

# KG1000A-C

## HIGH FREQUENCY THYRISTOR



### Features

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Short turn-off time and low switching losses
- Hermetic metal cases with ceramic insulators

### Application

- Inductive heating
- Electronic welders
- Self-commutated inverters
- AC motor speed control
- General power switching applications

$I_{T(AV)}$	1000A
$V_{DRM}/V_{RRM}$	800-1200 V
$t_q$	6~10 $\mu$ s
$I_{TSM}$	12KA

Symb.		parameter	Test Conditions	$T_J$ ( $^{\circ}$ 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	50Hz	115	1000 600	A
			180°half sine wave 50Hz Double side cooled $T_{hs}=55^{\circ}$ C	10KHz			
	$I_{TSM}$	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$		115	12	KA
	$I^2t$	$I^2t$ for fusing coordination			115	720	KA <sup>2</sup> 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	800-1200	V
	$I_{DRM}$ $I_{RRM}$	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$		115	Max.80	mA
	$V_{TO}$	Threshold voltage			115	Max.1.32	V
	$V_{TM}$	Peak on-state voltage	$I_{TM}=3000A, F=21KN$		25	Max.3.2	V
	$r_T$	On-state slop resistance			115	Max.0.32	m $\Omega$
	$I_H$	Holding current	$V_A=12V, I_A=1A$		25	20-400	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$		115	Max.200	V/ $\mu$ s
	di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 1000A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$		115	Max.250	A/ $\mu$ s
	$t_q$	Circuit commutated turn-off time	$I_{TM}=800A, tp=1000\mu s,$ $V_R=50V, di/dt=-20A/\mu s$		115	6-10	$\mu$ s
	$I_{rm}$	Reserse recovery current	TM=800A, tp=1000 $\mu$ s, $V_R=50V$		115	Typ.55	
	$t_{rr}$	Reverse recovery time	dv/dt=30V/ $\mu$ s, di/dt=-20A/ $\mu$ s		115	Typ.2.8	$\mu$ s

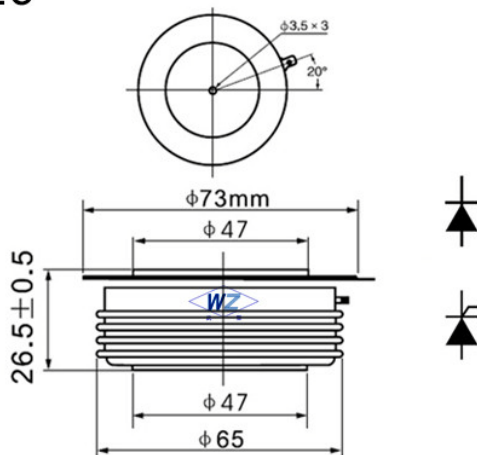
	$Q_{rr}$	Recovery charge		115	Typ.77 Max.1000	$\mu c$
<b>Gate Parameters</b>	$I_{GT}$	Gate trigger current	$V_A=12V, I_A=1A$	25	30-300	mA
	$V_{GT}$	Gate trigger voltage		25	0.8-3.0	V
	$V_{GD}$	Non-trigger gate voltage	$V_{DM}=67\% V_{DRM}$	115	Min.0.3	V

### Thermal & Mechanical Date

Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	Double side cooled, mounting force 24KN	0.024	$^{\circ}C/W$
$F_m$	Mounting force		19-26	KN
$T_{stg}$	Stored temperature		-40-+140	$^{\circ}C$
$W_t$	Weight		470	g

### Dimensions:

C20



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