

**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. Y38KPA-KT33aT

$I_{T(AV)}$ 1300A
 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	$T_C=70^\circ\text{C}$				1300	
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			40	mA
I_{TSM}	Surge on-state current	10ms half sine wave		125			18	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$		125			1620	$\text{A}^2\text{s}\cdot 10^3$
V_{TO}	Threshold voltage			125			0.76	V
r_T	On-state slope resistance			125			0.14	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=2000\text{A}$, $F=15\text{kN}$		25			1.34	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 1300A, Gate pulse $t_r\leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$		125			100	A/ μs
Q_{rr}	Recovery charge	$I_{TM}=1000\text{A}$, $t_p=4000\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$, $V_R=100\text{V}$		125		1000		μC
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$		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° sine double side cooled Clamping force 15kN					0.035	C / W
$R_{th(c-h)}$	Thermal resistance case to heatsink						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		g
Outline	KT33aT							

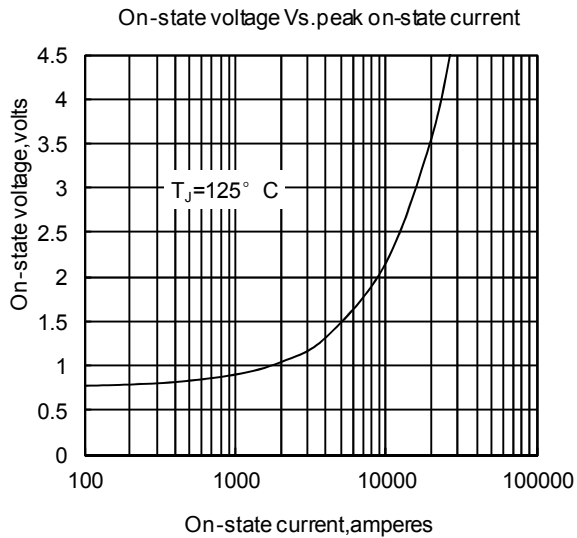


Fig1

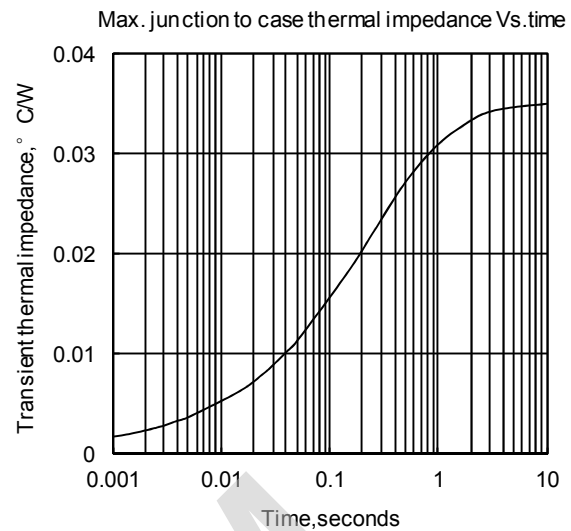


Fig2

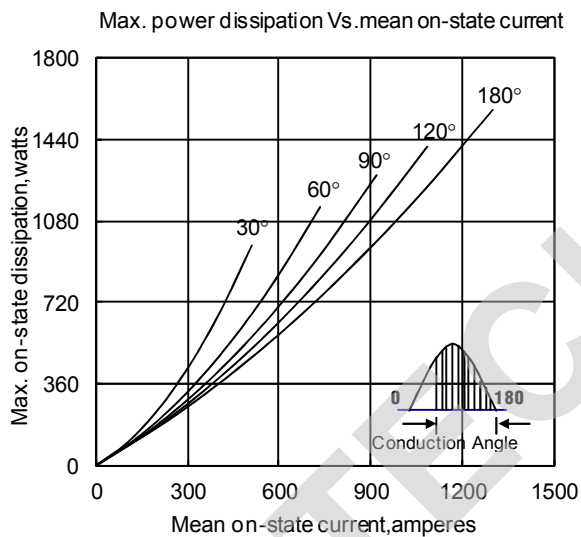


Fig3

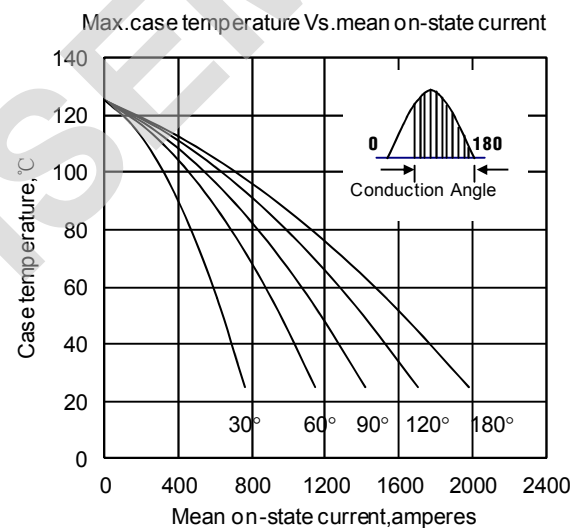


Fig4

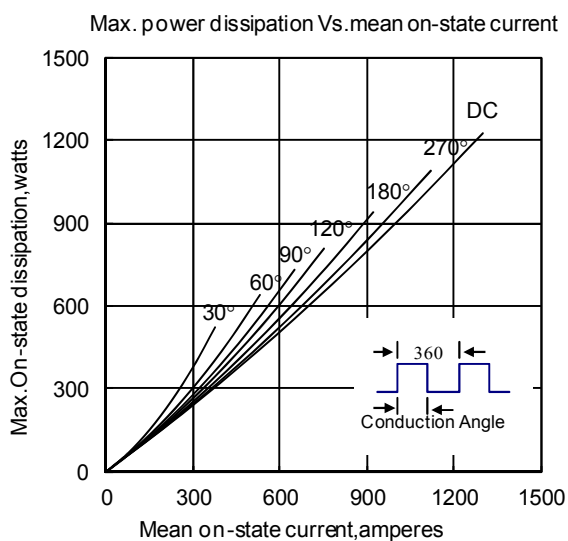


Fig5

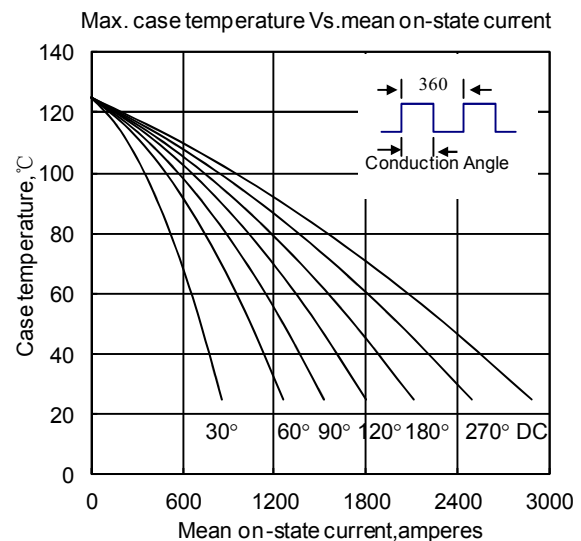


Fig6

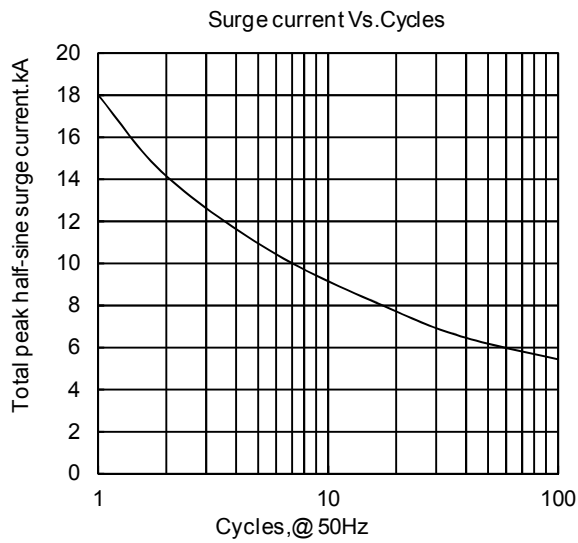


Fig7

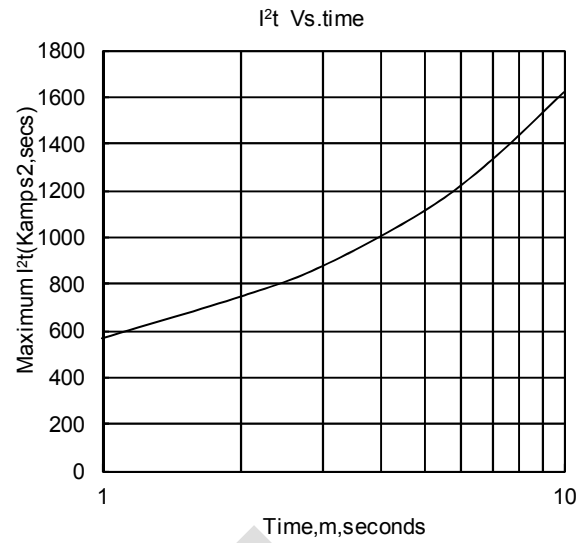


Fig8

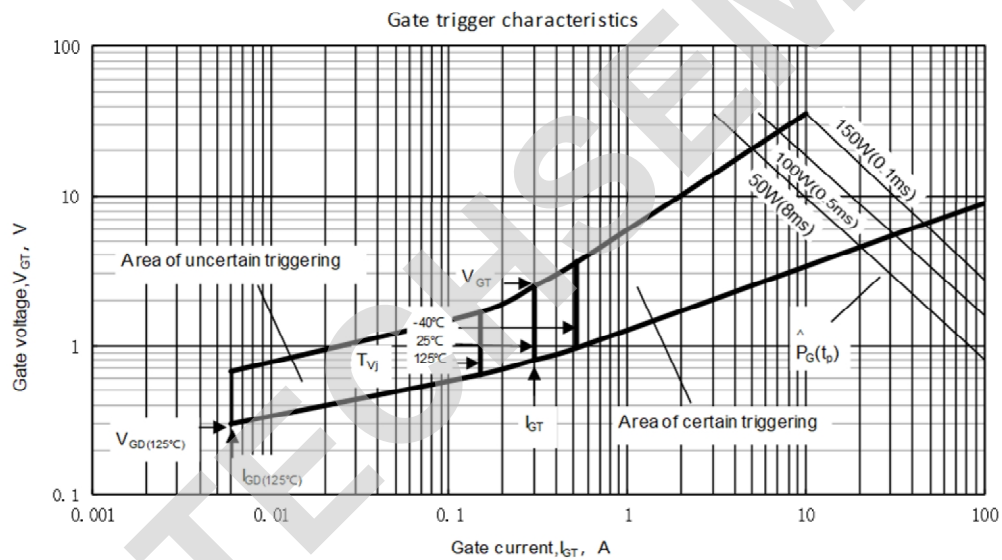
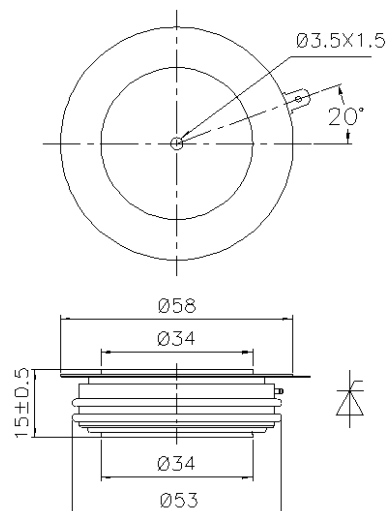


Fig.9

Outline:



TECHSEM reserves the right to change specifications without notice.