

**Features**

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

**Typical Applications**

- Design for inverter supply application

**Part No. H38KFM-KT33cT**

<b>I<sub>T(AV)</sub></b>	<b>350A</b>
<b>V<sub>DRM</sub></b>	<b>4000V~4500V</b>
<b>V<sub>R RM</sub></b>	<b>1000V~3000V</b>
<b>t<sub>q</sub></b>	<b>50~120μs</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			350	A
V <sub>DRM</sub>	Repetitive peak off-state voltage	tp=10ms		125	4000		4500	V
V <sub>R RM</sub>	Repetitive peak reverse voltage			125	1000		3000	V
I <sub>DRM</sub> I <sub>R RM</sub>	Repetitive peak current	at V <sub>DRM</sub> at V <sub>R RM</sub>		125			60	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave		125			5.0	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	V <sub>R</sub> =0.6V <sub>R RM</sub>					125	A <sup>2</sup> s*10 <sup>3</sup>
V <sub>TO</sub>	Threshold voltage			125			1.48	V
r <sub>T</sub>	On-state slope resistance						2.00	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =1000A, F=15kN	50 ≤ tq ≤ 60	25			3.60	V
			61 ≤ tq ≤ 120				2.80	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 1000A, 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=4000μs, di/dt=-5A/μs, V <sub>R</sub> =100V		125		350		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=-5A/μs		125	50		120	μs
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A		25	40		250	mA
V <sub>GT</sub>	Gate trigger voltage				0.9		2.5	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>t</sub>	Weight					250		g
Outline	KT33cT							

