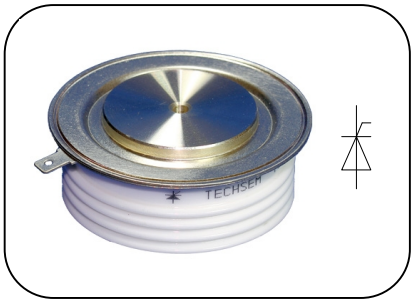


Features

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

Typical Applications

- **n** AC controllers
- **n** DC and AC motor control
- **n** Controlled rectifiers

Part No. Y38KPC-KT33a(c)T

$I_{T(AV)}$	960A	
V_{DRM},V_{RRM}	400V	600V
	800V	1000V

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				960	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	400		1000	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			40	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}		125			13.0	kA
I^2t	I^2t for fusing coordination						845	A^2s*10^3
V_{TO}	Threshold voltage			125			0.80	V
r_T	On-state slope resistance						0.35	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1800A, F=15kN		25			1.80	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} to 1500A, Gate pulse t_r ≤0.5μs I_{GM}=1.5A		125			100	A/μs
Q_{rr}	Recovery charge	I_{TM}=1000A, tp=4000μs, di/dt=-20A/μs, V_R =100V		125		1100		μC
I_{GT}	Gate trigger current	V_A=12V, I_A=1A		25	35		300	mA
V_{GT}	Gate trigger voltage				0.8		2.5	V
I_H	Holding current				20		250	mA
I_L	Latching current						500	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 force15kN					0.035	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.008	
F_m	Mounting force				10		20	kN
T_{vj}	Junction temperature				-40		125	°C
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					150/ 240		g
Outline	KT33aT/KT33cT							

On-state voltage Vs.peak on-state current

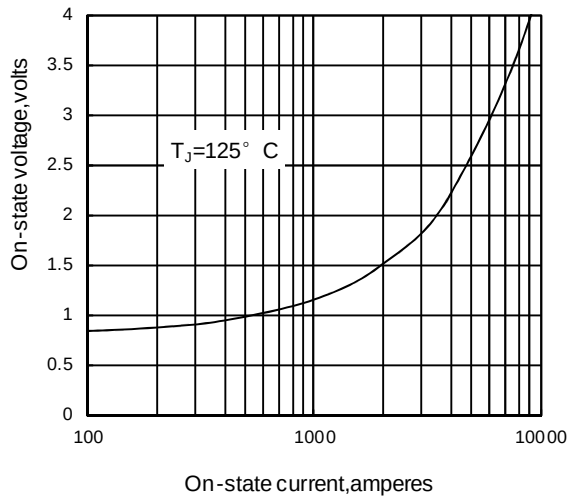


Fig1

Max. junction to case thermal impedance Vs.time

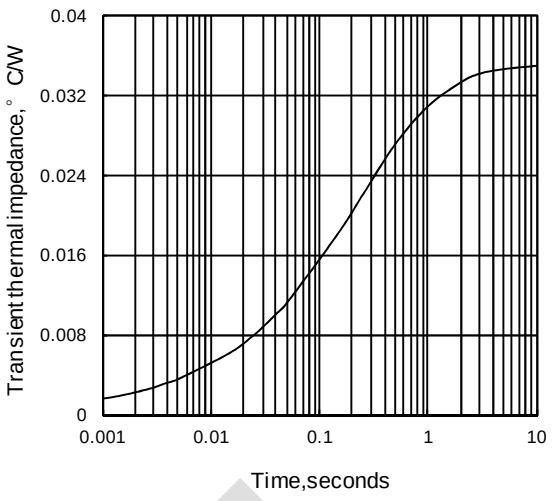


Fig2

Max. power dissipation Vs.mean on-state current

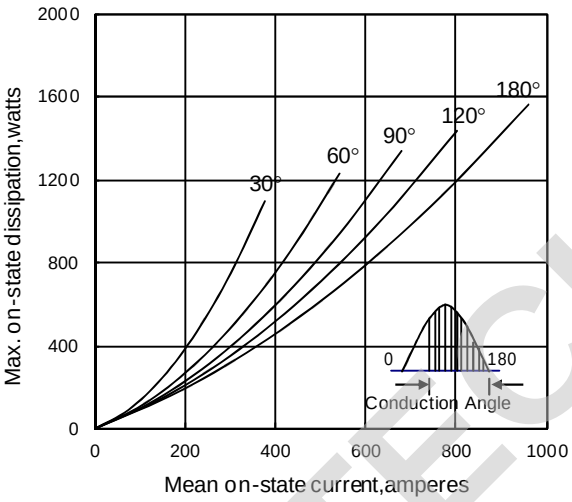


Fig3

Max.case temperature Vs.mean on-state current

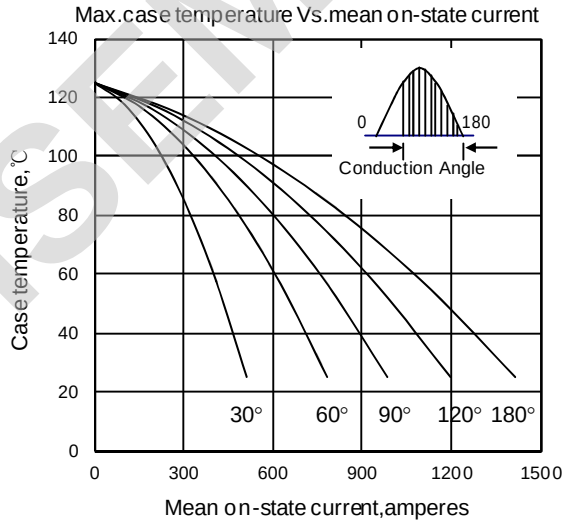


Fig4

Max. power dissipation Vs.mean on-state current

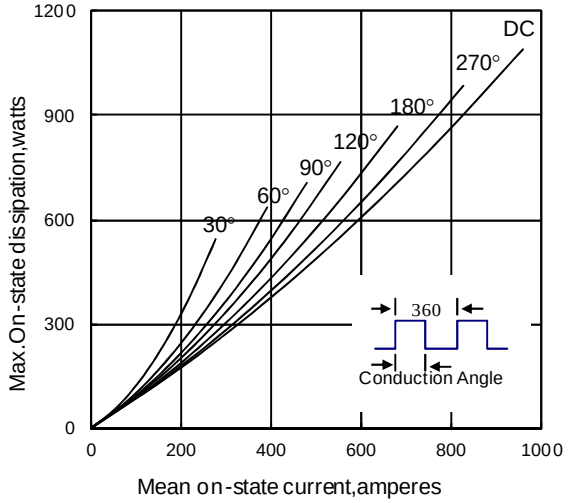


Fig5

Max. case temperature Vs.mean on-state current

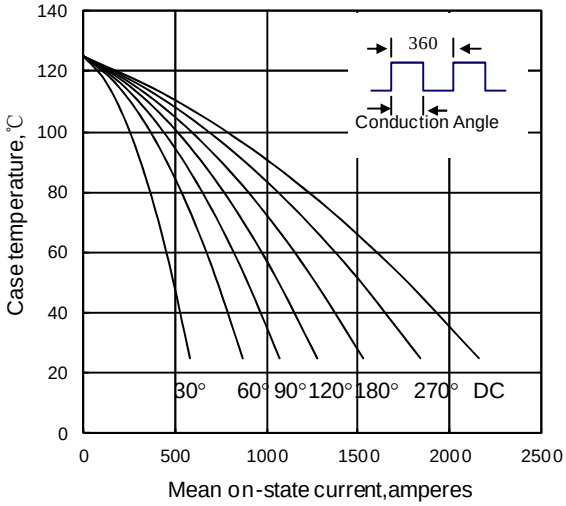


Fig6

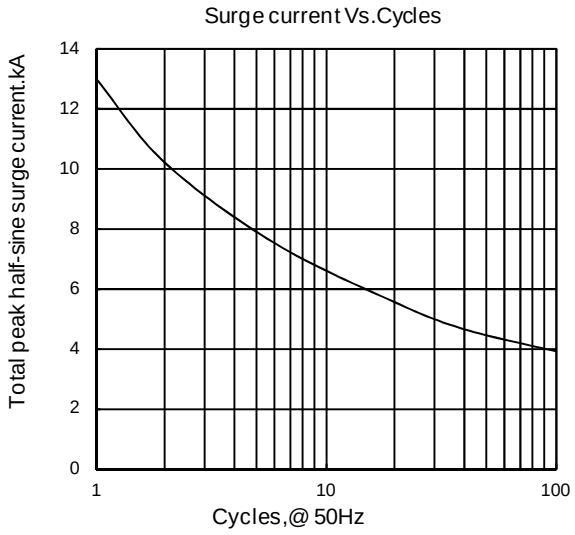


Fig7

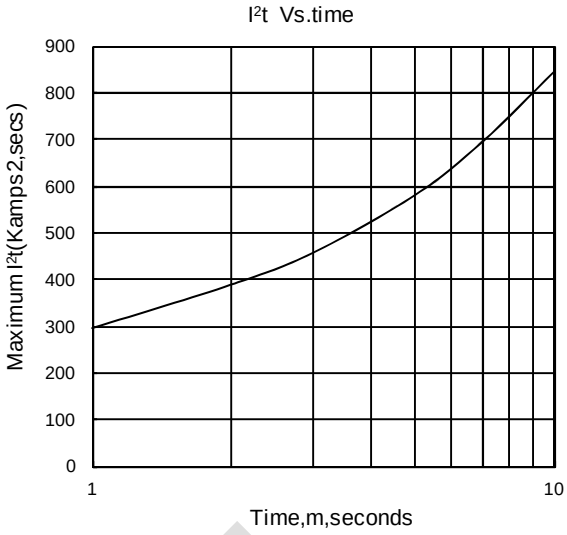


Fig8

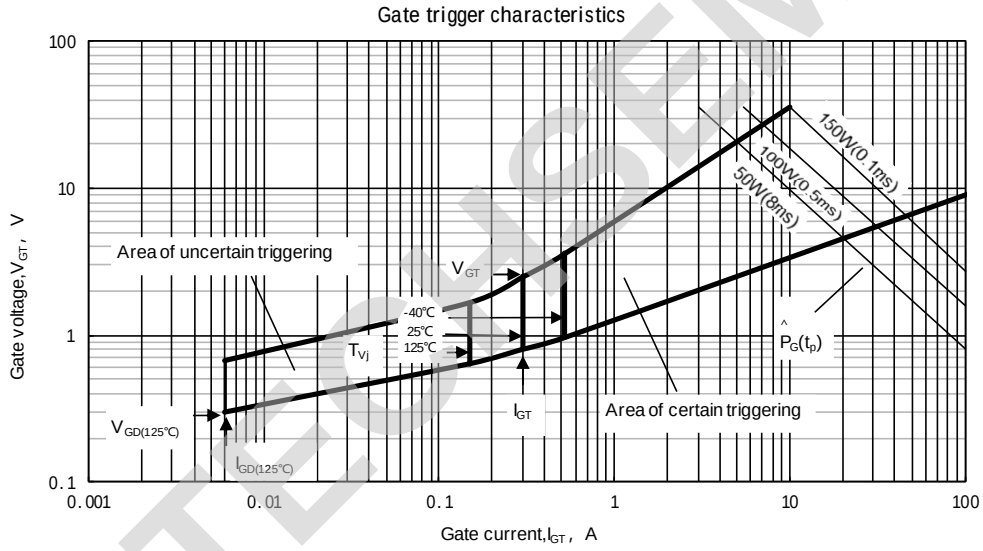
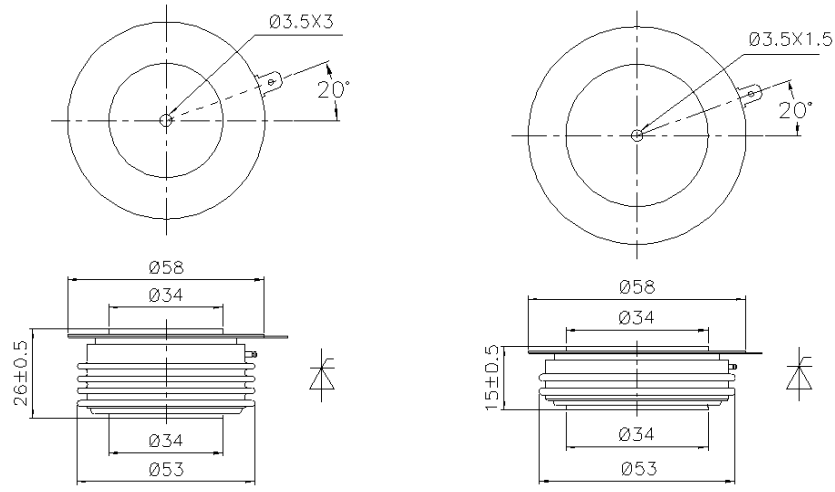


Fig.9

Outline:



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