

**Features:**

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses
- Short turn-off time
- Hermetic metal cases with ceramic insulators

Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters
- AC motor speed control

Part No. Y38KAD-KT33cT

$I_{T(AV)}$	670A
V_{DRM}, V_{RRM}	1200V 1400V
t_q	12~24μs

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	$T_j(^{\circ}C)$	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled, $T_C=55^{\circ}C$	125			670	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$t_p=10ms$	125	1100		1400	V
I_{DRM} I_{RRM}	Repetitive peak off-state current Repetitive peak reverse current	at V_{DRM} at V_{RRM}	125			40	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			9.3	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$	125			432	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage		125			1.50	V
r_T	On-state slope resistance		125			0.88	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	$V_{DM}=67\%V_{DRM}$ to 1200A Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	125			1500	A/μs
Q_{rr}	Recovery charge	$I_{TM}=1000A, t_p=4000\mu s$, $di/dt=-20A/\mu s, V_R=100V$	125		33	50	μC
t_q	Circuit commutated turn-off time	$I_{TM}=1000A, t_p=4000\mu s, V_R=100V$ $dv/dt=30V/\mu s, di/dt=-20A/\mu s$	125	12		24	μs
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	30		250	mA
V_{GT}	Gate trigger voltage			0.8		3.0	V
I_H	Holding current			20		400	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 15kN				0.035	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.008	
F_m	Mounting force			10		20	kN
T_{vj}	Junction temperature			-40		125	$^{\circ}C$
T_{stg}	Stored temperature			-40		140	$^{\circ}C$
W_t	Weight				250		g
Outline	KT33cT						

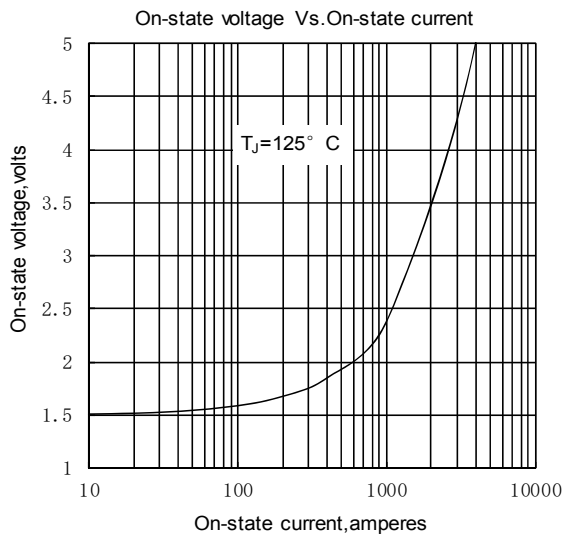


Fig. 1

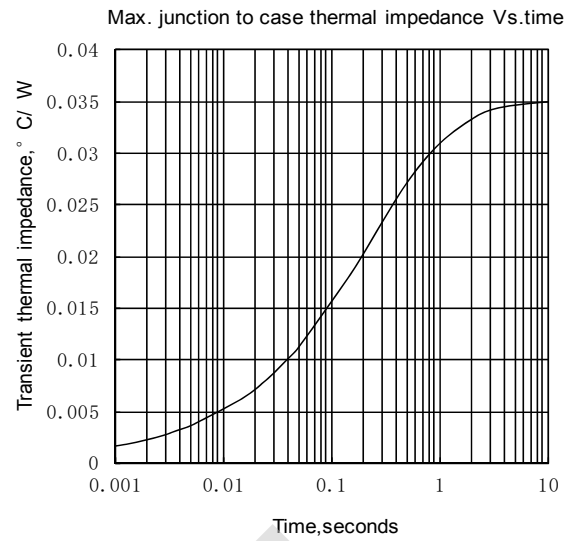


Fig. 2

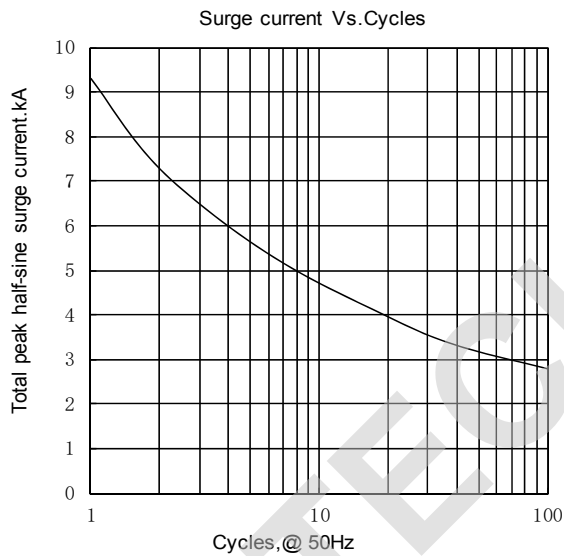


Fig. 3

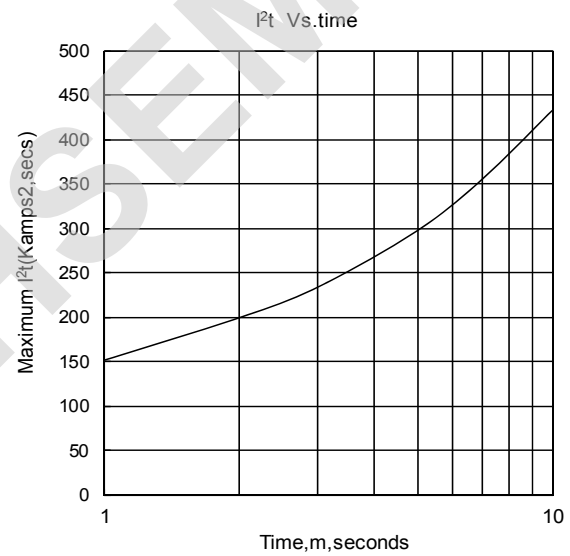


Fig. 4

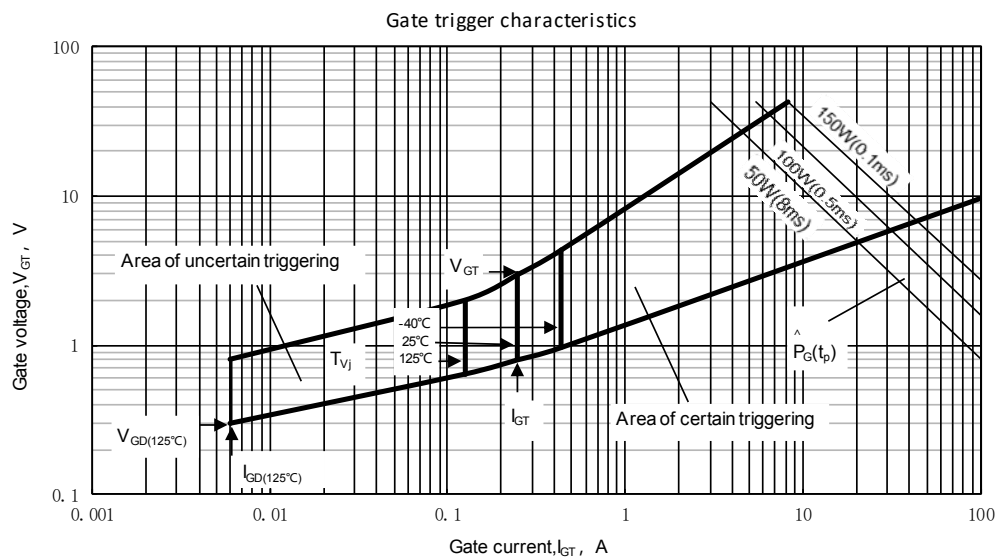
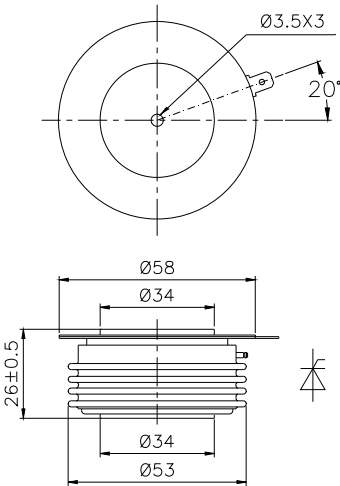


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.