

**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

$I_{T(AV)}$	350A
V_{DRM}	4000V~4500V
V_{RRM}	1000V~3000V
t_q	50~120μs

SYMBOL	CHARACTERISTIC	TEST CONDITIONS		$T_J(^{\circ}C)$	VALUE			UNIT
					Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled,	$T_C=55^{\circ}C$	125			350	A
V_{DRM}	Repetitive peak off-state voltage	$t_p=10ms$		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			60	mA
I_{TSM}	Surge on-state current	10ms half sine wave		125			5.0	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$					125	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage			125			1.48	V
r_T	On-state slope resistance						2.00	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=1000A, F=15kN$	$50 \leq t_q \leq 60$	25			3.60	V
			$61 \leq t_q \leq 120$				2.80	V
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 1000A, Gate pulse $t_r \leq 0.5\mu s, I_{GM}=1.5A$		125			1200	A/μs
Q_{rr}	Recovery charge	$I_{TM}=1000A, t_p=4000\mu s,$ $di/dt=-5A/\mu s, V_R=100V$		125		350		μC
t_q	Circuit commutated turn-off time	$I_{TM}=1000A, t_p=4000\mu s, V_R=100V$ $dv/dt=30V/\mu s, di/dt=-5A/\mu s$		125	50		120	μs
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$		25	40		250	mA
V_{GT}	Gate trigger voltage				0.9		2.5	V
I_H	Holding current				20		400	mA
I_L	Latching current						500	mA
V_{GD}	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$		125			0.3	V
$R_{th(j-c)}$	Thermal resistance Junction to case	At 180° sine-double side cooled Clamping force 15kN					0.035	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.008	
F_m	Mounting force				10		20	kN
T_{vj}	Junction temperature				-40		125	$^{\circ}C$
T_{sig}	Stored temperature				-40		140	$^{\circ}C$
W_t	Weight					250		g
Outline	KT33cT							

