

# KS1000A-E

## BI-DIRECTIONAL THYRISTOR

### Features

Two anti-parallel thyristors on one Si-wafer  
Hermetic metal cases with ceramic insulators  
Capsule packages for double sides cooling

### Application

High power industrial and power  
transmission DC and AC motor control  
AC controllers

$I_{T(RMS)}$	1000 A
$V_{DRM}/V_{RRM}$	500~1800 V
$I_{TSM}$	6.8KA
$I^2t$	231 KA <sup>2</sup> S

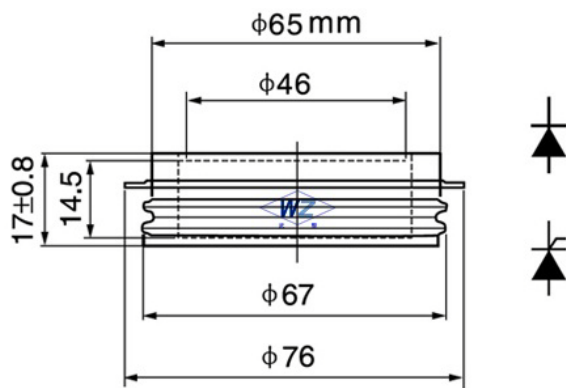
Symb.		parameter	Test Conditions	$T_{J(c)}$	Value	Unit
Current Ratings	$I_{T(RMS)}$	RMS current	180° half sine wave 50Hz Double side cooled $T_{hs}=85^{\circ}C$	125	1000	A
	$I_{T(RMS)}$	RMS current	180° half sine wave 50Hz Double side cooled $T_{hs}=55^{\circ}C$	125	1160	A
	$I_{TSM}$	Surge on-state current	10ms half sine wave	125	6.8	KA
	$I^2t$	$I^2t$ for fusing coordination	$V_R=0.6V_{RRM}$	125	231	KA <sup>2</sup> S
Characteristics	$V_{DRM}$	Repetitive peak off-state voltage	$V_{DRM}$ & $V_{RRM}$ tp=10ms	125	500-1800	V
	$V_{RRM}$	Repetitive peak reverse voltage	$V_{DSM}$ & $V_{RSM}=V_{DRM}$ & $V_{RRM}+100V$			
	$I_{DRM}$ $I_{RRM}$	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$	125	Max.50	mA
	$V_{TO}$	Threshold voltage		125	Max.1.00	V
	$V_{TM}$	Peak on-state voltage	$I_{TM}=1200A$ , F=18KN	25	Max.2.7	V
	$r_T$	On-state slop resistance		125	Max.0.85	mΩ
Dynamic Parameters	$I_H$	Holding current	$V_A=12V$ , $I_A=1A$	25	20-400	ma
	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125	Max.500	V/μs
Gate Parameters	di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 600A, Gate pulse tr ≤0.5μs $I_{GM}=1.5A$	125	Max.50	A/μs
	$I_{GT}$	Gate trigger current	$V_A=12V$ , $I_A=1A$	25	20-350	mA
$V_{GT}$	Gate trigger voltage	25		0.8-3.5	V	

## Thermal & Mechanical Data

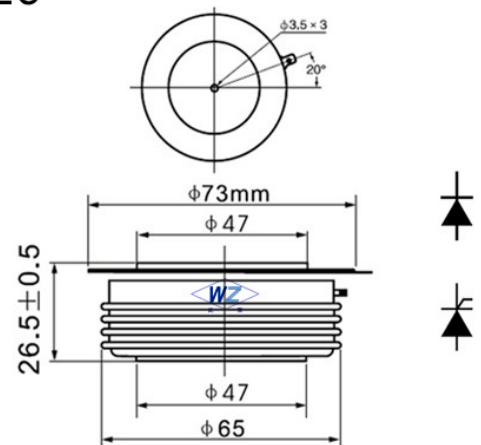
Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	At 180° sine, double side cooled Clamping force 18KN	Max0.032.	°C/W
$F_m$	Mounting force		15-20	KN
$T_{stg}$	Stored temperature		-40--+140	°C
$W_t$	Weight		360	g

### Dimensions:

C6



C20



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