

Features

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

Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

$I_{T(AV)}$	820A
V_{DRM}/V_{RRM}	800~1800V
t_q	18~50μs
I_{TSM}	9.0kA
I^2t	405 10³A²S



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			820	A
			T _C =85°C			550	
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	800		1800	V
I _{DRM} I _{RRM}	Repetitive peak current	V _D = V _{DRM} V _R = V _{RRM}	125			40	mA
I _{TSM}	Surge on-state current	10ms half sine wave	125			9.0	kA
I ² t	I ² T for fusing coordination	V _R =0.6V _{RRM}				405	A ² s*10 ³
V _{TO}	Threshold voltage		125			1.36	V
r _T	On-state slop resistance					0.53	mΩ
V _{TM}	Peak on-state voltage	I _{TM} =1400A, F=15kN	125			2.10	V
dv/dt	Critical rate of rise of off-state voltage	V _{DM} =0.67V _{DRM}	125			500	V/μs
di/dt	Critical rate of rise of on-state current	V _{DM} = 67%V _{DRM} to 1000A, Gate pulse t _r ≤0.5μs I _{GM} =1.5A	125			1200	A/μs
Q _{rr}	Recovery charge	I _{TM} =1000A, tp=2000μs, di/dt=-60A/μs, V _R =50V	125		460		μC
t _q	Circuit commutated turn-off time	I _{TM} =800A, tp=1000μs, V _R =50V dv/dt=30V/μs, di/dt=-20A/μs	125	18		50	μs
I _{GT}	Gate trigger current		25	40		250	mA
V _{GT}	Gate trigger voltage	V _A =12V, I _A =1A		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° sine double side cooled Clamping force 15kN				0.035	°C /W
R _{th(c-h)}	Thermal resistance case to heat sink					0.008	
F _m	Mounting force			10		20	kN
T _{stg}	Stored temperature			-40		140	°C
W _t	Weight				250		g
Outline	KT33cT						