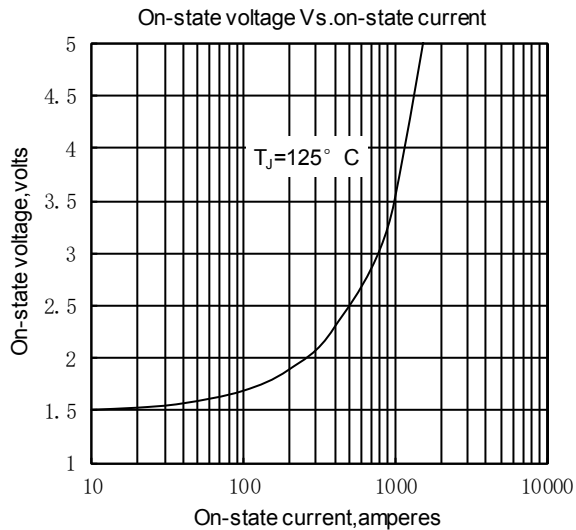


Fig.1

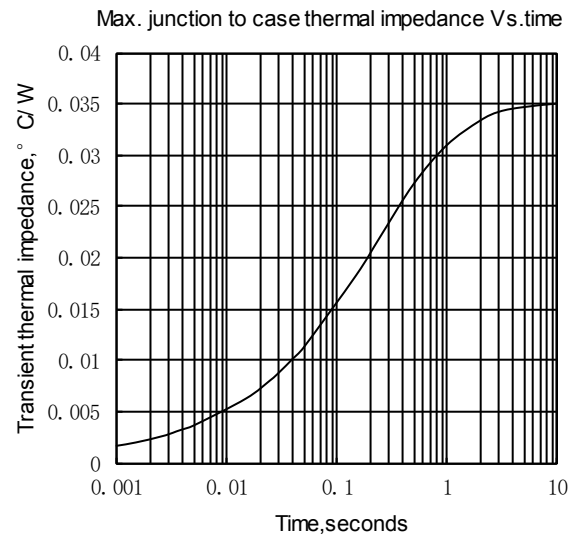


Fig.2

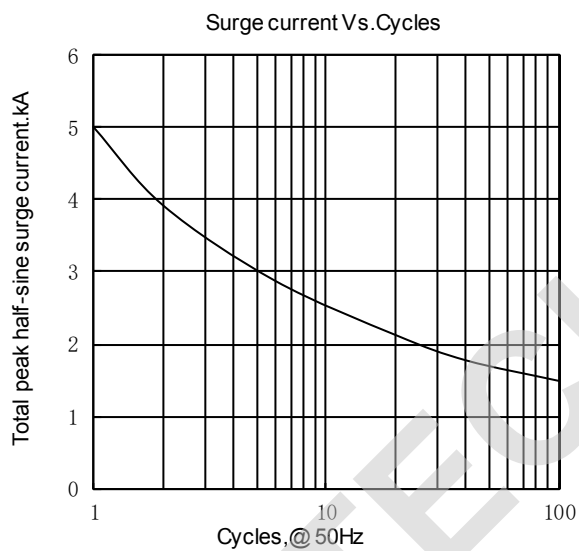


Fig.3

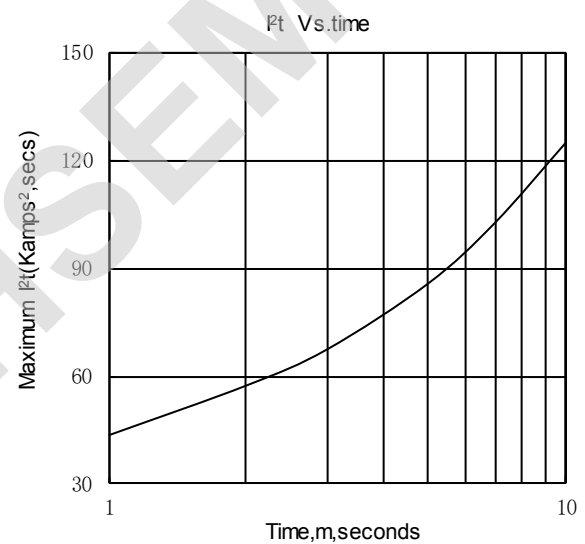


Fig.4

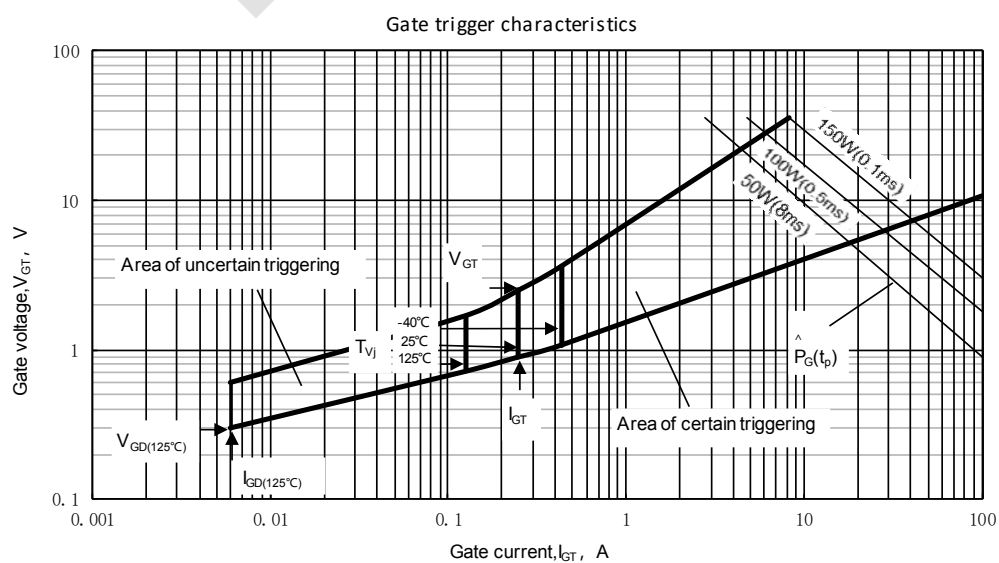
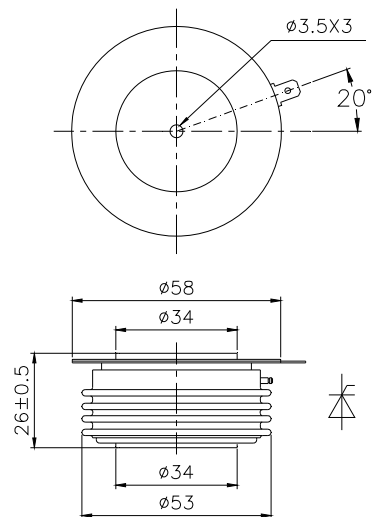


Fig.5

Outline:



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