

**Features**

Interdigitated amplifying gates
Fast turn-on and high di/dt
Low switching losses

Typical Applications

Inductive heating
Electronic welders
Self-commutated inverters

Part No. Y40KKG-KT39cT

$I_{T(AV)}$	600A
V_{DRM}, V_{RRM}	2000V 2200V
	2500V 2800V
	3000V
t_q	30~100μs

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,	$T_C=80^{\circ}\text{C}$			600	A
			$T_C=55^{\circ}\text{C}$			800	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$t_p=10\text{ms}$	125	1900		3000	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			60	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			8.5	kA
I^2t	I^2t for fusing coordination					361	$\text{A}^2\text{s} \times 10^3$
V_{TO}	Threshold voltage		125			1.39	V
r_T	On-state slope resistance					0.83	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=1800\text{A}$, $F=18\text{kN}$	25			3.15	V
						2.88	V
						2.60	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 1600A, Gate pulse $t_r \leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$ Single pulse	125			1200	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		550		μC
t_q	Circuit commutated turn-off time	$I_{TM}=1000\text{A}$, $t_p=4000\mu\text{s}$, $V_R=100\text{V}$ $dv/dt=30\text{V}/\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$	125	30		100	μs
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$	25	40		300	mA
V_{GT}	Gate trigger voltage			0.9		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 18kN				0.028	C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.0075	
F_m	Mounting force			15		20	kN
T_{vj}	Junction temperature			-40		125	°C
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				320		g
Outline	KT39cT						

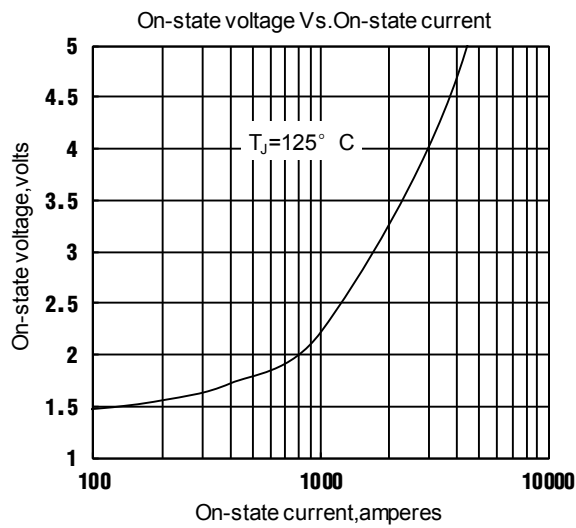


Fig.1

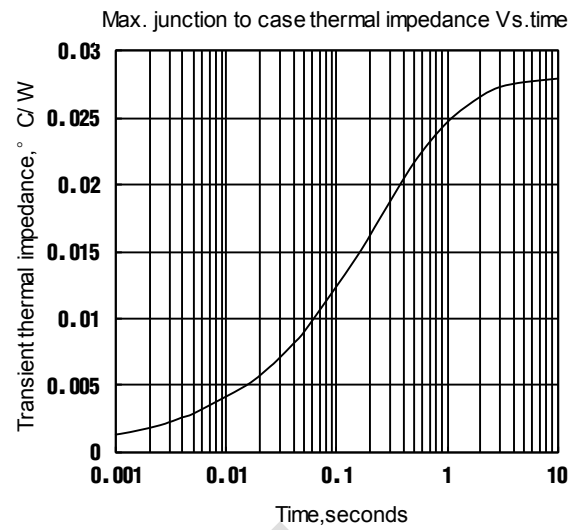


Fig.2

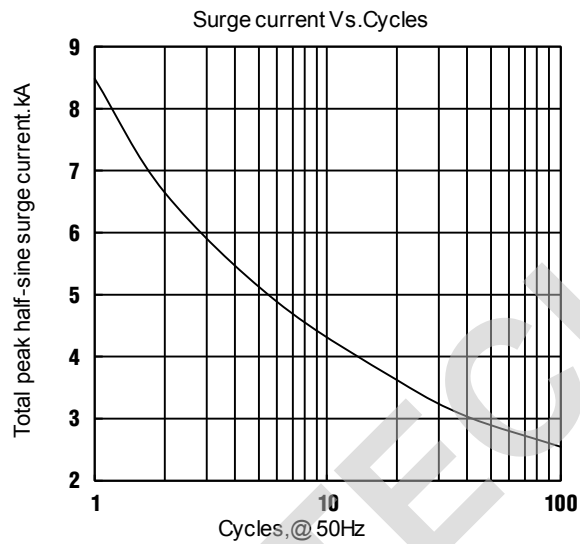


Fig.3

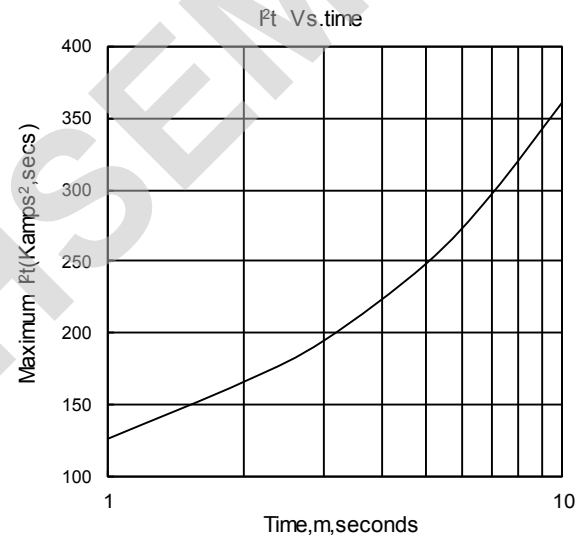


Fig.4

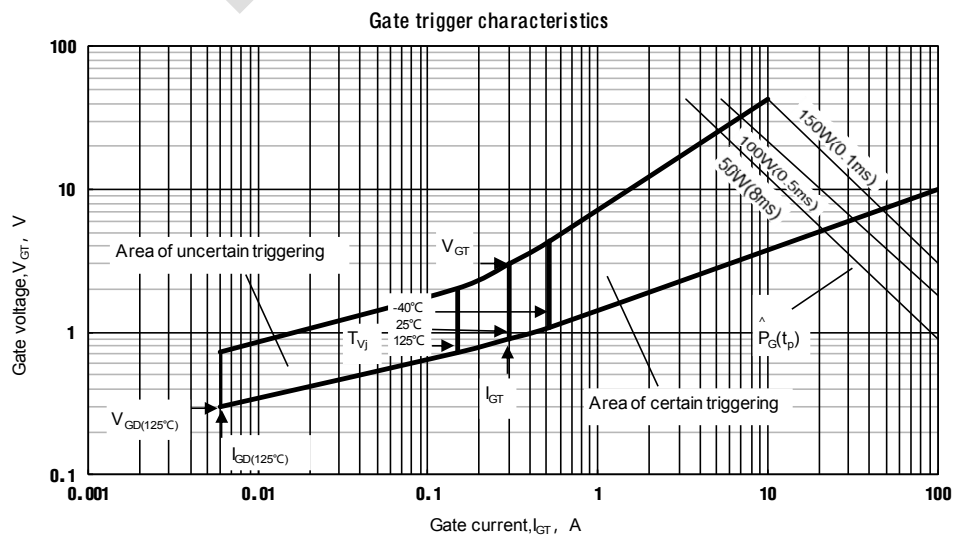
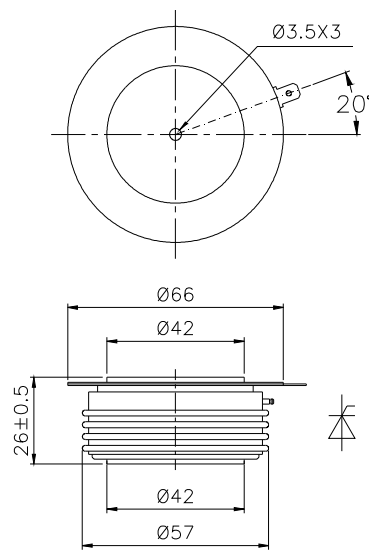


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.