



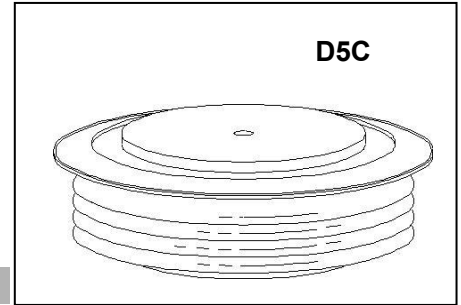
# ZP1150- RECTIFIER DIODE

1800-2400V<sub>RRM</sub>

## GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

### Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 2400 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)
ZP1150-18	1800	1900
ZP1150-20	2000	2100
ZP1150-22	2200	2300
ZP1150-24	2400	2500

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

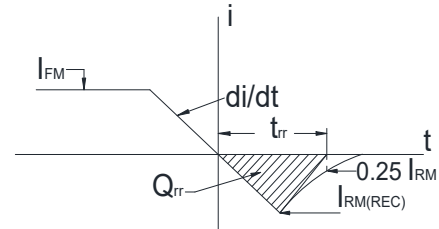
V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I <sub>RRM</sub>	2 mA 60 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 +175 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T<sub>j</sub> = 175 °C.
- (4) See parameter definition below :



reverse recovery characteristic

### Conducting - on state

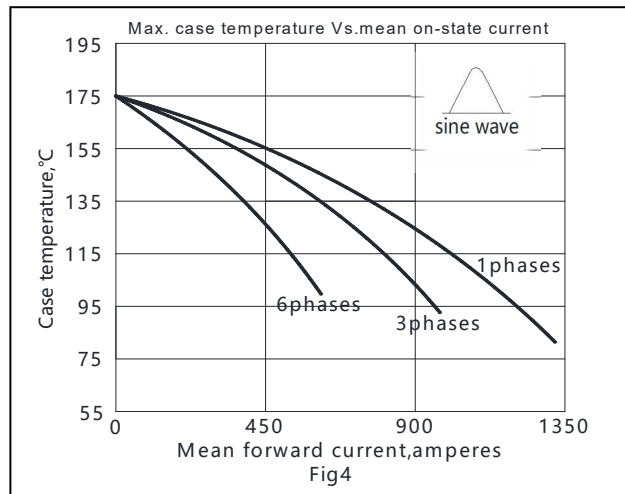
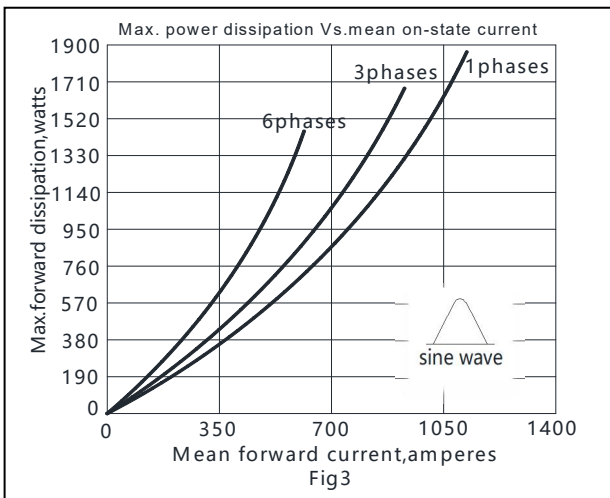
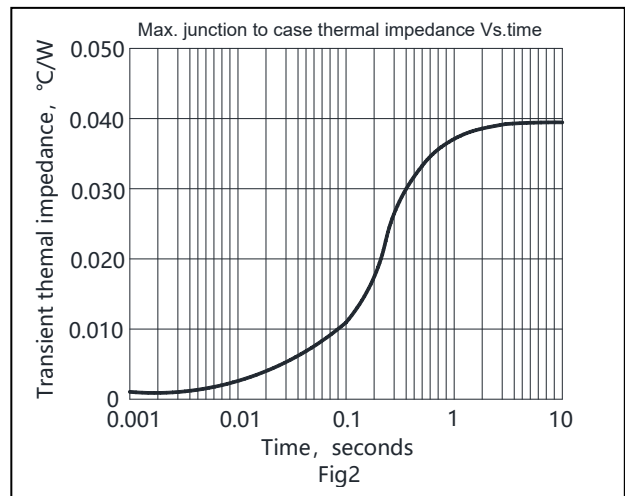
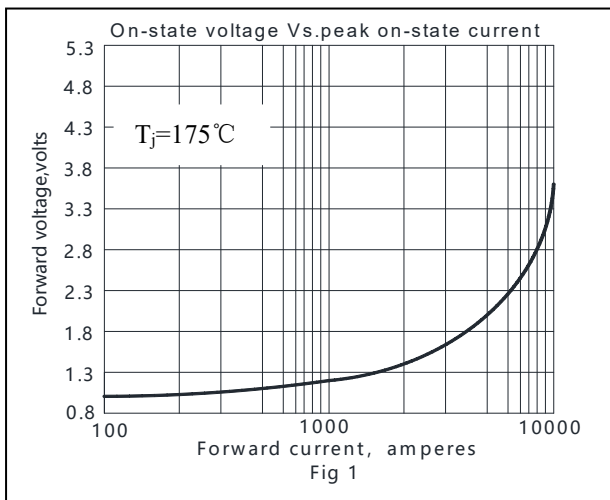
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		1150		A	Sinewave 180°, T <sub>c</sub> =100°C
RMS forward current	I <sub>FRMS</sub>		1806		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		13800		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> =175°C
I square t	I <sup>2</sup> t		9.5 × 10 <sup>5</sup>		A <sup>2</sup> s	10 msec
Peak forward voltage	V <sub>FM</sub>		1.3		V	I <sub>FM</sub> = 1500A; T <sub>j</sub> =25°C
Threshold voltage	V <sub>FO</sub>		0.82		V	T <sub>j</sub> =175°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>		0.285		mΩ	T <sub>j</sub> =175°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>			2500	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>

