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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)
ZW12000-02	200	300
ZW12000-04	400	450

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

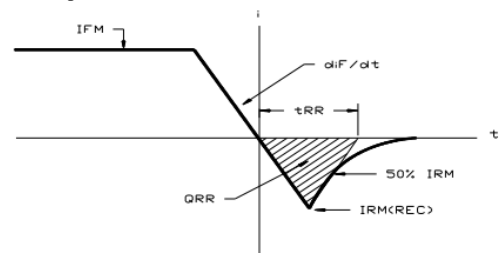
V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I <sub>RRM</sub>	15 mA 50 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>		11200		A	Sinewave 180°, T <sub>c</sub> =85°C
RMS forward current	I <sub>FRMS</sub>		17584		A	
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		85000		A	Pulse width 10 msec, sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 170 °C
I square t	I <sup>2</sup> t		36000		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>		0.019		mΩ	T <sub>j</sub> = 170 °C
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>				A	di/dt=-25A/us,IFM=1000A,VR=50V
Reverse Recovery Charge (4)	Q <sub>rr</sub>		600		μC	di/dt=-25A/us,IFM=1000A,VR=50V
Reverse Recovery Time (4)	t <sub>rr</sub>				μs	di/dt=-25A/us,IFM=1000A,VR=50V

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	$R_{\Theta(j-c)}$		0.006		°C/W	Double sided cooled
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.012		°C/W	Single sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.003		°C/W	Double sided cooled
Creepage distance	$D_s$		4		mm	
Air breakdown distance	$D_a$		4		mm	
Mounting force	F			35	kN	
Weight	W			205	g	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

