

ZP12000- WELDING DIODE

200-400V_{RRM}

WELDING DIODE

Features:

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

W3



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V _{RRM} (1)	V _{RSM} (1)
ZP12000-02	200	300
ZP12000-04	400	500

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage current	I _{RRM}	2 mA 50 mA (3)
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Notes:

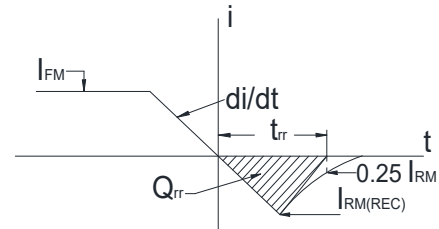
All ratings are specified for T_j=25 °C, unless otherwise stated

(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

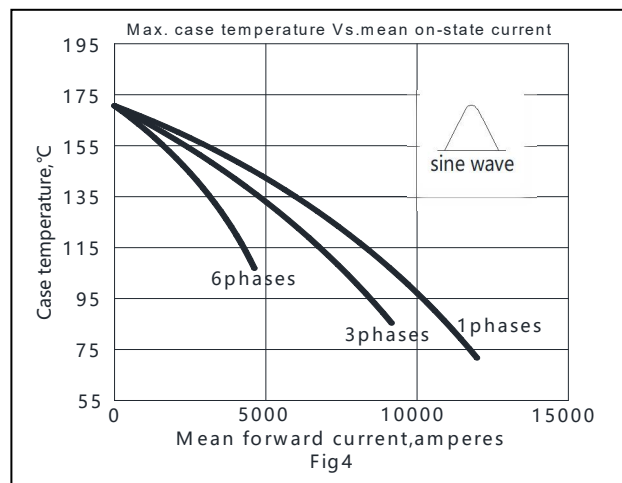
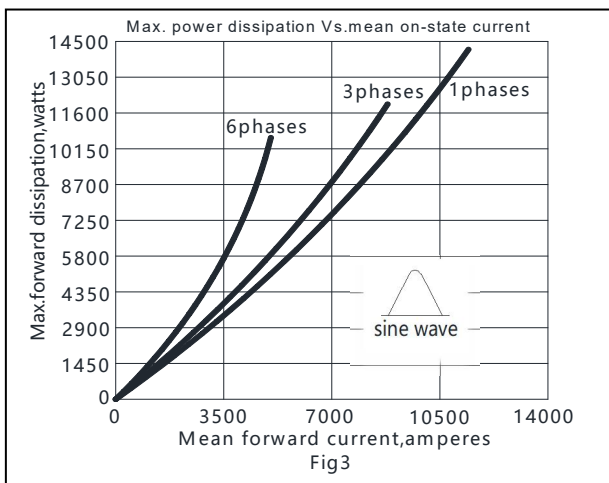
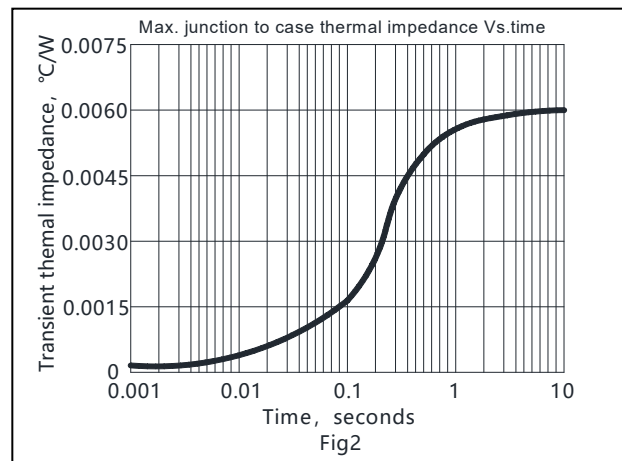
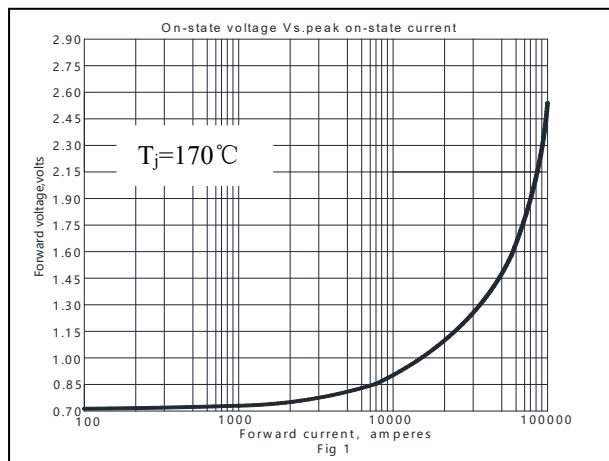
Conducting - on state

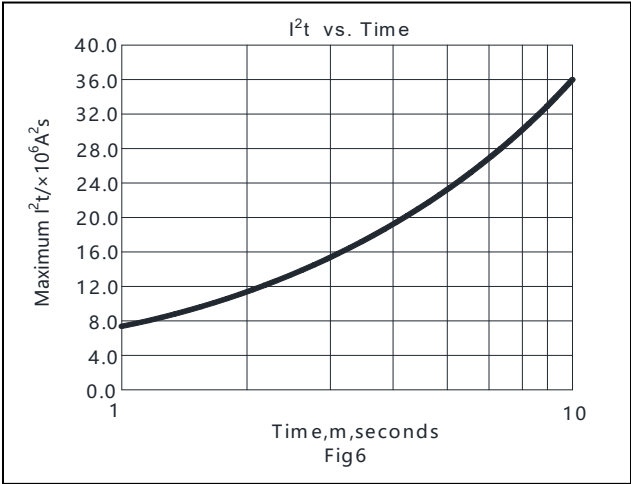
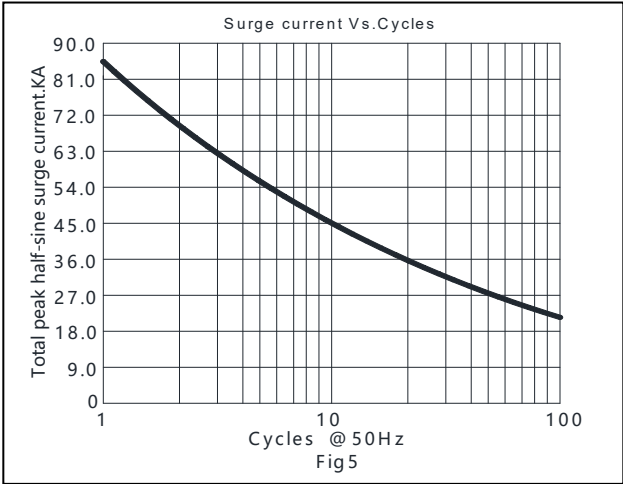
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I _{F(AV)}		12000		A	Sinewave 180°, T _c =85 °C
RMS forward current	I _{FRMS}		18840		A	
Peak one cycle surge (non repetitive) current	I _{FSM}		85000		A	Pulse width 10 msec, sinusoidal wave-shape, 180° conduction, T _j = 170 °C
I square t	I ² t		36 × 10 ⁶		A ² s	Pulse width 10 msec, sinusoidal wave-shape, T _j = 170 °C
Peak forward voltage	V _{FM}		1.01		V	I _{FM} = 5000A; T _j =25°C
Threshold voltage	V _{FO}		0.74		V	T _j =170°C
Slope resistance	r _F		0.018		mΩ	T _j =170°C
Reverse Recovery Current (4)	I _{RM(REC)}				A	di/dt=-25A/us, I _{FM} =1000A, V _R =50V
Reverse Recovery Charge (4)	Q _{rr}		600		μC	di/dt=-25A/us, I _{FM} =1000A, V _R =50V
Reverse Recovery Time (4)	t _{rr}				μs	di/dt=-25A/us, I _{FM} =1000A, V _R =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	

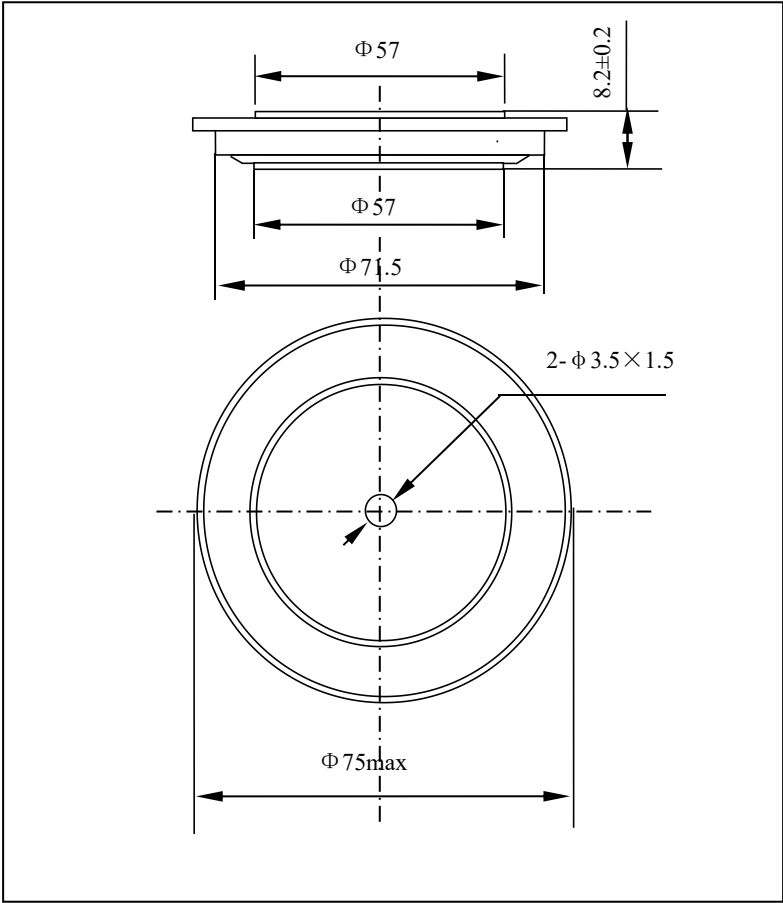
* Mounting surfaces smooth, flat and greaseless

Graph





CASE OUTLINE AND DIMENSIONS



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reserves the right to make changes without
d herein to improve reliability, function, or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, ace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), or anyone on its behalf, assumes no responsibility or liability for any damages resulting h improper use of sale.

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