

KK1800A-E

FAST TURN-OFF THYRISTOR



Features

Interdigitated amplifying gate
Fast switch and high di/dt
Low switching loss

Application

Converter
Chopper
Induction heating

$I_{T(AV)}$	1800 A
V_{DRM}/V_{RRM}	800~1800V
t_q	16~35 μ s
I_{TSM}	19KA
I^2T	1805KA ² S

Symb.		parameter	Test Conditions	$T_{J(c)}$)	Value	Unit
Current Ratings	$I_{T(AV)}$	average on-state current	180° half sine wave 50Hz Double side cooled $T_{hs}=55^{\circ}C$	115	1800	A
	I_{TSM}	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$	115	19	KA
	I^2t	I^2t for fusing coordination		115	1805	KA ² S
Characteristics	V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM} \& V_{RRM}$ tp=10ms $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$	115	800-1800	V
	I_{DRM} I_{RRM}	Repetitive peak current	$V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$	115	Max.120	mA
	V_{TO}	Threshold voltage		115	Max.1.41	V
	V_{TM}	Peak on-state voltage	$I_{TM}=4000A$, $F=32KN$	25	Max.3.15	V
	r_T	On-state slop resistance		115	0.23	m Ω
	I_H	Holding current	$V_A=12V$, $I_A=1A$	25	20-800	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	115	Max.500	V/ μ s
	di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 2000A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	115	Max.500	A/ μ s
	t_q	Circuit commutated turn-off time	$I_{TM}=800A$, tp=1000 μ s, dv/dt=30V/ μ s di/dt=-20A/ μ s, $V_R=50V$	115	16-35	mA
	I_{rm}	Reserse recovery current	$I_{TM}=800A$, tp=1000 μ s di/dt=-20A/ μ s, $V_R=50V$	115	Typ.118	A
	t_{rr}	Reverse recovery time		115	Typ.6.85	μ s
	Q_{rr}	Recovery charge		115	Typ.419 Max.450	μ c
Gate Parameters	I_{GT}	Gate trigger current	$V_A=12V$, $I_A=1A$	25	40-400	mA
	V_{GT}	Gate trigger voltage		25	0.9-4.0	V
	V_{GD}	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	115	Min.0.3	V

Thermal & Mechanical Date

Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	Double side cooled, mounting force 32N	0.017	°C/W
F_m	Mounting force		27-34	KN
T_{stg}	Stored temperature		-40-+140	°C
W_t	Weight		850	g

