



Features

- Center amplifying gate
- Metal case with ceramic insulator
- Low on-state and switching losses

Typical Applications

- AC controllers
- DC and AC motor control
- Controlled rectifiers

Part No. H89KPJ –KT78cT

I_{T(AV)}	4000 A
V_{DRM}, V_{RRM}	3600V 4000V
	4200V

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			3500	A
			T _C =55°C	125			4000	A
V _{DRM} V _{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	125	3600		4200	V	
I _{DRM} I _{RRM}	Repetitive peak current	at V _{DRM} at V _{RRM}	125			400	mA	
I _{TSM}	Surge on-state current	10ms half sine wave	125			52	kA	
I ² t	I ² t for fusing coordination	V _R =0.6V _{RRM}					13520	10 ³ A ² s
V _{TO}	Threshold voltage		125			0.95	V	
r _T	On-state slope resistance						0.18	mΩ
V _{TM}	Peak on-state voltage	I _{TM} =3000A, F=70kN	25			1.56	V	
dv/dt	Critical rate of rise of off-state voltage	V _{DM} =0.67V _{DRM}	125			2000	V/μs	
di/dt	Critical rate of rise of on-state current	V _{DM} = 67%V _{DRM} Gate pulse tr ≤0.5μs I _{GM} =1.5A	125			200	A/μs	
Q _{rr}	Recovery charge	I _{TM} =2000A, tp=4000μs, di/dt=-5A/μs, V _R =100V	125		3000		μC	
I _{GT}	Gate trigger current	V _A =12V, I _A =1A	25	40		300	mA	
V _{GT}	Gate trigger voltage			0.8		3.0	V	
I _H	Holding current			25		200	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 70.0kN				0.0062	°C/W	
R _{th(c-hs)}	Thermal resistance case to heatsink					0.0020		
F _m	Mounting force			63	70	84	kN	
T _{vj}	Junction temperature			-40		125	°C	
T _{stg}	Stored temperature			-40		140	°C	
W _t	Weight					1390	g	
Outline	KT78cT							

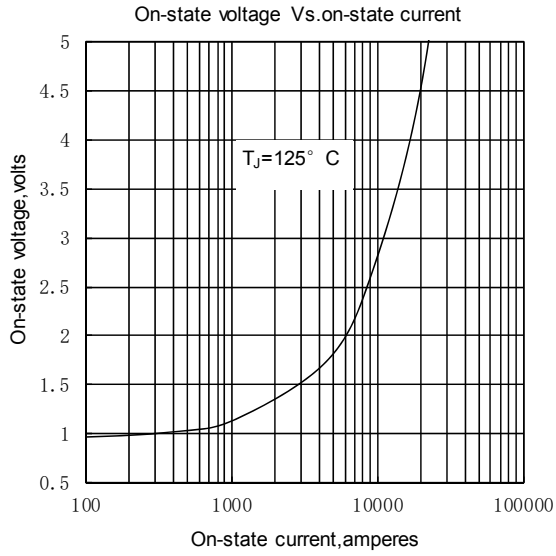


Fig.1

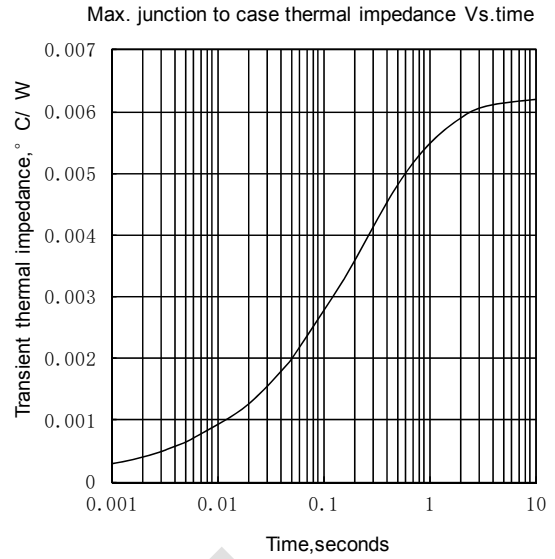


Fig.2

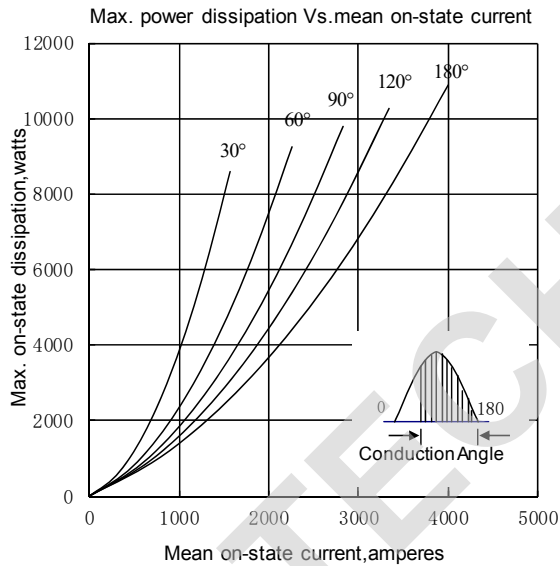


Fig.3

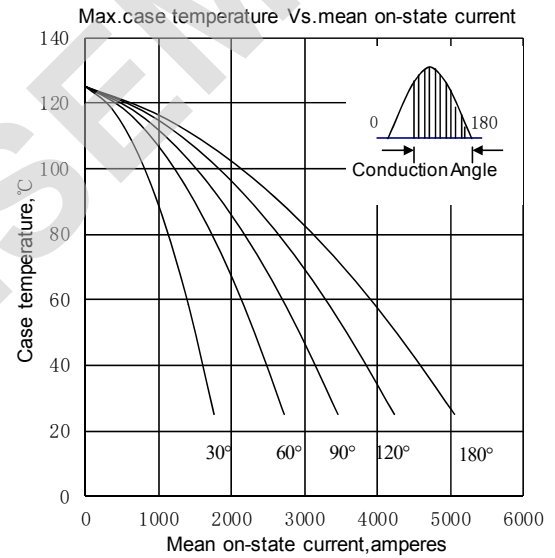


Fig.4

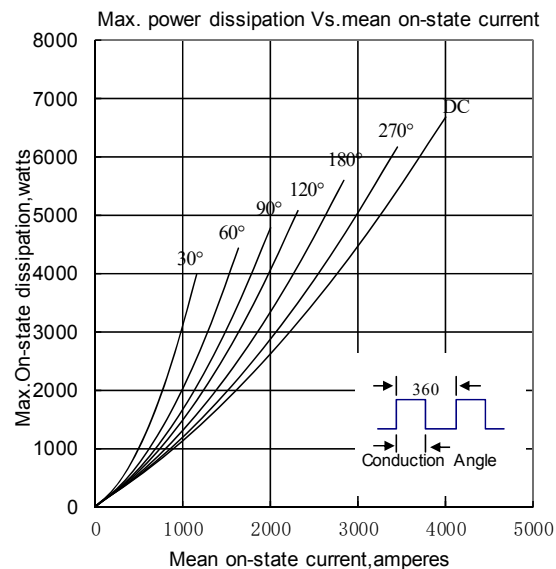


Fig.5

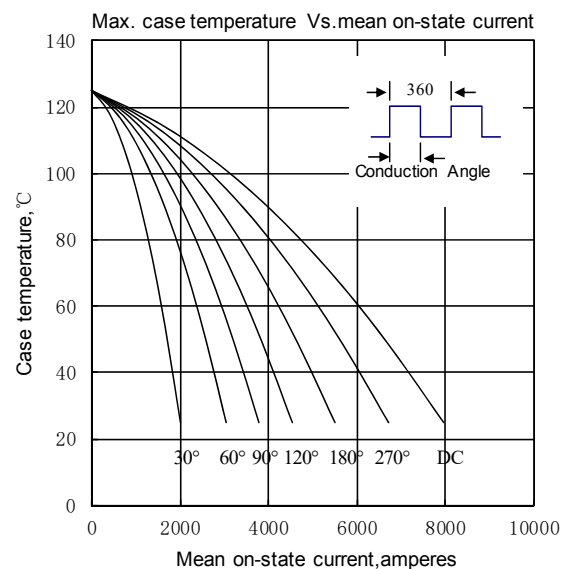


Fig.6

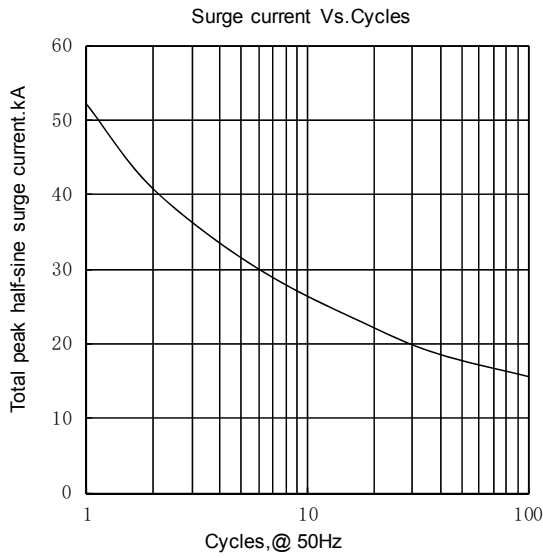


Fig.7

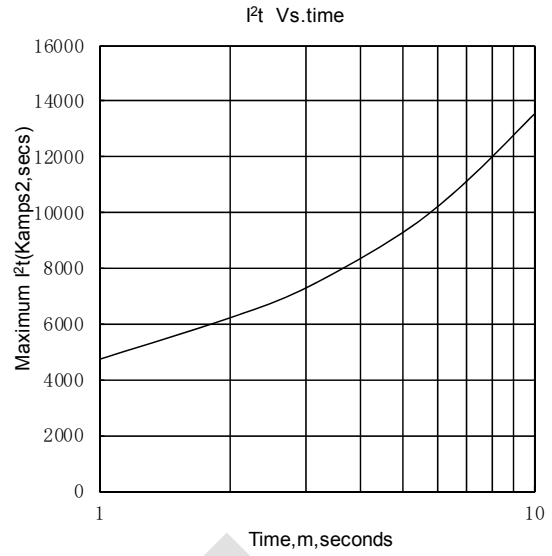


Fig.8

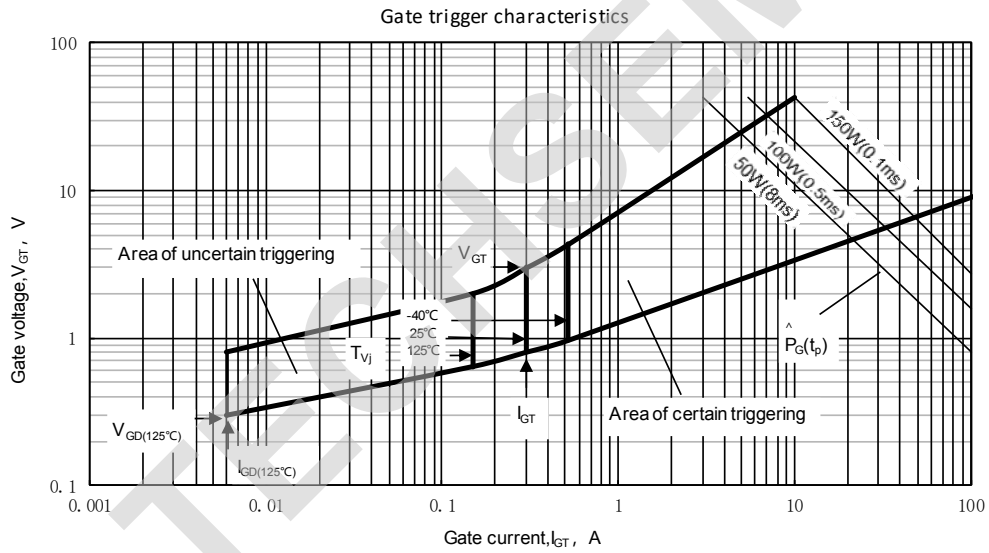
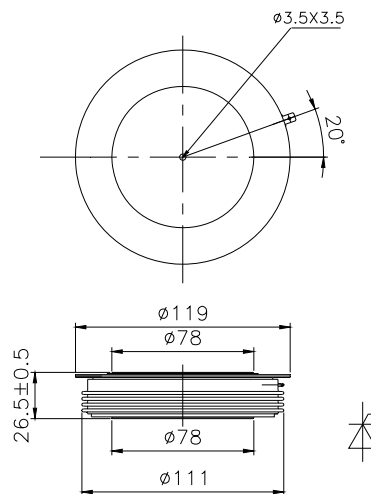


Fig.9

Outline:



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