

Features

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

Typical Applications

- n Inductive heating
- n Electronic welders
- n Self-commutated inverters

Part No. H89KKE-KT78cT

I_{T(AV)}	4200A
V_{DRM}, V_{RRM}	1600V 1800V
	2000V 2200V

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°C	125		4200	A
V _{DRM} V _{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	1600	2200	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 V _R =0.6V _{RRM}		125		45	kA
I ² t	I ² t for fusing coordination					10125	A ² s*10 ³
V _{TO}	Threshold voltage			125		1.14	V
r _T	On-state slope resistance					0.12	mΩ
V _{TM}	Peak on-state voltage	I _{TM} =5000A, F=70kN		25		1.80	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} , to4000A Gate pulse t _r ≤ 0.5μs I _{GM} =1.5A		125		1200	A/μs
Q _{rr}	Recovery charge	I _{TM} =2000A, tp=4000μs, di/dt=-20A/μs, V _R =100V		125	1100		μC
t _q	Circuit commutated turn-off time	I _{TM} =2000A, tp=4000μs, V _R =100V dv/dt=30V/μs ,di/dt=-20A/μs		125	30	60	μs
I _{GT}	Gate trigger current				40	450	mA
V _{GT}	Gate trigger voltage	V _A =12V, I _A =1A		25	0.9	4.5	V
I _H	Holding current				20	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				0.007	°C /W
R _{th(c-h)}	Thermal resistance case to heat sink	Clamping force 70 kN				0.002	
F _m	Mounting force				50	70	kN
T _{stg}	Stored temperature				-40	140	°C
W _t	Weight					1390	g
Outline	KT78cT						

