



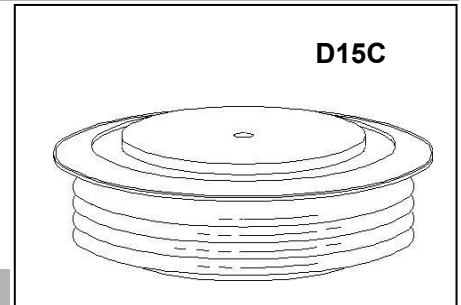
# ZP4000- RECTIFIER DIODE

2600-3600V<sub>RRM</sub>

## GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

### Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 3600 volts
- . Ceramic housing hermetic package
- . Pressure assembled device



## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

Device Type	V <sub>RRM</sub> (1)	V <sub>RSM</sub> (1)
ZP4000-26	2600	2700
ZP4000-28	2800	2900
ZP4000-30	3000	3100
ZP4000-32	3200	3300
ZP4000-34	3400	3500
ZP4000-36	3600	3700

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

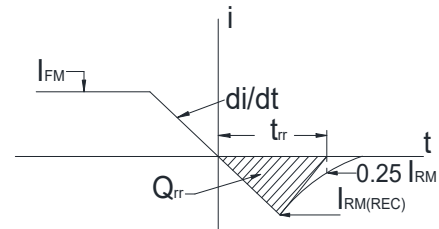
V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I <sub>RRM</sub>	5 mA 200 mA (3)
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Notes:

All ratings are specified for T<sub>j</sub>=25 °C, unless otherwise stated

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range 0 to +150 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T<sub>j</sub> = 150 °C.
- (4) See parameter definition below :



reverse recovery characteristic

### Conducting - on state

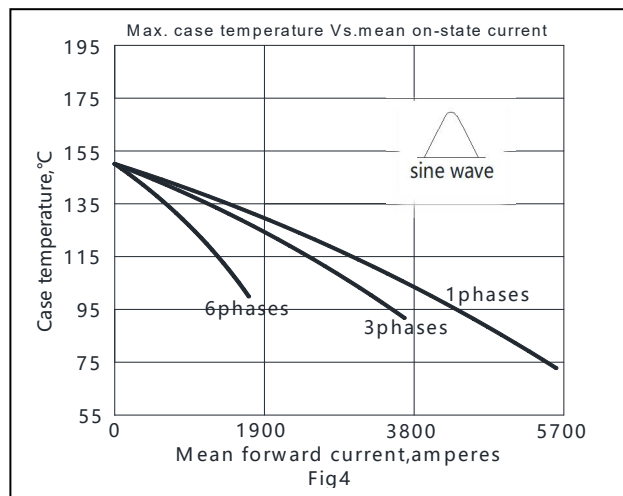
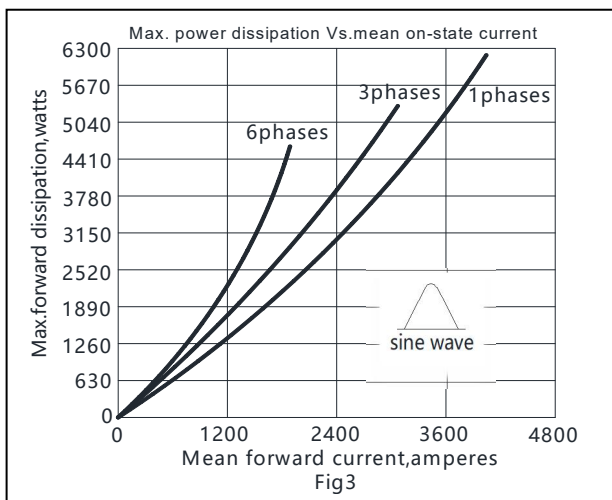
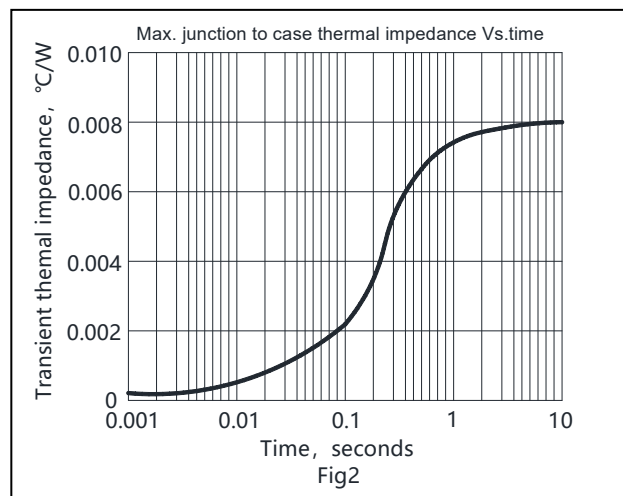
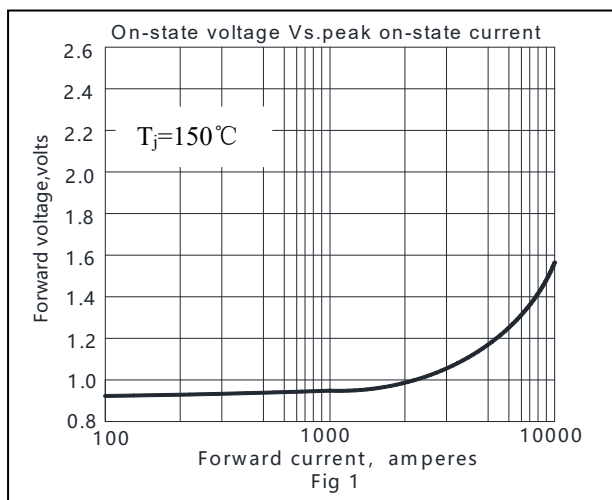
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		4000		A	Sinewave 180°, T <sub>c</sub> =100°C
RMS forward current	I <sub>FRMS</sub>		6280		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		56000		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> =150°C
I square t	I <sup>2</sup> t		15.7 × 10 <sup>6</sup>		A <sup>2</sup> s	10 msec
Peak forward voltage	V <sub>FM</sub>		1.35		V	I <sub>FM</sub> = 5000A; T <sub>j</sub> =25°C
Threshold voltage	V <sub>FO</sub>		0.83		V	T <sub>j</sub> =150°C, I = 0.5 π I <sub>F(AV)</sub> to 1.5 π I <sub>F(AV)</sub>
Slope resistance	r <sub>F</sub>		0.075		mΩ	T <sub>j</sub> =150°C, I = 0.5 π I <sub>F(AV)</sub> to 1.5 π I <sub>F(AV)</sub>
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>				A	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>jmax</sub>
Reverse Recovery Charge (4)	Q <sub>rr</sub>			6000	μC	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>jmax</sub>
Reverse Recovery Time (4)	t <sub>rr</sub>				μs	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>jmax</sub>

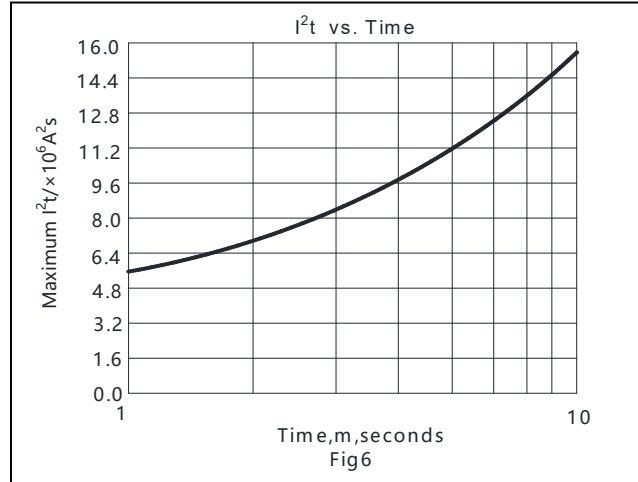
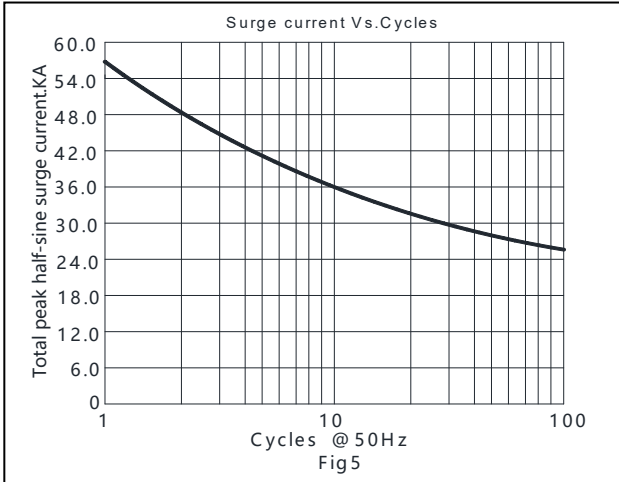
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+150		°C	
Storage temperature	$T_{stg}$	-40	+150		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.008		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\theta(c-s)}$		0.002		°C/W	Double sided cooled
Mounting force	F	55	65	60	kN	
Weight	m			1.40	kg.	

\* Mounting surfaces smooth, flat and greaseless

**Graph**

**ZP4000-RECTIFIER DIODE**





CASE OUTLINE AND DIMENSIONS

