**Features**

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

Typical Applications

- Design for inverter supply application

Part No. H100KFM-KT100cT

$I_{T(AV)}$	4500A
V_{DRM}	4000V~4500V
V_{RRM}	1000V~3000V
t_q	60~200μs

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_J (°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180 half sine wave 50Hz Double side cooled,	$T_C=55^\circ\text{C}$	125		4500	A
			$T_C=70^\circ\text{C}$	125		3800	A
V_{DRM}	Repetitive peak off-state voltage	$t_p=10\text{ms}$	125	4000		4500	V
V_{RRM}	Repetitive peak reverse voltage		125	1000		3000	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			500	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			50	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$				12500	$10^3\text{A}^2\text{s}$
V_{TO}	Threshold voltage		125			1.58	V
r_T	On-state slope resistance					0.15	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=5000\text{A}$, $F=70\text{kN}$	$60 < t_q \leq 100 \mu\text{s}$	25		2.60	V
			$101 < t_q \leq 200 \mu\text{s}$	25		2.00	
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$	125			1000	V/ μs
di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 4000A Gate pulse $t_r \leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$	125			1200	A/ μs
Q_{rr}	Recovery charge	$I_{TM}=2000\text{A}$, $t_p=4000\mu\text{s}$, $di/dt=-5\text{A}/\mu\text{s}$, $V_R=100\text{V}$	125		2500	4000	μC
t_q	Circuit commutated turn-off time	$I_{TM}=2000\text{A}$, $t_p=4000\mu\text{s}$, $V_R=100\text{V}$ $dv/dt=30\text{V}/\mu\text{s}$, $di/dt=-5\text{A}/\mu\text{s}$	125	60	100	200	μs
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$	25	50		300	mA
V_{GT}	Gate trigger voltage			0.8		3.5	V
I_H	Holding current			20		1000	mA
I_L	Latching current					1500	mA
V_{GD}	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	125			0.25	V
$R_{th(j-c)}$	Thermal resistance junction to case	Double side cooled Clamping force 40kN				0.005	C/W
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.0015	
F_m	Mounting force			81		108	kN
T_{vj}	Junction temperature			-40		125	°C
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				1880		g
Outline	KT100cT						

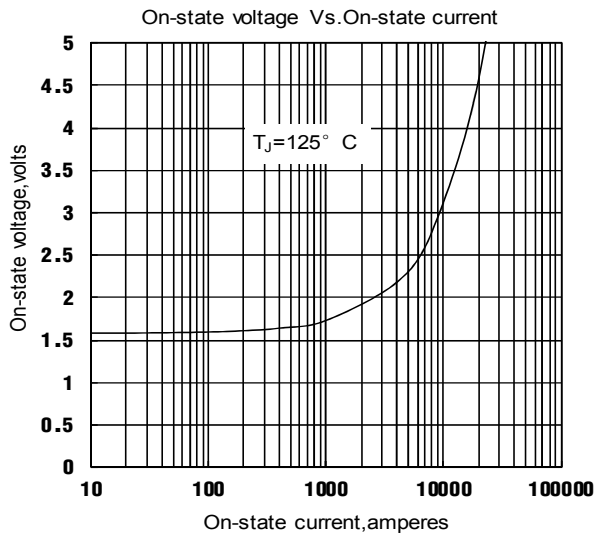


Fig.1

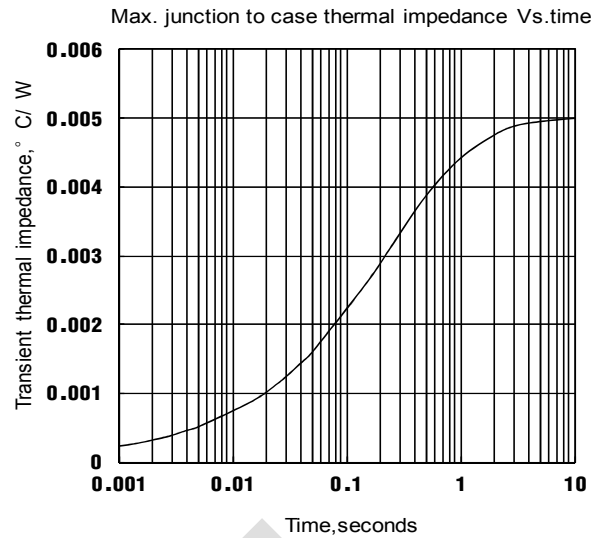


Fig.2

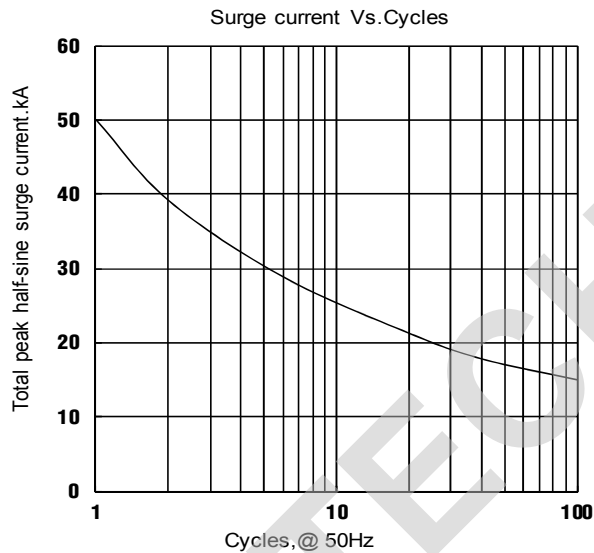


Fig.3

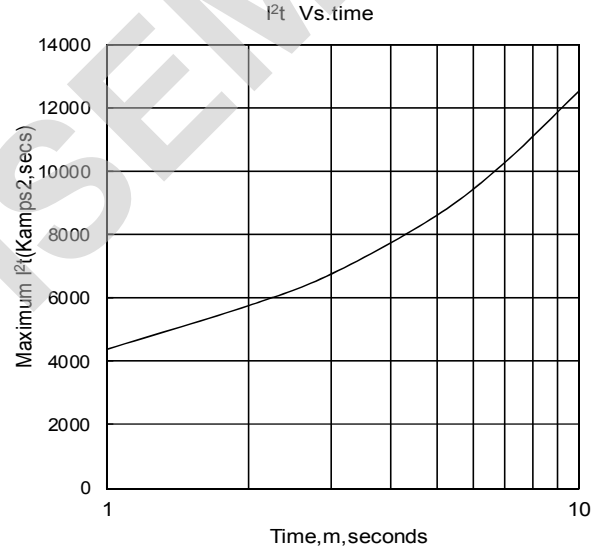


Fig.4

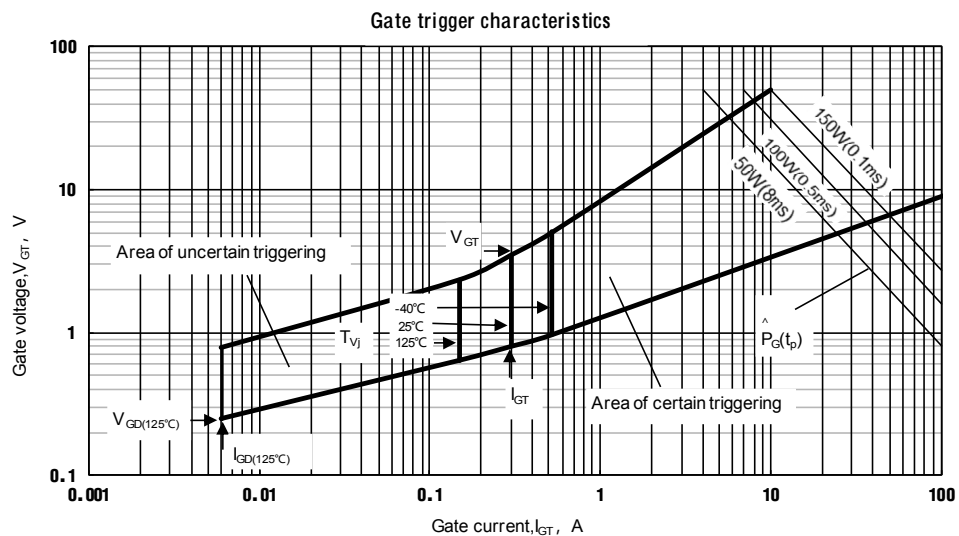
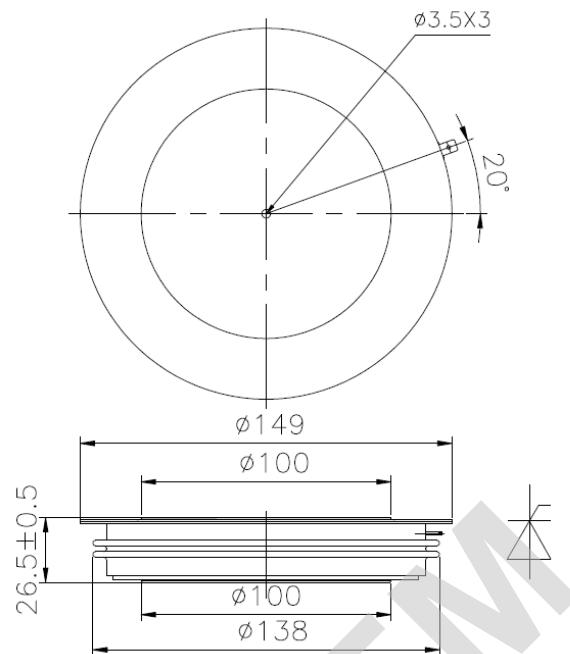


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.