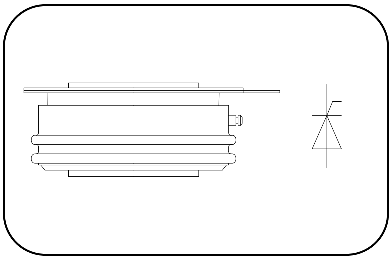
KK1800A/1200-1800V
FAST TURN-OFF THYRISTOR

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

Typical Applications
- Inductive heating
- Electronic welders
- Self-commutated inverters

$I_{T(AV)}$	**1800A**
V_{DRM}/V_{RRM}	**1200~1800V**
t_q	**18~37µs**
I_{TSM}	**21 kA**
I^2t	**2205 10^3A^2S**



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		1800	2080	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM}&V_{RRM} , tp=10ms V_{DSM}&V_{RSM}= V_{DRM}&V_{RRM}+100V	125	1200		1800	V
I_{DRM} I_{RRM}	Repetitive peak current	V_D= V_{DRM} V_R= V_{RRM}	125			140	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			21	kA
I^2t	I^2T for fusing coordination					2205	A^2s*10^3
V_{TO}	Threshold voltage		125			1.41	V
r_T	On-state slop resistance					0.23	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=4000A, F=32kN	25			3.15	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}, ITM=(2-3)IT(AV),t=5s , Gate pulse t_r≤0.5µs I_{GM}=1.5A f=50Hz	125			600	A/µs
Q_{rr}	Recovery charge	I_{TM}=1800A,tp=1000µs, di/dt=-20A/µs,V_R=100V	125		860		µC
tq	Circuit commutated turn-off time	I_{TM}=1800A,tp=1000µs, V_R =100V dv/dt=30V/µs ,di/dt=-20A/µs	125	18		37	µs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	40		250	mA
V_{GT}	Gate trigger voltage			0.9		2.5	V
I_H	Holding current			20		400	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 180^0 sine, double side cooled Clamping force 32kN				0.013	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.0035	
F_m	Mounting force			27		36	kN
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				820/1080		g
Outline	KT70cT/dT						

