

ZK1000A/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

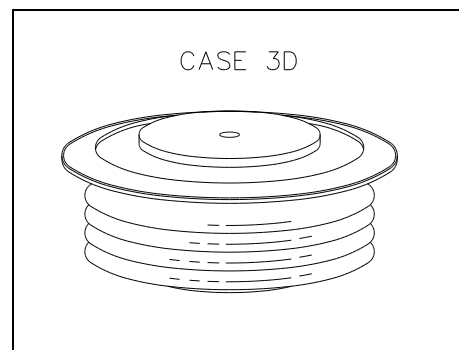
Reverse Blocking

Device Type	V _{RRM} (1)	V _{RSM} (1)
ZK1000A	2000	2100

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage	I _{RRM}	10 mA 40 mA (3)
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Notes:

All ratings are specified for T_j=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +125 °C.

(2) 10 msec. max. pulse width

(3) Maximum value for T_j = 125 °C.

(4) See parameter definition below :

Conducting - on state

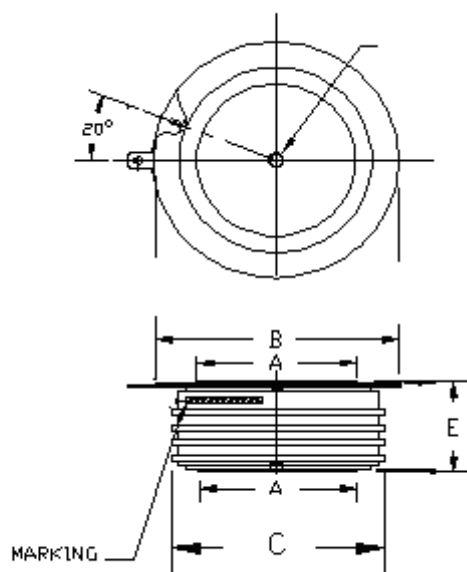
Parameter	Symbol	Min.	Max.	Typ	Units	Conditions
Average value of on-state current	I _{F(AV)}		1000		A	Sinewave, 180° conduction, T _c = 78 °C
RMS value of on-state current	I _{FRMS}		2000		A	Nominal value
Peak one cycle surge (non repetitive) current	I _{FSM}		15000 13000		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T _j = 125 °C 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 125 °C
I square t	I ² t		1050000		A ² s	8.3 msec and 10.0 msec
Peak on-state voltage	V _{FM}		2.30		V	I _{FM} = 3140 A; Duty cycle ≤ 0.01%; T _j max
Reverse Recovery Current (4)	I _{RM(REC)}				A	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Charge (4)	Q _{rr}		*	200	μC	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Time (4)	t _{RR}		4		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	13.5	16.5		kN	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



A: 34 mm

B: 58 mm

C: 53 mm

E: 26 mm