

Features

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

Typical Applications

- Design for inverter supply application

Part No. Y89KFE-KT84cT

I_{T(AV)}	4240A
V_{DRM}	1200V~2000V
V_{RDM}	1000V~1800V
t_q	15~80μs

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		4240	A
V _{DRM}	Repetitive peak off-state voltage	tp=10ms	125	1200		2000	V
V _{RDM}	Repetitive peak reverse voltage			1000		1800	V
I _{DRM} I _{RDM}	Repetitive peak current	at V _{DRM} at V _{RDM}	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 _{RDM}					10580
V _{TO}	Threshold voltage		125			1.14	V
r _T	On-state slope resistance						0.10
V _{TM}	Peak on-state voltage	I _{TM} =5000A, F=70kN	25	15μs ≤ tq ≤ 35μs		2.50	V
				36μs ≤ tq ≤ 60μs		1.80	V
				61μs ≤ tq ≤ 80μs		1.60	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 (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	25		80	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					1000	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						

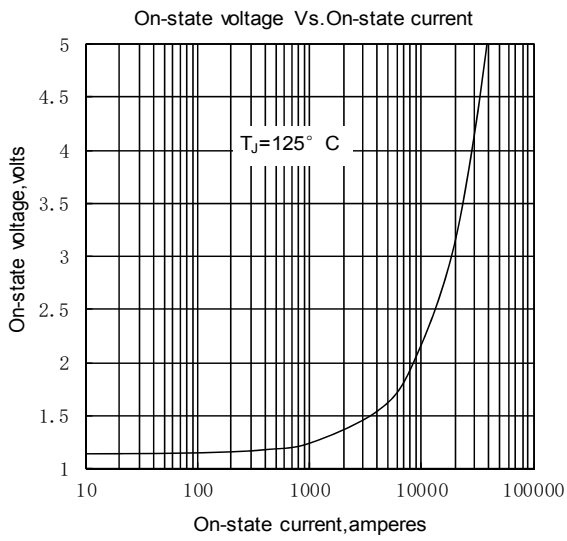


Fig. 1

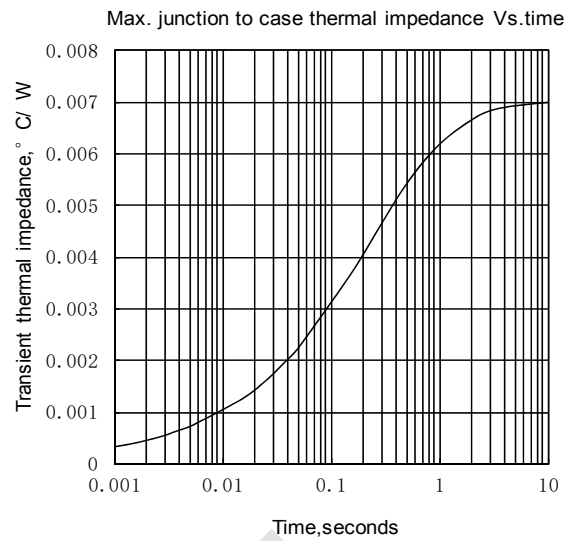


Fig. 2

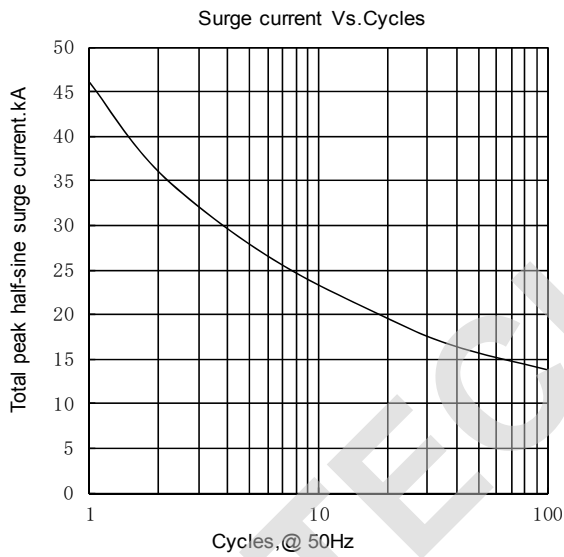


Fig. 3

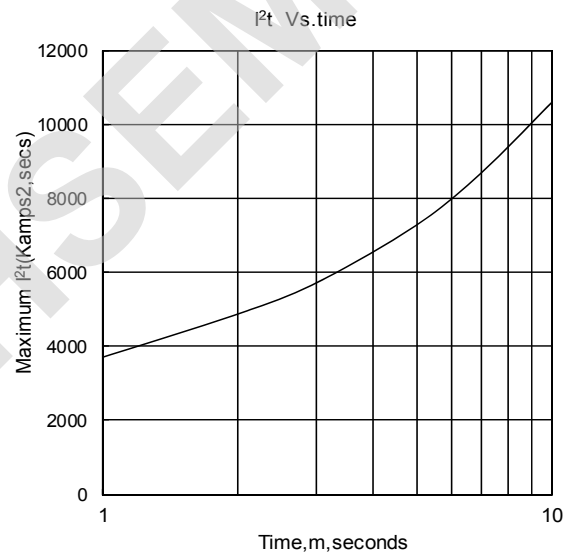


Fig. 4

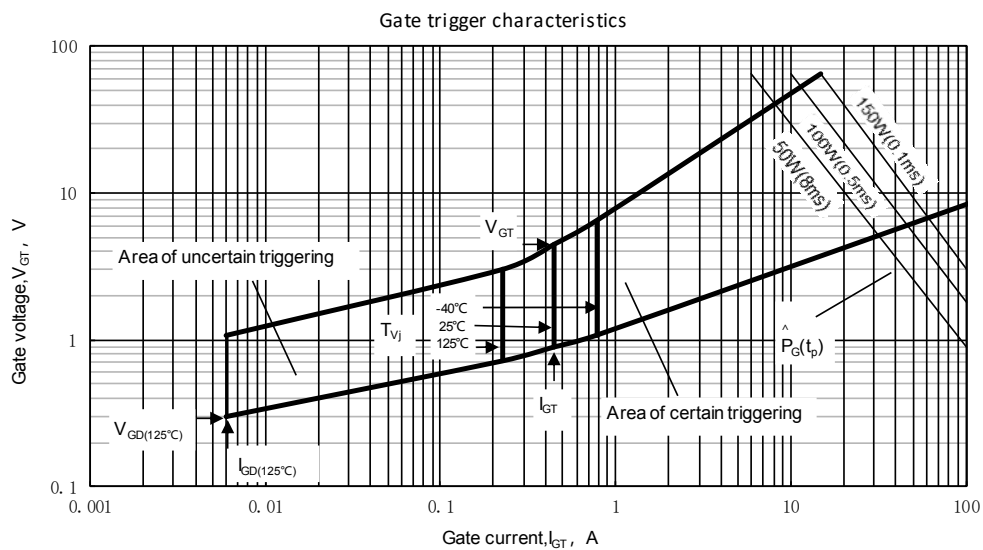
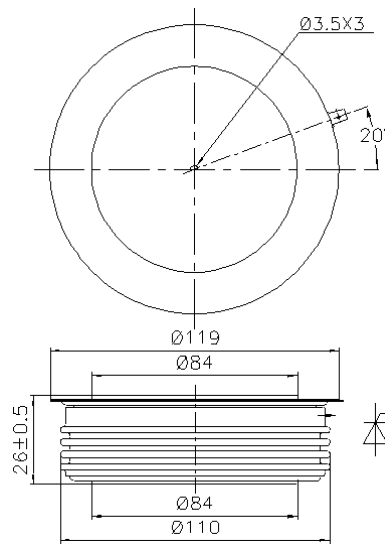


Fig. 5

Outline:



TECHSEM reserves the right to change specifications without notice.

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