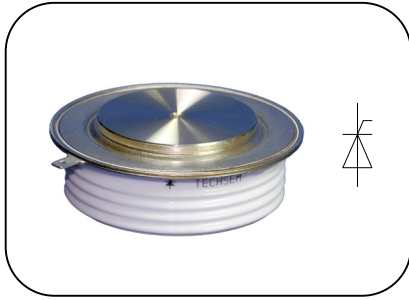


**Features**

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

Typical Applications

Design for inverter supply
application

Part No. Y50KFE-KT50cT

$I_{T(AV)}$	1494A
V_{DRM}	1200V~2000V
V_{RRM}	1000V~1800V
t_q	15~55μs

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, $T_C=55^\circ\text{C}$ $T_C=70^\circ\text{C}$	125			1494 1243	A
V_{DRM}	Repetitive peak off-state voltage	$t_p=10\text{ms}$	125	1200		2000	V
V_{RRM}	Repetitive peak reverse voltage			1000		1800	
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			80	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			17	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$				1445	$\text{A}^2\text{s}\cdot 10^3$
V_{TO}	Threshold voltage		125			1.57	V
r_T	On-state slop resistance					0.21	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=3000\text{A}$, $F=24\text{kN}$ $15\mu\text{s}\leq t_q\leq 28\mu\text{s}$ $29\mu\text{s}\leq t_q\leq 55\mu\text{s}$	25			2.50	V
						2.10	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 1600A, Gate pulse $t_r\leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$	125			1500	A/μs
Q_{rr}	Recovery charge	$I_{TM}=1000\text{A}$, $t_p=4000\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$, $V_R=100\text{V}$	125		750		μC
t_q	Circuit commutated turn-off time	$I_{TM}=1000\text{A}$, $t_p=4000\mu\text{s}$, $V_R=100\text{V}$ $dv/dt=30\text{V}/\mu\text{s}$, $di/dt=-20\text{A}/\mu\text{s}$	125	15		55	μs
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$	25	40		300	mA
V_{GT}	Gate trigger voltage			0.9		3.0	V
I_H	Holding current			20		500	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 24kN				0.020	C/W
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.005	
F_m	Mounting force			19		26	kN
T_{vj}	Junction temperature			-40		125	°C
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				440		g
Outline	KT50cT						

