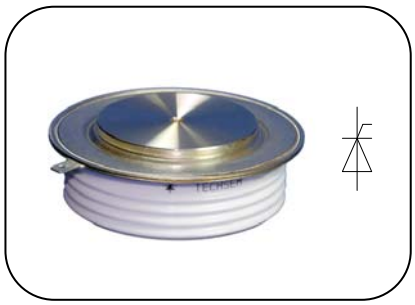

Features

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

Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

Part No. Y50KKJ-KT50cT

$I_{T(AV)}$	**1250A**
V_{DRM},V_{RRM}	**3200V 3400V 3600V**
t_q	**40~80μs**

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			1250	A
			T_C=70°C	125			1000	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	3100		3600	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			160	mA
I_{TSM}	Surge on-state current	10ms half sine wave		125			13	kA
I^2t	I^2t for fusing coordination						845	10^3A^2s
V_{TO}	Threshold voltage			125			2.70	V
r_T	On-state slope resistance						0.26	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1500A, F=24kN		25			3.09	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} Gate pulse t_r≤0.5μs I_{GM}=1.5A Single pulse		125			800	A/μs
Q_{rr}	Recovery charge	I_{TM}=1000A, tp=4000μs, di/dt=-20A/μs,V_R=100V		125		2200		μC
tq	Circuit commutated turn-off time	I_{TM}=1000A, tp=4000μs, V_R=100V dv/dt=30V/μs ,di/dt=-20A/μs		125	40		80	μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A		25	40		300	mA
V_{GT}	Gate trigger voltage				0.9		3.0	V
I_H	Holding current				20		1000	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	Double side cooled Clamping force 24kN					0.016	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.005	
F_m	Mounting force				19		26	kN
T_{vj}	Junction temperature				-40		125	°C
T_{stg}	Stored temperature				-40		140	°C
W_t	Weight					440		g
Outline	KT50cT							

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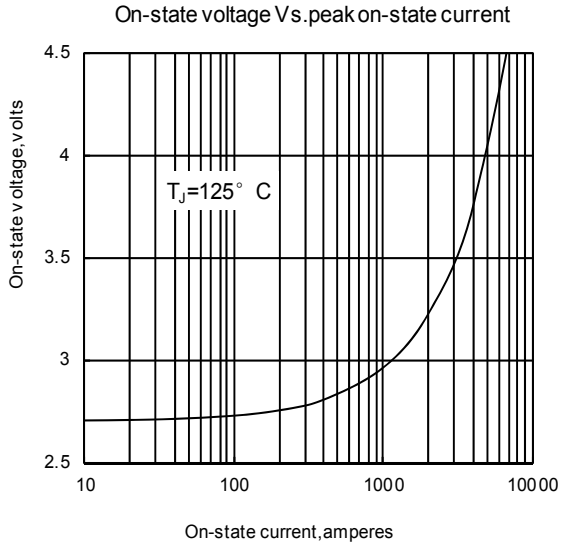

Fig1

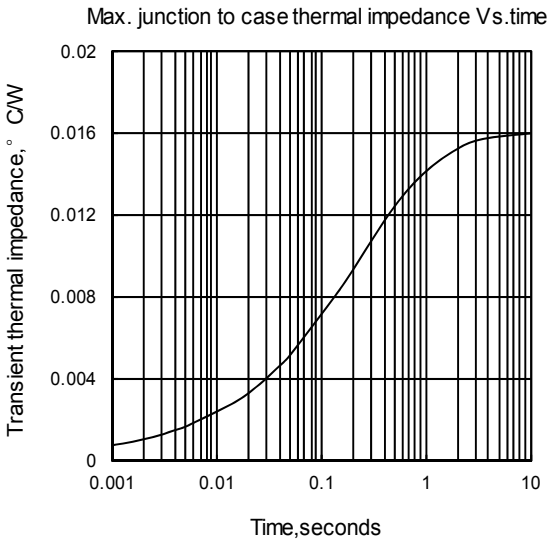

Fig2

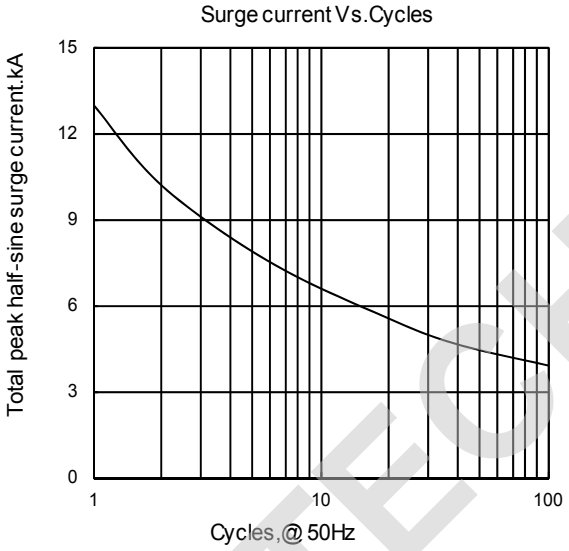

Fig3

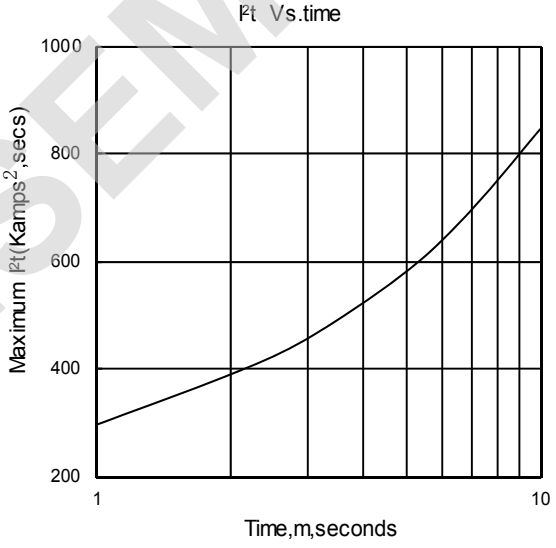

Fig4

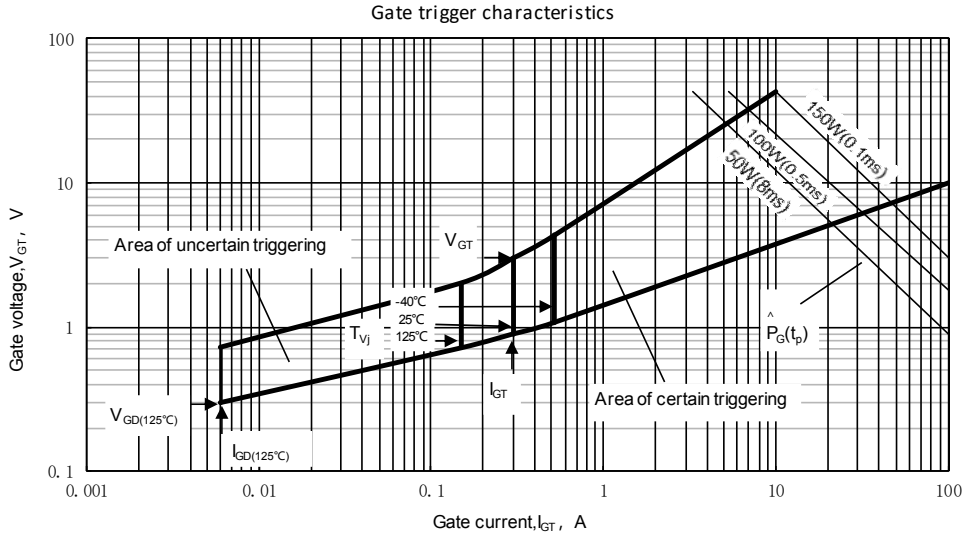

Fig.5

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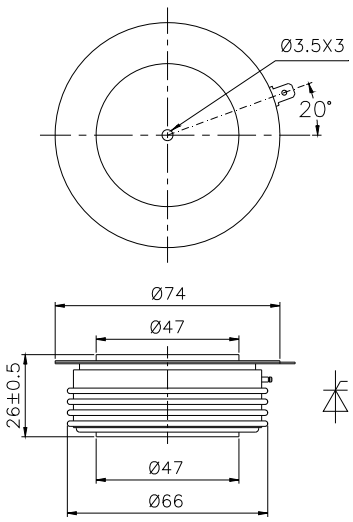
Outline:



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