



**Features:**

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses
- Short turn-off time
- Hermetic metal cases with ceramic insulators

**Typical Applications**

- Inductive heating
- Electronic welders
- Self-commutated inverters
- AC motor speed control

**Part No. Y38KAD-KT33cT**

<b>I<sub>T(AV)</sub></b>	<b>670A</b>
<b>V<sub>DRM</sub>, V<sub>RRM</sub></b>	<b>1200V 1400V</b>
<b>t<sub>q</sub></b>	<b>12~24μs</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			670	A	
V <sub>DRM</sub> V <sub>RRM</sub>	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	1100		1400	V	
I <sub>DRM</sub> I <sub>RRM</sub>	Repetitive peak off-state current Repetitive peak reverse current	at V <sub>DRM</sub> at V <sub>RRM</sub>	125			40	mA	
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave	125			9.3	kA	
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	V <sub>R</sub> =0.6V <sub>RRM</sub>				432	A <sup>2</sup> s*10 <sup>3</sup>	
V <sub>TO</sub>	Threshold voltage		125			1.50	V	
r <sub>T</sub>	On-state slope resistance					0.88	mΩ	
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =900A, F=15kN	25			3.20	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> to1200A 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		33	50	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	12		24	μs	
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A	25			30	250	mA
V <sub>GT</sub>	Gate trigger voltage					0.8	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 15kN				0.035	°C /W	
R <sub>th(c-h)</sub>	Thermal resistance case to heat sink					0.008		
F <sub>m</sub>	Mounting force			10		20	kN	
T <sub>vj</sub>	Junction temperature			-40		125	°C	
T <sub>stg</sub>	Stored temperature			-40		140	°C	
W <sub>i</sub>	Weight				250		g	
Outline	KT33cT							

