

KS500A-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

$I_{T(RMS)}$	500 A
V_{DRM}/V_{RRM}	500~1800 V
I_{TSM}	4.0KA
I^2t	80KA ² S

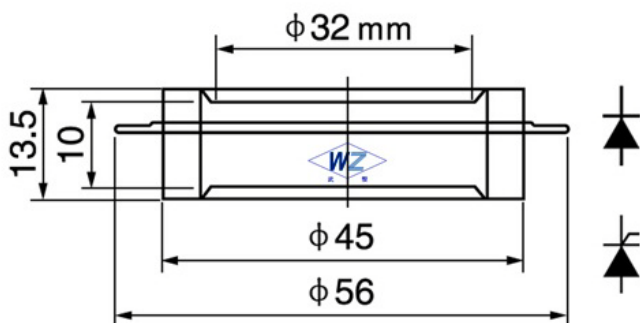
Symb.		parameter	Test Conditions	$T_{J(c)}$	Value	Unit
Current Ratings	$I_{T(RMS)}$	RMS current	180° half sine wave 50Hz Double side cooled $T_{hs}=99^{\circ}C$	125	500	A
	$I_{T(RMS)}$	RMS current	180° half sine wave 50Hz Double side cooled $T_{hs}=55^{\circ}C$	125	972	A
	I_{TSM}	Surge on-state current	10ms half sine wave	125	4.0	KA
	I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$	125	0	KA ² S
Characteristics	V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM}\&V_{RRM}$ $t_p=10ms$ $V_{DSM}\&V_{RSM}=V_{DRM}\&V_{RRM}+100V$	125	500-1800	V
	I_{DRM} I_{RRM}	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$	125	Max.40	mA
	V_{TO}	Threshold voltage		125	Max.0.90	V
	V_{TM}	Peak on-state voltage	$I_{TM}=700A, F=15KN$	25	Max.2.4	V
	r_T	On-state slop resistance		125	Max.1.02	mΩ
	I_H	Holding current	$V_A=12V, I_A=1A$	25	20-300	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125	Max.50	V/μs
	di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 600A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	125	Max.50	A/μs
Gate Parameters	I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	20-300	mA
	V_{GT}	Gate trigger voltage		25	0.8-3.0	V

Thermal & Mechanical Data

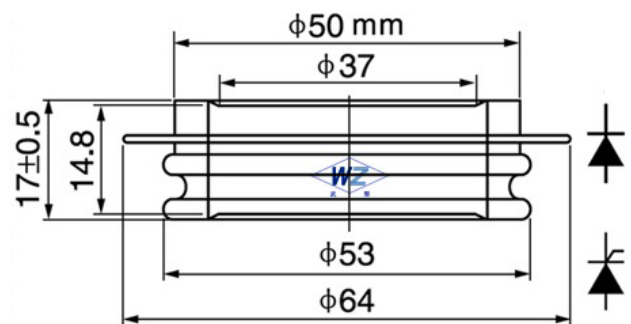
Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	Double side cooled Clamping force 15KN	Max.0.040	°C/W
F_m	Mounting force		10-20	KN
T_{stg}	Stored temperature		-40--+140	°C
W_t	Weight		110	g

Dimensions:

C3



C4



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