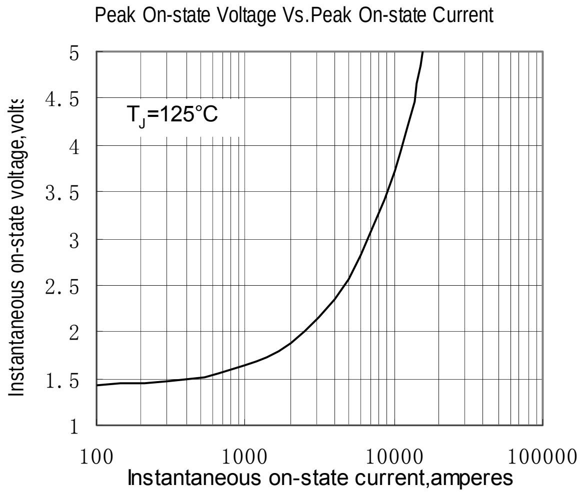

Peak On-state Voltage Vs.Peak On-state Current

Fig.1

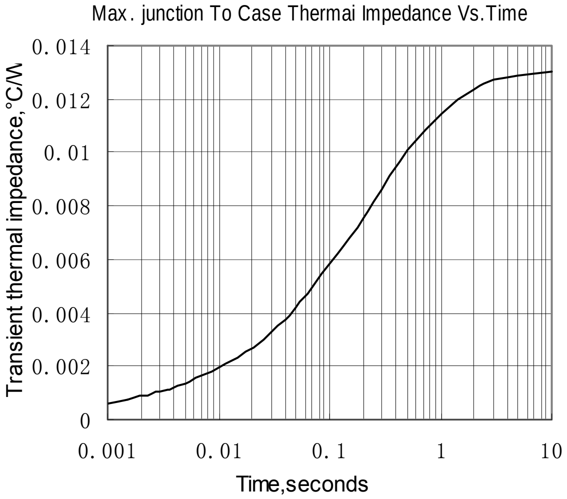

Max. junction To Case Thermai Impedance Vs.Time

Fig.2

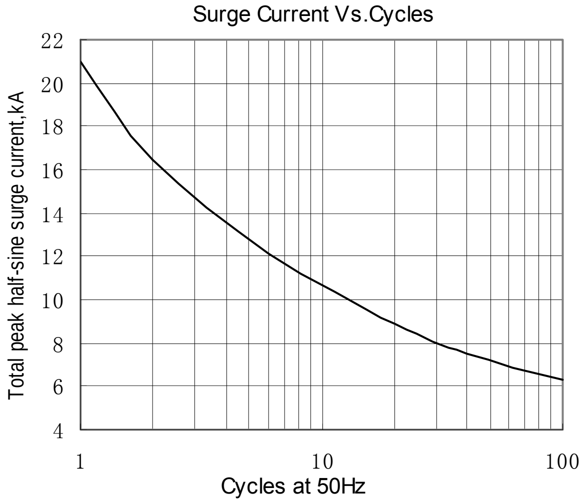

Surge Current Vs.Cycles

Fig.3

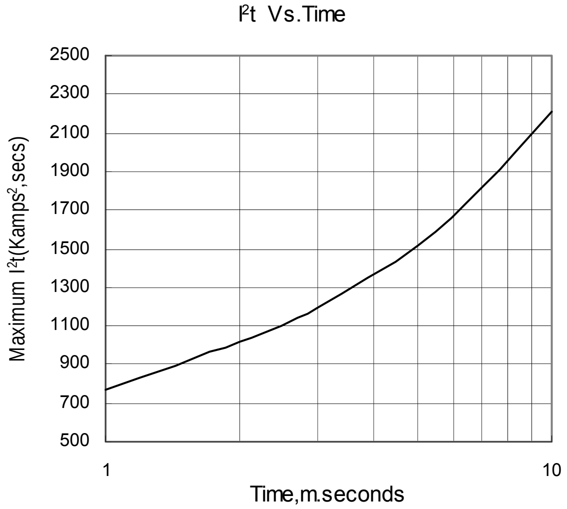

I^2t Vs.Time

Fig.4

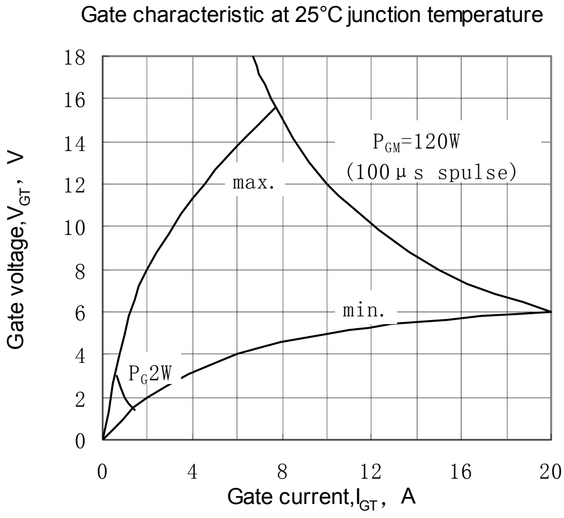

Gate characteristic at 25°C junction temperature

Fig.5

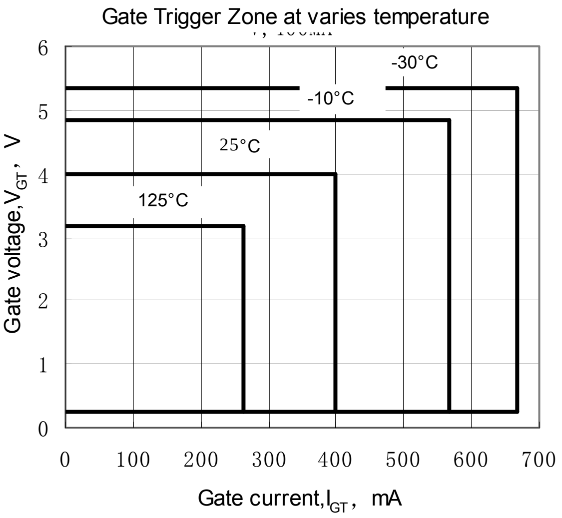

Gate Trigger Zone at varies temperature

Fig.6

Outline:

图12-KT70cT

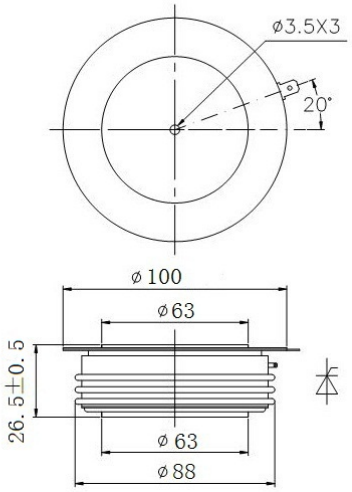


图13-KT70dT