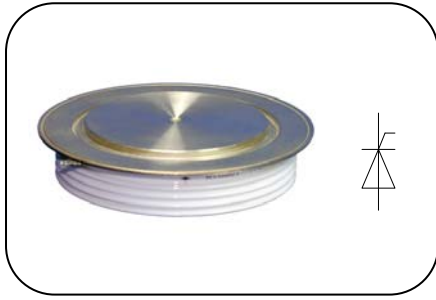


**Features**

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

Typical Applications

- Design for inverter supply application

Part No. Y89KFE-KT84cT

$I_{T(AV)}$	4240A
V_{DRM}	1200V~2000V
V_{RRM}	1000V~1800V
t_q	15~80μs

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			4240	A
V_{DRM}	Repetitive peak off-state voltage	$t_p=10ms$		125	1200		2000	V
V_{RRM}	Repetitive peak reverse voltage				1000		1800	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}		125			250	mA
I_{TSM}	Surge on-state current	10ms half sine wave		125			46	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$					10580	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage			125			1.14	V
r_T	On-state slope resistance						0.10	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=5000A, F=70kN$	$15\mu s \leq t_q \leq 35\mu s$	25			2.50	V
			$36\mu s \leq t_q \leq 60\mu s$				1.80	V
			$61\mu s \leq t_q \leq 80\mu s$				1.60	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 (Non-repetitive)	$V_{DM}=67\%V_{DRM}$, to 4000A Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$		125			1200	A/μs
Q_{rr}	Recovery charge	$I_{TM}=2000A, t_p=4000\mu s$, $di/dt=-20A/\mu s, V_R=100V$		125		2100		μC
t_q	Circuit commutated turn-off time	$I_{TM}=2000A, t_p=4000\mu s, V_R=100V$ $dv/dt=30V/\mu s, di/dt=-20A/\mu s$		125	25		80	μs
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$		25	40		450	mA
V_{GT}	Gate trigger voltage				0.9		4.5	V
I_H	Holding current				20		1000	mA
I_L	Latching current						1000	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 70 kN					0.007	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.002	
F_m	Mounting force				63		84	kN
T_{vj}	Junction temperature				-40		125	$^{\circ}C$
T_{stg}	Stored temperature				-40		140	$^{\circ}C$
W_i	Weight					1390		g
Outline	KT84cT							

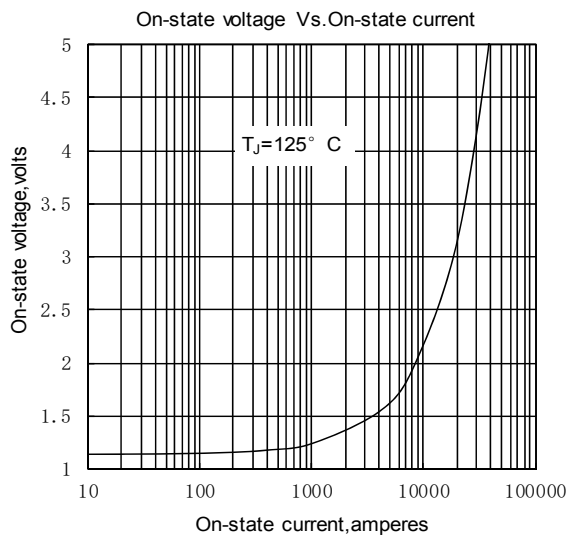


Fig.1

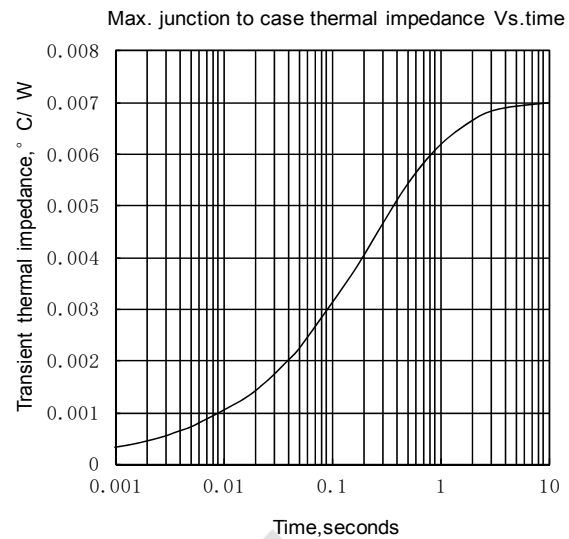


Fig.2

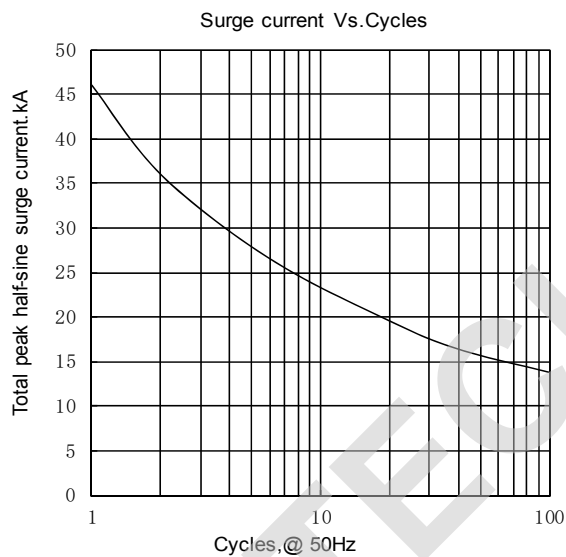


Fig.3

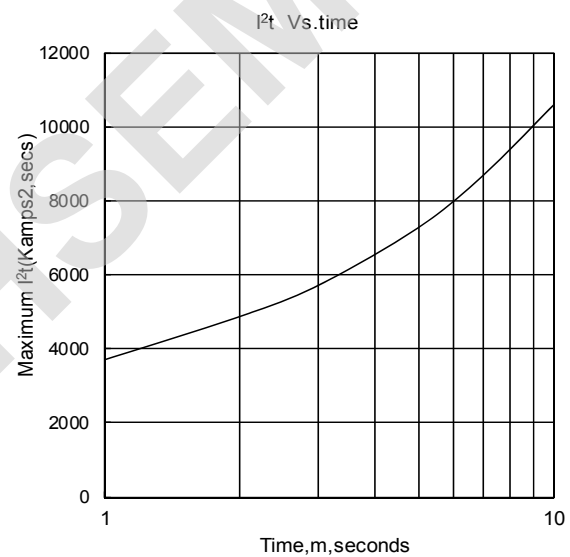


Fig.4

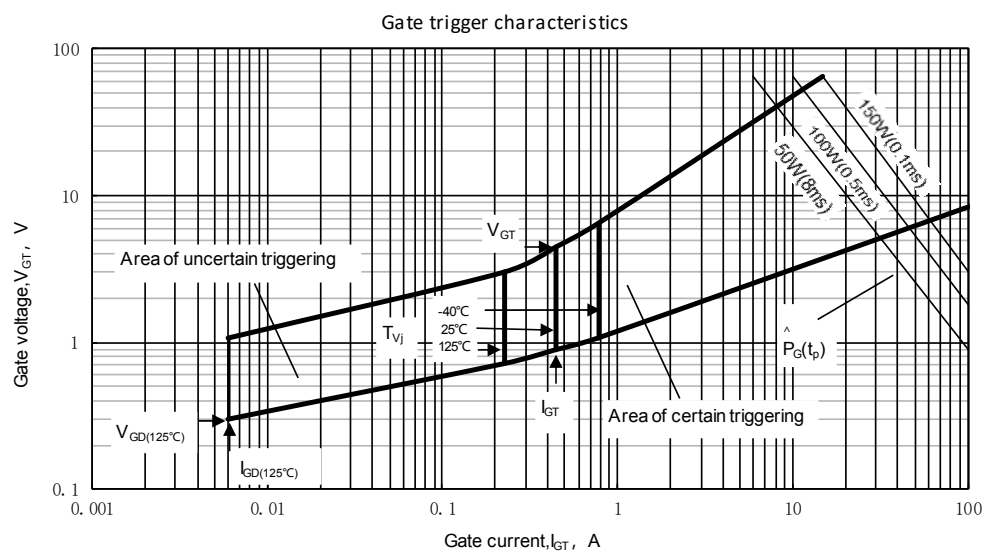
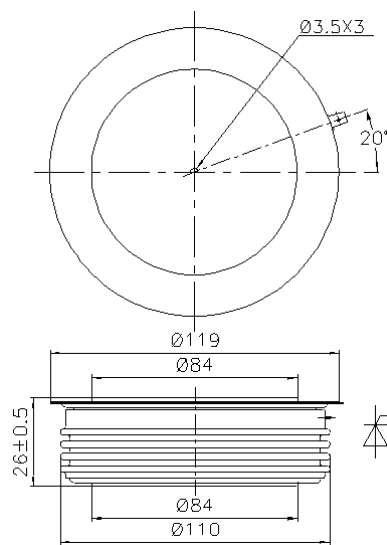


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.