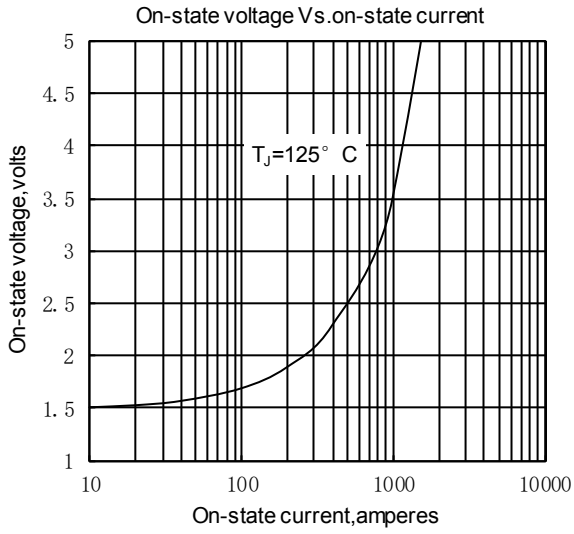


Fig.1

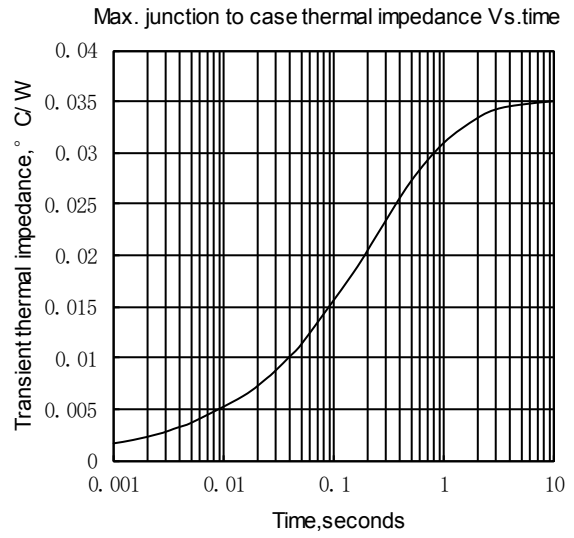


Fig.2

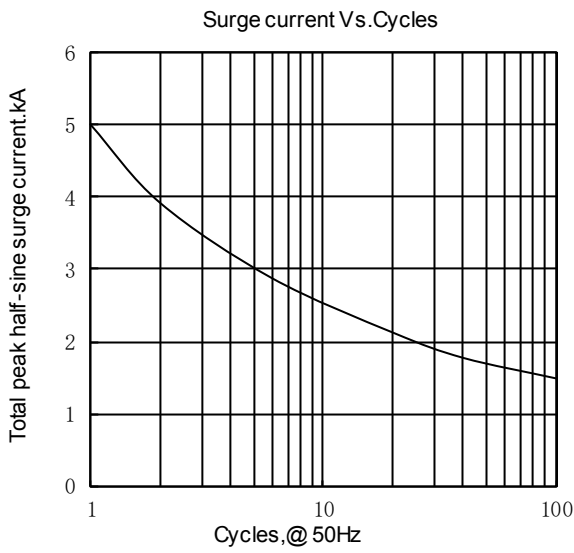


Fig.3

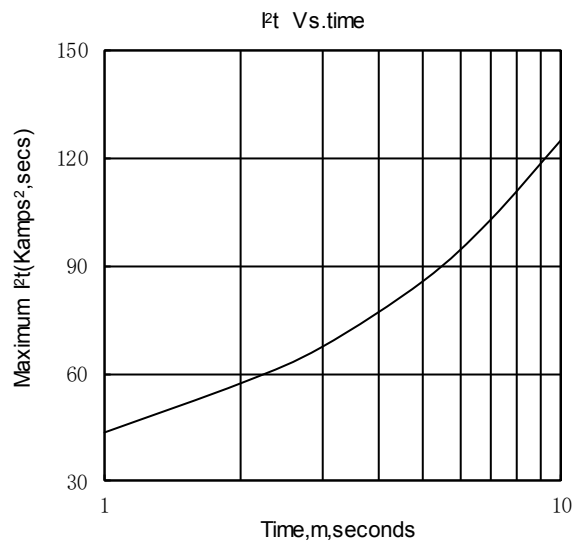


Fig.4

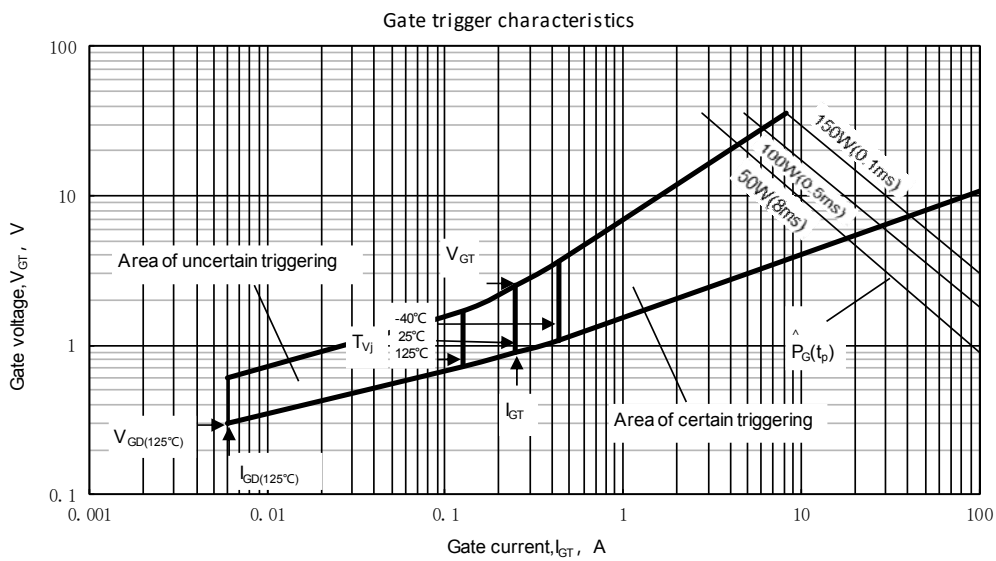
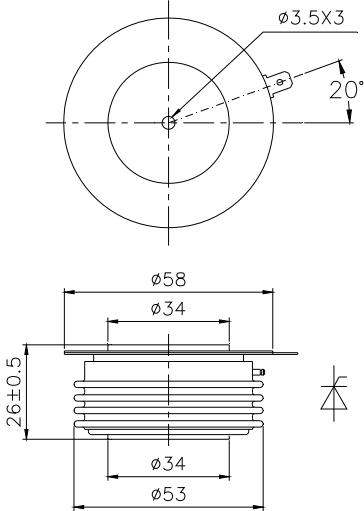


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.