TECHSEM

H89KPR
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

$I_{T(AV)}$ 1800 A
V_{DRM}/V_{RRM} 5600-6500V
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=70°C	125			1800	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	5600		6500	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			600	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			1.22	V
r_T	On-state slope resistance					0.42	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1600A, F=70kN	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 3000A, Gate pulse tr ≤0.5μs I_{GM}=1.5A	125			250	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	V_A=12V, I_A=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 to case	At 180^0 sine double side cooled Clamping force 70.0kN				0.009	°C /W
$R_{th(c-h)}$	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						

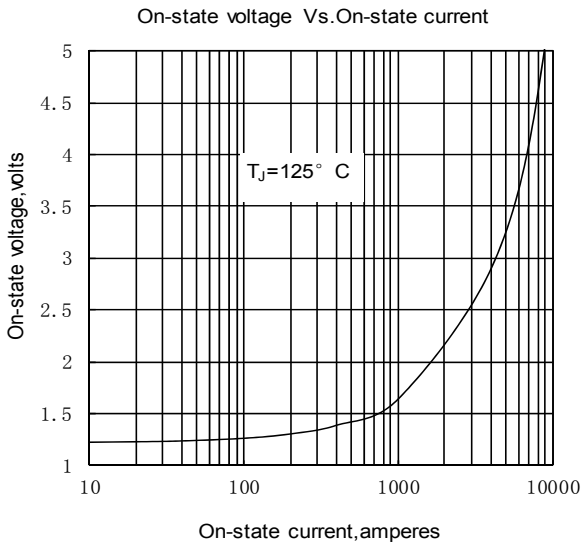

Fig.1

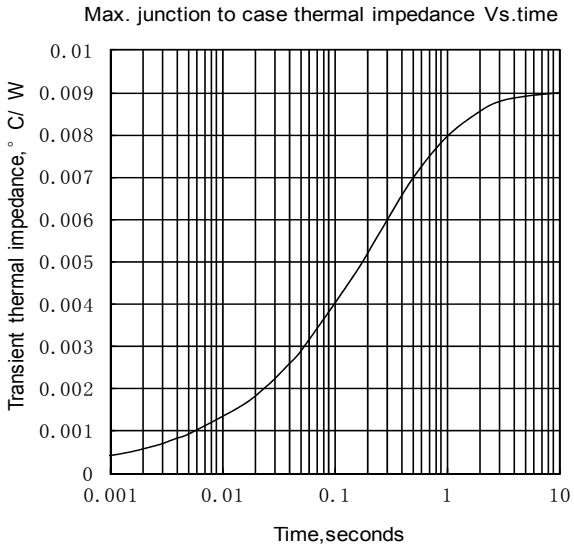

Fig.2

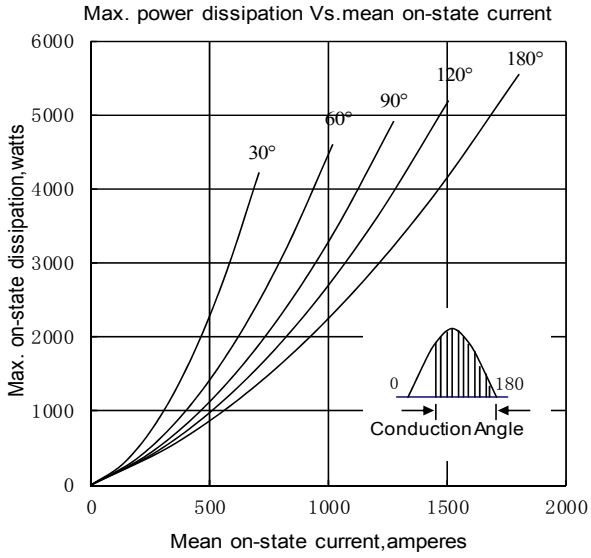

Fig.3

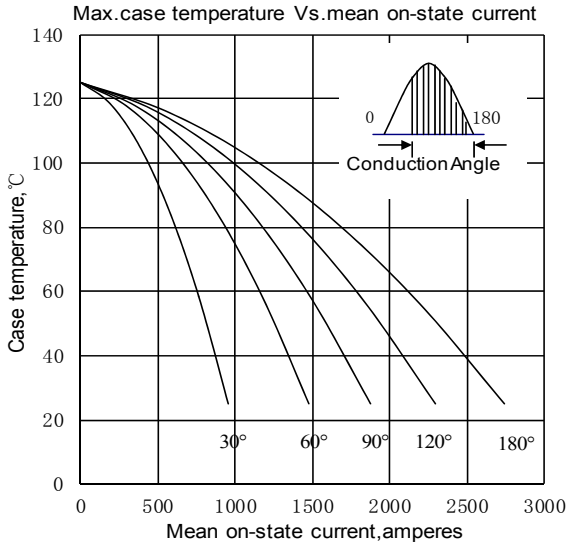

Fig.4

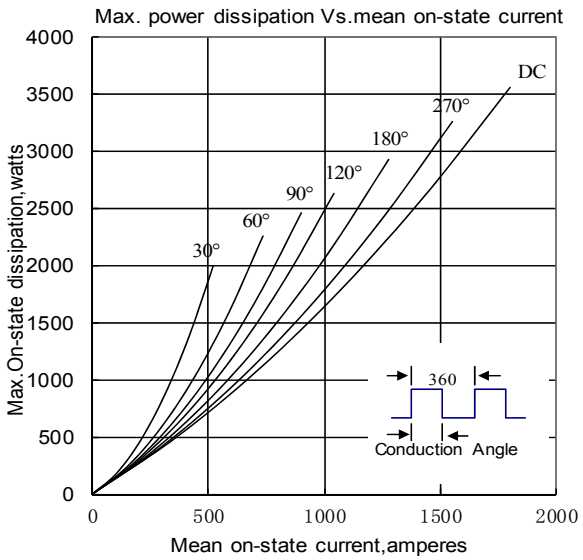

Fig.5

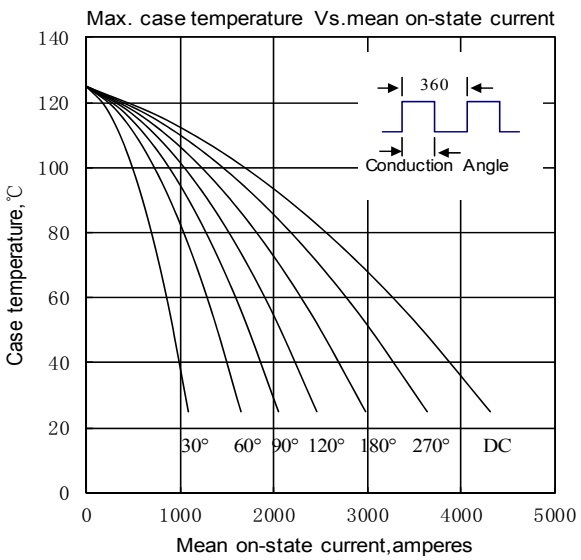

Fig.6

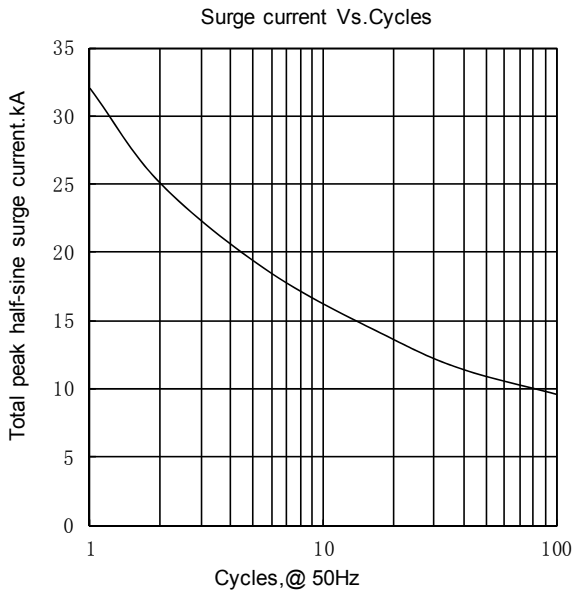

Fig.7

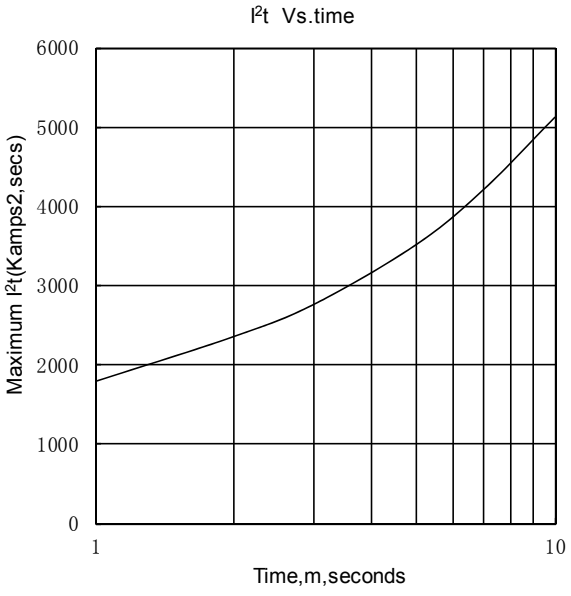

Fig.8

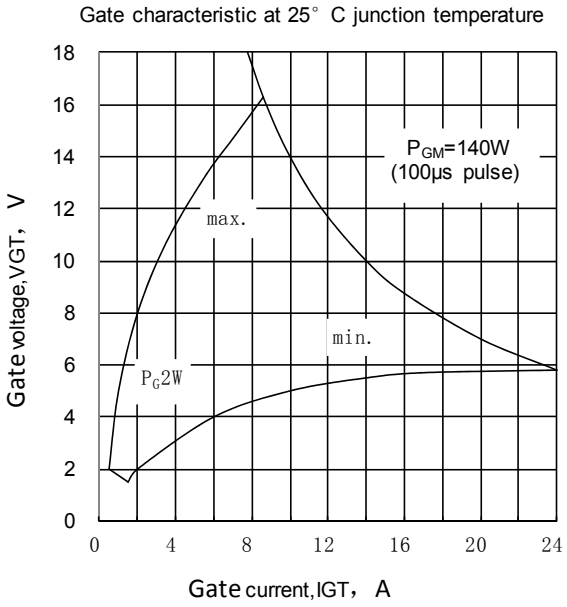

Fig.9

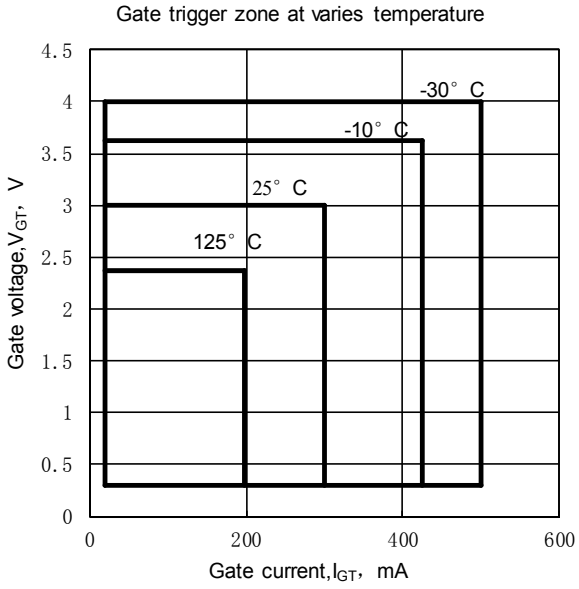

Fig.10

Outline: