

**Features**

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

**Typical Applications**

- n Design for inverter supply application

**Part No. H100KFM-KT100cT**

<b>I<sub>T(AV)</sub></b>	<b>4500A</b>
<b>V<sub>DRM</sub></b>	<b>4000V~4500V</b>
<b>V<sub>RRM</sub></b>	<b>1000V~3000V</b>
<b>t<sub>q</sub></b>	<b>60~200μs</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		4500	A
			T <sub>C</sub> =70°C	125		3800	A
V <sub>DRM</sub>	Repetitive peak off-state voltage	tp=10ms	125	4000		4500	V
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	1000		3000	V
I <sub>DRM</sub> I <sub>RRM</sub>	Repetitive peak current	at V <sub>DRM</sub> at V <sub>RRM</sub>	125			500	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave	125			50	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	V <sub>R</sub> =0.6V <sub>RRM</sub>				12500	10 <sup>3</sup> A <sup>2</sup> s
V <sub>TO</sub>	Threshold voltage		125			1.58	V
r <sub>T</sub>	On-state slope resistance					0.15	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =5000A, F=70kN <sub>o</sub>	60<t <sub>q</sub> ≤100 μ s	25		2.60	V
			101<t <sub>q</sub> ≤200 μ s	25		2.00	
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> to4000A 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> =2000A, tp=4000μs, di/dt=-5A/μs, V <sub>R</sub> =100V	125		2500	4000	μC
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =2000A, tp=4000μs, V <sub>R</sub> =100V dv/dt=30V/μs, di/dt=-5A/μs	125	60	100	200	μs
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A	25		50	300	mA
V <sub>GT</sub>	Gate trigger voltage				0.8	3.5	V
I <sub>H</sub>	Holding current				20	1000	mA
I <sub>L</sub>	Latching current					1500	mA
V <sub>GD</sub>	Non-trigger gate voltage	V <sub>DM</sub> =67%V <sub>DRM</sub>	125			0.25	V
R <sub>th(j-c)</sub>	Thermal resistance junction to case	Double side cooled Clamping force 40kN				0.005	°C/W
R <sub>th(c-h)</sub>	Thermal resistance case to heat sink					0.0015	
F <sub>m</sub>	Mounting force			81		108	kN
T <sub>vj</sub>	Junction temperature			-40		125	°C
T <sub>stg</sub>	Stored temperature			-40		140	°C
W <sub>t</sub>	Weight					1880	g
Outline	KT100cT						

