R U N A U ZW18000-Rectifier Diode

Jiangsu Runau Electronics Manufacturing Co., Ltd **200~400 V_{RRM}**

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WELDING RECTIFIER

Features:

- **All diffused structure**
- **High current density**
- **Very low forward voltage drop**
- **Ceramic housing hermetic package**
- **Ultra-low thermal resistance**

W5

ELECTRICAL CHARACTERISTICS AND RATINGS

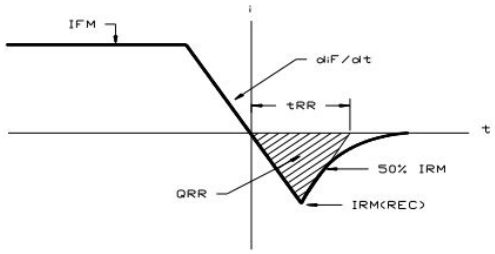
Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
ZW18000-02	200	300
ZW18000-04	400	450

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

Repetitive peak reverse leakage current	I_{RRM}	15 mA 80 mA (3)

Notes:
All ratings are specified for Tj=25 ºC, unless otherwise stated .
(1) Sine half wave, f=50Hz, Tj = -40 to +170ºC.
(2) Sine half wave, Pulse width 10 msec. Tj = -40 to +170ºC.
(3) Maximum value for Tj = 170 ºC.
(4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	$I_{F(AV)}$		18000		A	Sinewave 180º, Tc =85℃
RMS forward current	I_{FRMS}		28200		A	
Peak one cycle surge (non repetitive) current	I_{FSM}		135		KA	Pulse width 10 msec, sinusoidal wave-shape, 180º conduction, Tj = 170 ℃
I square t	I^2t		91100		KA^2s	Pulse width 10 msec, sinusoidal wave-shape, Tj = 170 ℃
Peak forward voltage	V_{FM}		0.90		V	I_{FM}= 5000A; 25℃
Threshold voltage	V_{TO}		0.74		V	Tj = 170 ℃
Slope resistance	r_T		0.016		mΩ	Tj = 170 ℃
Reverse Recovery Current (4)	$I_{RM(REC)}$				A	I_{FM} = 1000 A; dIF/dt = 10 A/µs;Tjmax
Reverse Recovery Charge (4)	Q_{rr}				µC	I_{FM} = 1000 A; dIF/dt = 10 A/µs;Tjmax
Reverse Recovery Time (4)	t_{rr}				µs	I_{FM} = 1000 A; dIF/dt = 10 A/µs;Tjmax

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+170		°C	
Storage temperature	T_{stg}	-40	+170		°C	
Thermal resistance - junction to case	$R_{\Theta (j-c)}$		0.004		°C/W	Double sided cooled
Thermal resistance - junction to case	$R_{\Theta (j-c)}$		0.008		°C/W	Single sided cooled
Creepage distance	D_S		8		mm	
Air breakdown distance	D_a		8		mm	
Mounting force	F	36	44	40	kN	
Weight	W			580	g	

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS