

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. H89KKM-KT78c(d)T

I_{T(AV)}	2200A
V_{DRM}, V_{RRM}	4500V 4800V
	5000V 5200V
t_q	50~150µs

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 =70°C	125			2200	A
V _{DRM} V _{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	4500		5200	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			30	kA
I ² t	I ² t for fusing coordination	V _R =0.6V _{RRM}				4500	A ² s*10 ³
V _{TO}	Threshold voltage		125			1.67	V
r _T	On-state slope resistance					0.33	mΩ
V _{TM}	Peak on-state voltage	I _{TM} =2200A, F=70kN	25			3.20	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 4000A Gate pulse t _r ≤0.5µs I _{GM} =1.5A	125			300	A/µs
Q _{rr}	Recovery charge	I _{TM} =2000A, tp=4000µs, di/dt=-20A/µs, V _R =50V	125		5000		µC
t _q	Circuit commutated turn-off time	I _{TM} =2000A, tp=4000µs, V _R =50V dv/dt=30V/µs ,di/dt=-20A/µs	125	50		150	µs
I _{GT}	Gate trigger current			50		250	mA
V _{GT}	Gate trigger voltage	V _A =12V, I _A =1A	25	0.9		2.5	V
I _H	Holding current			40		1000	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	At 180° sine double side cooled				0.007	°C/W
R _{th(c-h)}	Thermal resistance case to heat sink	Clamping force 70kN				0.002	
F _m	Mounting force			63		84	kN
T _{vj}	Junction temperature			-40		125	°C
T _{stg}	Stored temperature			-40		140	°C
W _t	Weight					1390/ 1920	g
Outline	KT78cT/KT78dT						

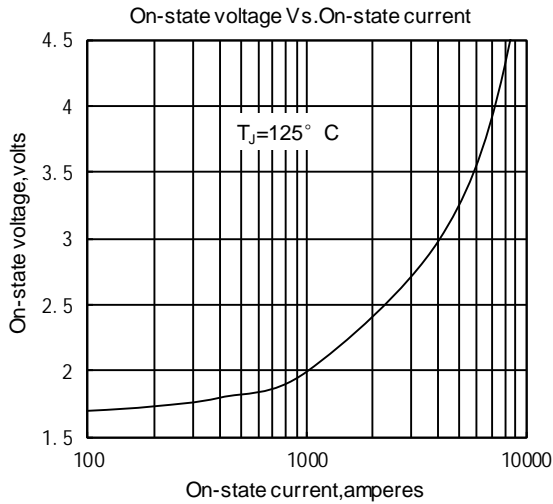


Fig.1

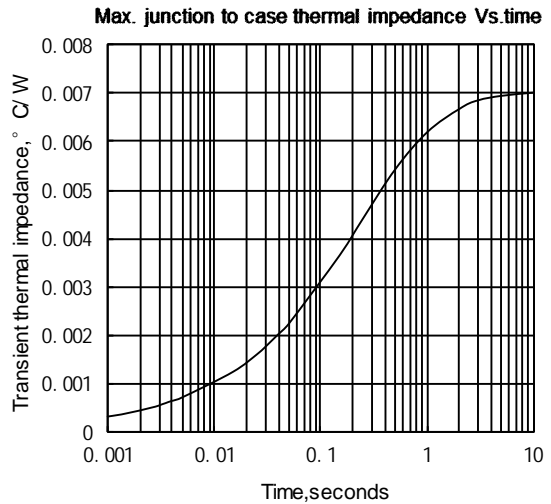


Fig.2

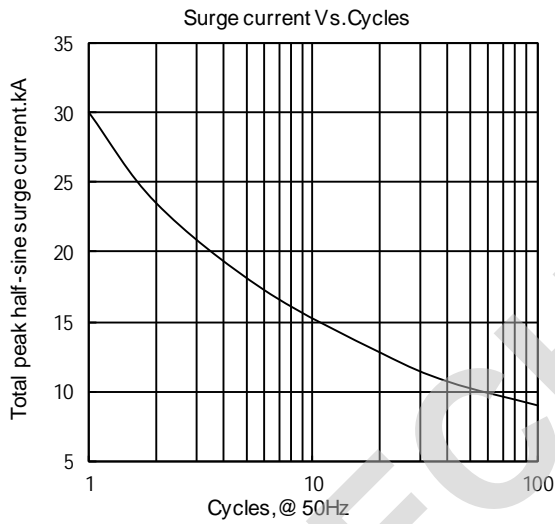


Fig.3

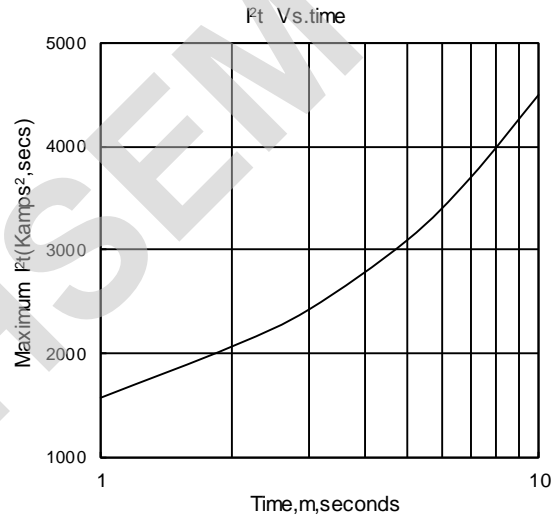


Fig.4

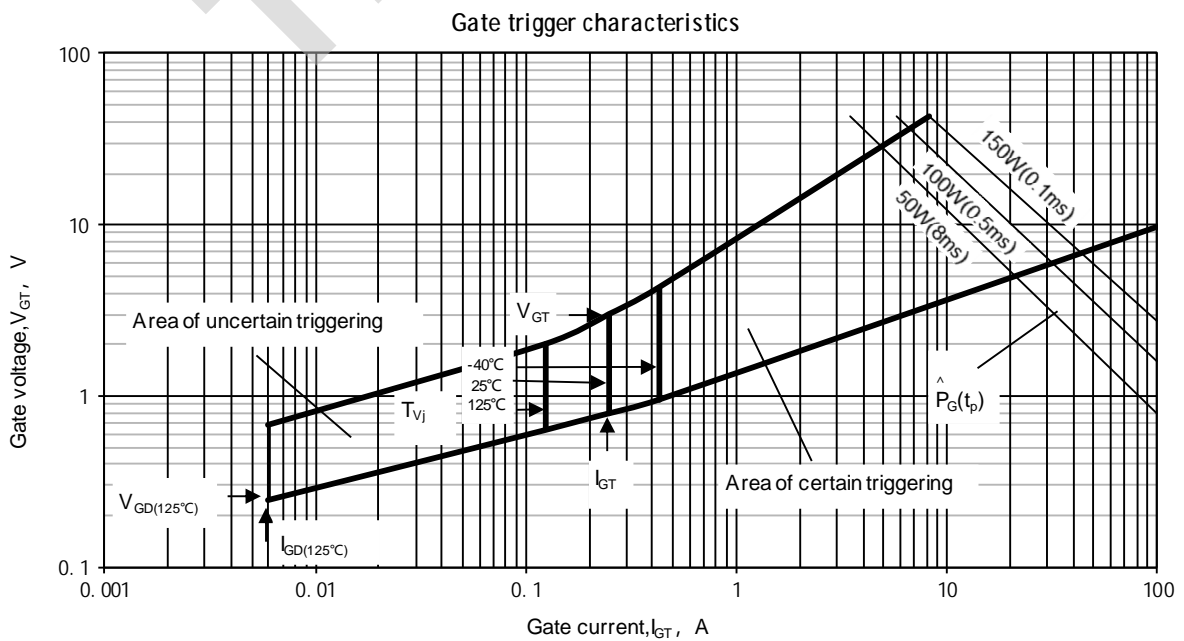
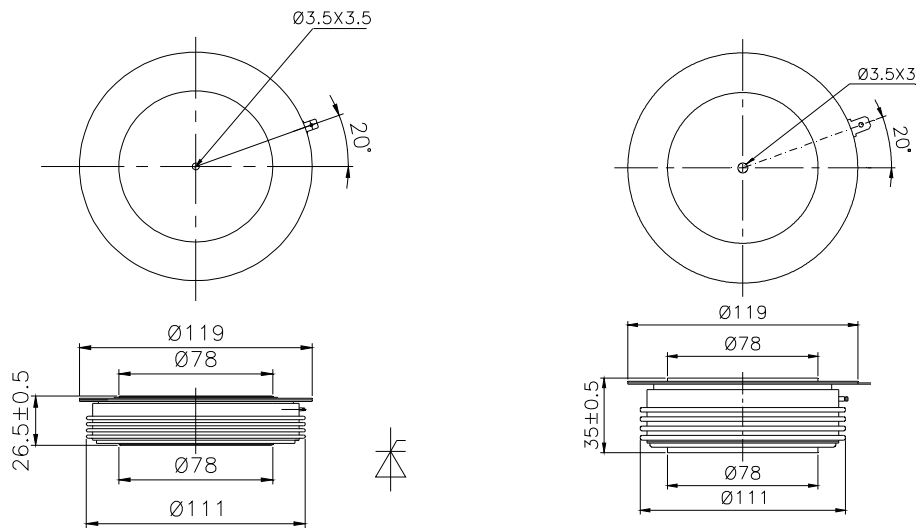


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.

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