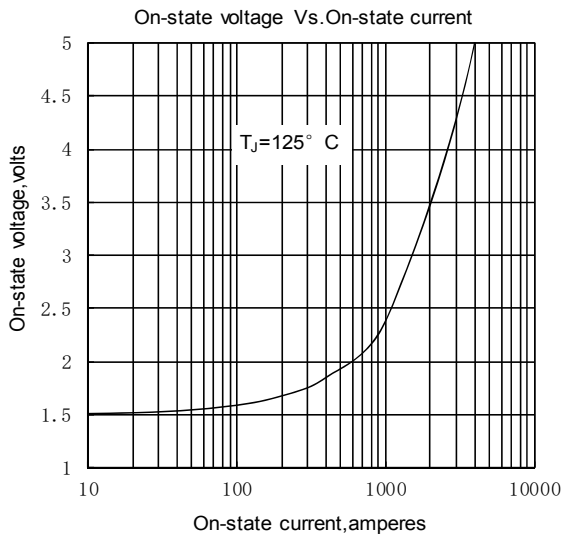


Fig. 1

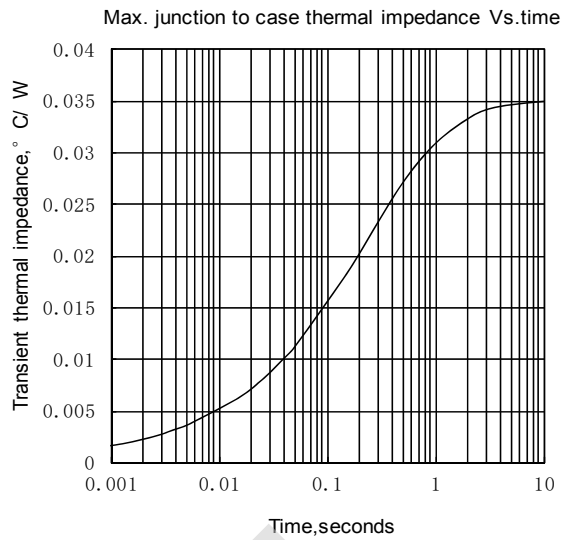


Fig. 2

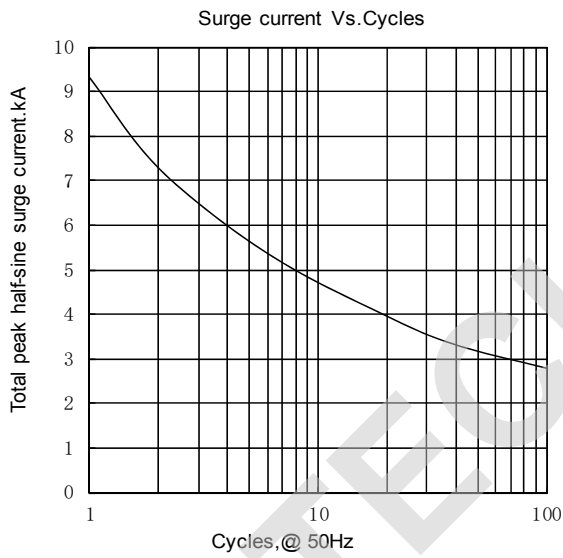


Fig. 3

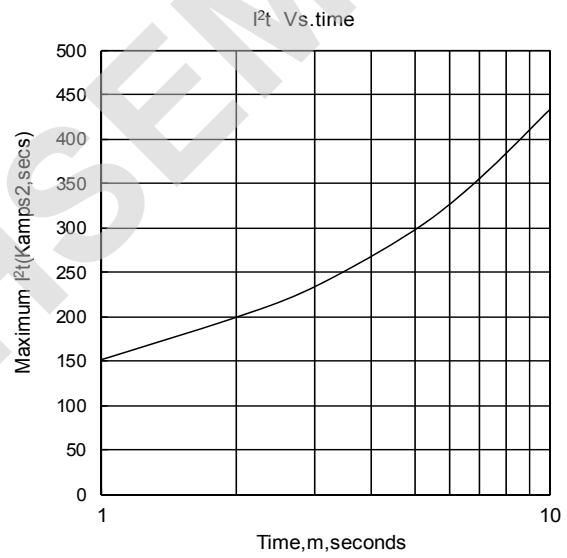


Fig. 4

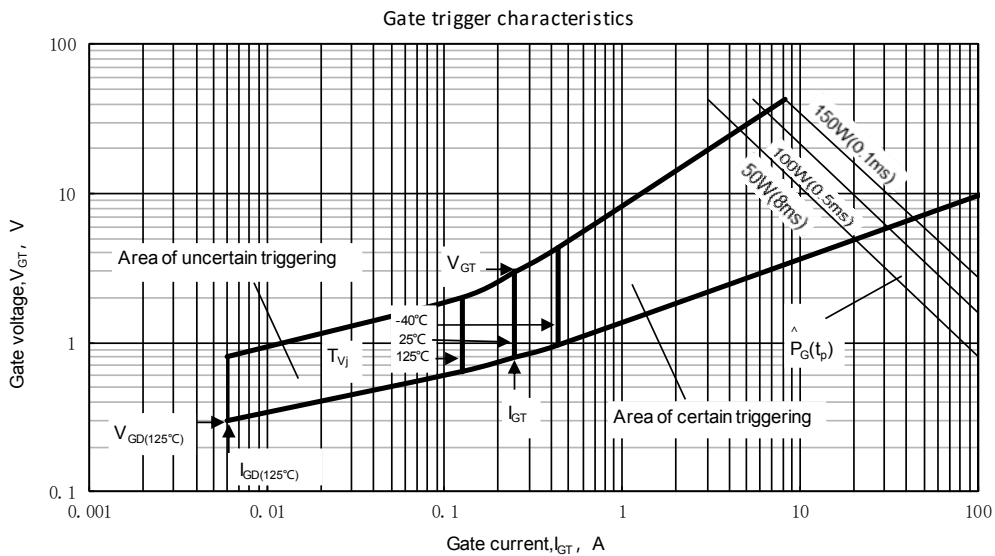
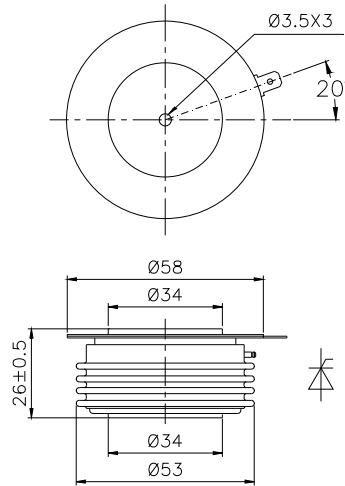


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.

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