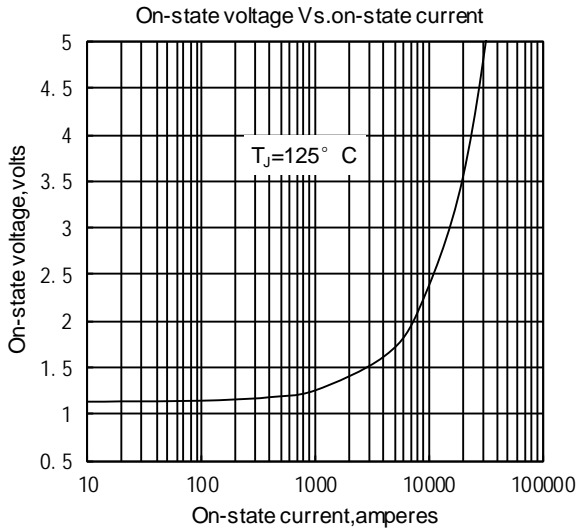


Fig.1

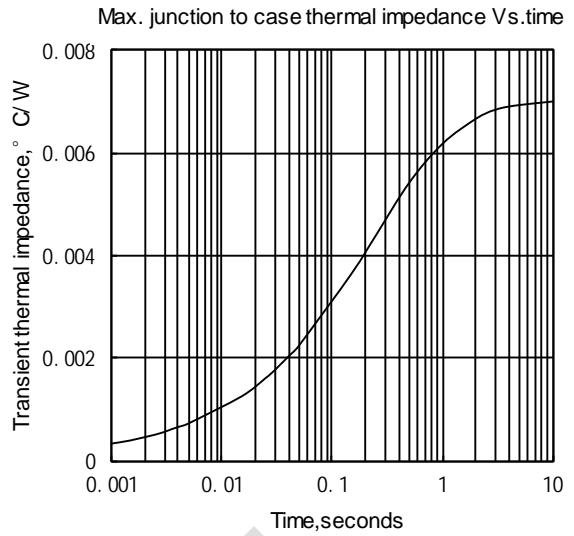


Fig.2

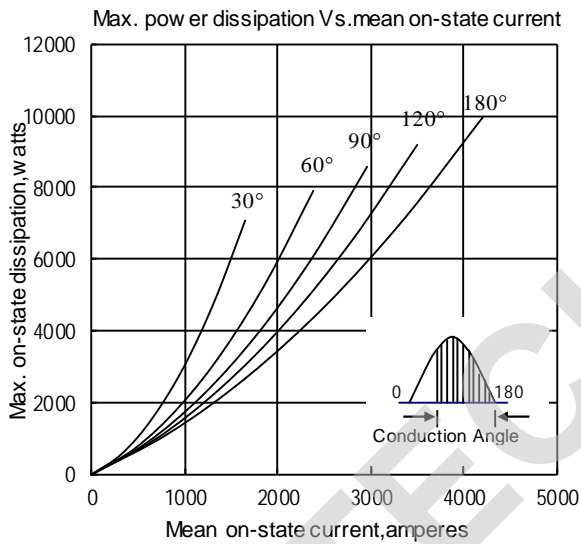


Fig.3

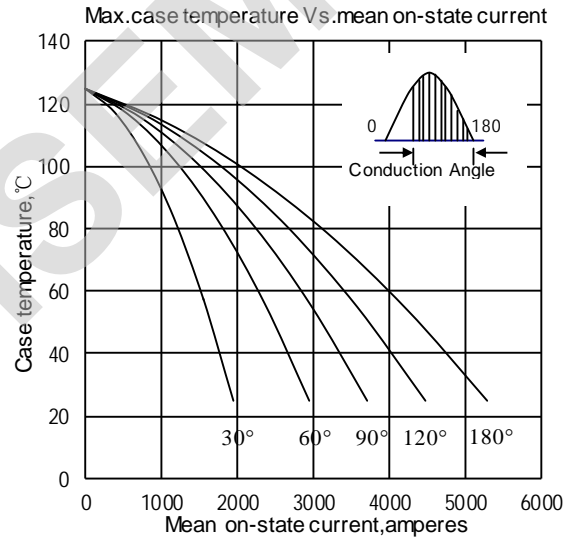


Fig.4

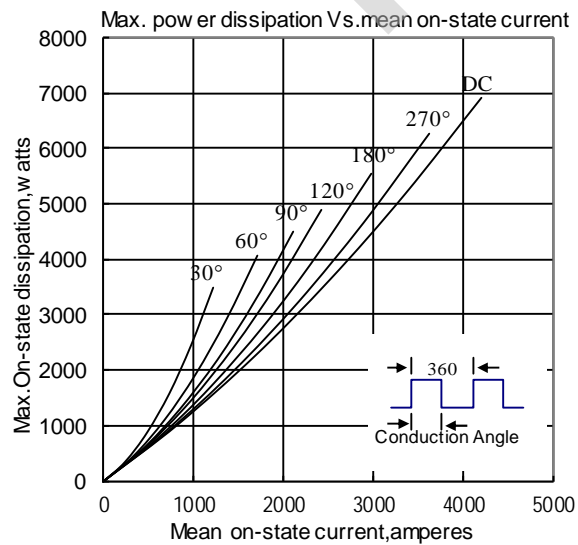


Fig.5

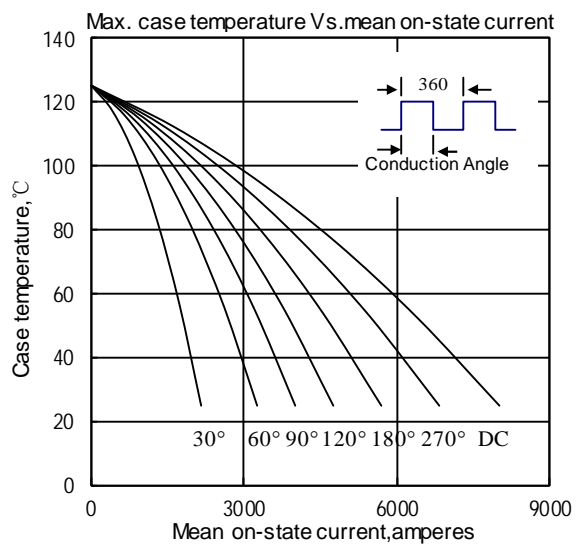