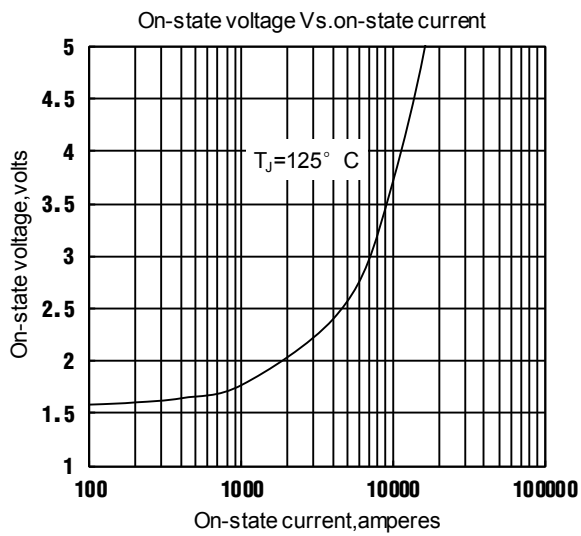


Fig.1

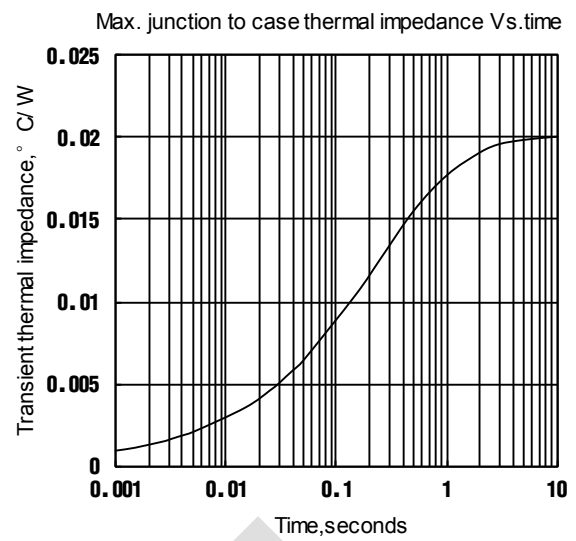


Fig.2

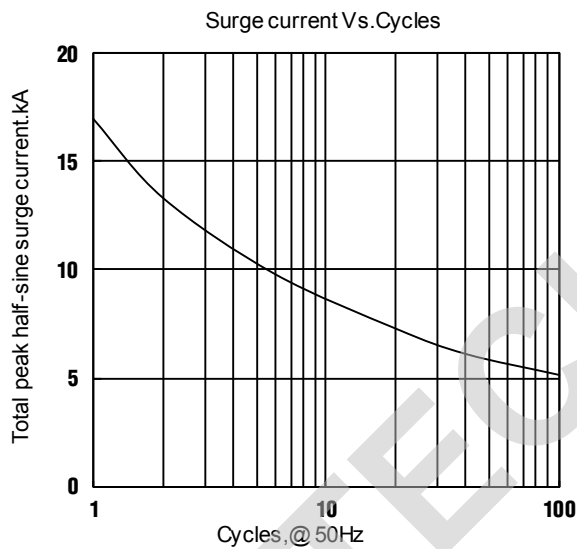


Fig.3

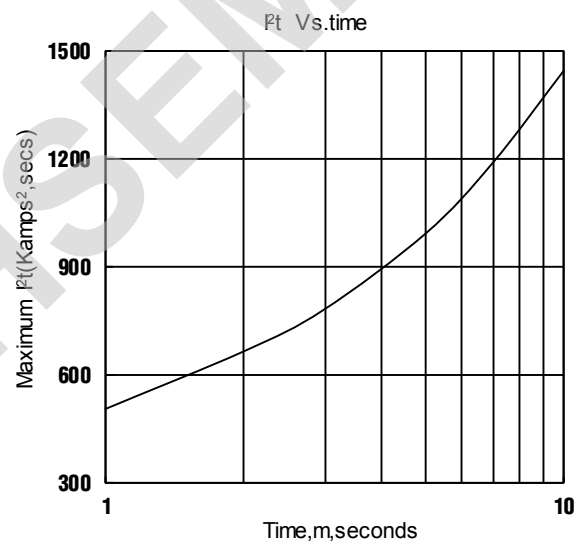


Fig.4

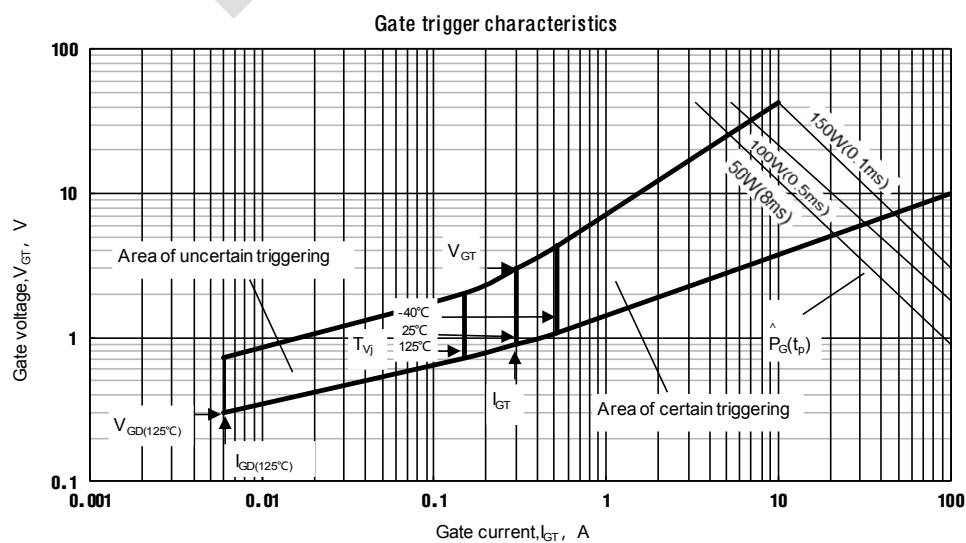
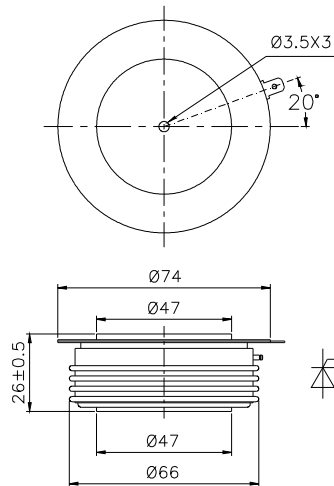


Fig.5

Outline:

TECHSEM reserves the right to change specifications without notice.