



High-end Power Semiconductor Manufacturer

ZP18000 - WELDING DIODE**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)
ZP18000 -02	200	300
ZP18000 -04	400	450

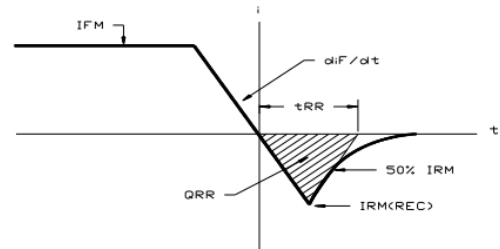
V_{RRM} = Repetitive peak reverse voltageV_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I _{RRM}	15 mA 80 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)}		18000		A	Sinewave 180°, T _c =85°C
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, 180° conduction, T _j = 170 °C
I square t	I ² t		91100		KA ² s	Pulse width 10 msec, sinusoidal wave-shape, T _j = 170 °C
Peak forward voltage	V _{FM}		0.90		V	I _{FM} = 5000A; 25°C
Threshold voltage	V _{TO}		0.74		V	T _j = 170 °C
Slope resistance	r _T		0.016		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	$R_{\Theta(j-c)}$		0.004		°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

