

ZK400A/2000V

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device

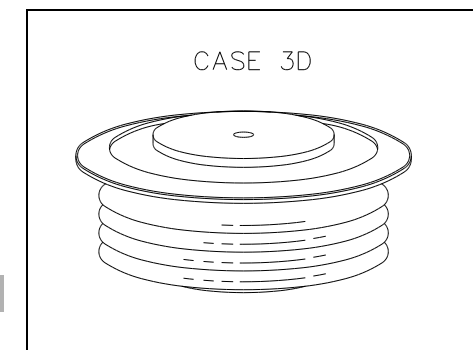
ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
ZK400A	2000	2100

V_{RRM} = Repetitive peak reverse voltage

V_{RSM} = Non repetitive peak reverse voltage (2)



Notes:

All ratings are specified for $T_j = 25^\circ\text{C}$ unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to $+125^\circ\text{C}$.

(2) 10 msec. max. pulse width

(3) Maximum value for $T_j = 125^\circ\text{C}$.

(4) See parameter definition below :

Repetitive peak reverse leakage	I_{RRM}	10 mA 50 mA (3)
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Conducting - on state

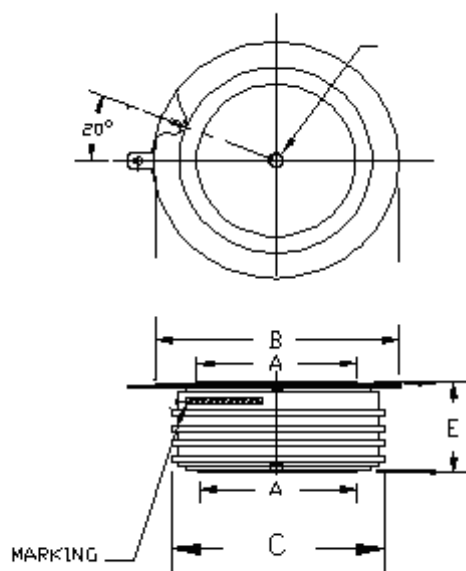
Parameter	Symbol	Min.	Max.	Typ	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		400		A	Sinewave, 180° conduction, $T_c = 78^\circ\text{C}$
RMS value of on-state current	I_{FRMS}		800		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		6500 5600		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$ 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$
I square t	I^2t		211000		A^2s	8.3 msec and 10.0 msec
Peak on-state voltage	V_{FM}		2.30		V	$I_{FM} = 1250\text{ A}$; Duty cycle $\leq 0.01\%$; T_j max
Reverse Recovery Current (4)	$I_{RM(REC)}$				A	$I_{FM} = 1000\text{ A}$; $dI_F/dt = 25\text{ A}/\mu\text{s}$; T_{jmax}
Reverse Recovery Charge (4)	Q_{rr}		*	200	μC	$I_{FM} = 1000\text{ A}$; $dI_F/dt = 25\text{ A}/\mu\text{s}$; T_{jmax}
Reverse Recovery Time (4)	t_{RR}		3.2		μs	

* For guaranteed maximum values, contact factory

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		°C	
Storage temperature	T_{stg}	-40	+125		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.043 0.086		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$		.015 .030		°C/W	Double sided cooled * Single sided cooled *
Mounting force	F	9	11		kN	

* Mounting surfaces smooth, flat and greased

ASE OUTLINE AND DIMENSIONS



A: 29 mm
B: 48 mm
C: 47 mm
E: 14.5 mm