**Features**

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

Typical Applications

Inductive heating
Self-commutated inverters

Part No. Y89KFG-KT84c(d)T

$I_{T(AV)}$	3800A
V_{DRM}	2000~3000V
V_{RRM}	1000~2500V
t_q	30-100 μs

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, $T_C=55^\circ\text{C}$	125			3800	A
V_{DRM}	Repetitive peak off-state voltage	$t_p=10\text{ms}$	125	2000		3000	V
V_{RRM}	Repetitive peak reverse voltage		125	1000		2500	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			250	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			46	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$				10580	$\text{A}^2\text{s}\cdot 10^3$
V_{TO}	Threshold voltage		125			1.32	V
r_T	On-state slope resistance					0.14	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=5000\text{A}$, $F=70\text{kN}$	25			2.60	V
						2.00	V
						1.80	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$	125			1000	V/ μ s
di/dt	Critical rate of rise of on-state current (Non-repetitive)	$V_{DM}=67\%V_{DRM}$, to4000A Gate pulse $t_r\leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$	125			1200	A/ μ s
Q_{rr}	Recovery charge	$I_{TM}=2000\text{A}$, $t_p=4000\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$, $V_R=100\text{V}$	125		2100		μC
t_q	Circuit commutated turn-off time	$I_{TM}=2000\text{A}$, $t_p=4000\mu\text{s}$, $V_R=100\text{V}$ $dv/dt=30\text{V}/\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$	125	30		100	μs
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$	25	40		450	mA
V_{GT}	Gate trigger voltage			0.9		4.5	V
I_H	Holding current			20		1000	mA
I_L	Latching current					1500	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 70 kN				0.007	C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.002	
F_m	Mounting force			63		84	kN
T_{vj}	Junction temperature			-40		125	C
T_{stg}	Stored temperature			-40		140	C
W_t	Weight				1390		g
Outline	KT84cT						

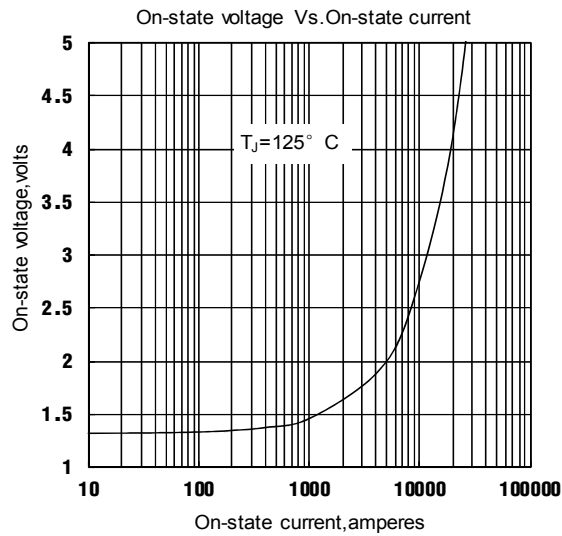


Fig.1

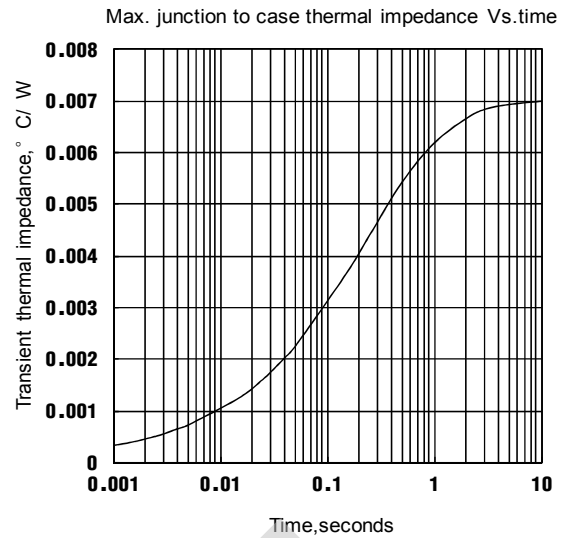


Fig.2

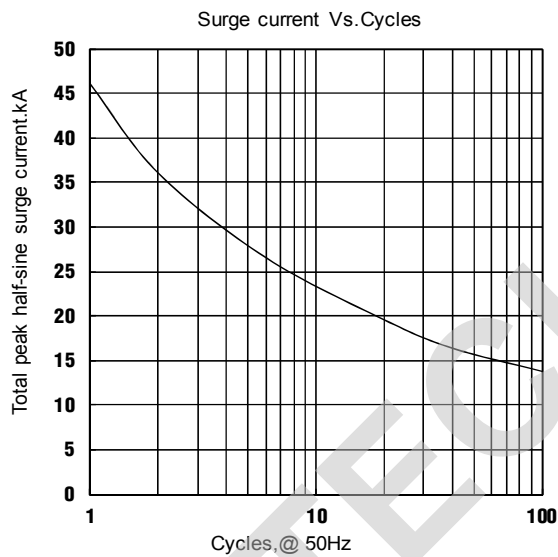


Fig.3

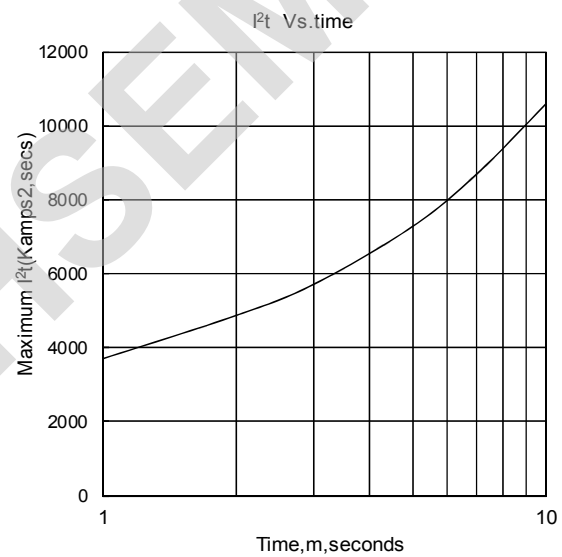


Fig.4

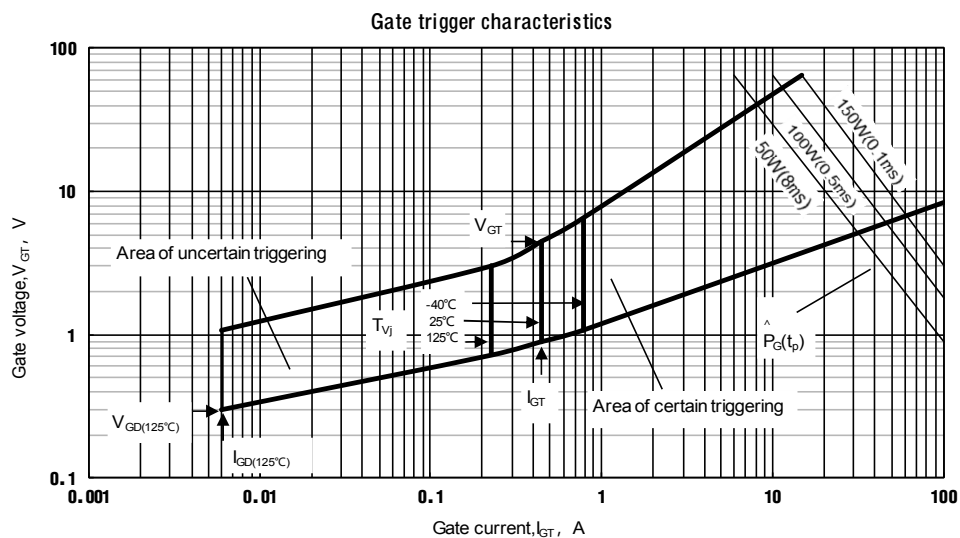
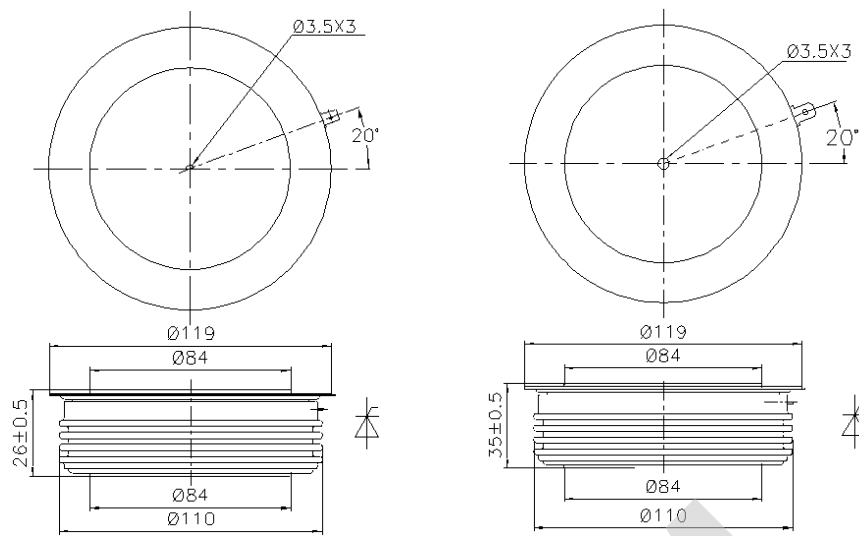


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.