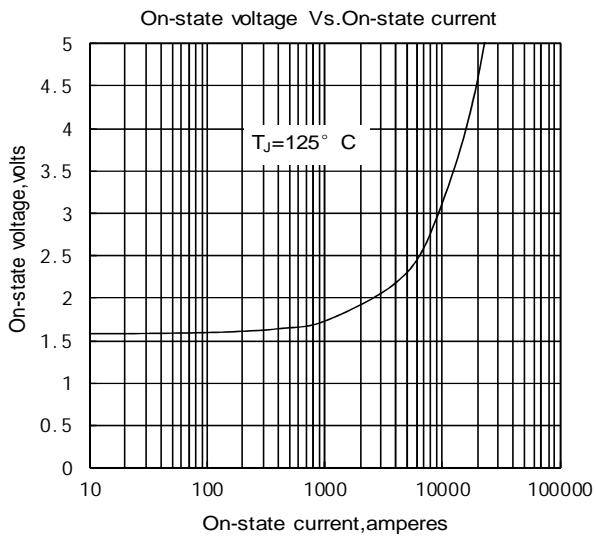


Fig.1

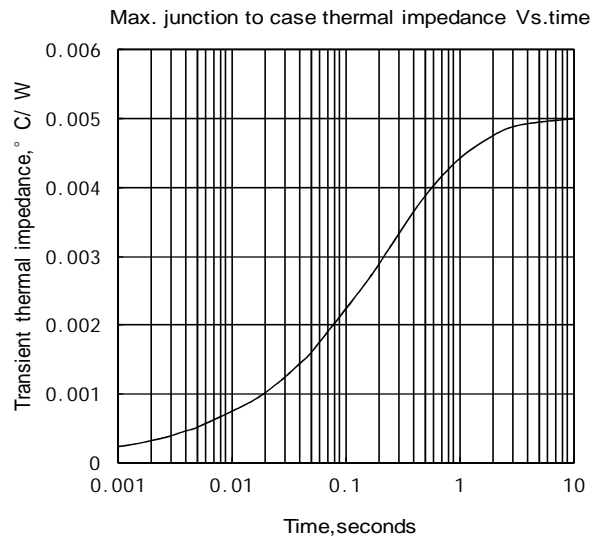


Fig.2

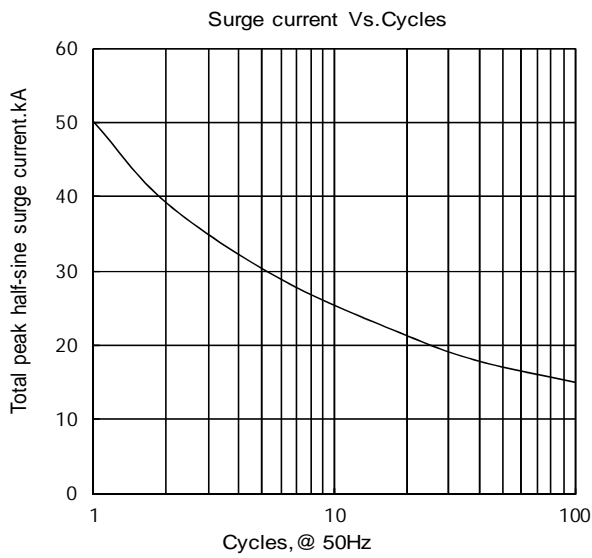


Fig.3

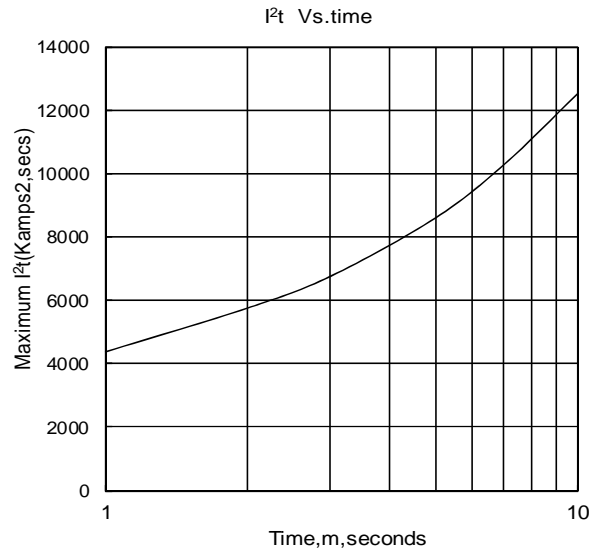


Fig.4

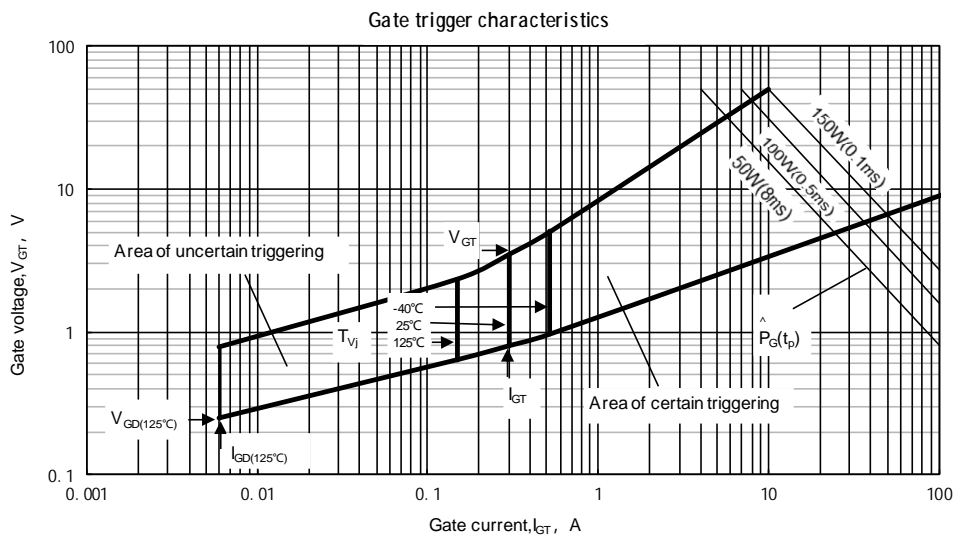
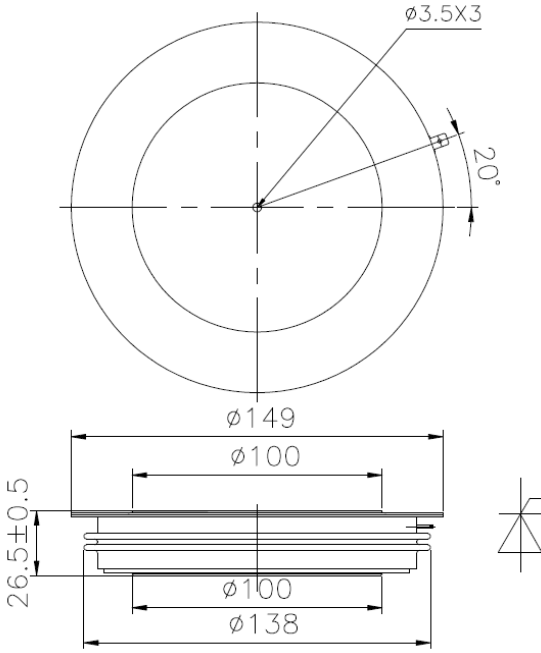


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.