



**Features**

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

**Typical Applications**

- n Inductive heating
- n Electronic welders
- n Self-commutated inverters

**Part No. Y40KKG-KT39cT**

<b>I<sub>T(AV)</sub></b>	<b>600A</b>
<b>V<sub>DRM</sub>, V<sub>R</sub>RM</b>	<b>2000V 2200V</b>
	<b>2500V 2800V</b>
	<b>3000V</b>
<b>t<sub>q</sub></b>	<b>30~100μs</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> =80°C	125			600	A
			T <sub>C</sub> =55°C				800	A
V <sub>DRM</sub> V <sub>R</sub> RM	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	1900		3000	V
I <sub>DRM</sub> I <sub>R</sub> RM	Repetitive peak current	at V <sub>DRM</sub> at V <sub>R</sub> RM		125			60	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave		125			8.5	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination					361	A <sup>2</sup> s*10 <sup>3</sup>	
V <sub>TO</sub>	Threshold voltage			125			1.39	V
r <sub>T</sub>	On-state slope resistance						0.83	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =1800A, F=18kN	30 ≤ t <sub>q</sub> ≤ 55	25			3.15	V
			56 ≤ t <sub>q</sub> ≤ 75				2.88	V
			76 ≤ t <sub>q</sub> ≤ 100				2.60	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	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 Single pulse		125			1200	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		550		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		125	30		100	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			400	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	At 180° sine double side cooled Clamping force 18kN					0.028	°C /W
R <sub>th(c-h)</sub>	Thermal resistance case to heat sink					0.0075		
F <sub>m</sub>	Mounting force				15		20	kN
T <sub>vj</sub>	Junction temperature				-40		125	°C
T <sub>stg</sub>	Stored temperature				-40		140	°C
W <sub>t</sub>	Weight					320		g
Outline	KT39cT							

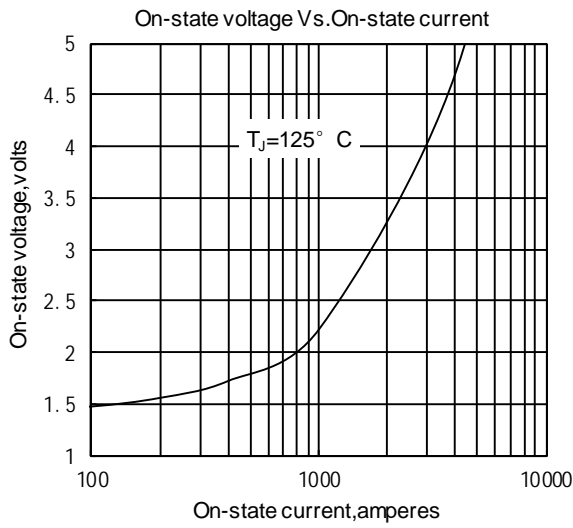


Fig.1

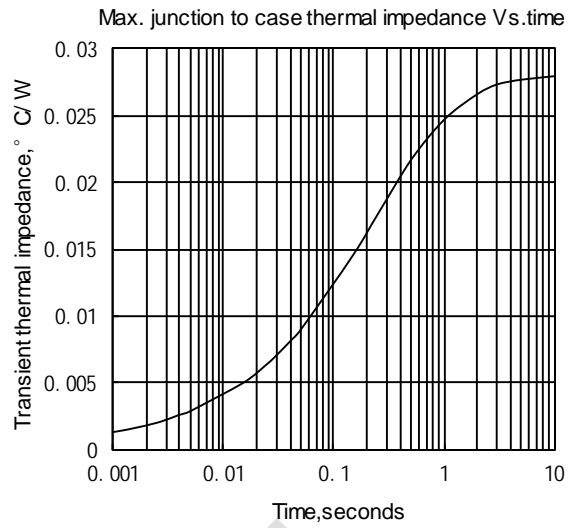


Fig.2

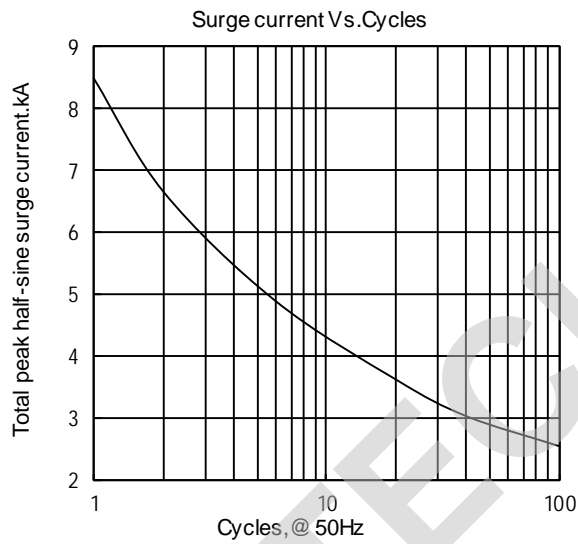


Fig.3

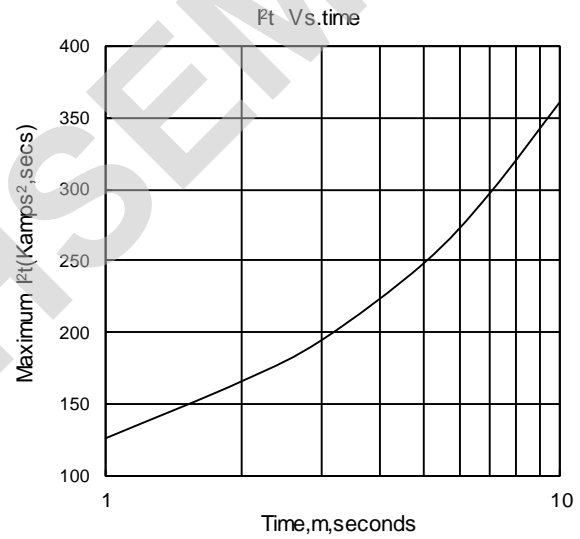


Fig.4

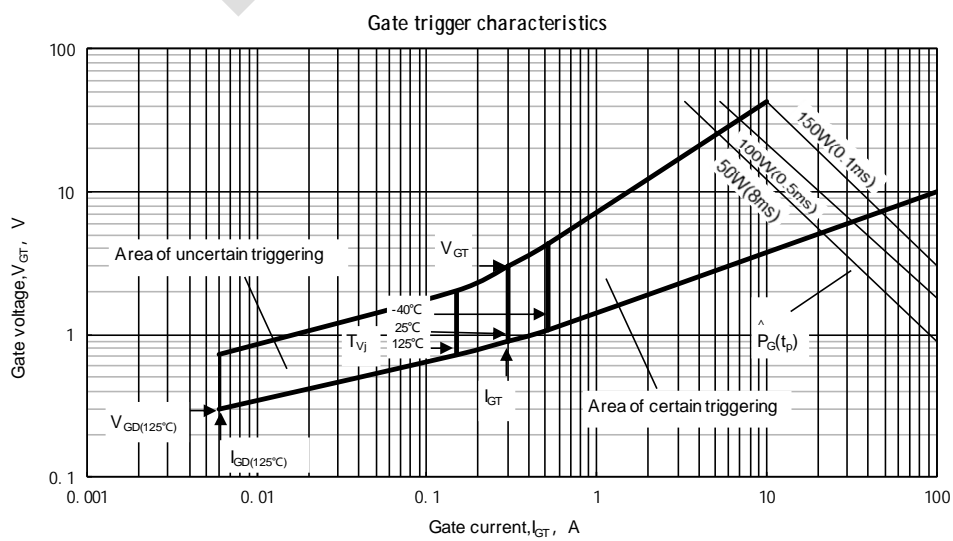
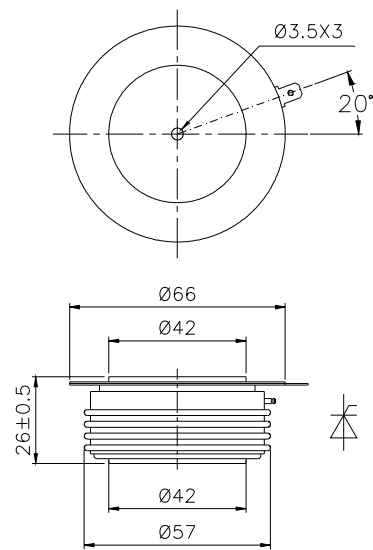


Fig.5

## Outline:



TECHSEM reserves the right to change specifications without notice.

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