



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 _{RRM} (1)	V _{RSM} (1)
ZW13500-02	200	300
ZW13500-04	400	450

V_{RRM} = Repetitive peak reverse voltage

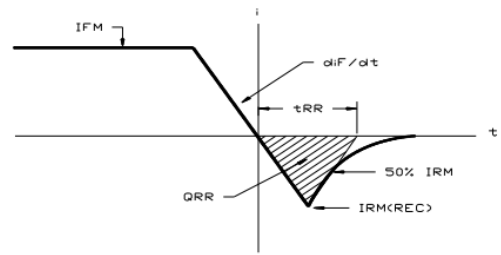
V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I _{RRM}	10 mA 75 mA (3)
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Notes:

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

- (1) Sine half wave, f=50Hz, T_j = -40 to +180°C.
- (2) Sine half wave, Pulse width 10 msec. T_j = -40 to +180°C.
- (3) Maximum value for T_j = 180 °C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I _{F(AV)}		13500		A	Sinewave 180°, T _c =85°C
RMS forward current	I _{FRMS}		21200		A	
Peak one cycle surge (non repetitive) current	I _{FSM}		85000		A	Pulse width 10 msec, sinusoidal wave-shape, 180° conduction, T _j = 180 °C
I square t	I ² t		36000		KA ² s	Pulse width 10 msec, sinusoidal wave-shape, T _j = 180 °C
Peak forward voltage	V _{FM}		1.05		V	I _{FM} = 5000A; 25°C
Threshold voltage	V _{TO}		0.76		V	T _j = 180 °C
Slope resistance	r _T		0.021		mΩ	T _j = 180 °C
Reverse Recovery Current (4)	I _{RM(REC)}				A	I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max
Reverse Recovery Charge (4)	Q _{rr}				μC	I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max
Reverse Recovery Time (4)	t _{rr}				μs	I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+180		°C	
Storage temperature	T_{stg}	-40	+180		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.0039		°C/W	Double sided cooled
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.026		°C/W	Single sided cooled
Creepage distance	D_s		2		mm	
Air breakdown distance	D_a		2		mm	
Mounting force	F	35	40	35	kN	
Weight	W			140	g	

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS

