

### Features

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

### Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

$I_{T(AV)}$	<b>1080A</b>
$V_{DRM}/V_{RRM}$	<b>800~1800V</b>
$t_q$	<b>18~50<math>\mu</math>s</b>
$I_{TSM}$	<b>10 kA</b>
$I^2t$	<b>500 10<sup>3</sup>A<sup>2</sup>S</b>



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T <sub>J</sub> (°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled, T <sub>C</sub> =55°C	125			1080	A
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	800		1800	V
$I_{DRM}$ $I_{RRM}$	Repetitive peak current	at $V_{DRM}$ at $V_{RRM}$	125			50	mA
$I_{TSM}$	Surge on-state current	10ms half sine wave	125			10	kA
$I^2t$	$I^2t$ for fusing coordination					500	A <sup>2</sup> s*10 <sup>3</sup>
$V_{TO}$	Threshold voltage		125			1.30	V
$r_T$	On-state slope resistance					0.38	mΩ
$V_{TM}$	Peak on-state voltage	I <sub>TM</sub> =1800A, F=18kN	25			3.15	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	125			1200	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		550		μC
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =1000A, tp=1000μs, V <sub>R</sub> =50V dv/dt=30V/μs, di/dt=-20A/μs	125	18		50	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
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>stg</sub>	Stored temperature			-40		140	°C
W <sub>t</sub>	Weight				320		g
Outline	KT39cT40						

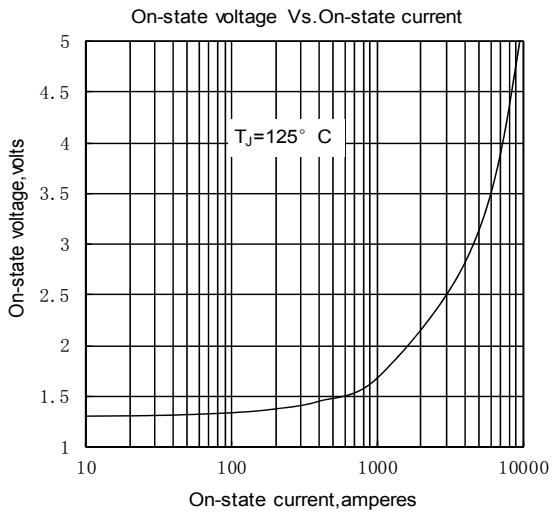


Fig. 1

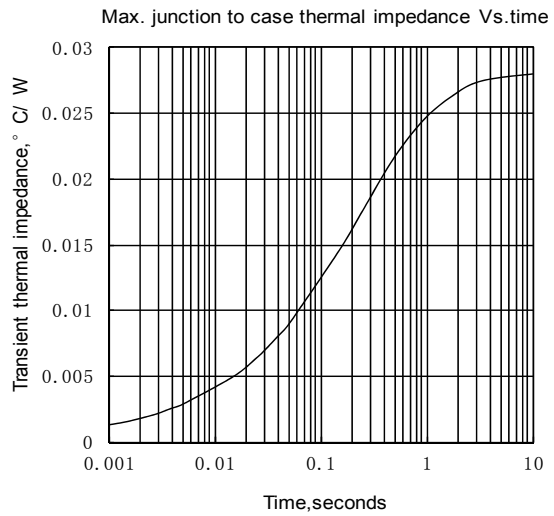


Fig. 2

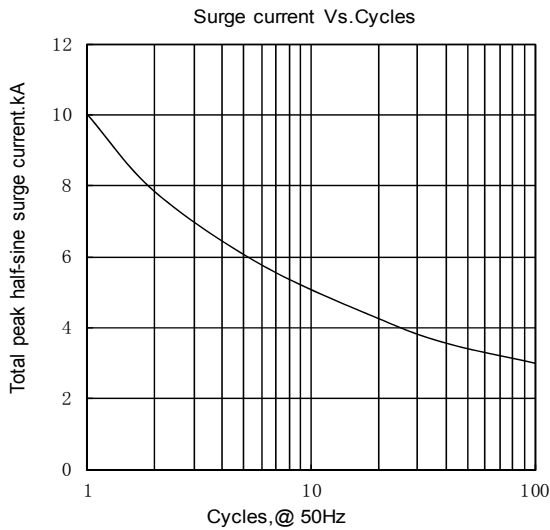


Fig. 3

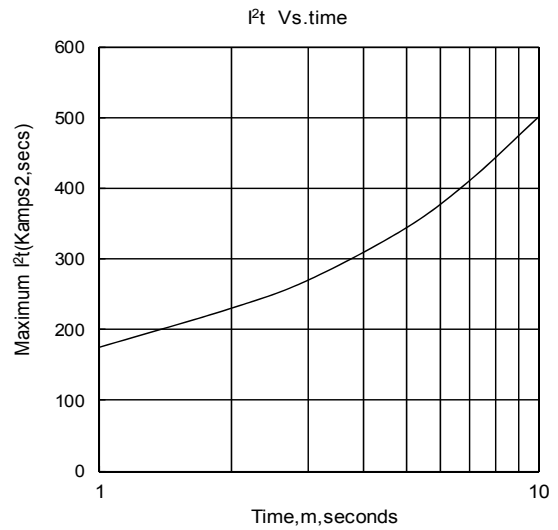


Fig. 4

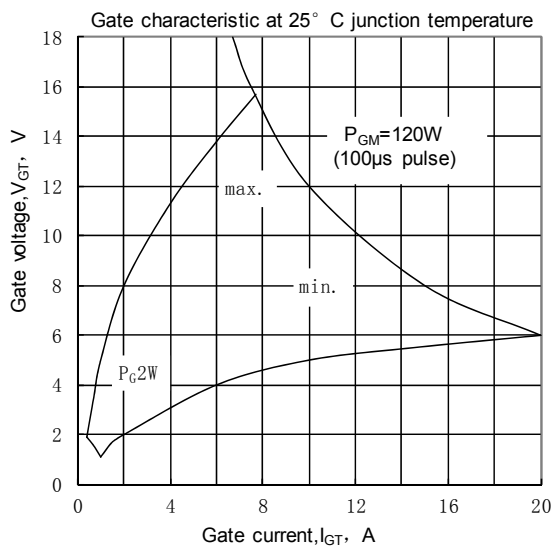


Fig. 5

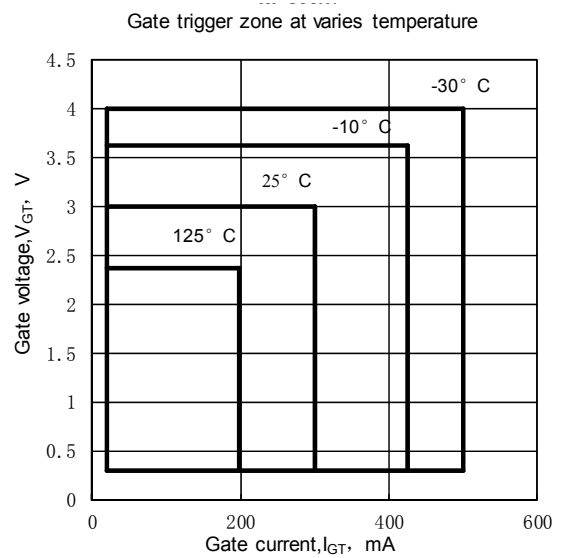


Fig. 6

Outline:

