

ZW12000- WELDING DIODE

Shanghai Sunco Electronics Co., Ltd.

200-400 V_{DRM}

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)
ZW12000-02	200	300
ZW12000-04	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 50 mA (3)
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Notes:

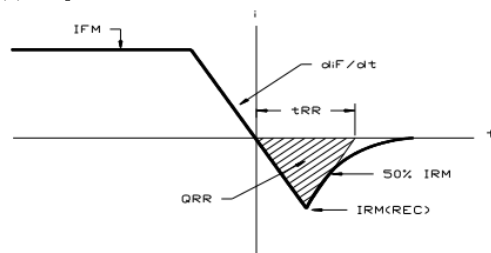
All ratings are specified for T_j=25 °C, unless otherwise stated

(1) Sine half wave, f=50Hz, T_j = -40 to +170°C.

(2) Sine half wave, Pulse width 10 msec. T_j = -40 to +170°C.

(3) Maximum value for T_j = 170 °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)}		12000		A	Sinewave 180°, T _c =85°C
RMS forward current	I _{FRMS}		18800		A	
Peak one cycle surge (non repetitive) current	I _{FSM}		85000		A	Pulse width 10 msec, sinusoidal wave-shape, 180° conduction, T _j = 170 °C
I square t	I ² t		36000		KA ² s	Pulse width 10 msec, sinusoidal wave-shape, T _j = 170 °C
Peak forward voltage	V _{FM}		1.05		V	I _{FM} = 5000A; 25°C
Threshold voltage	V _{TO}		0.74		V	T _j = 170 °C
Slope resistance	r _T		0.019		mΩ	T _j = 170 °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	+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	Double sided cooled
Creepage distance	D_s		4		mm	
Air breakdown distance	D_a		4		mm	
Mounting force	F	25	30	35	kN	
Weight	W			205	g	

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS