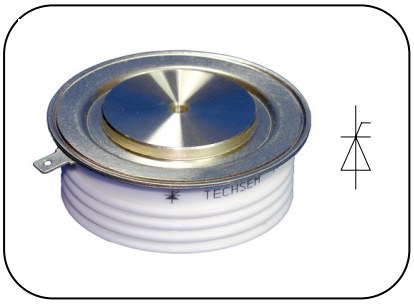
TECHSEM

Y38KPM
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

$I_{T(AV)}$	530A
V_{DRM}/V_{RRM}	4300~5200V
I_{TSM}	4.5 kA
I^2t	101 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			530	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	4300		5200	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			50	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}	125			4.5	kA
I^2t	I^2t for fusing coordination					101	A^2s*10^3
V_{TO}	Threshold voltage		125			1.45	V
r_T	On-state slope resistance					1.15	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=900A, F=15kN	25			3.20	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} to800A, Gate pulse t_r ≤0.5μs I_{GM}=1.5A	125			100	A/μs
Q_{rr}	Recovery charge	I_{TM}=800A,tp=2000μs, di/dt=-20A/μs, V_R =50V	125		1400		μC
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	35		300	mA
V_{GT}	Gate trigger voltage			0.8		3.0	V
I_H	Holding current			20		250	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° sine double side cooled Clamping force15kN				0.035	°C /W
$R_{th(c-h)}$	Thermal resistance case to heatsink					0.008	
F_m	Mounting force			10		20	kN
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				240		g
Outline	KT33cT						

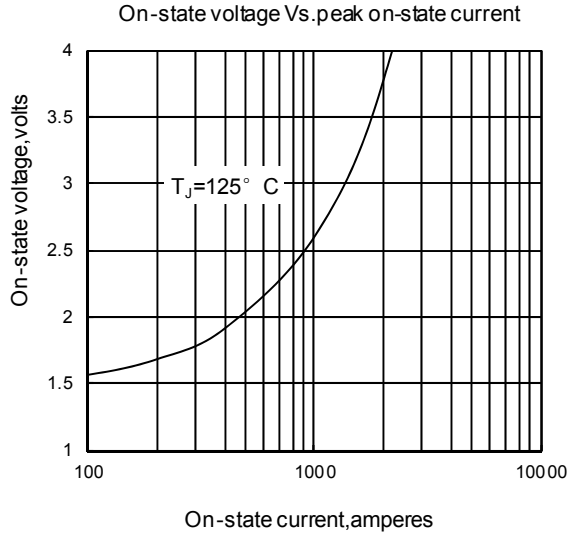


Fig1

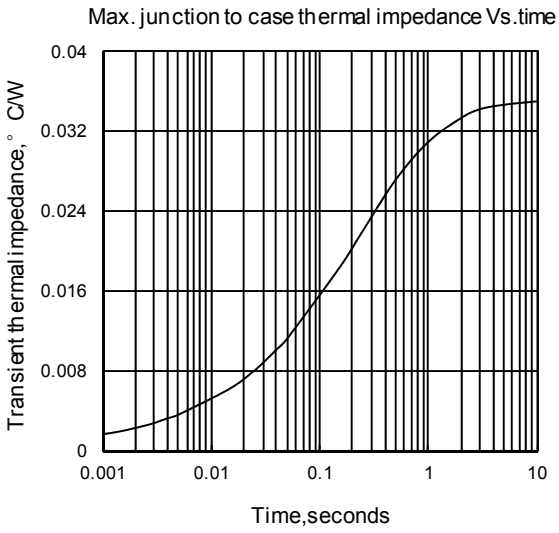


Fig2

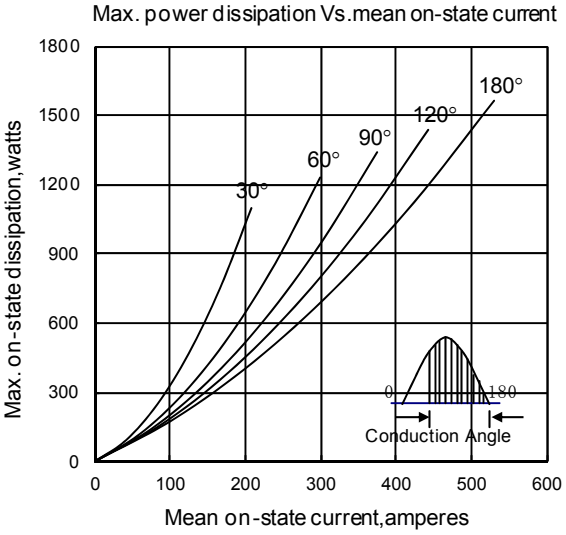


Fig3

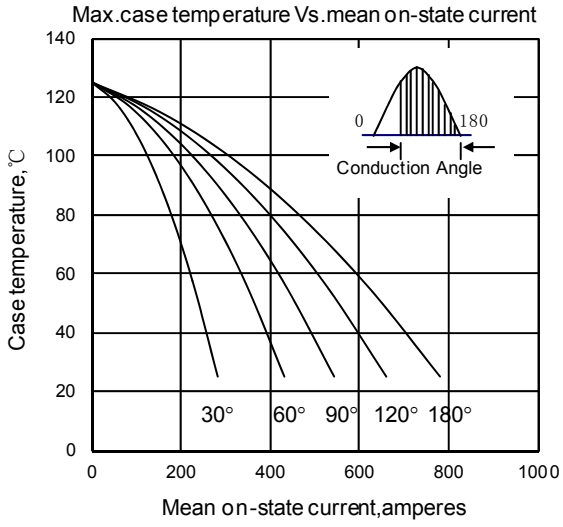


Fig4

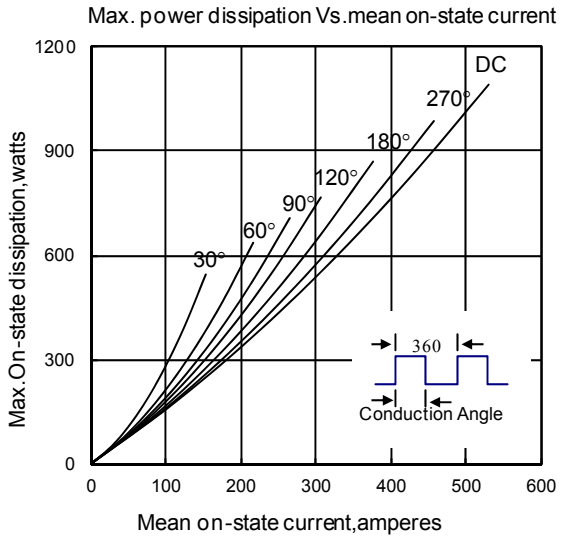


Fig5

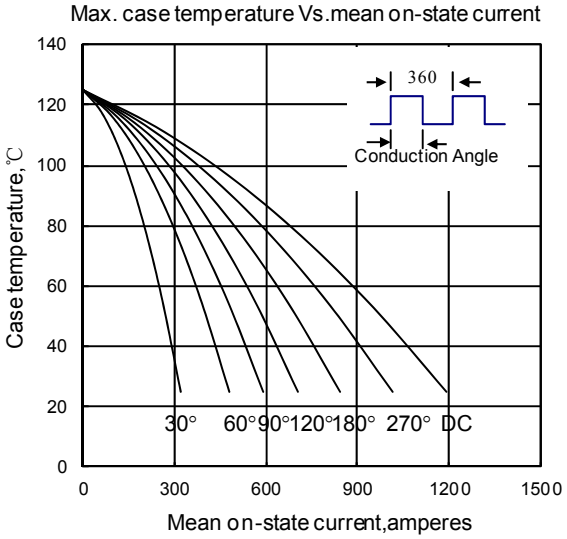


Fig6

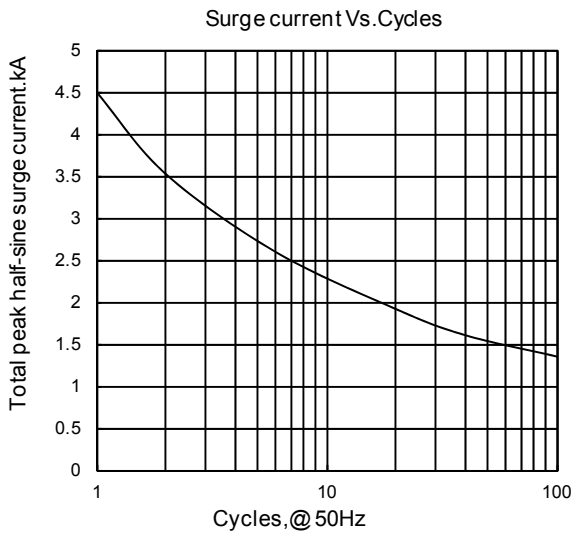


Fig7

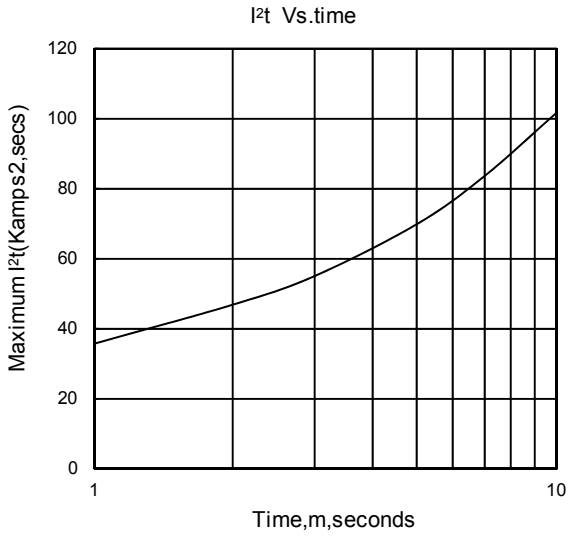


Fig8

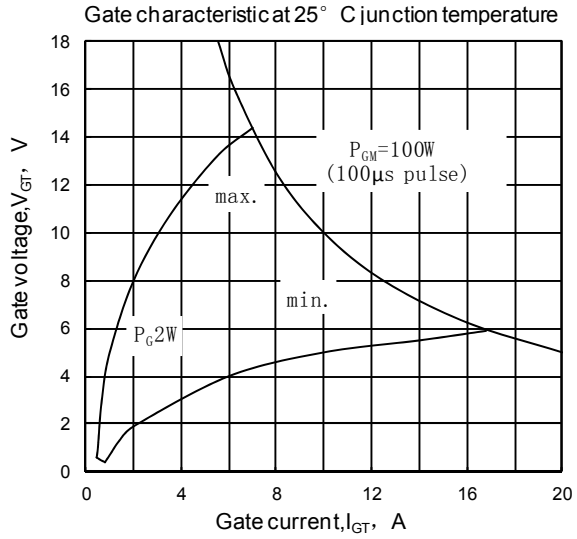


Fig9

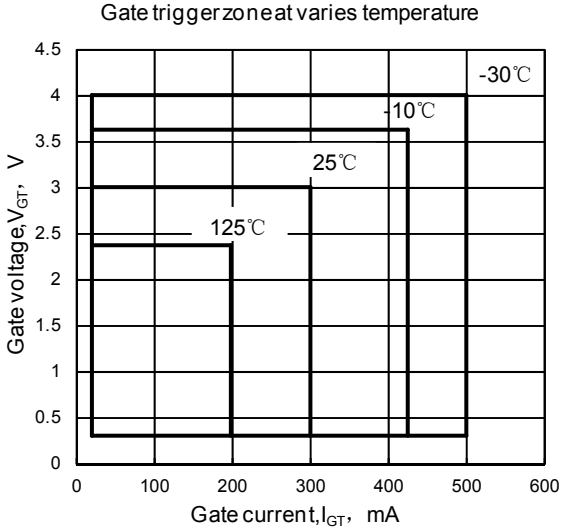


Fig10

Outline: