

**Features**

- Excellent dynamic characteristics
- Fast turn-on and high di/dt
- Low switching losses

**Typical Applications**

- Design for inverter supply application

**Part No. Y50KFG-KT50cT**

<b>I<sub>T(AV)</sub></b>	<b>1200A</b>
<b>V<sub>DRM</sub></b>	<b>2000V~3000V</b>
<b>V<sub>RRM</sub></b>	<b>1000V~2500V</b>
<b>t<sub>q</sub></b>	<b>20~75μs</b>

SYMBOL	CHARACTERISTIC	TEST CONDITIONS		T <sub>J</sub> (°C)	VALUE			UNIT
					Min	Type	Max	
I <sub>T(AV)</sub>	Mean on-state current	180° half sine wave 50Hz Double side cooled,	T <sub>C</sub> =55°C	125			1200	A
			T <sub>C</sub> =70°C	125			1000	A
V <sub>DRM</sub>	Repetitive peak off-state voltage	tp=10ms		125	2000		3000	V
V <sub>RDM</sub>	Repetitive peak reverse voltage				1000		2500	
I <sub>DRM</sub> /I <sub>RRM</sub>	Repetitive peak current	at V <sub>DRM</sub> /V <sub>RRM</sub>		125			80	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave		125			16	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	V <sub>R</sub> =0.6V <sub>RRM</sub>						1280
V <sub>TO</sub>	Threshold voltage			125			1.55	V
r <sub>T</sub>	On-state slope resistance							0.40
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =3000A, F=24kN	20 ≤ tq ≤ 35	25			2.80	V
			36 ≤ tq ≤ 60				2.60	V
			61 ≤ tq ≤ 75				2.40	V
dv/dt	Critical rate of rise of off-state voltage	V <sub>DM</sub> =0.67V <sub>DRM</sub>		125			1000	V/μs
di/dt	Critical rate of rise of on-state current (Non-repetitive)	V <sub>DM</sub> = 67%V <sub>DRM</sub> to 1600A, Gate pulse t <sub>r</sub> ≤ 0.5μs I <sub>GM</sub> =1.5A		125			1500	A/μs
Q <sub>rr</sub>	Recovery charge	I <sub>TM</sub> =1000A ,tp=4000μs, di/dt=-20A/μs, V <sub>R</sub> =100V		125		750		μC
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =1000A ,tp=4000μs, V <sub>R</sub> =100V dv/dt=30V/μs ,di/dt=-20A/μs		100	20		75	μs
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A		25	40		300	mA
V <sub>GT</sub>	Gate trigger voltage		0.9			3.0	V	
I <sub>H</sub>	Holding current		20			500	mA	
I <sub>L</sub>	Latching current					500	mA	
V <sub>GD</sub>	Non-trigger gate voltage	V <sub>DM</sub> =67%V <sub>DRM</sub>		125			0.3	V
R <sub>th(j-c)</sub>	Thermal resistance Junction to case	double side cooled Clamping force 24kN					0.020	°C /W
R <sub>th(c-h)</sub>	Thermal resistance case to heat sink						0.005	
F <sub>m</sub>	Mounting force				19		26	kN
T <sub>vj</sub>	Junction temperature				-40		125	°C
T <sub>stg</sub>	Stored temperature				-40		140	°C
W <sub>t</sub>	Weight					440		g
Outline	KT50cT							

