

**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

Part No. Y50KPA-KT44aT

$I_{T(AV)}$	2150A
V_{DRM}, V_{RRM}	200V 400V
	600V

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	$T_C=70\text{ C}$				2150	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$t_p=10\text{ms}$		125	200		600	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			80	mA
I_{TSM}	Surge on-state current	10ms half sine wave		125			32	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$					5120	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage			125			0.75	V
r_T	On-state slope resistance						0.10	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=3000A, F=24kN$		25			1.35	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 2500A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$		125			100	A/ μs
Q_{rr}	Recovery charge	$I_{TM}=2000A, t_p=4000\mu s, di/dt=-20A/\mu s,$ $V_R=100V$		125		1200		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				20		300	mA
I_L	Latching current						500	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° sine double side cooled Clamping force 24kN					0.020	C /W
$R_{th(c-h)}$	Thermal resistance case to heatsink						0.005	
F_m	Mounting force				19		26	kN
T_{vj}	Junction temperature				-40		125	C
T_{stg}	Stored temperature				-40		140	C
W_t	Weight					170		g
Outline	KT44aT							

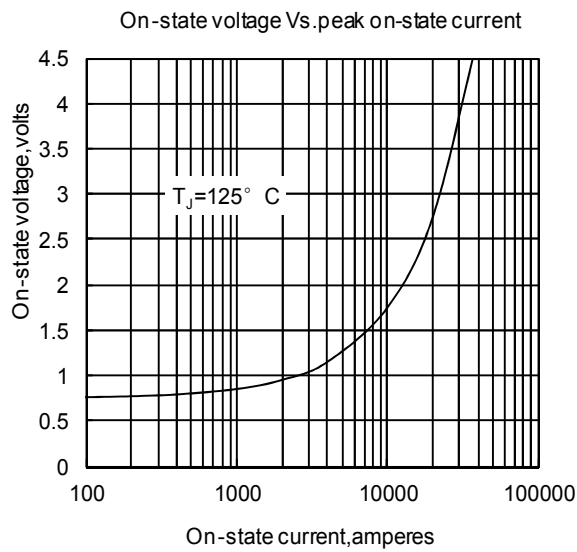


Fig1

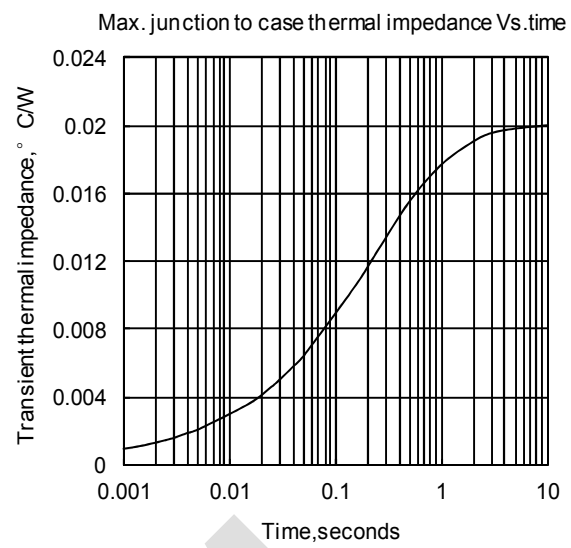


Fig2

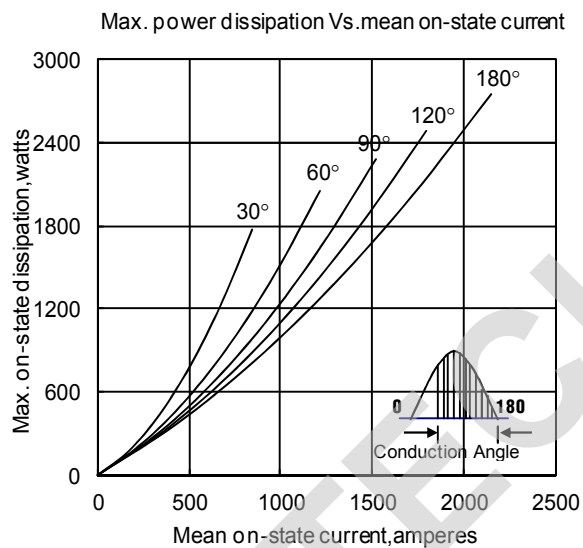


Fig3

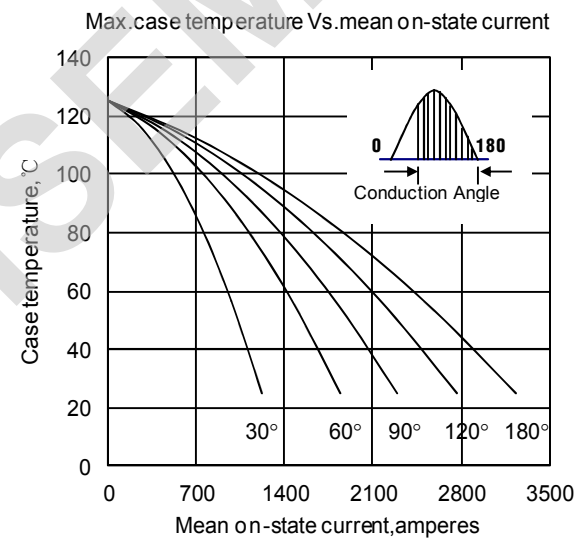


Fig4

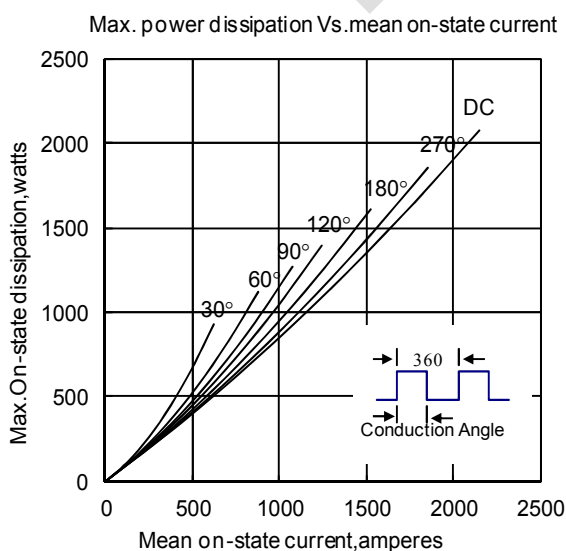


Fig5

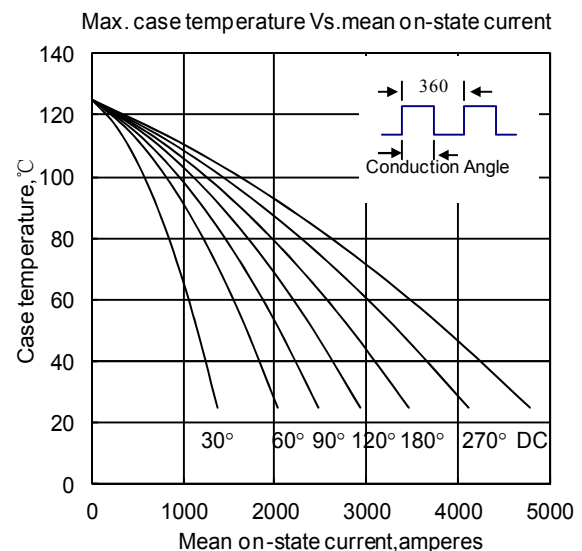


Fig6

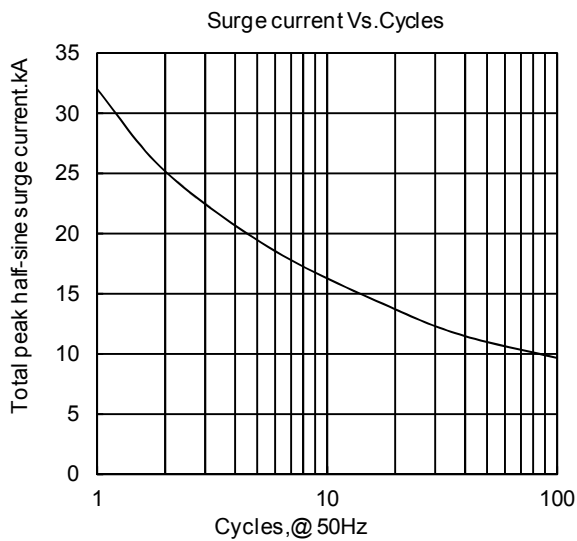


Fig7

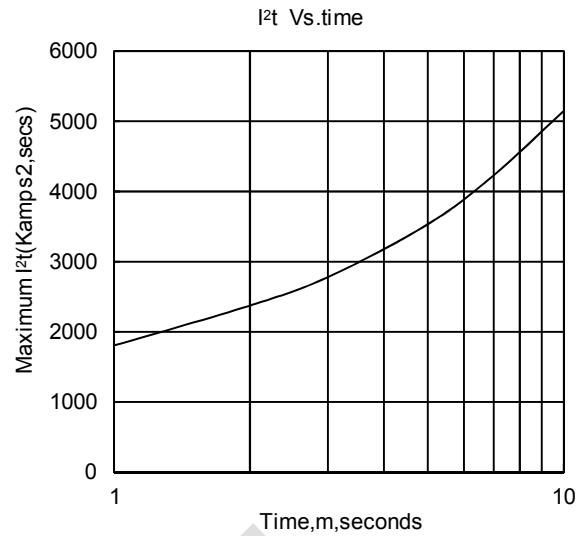


Fig8

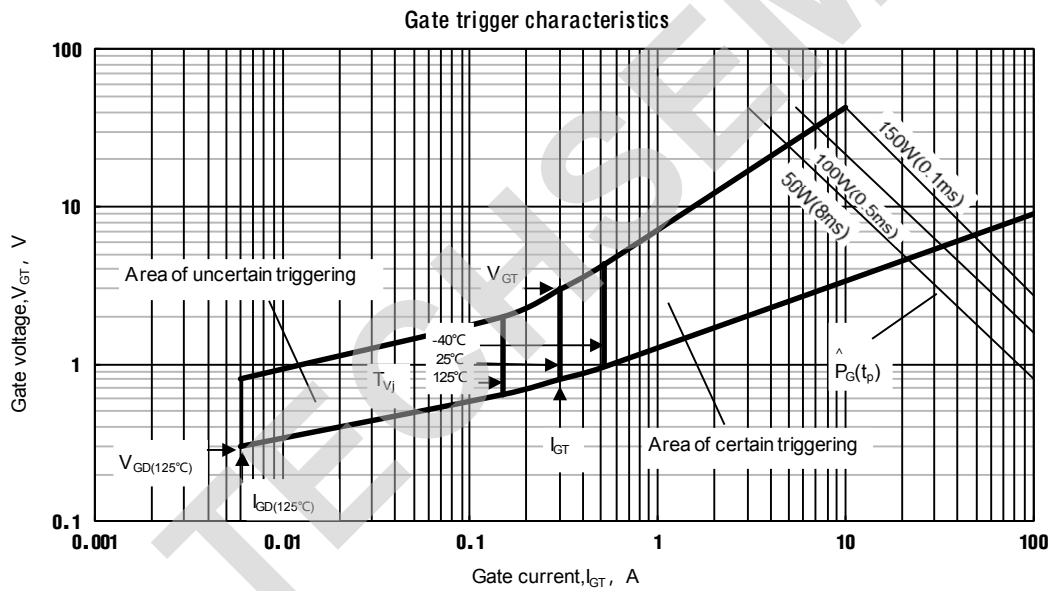
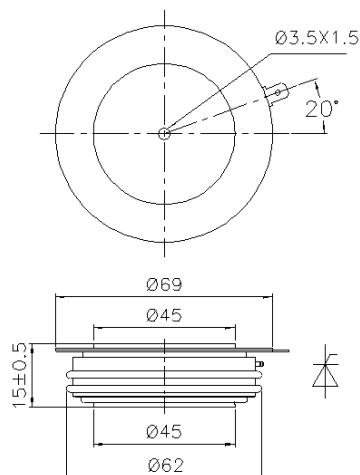


Fig.9

Outline:



TECHSEM reserves the right to change specifications without notice.