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WELDING DIODE

Features:

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



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V <sub>RRM</sub> (1)	V <sub>RSM</sub> (1)
ZW18000-02	200	300
ZW18000-04	400	450

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

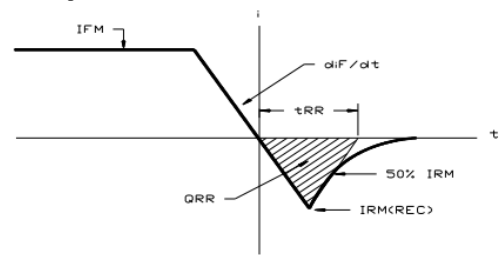
V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I <sub>RRM</sub>	15 mA 70 mA (3)
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Notes:

All ratings are specified for T<sub>j</sub>=25 °C, unless otherwise stated

- (1) Sine half wave, f=50Hz, T<sub>j</sub> = -40 to +170°C.
- (2) Sine half wave, Pulse width 10 msec. T<sub>j</sub> = -40 to +170°C.
- (3) Maximum value for T<sub>j</sub> = 170 °C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		18000		A	Sinewave 180°, T <sub>c</sub> =85°C
RMS forward current	I <sub>FRMS</sub>		28200		A	
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		135		KA	Pulse width 10 msec, sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 170 °C
I square t	I <sup>2</sup> t		91000		KA <sup>2</sup> s	Pulse width 10 msec, sinusoidal wave-shape, T <sub>j</sub> = 170 °C
Peak forward voltage	V <sub>FM</sub>		1.05		V	I <sub>FM</sub> = 5000A; 25°C
Threshold voltage	V <sub>TO</sub>		0.74		V	T <sub>j</sub> = 170 °C
Slope resistance	r <sub>T</sub>		0.016		mΩ	T <sub>j</sub> = 170 °C
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>				A	I <sub>FM</sub> = 1000 A; diF/dt = 10 A/μs; T <sub>j</sub> max
Reverse Recovery Charge (4)	Q <sub>rr</sub>				μC	I <sub>FM</sub> = 1000 A; diF/dt = 10 A/μs; T <sub>j</sub> max
Reverse Recovery Time (4)	t <sub>rr</sub>				μs	I <sub>FM</sub> = 1000 A; diF/dt = 10 A/μs; T <sub>j</sub> max

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**