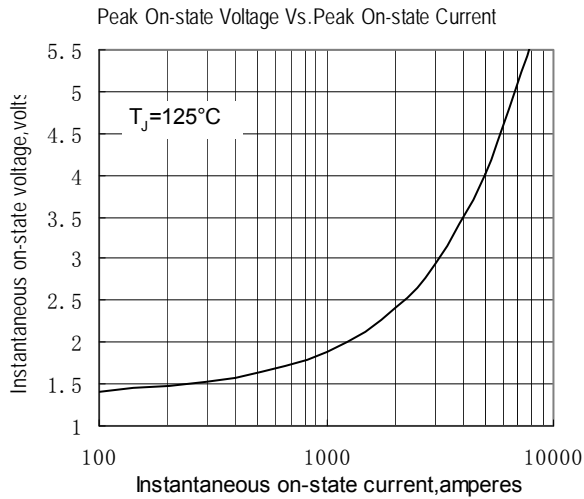


Fig.1

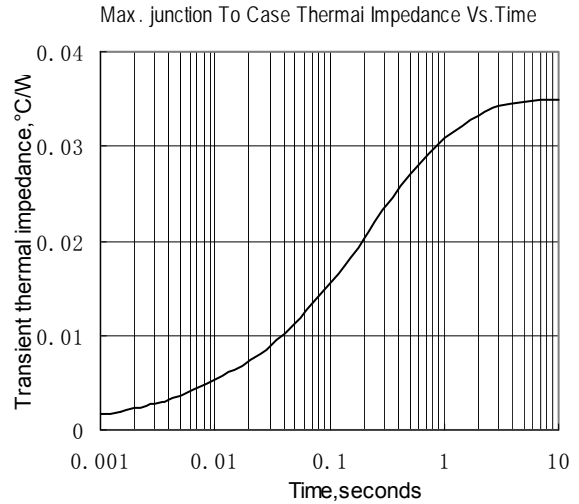


Fig.2

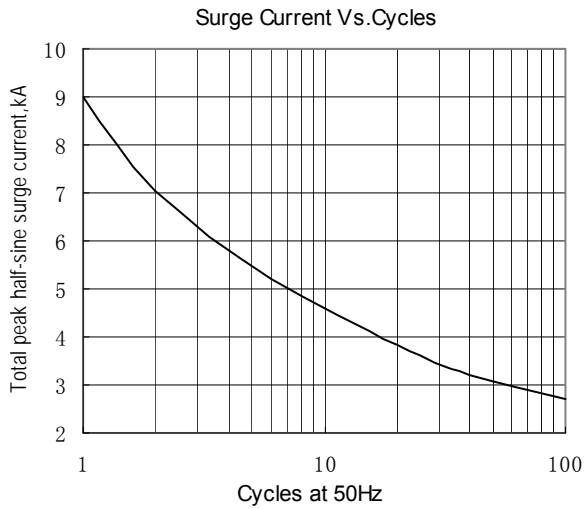


Fig.3

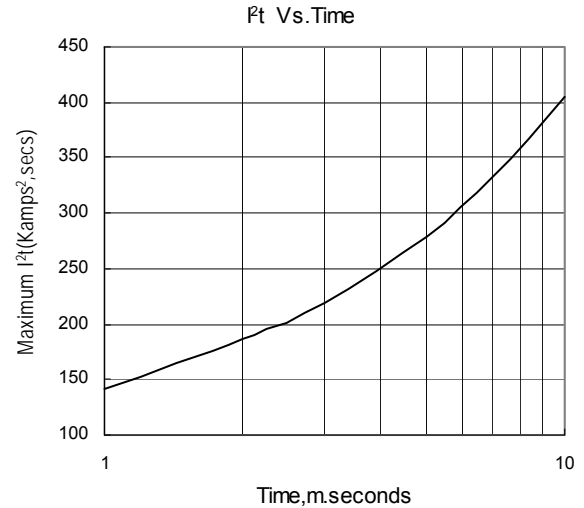


Fig.4

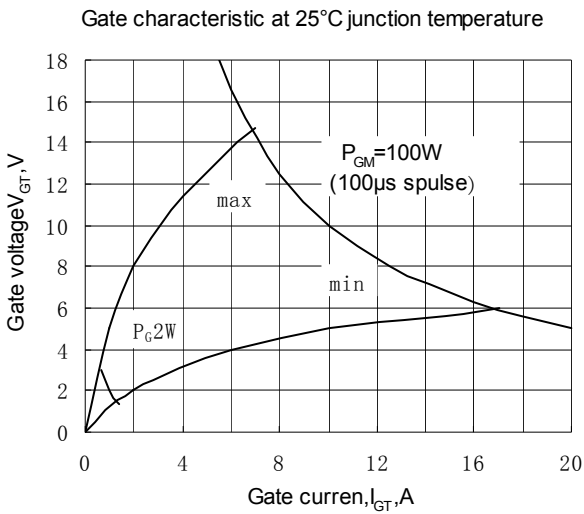


Fig.5

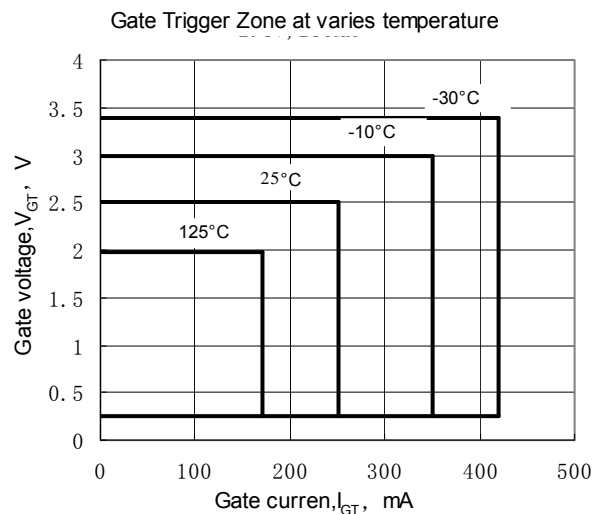


Fig.6

Outline:

