

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		125			46	kA	
I ² t	I ² t for fusing coordination	V _R =0.6V _{RRM}					10580	A ² s*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	
t _q	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° 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								

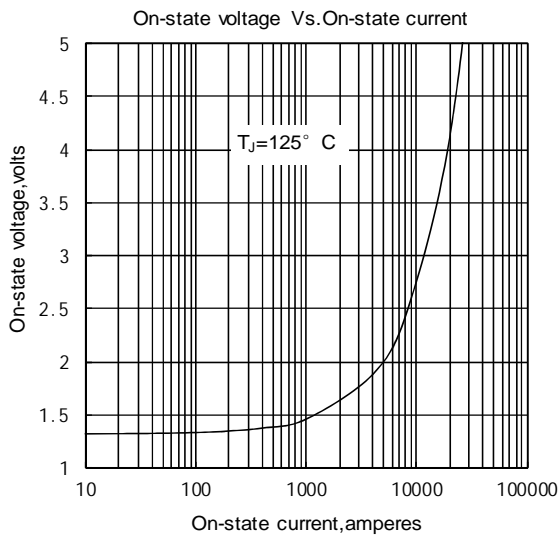


Fig.1

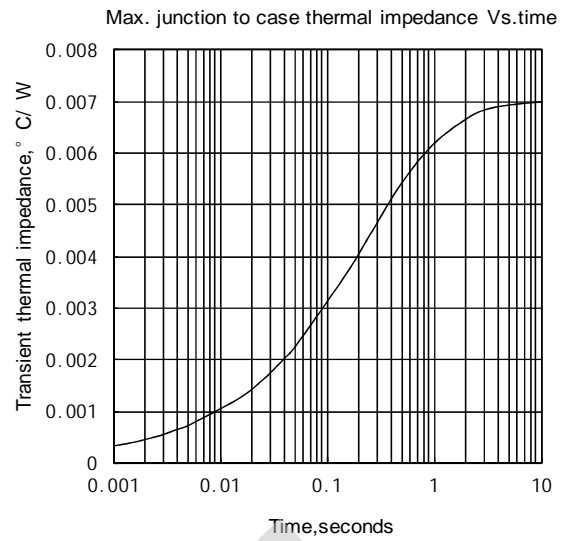


Fig.2

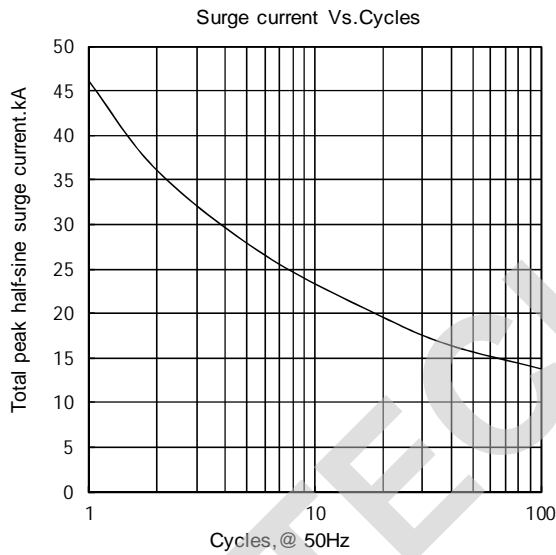


Fig.3

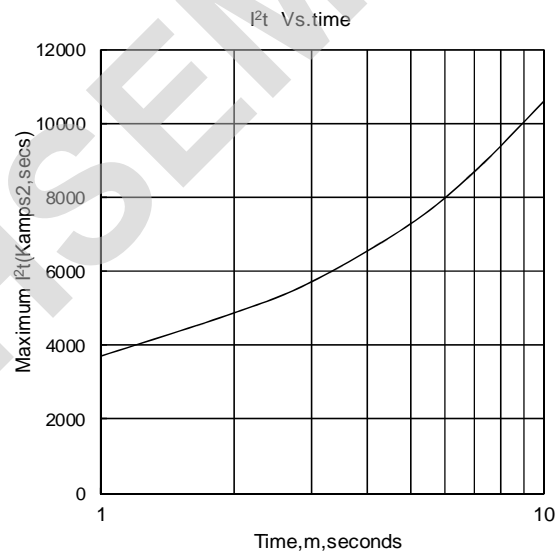


Fig.4

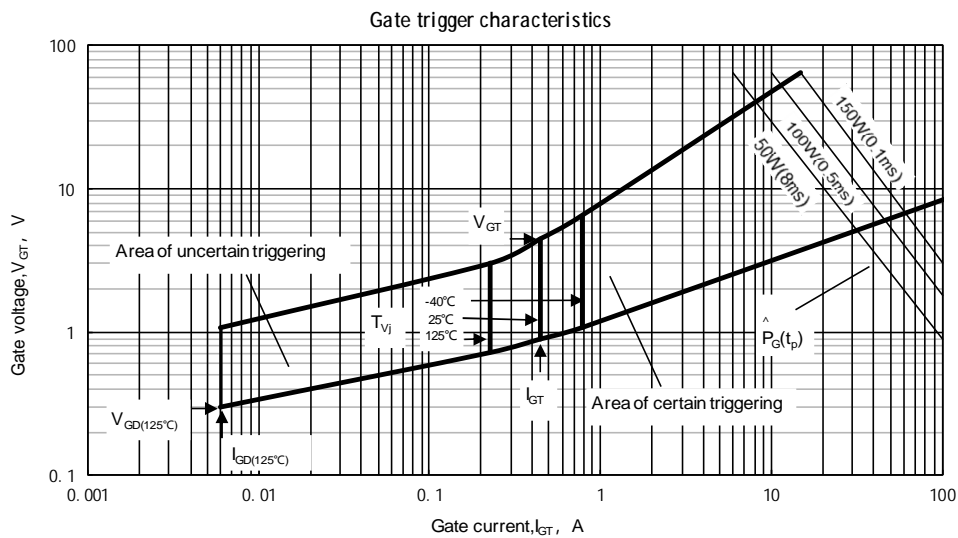
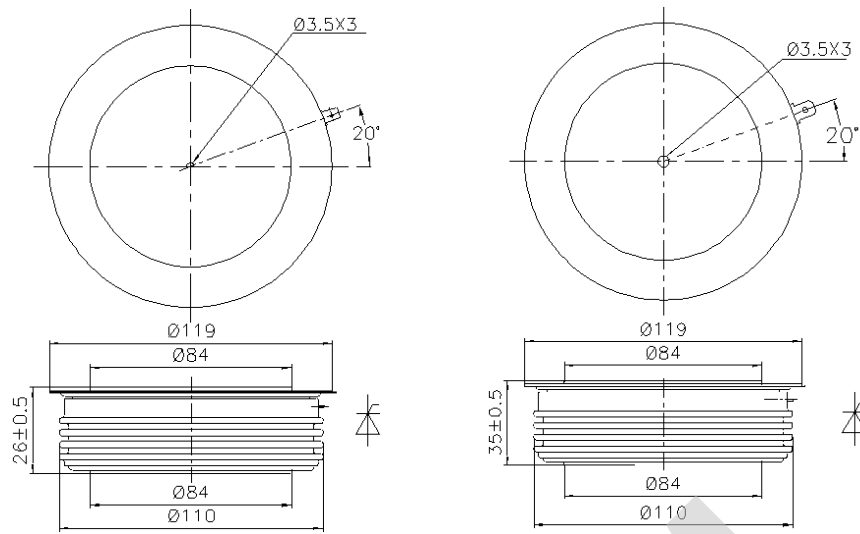


Fig.5

Outline:



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