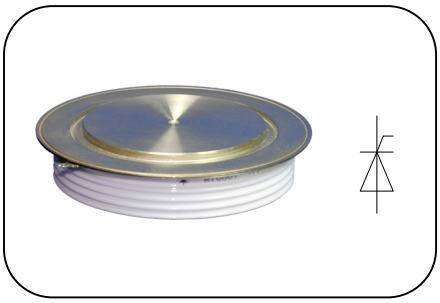


Features

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

Typical Applications

- **n** Inductive heating
- **n** 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°C	125			3800	A
V_{DRM}	Repetitive peak off-state voltage	tp=10ms		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 V_R=0.6V_{RRM}		125			46	kA
I^2t	I^2t for fusing coordination						10580	A^2s*10^3
V_{TO}	Threshold voltage			125			1.32	V
r_T	On-state slope resistance						0.14	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=5000A, F=70kN	30μs≤tq≤45μs	25			2.60	V
			46μs≤tq≤70μs				2.00	V
			71μs≤tq≤100μs				1.80	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 (Non-repetitive)	V_{DM}= 67%V_{DRM} , to4000A Gate pulse t_r ≤0.5μs I_{GM}=1.5A		125			1200	A/μs
Q_{rr}	Recovery charge	I_{TM}=2000A, tp=4000μs, di/dt=-20A/μs, V_R=100V		125		2100		μC
tq	Circuit commutated turn-off time	I_{TM}=2000A, tp=4000μs, V_R=100V dv/dt=30V/μs, di/dt=-20A/μs		125	30		100	μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A		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 180^0 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							

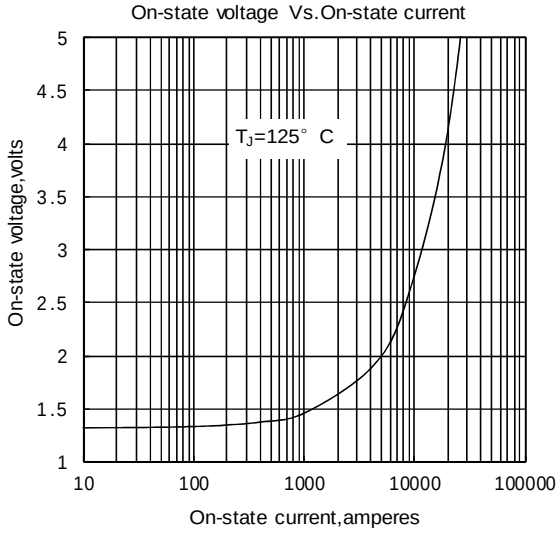


Fig.1

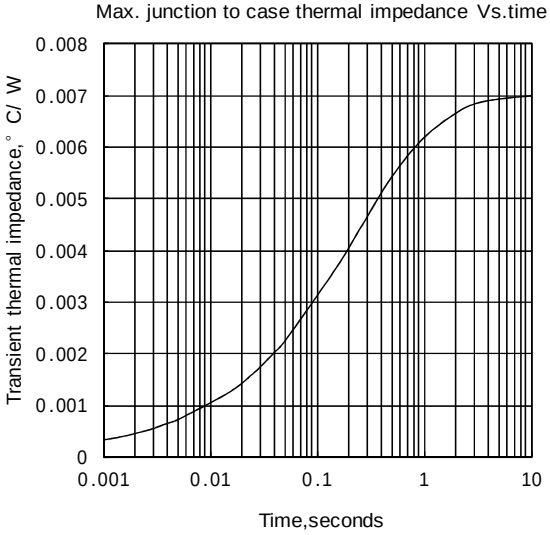


Fig.2

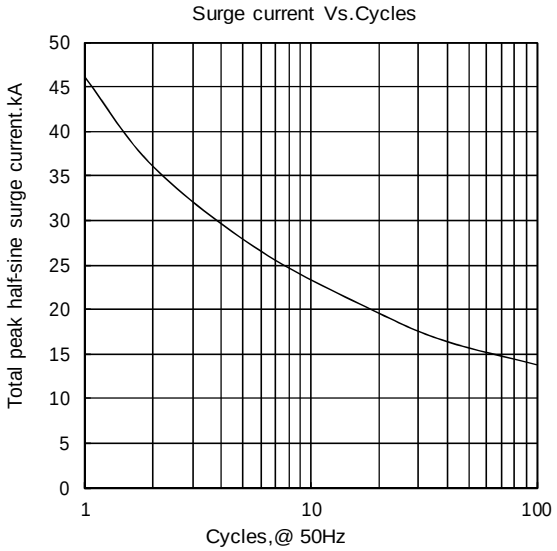


Fig.3

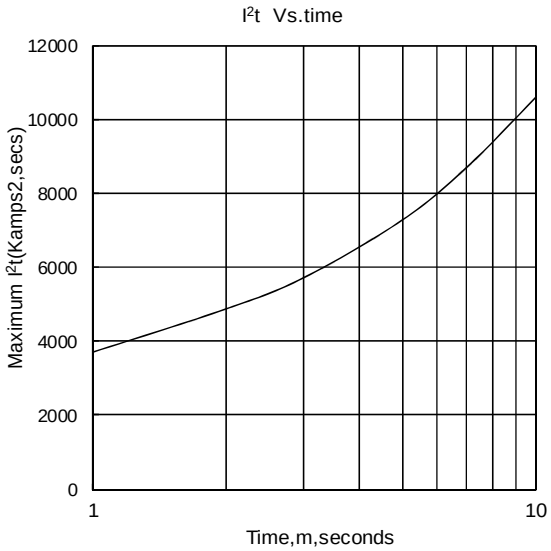


Fig.4

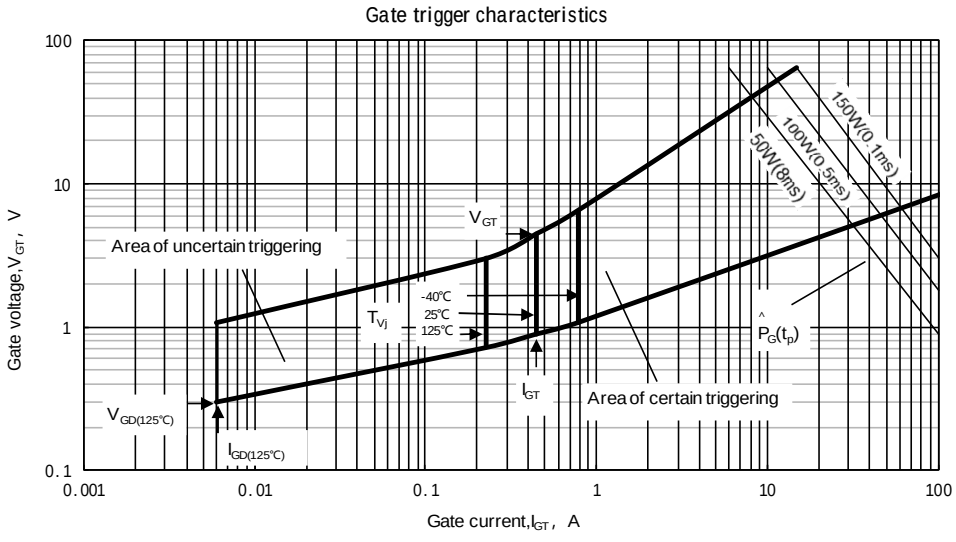
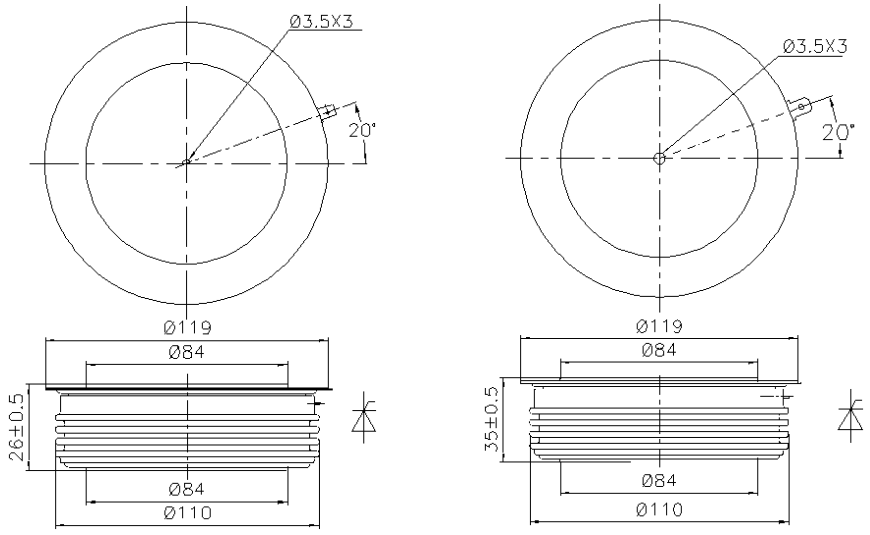


Fig.5

Outline:



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