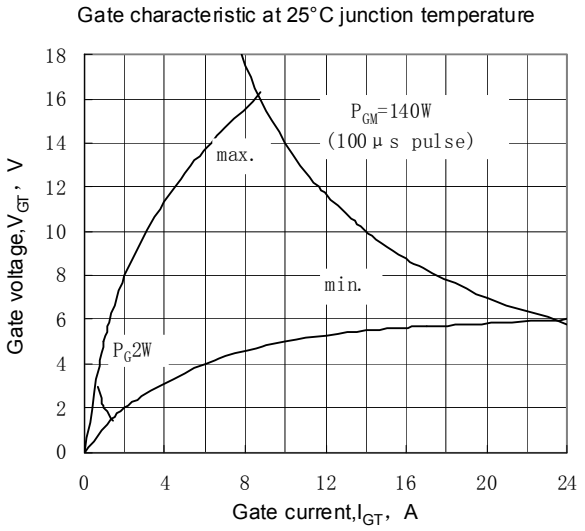

Fig.9

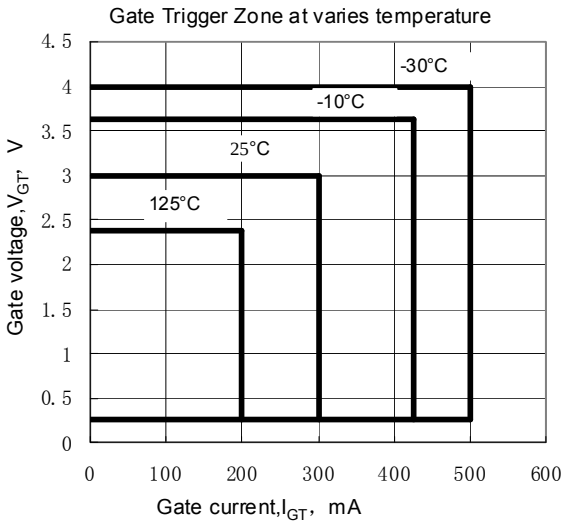

Fig.10

Outline: