



ZP400- RECTIFIER DIODE

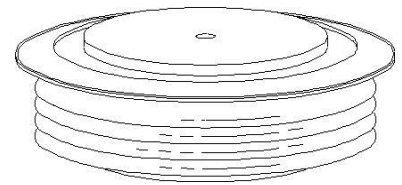
1800-2400V_{RRM}

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

D1A



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V _{RRM} (1)	V _{RSM} (1)
ZP400-18	1800	1900
ZP400-20	2000	2100
ZP400-22	2200	2300
ZP400-24	2400	2500

V_{RRM} = Repetitive peak reverse voltage

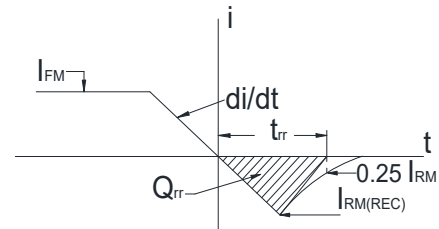
V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I _{RRM}	2 mA 30 mA (3)
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Notes:

All ratings are specified for T_j=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_j = 175 °C.
- (4) See parameter definition below :



reverse recovery characteristic

Conducting - on state

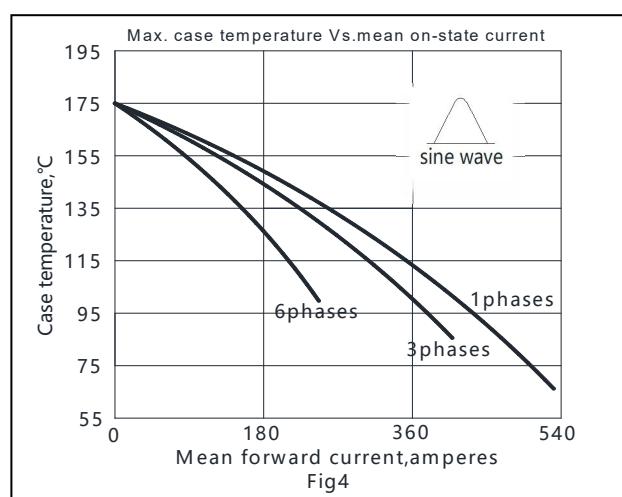
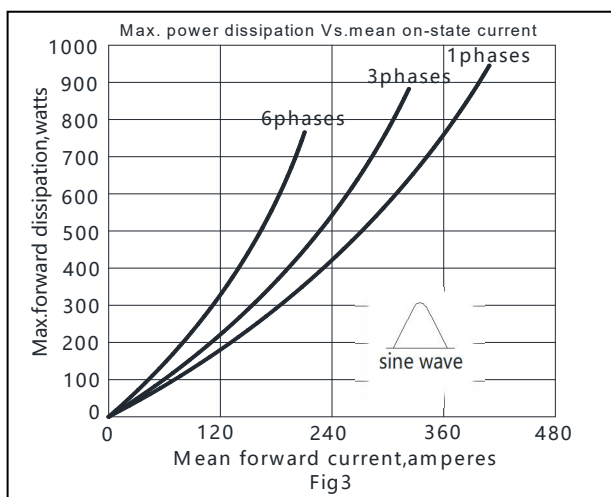
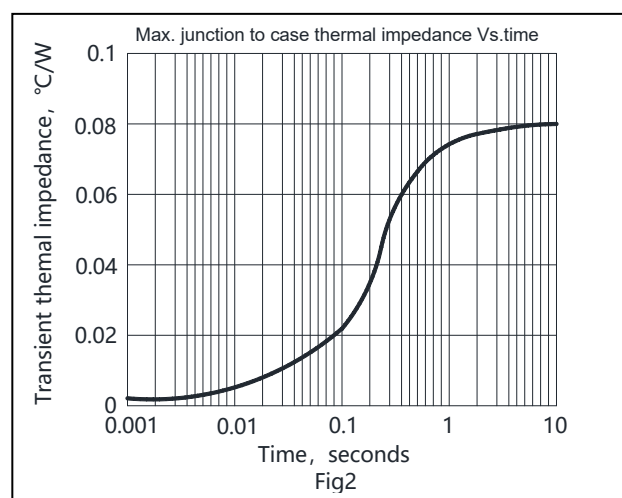
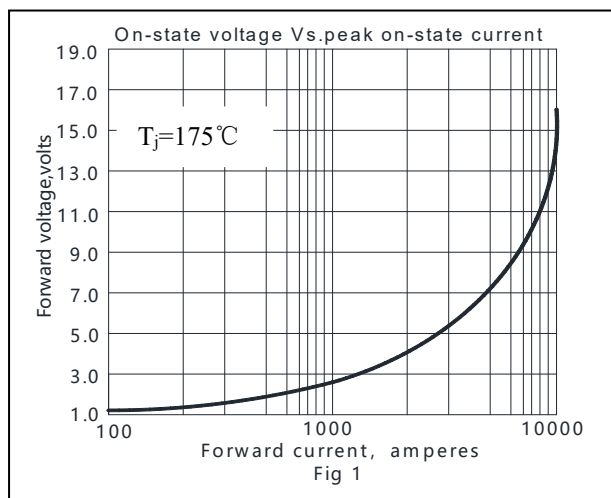
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I _{F(AV)}		400		A	Sinewave 180°, T _c =100°C
RMS forward current	I _{FRMS}		628		A	Nominal value
Peak one cycle surge (non repetitive) current	I _{FSM}		4800		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j =175°C
I square t	I ² t		11.5 × 10 ⁴		A ² s	10 msec
Peak forward voltage	V _{FM}		1.4		V	I _{FM} = 900A; T _j =25°C
Threshold voltage	V _{FO}		0.88		V	T _j =175°C, I = 0.5 π I _{F(AV)} to 1.5 π I _{F(AV)}
Slope resistance	r _F		1.5		mΩ	T _j =175°C, I = 0.5 π I _{F(AV)} to 1.5 π I _{F(AV)}
Reverse Recovery Current (4)	I _{RM(REC)}				A	I _{FM} = 500 A; di/dt = -10 A/s; T _{jmax}
Reverse Recovery Charge (4)	Q _{rr}			1500	μC	I _{FM} = 500 A; di/dt = -10 A/s; T _{jmax}
Reverse Recovery Time (4)	t _{rr}				μs	I _{FM} = 500 A; di/dt = -10 A/s; T _{jmax}

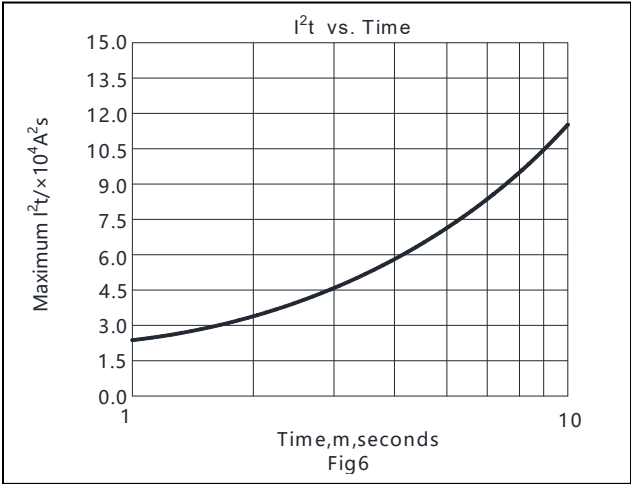
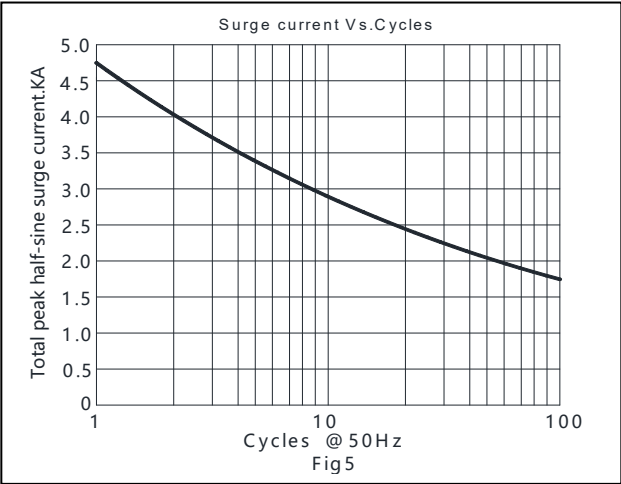
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+175		°C	
Storage temperature	T_{stg}	-40	+175		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.08		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\theta(c-s)}$		0.02		°C/W	Double sided cooled
Mounting force	F	3.5	4.5	4	kN	
Weight	m			0.06	kg.	

* Mounting surfaces smooth, flat and greaseless

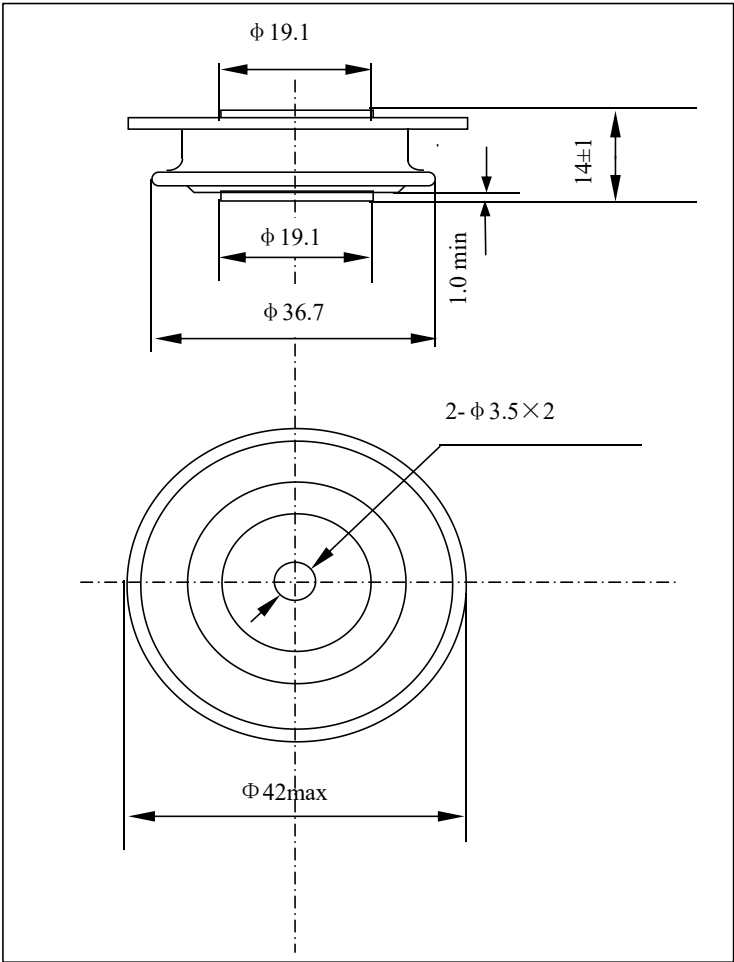
Graph

ZP400-RECTIFIER DIODE





CASE OUTLINE AND DIMENSIONS



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