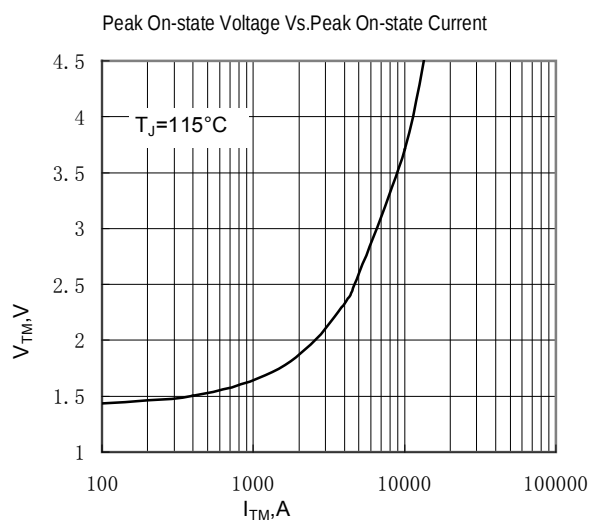


Fig.1

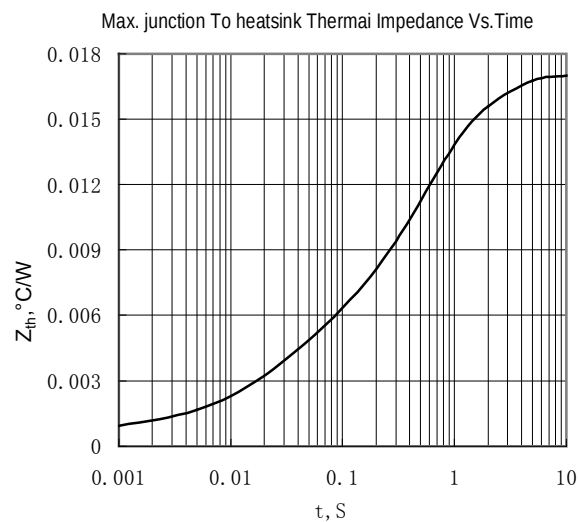


Fig.2

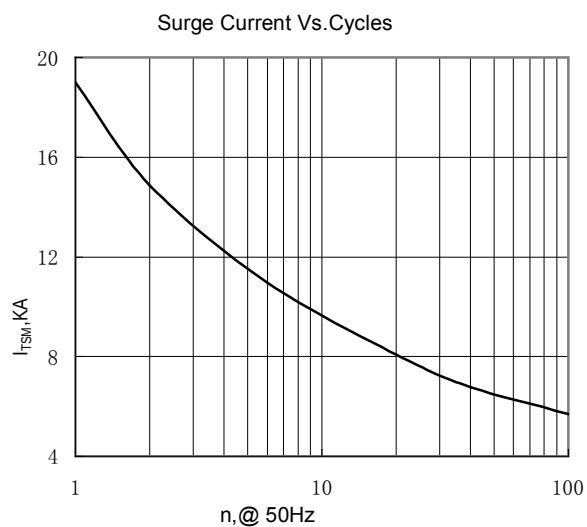


Fig.3

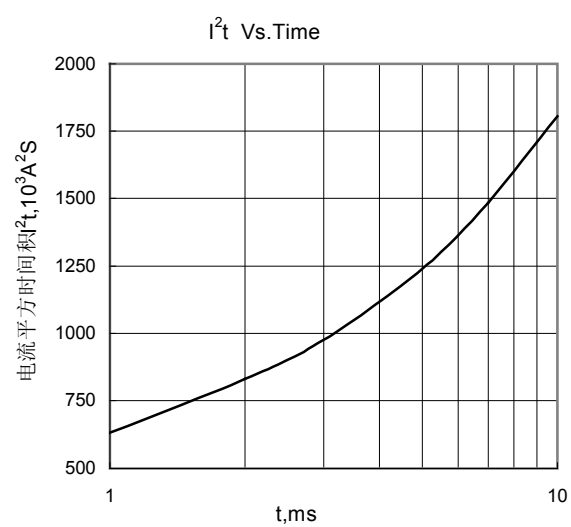
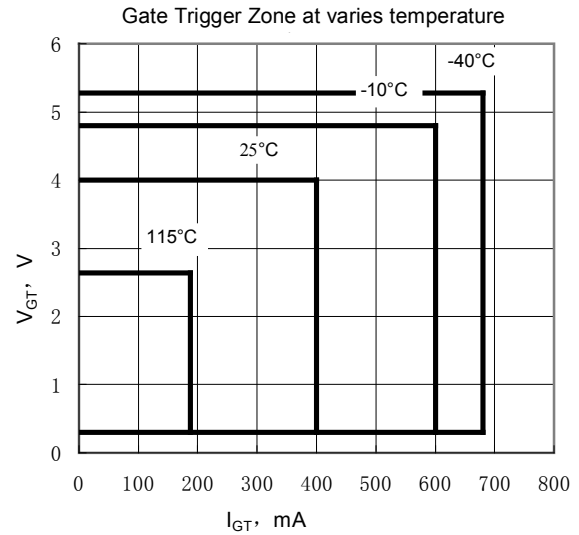
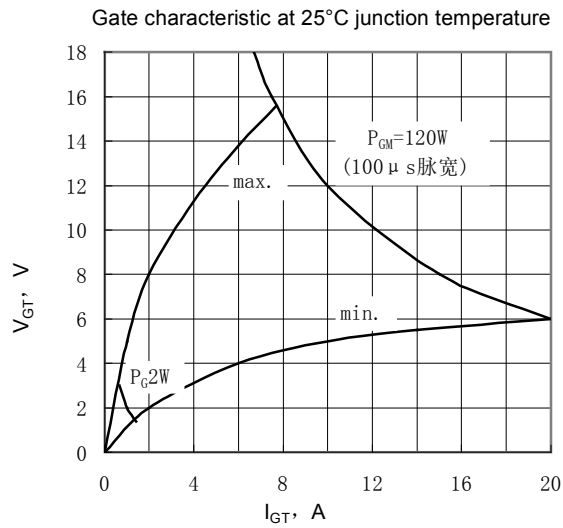
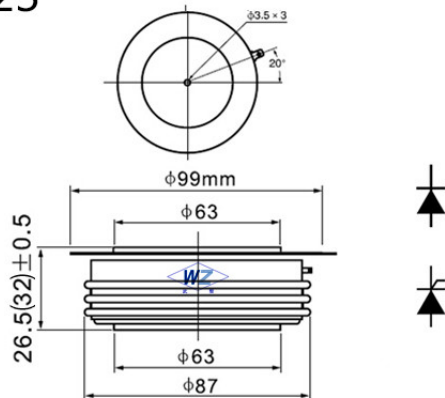


Fig.4



Dimensions:

C23



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