

# ZK400-RECTIFIER DIODE

Jiangsu Yangjie Runau Semiconductor Co.,Ltd

1000-1800 V<sub>RRM</sub>

\*\*\*\*\*

## FAST RECOVERY RECTIFIER DIODE

### Features:

ZT30aT

- . All diffused structure
- . High surge rating
- . Blocking capability up to 1800 volts
- . Soft recovery
- . Ceramic housing hermetic package
- . Pressure assembled device

## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

V<sub>RRM</sub> = Repetitive peak reverse voltage

V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I <sub>RRM</sub>	15 mA 20 mA (3)
---	------------------	--------------------

### Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		400		A	Sinewave 180°, T <sub>c</sub> = 70°C
RMS forward current	I <sub>FRMS</sub>		628		A	
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		6000		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 125°C
I square t	I <sup>2</sup> t		180000		A <sup>2</sup> s	8.3 msec and 10.0 msec
Peak forward voltage	V <sub>FM</sub>		2.30		V	I <sub>FM</sub> = 1200A; Duty cycle 0.01%
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>		*		A	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/ s; T <sub>j</sub> max
Reverse Recovery Charge (4)	Q <sub>rr</sub>		*		C	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/ s; T <sub>j</sub> max
Reverse Recovery Time (4)	t <sub>rr</sub>		4		s	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/ s; T <sub>j</sub> max

\* For guaranteed maximum values, contact factory

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+125		°C	
Storage temperature	$T_{stg}$	-40	+140		°C	
Thermal resistance - junction to case	$R_{jc}$	0.045 (1)	0.055 (2)		°C/W	Double sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal resistance - junction to case	$R_{jc}$	0.090 (1)	0.110 (2)		°C/W	Single sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal resistance - case to heatsink	$R_{cs}$		0.010 0.020		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P			10	kN	
Weight	W			80	g	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