Fig.6

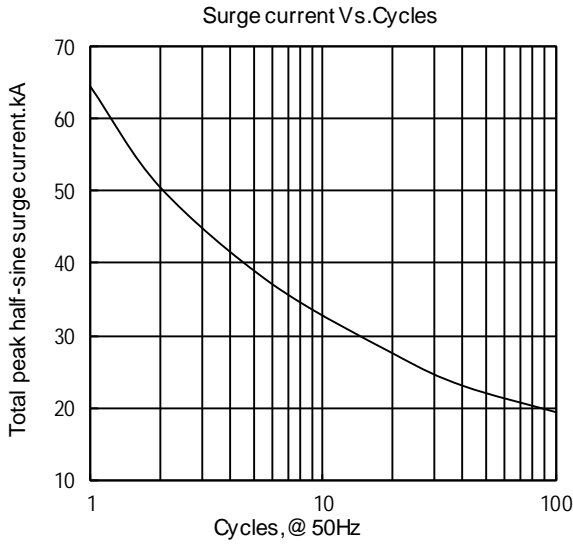


Fig.7

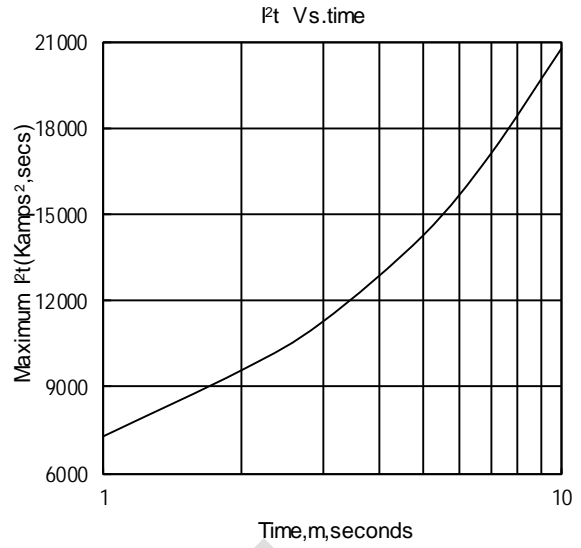


Fig.8

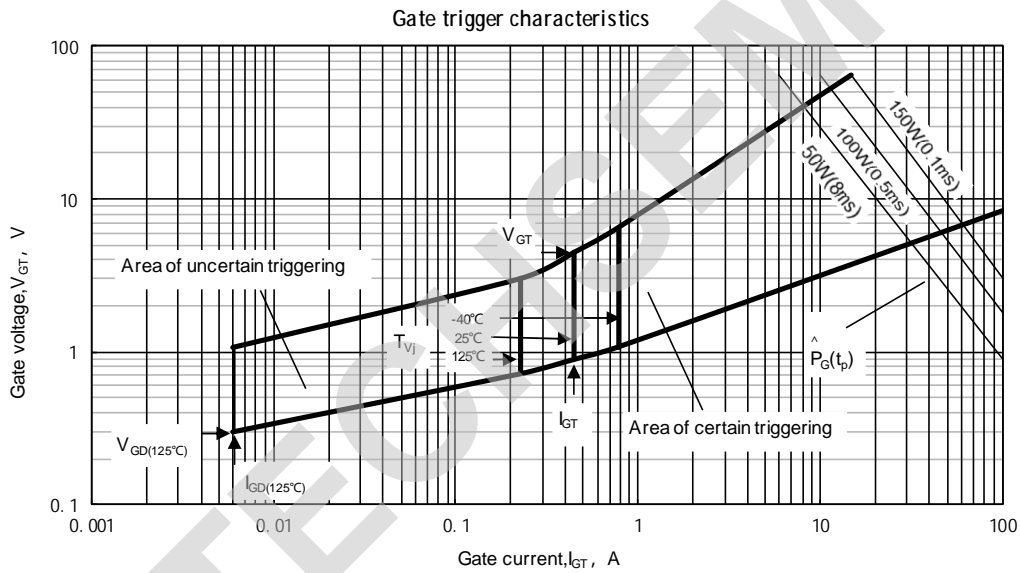
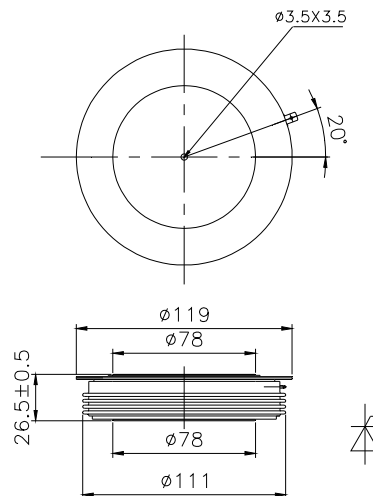


Fig.9

Outline:



TECHSEM reserves the right to change specifications without notice.