

### 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
- General power switching applications

$I_{T(AV)}$       **670A**  
 $V_{DRM}/V_{RRM}$     **800~1400V**  
 $t_q$                 **12~24μs**  
 $I_{TSM}$              **9.3kA**



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			670	A
			T <sub>C</sub> =85°C			460	
V <sub>DRM</sub> V <sub>RRM</sub>	Repetitive peak off-state voltage Repetitive peak reverse voltage	V <sub>DRM</sub> &V <sub>RRM</sub> , tp=10ms V <sub>DSM</sub> &V <sub>RSM</sub> = V <sub>DRM</sub> &V <sub>RRM</sub> +100V	125	800		1400	V
I <sub>DRM</sub> I <sub>RRM</sub>	Repetitive peak off-state current Repetitive peak reverse current	V <sub>D</sub> = V <sub>DRM</sub> V <sub>R</sub> = 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 slop resistance					0.88	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =1200A, F=15kN	125			2.56	V
dv/dt	Critical rate of rise of off-state voltage	V <sub>DM</sub> =0.67V <sub>DRM</sub>	125			200	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=2000μs, di/dt=-60A/μs, V <sub>R</sub> =50V	125		33	50	μC
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =600A, tp=1000μs, V <sub>R</sub> =50V 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
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>stg</sub>	Stored temperature			-40		140	°C
W <sub>t</sub>	Weight				250		g
Outline	KT33cT						

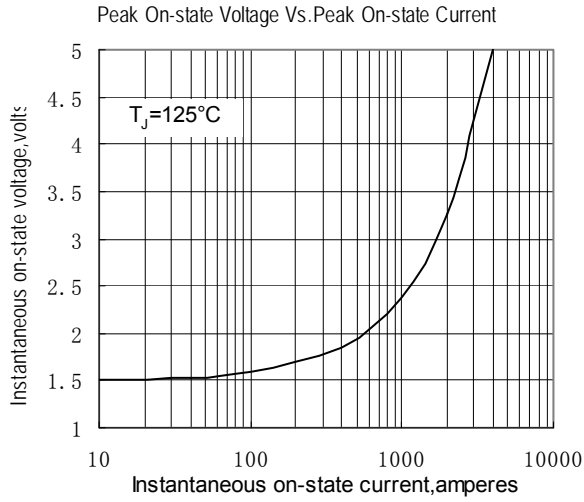


Fig.1

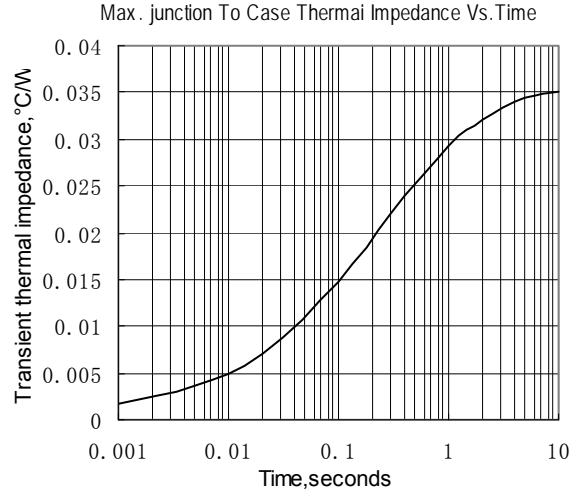


Fig.2

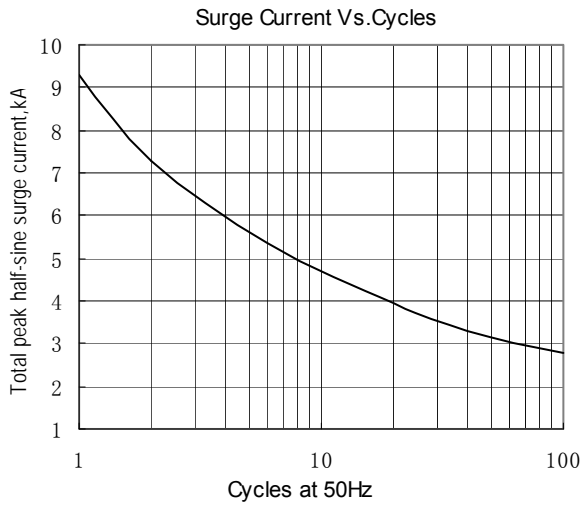


Fig.3

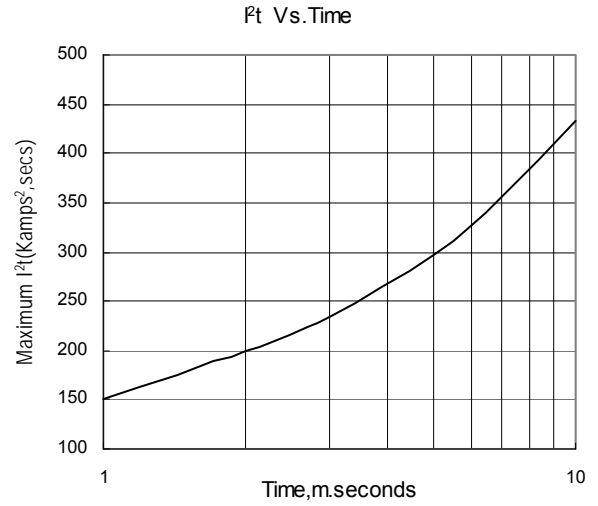


Fig.4

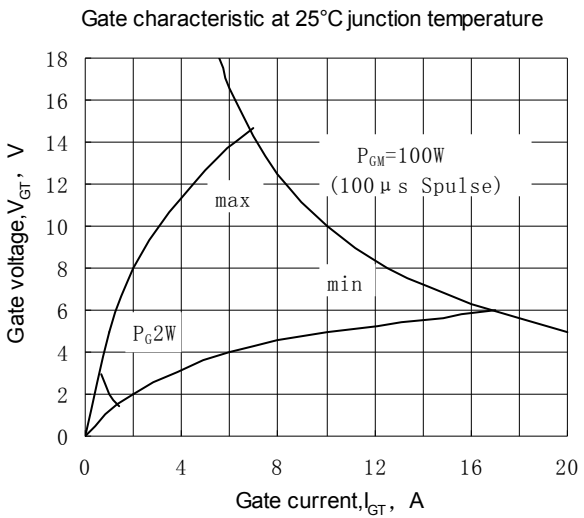


Fig.5

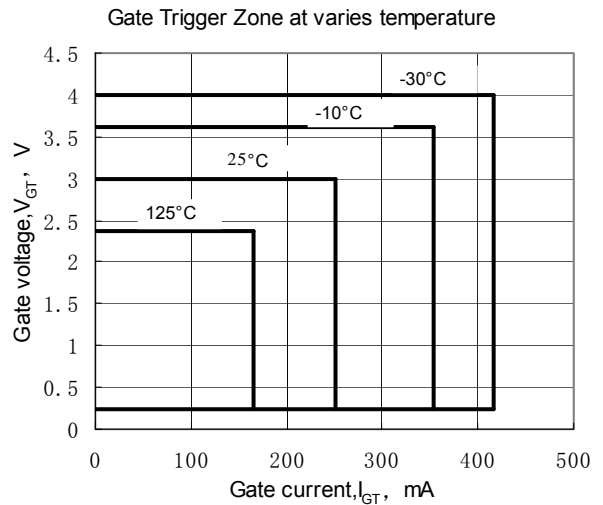


Fig.6

**Outline:**