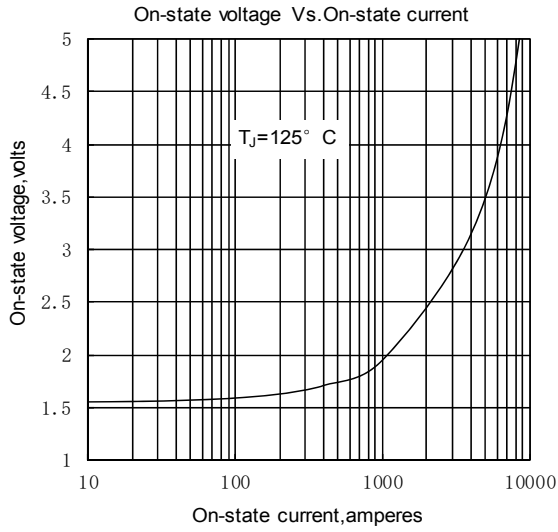


Fig. 1

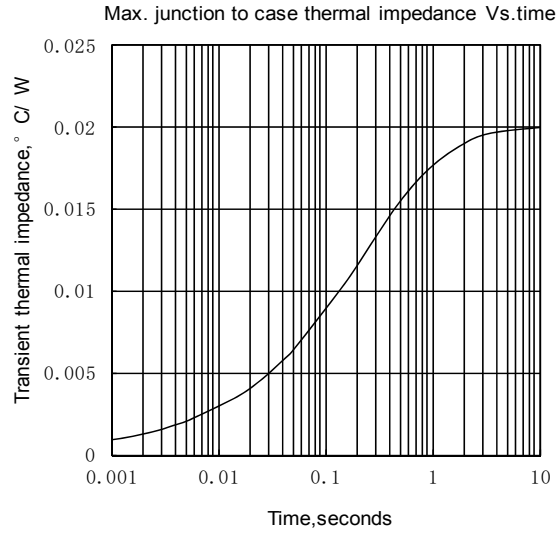


Fig. 2

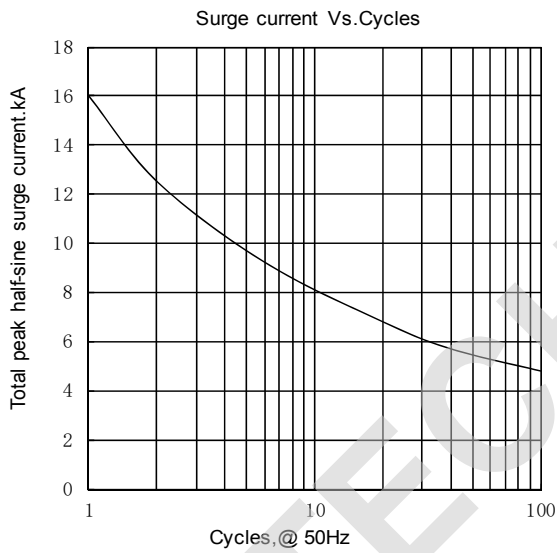


Fig. 3

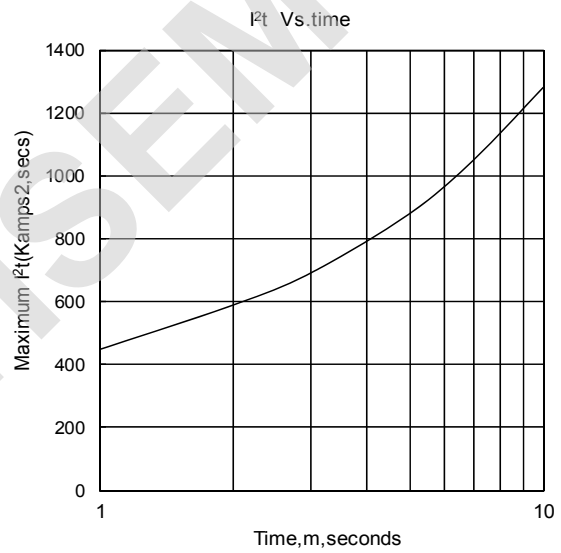


Fig. 4

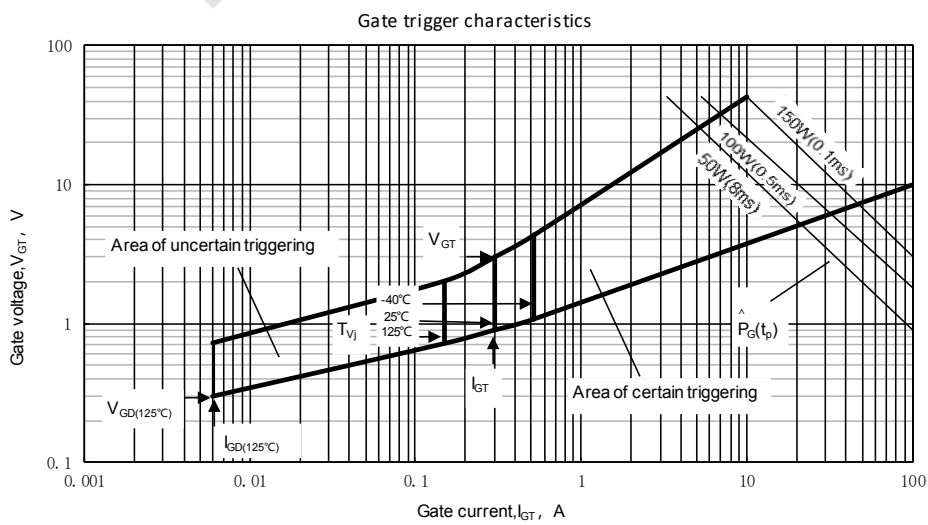
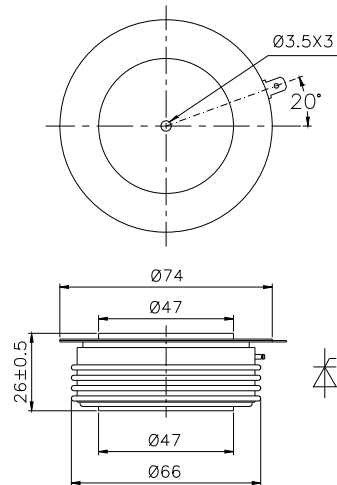


Fig. 5

## Outline:



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