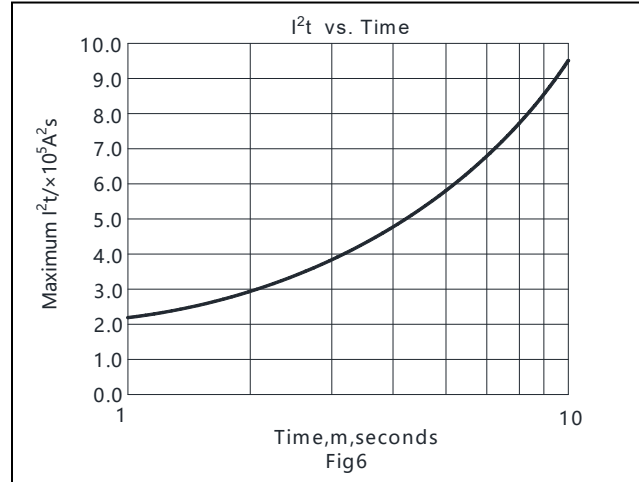
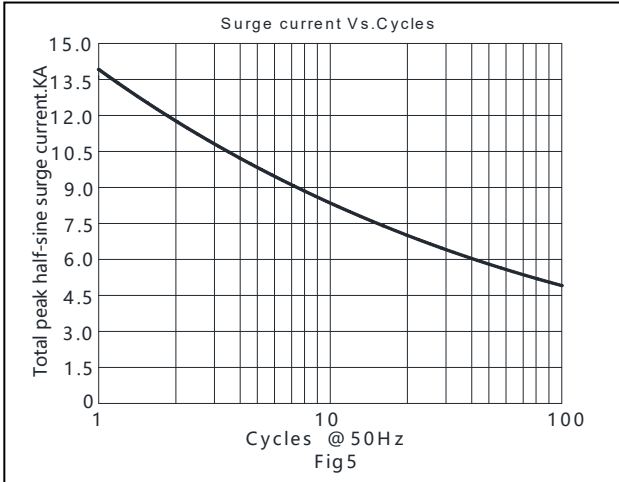
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+175		°C	
Storage temperature	$T_{stg}$	-40	+175		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.039		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\theta(c-s)}$		0.008		°C/W	Double sided cooled
Mounting force	F	13	17	15	kN	
Weight	m			0.26	kg.	

\* Mounting surfaces smooth, flat and greaseless

**Graph**

**ZP1150-RECTIFIER DIODE**





CASE OUTLINE AND DIMENSIONS

