# ZP800- RECTIFIER DIODE

**Jiangsu Yangjie Runau Semiconductor Co.,Ltd** **2500-3500$V_{RRM}$**

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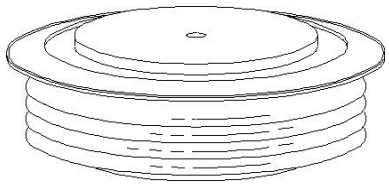
## GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

### Features:

- **. All diffused structure**
- **. High surge rating**
- **. Blocking capability up to 3500 volts**
- **. Ceramic housing hermetic package**
- **. Pressure assembled device**

**ZT40cT**



## ELECTRICAL CHARACTERISTICS AND RATINGS

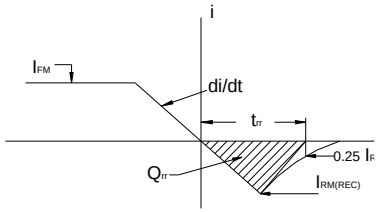
### Reverse Blocking

| Device Type | $V_{RRM}$ (1) | $V_{RSM}$ (1) |
|---|---|---|
| ZP800-25 | 2500 | 2700 |
| ZP800-26 | 2600 | 2800 |
| ZP800-28 | 2800 | 3000 |
| ZP800-30 | 3000 | 3200 |
| ZP800-32 | 3200 | 3400 |
| ZP800-35 | 3500 | 3700 |

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

| | | |
|---|---|---|
| Repetitive peak reverse leakage current | $I_{RRM}$ | 2 mA<br>40 mA (3) |

Notes:
All ratings are specified for Tj=25 ºC, unless otherwise stated .
(1) All voltage ratings are specified for an applied 50Hz/60zHz sinusoidal waveform over the temperature range 0 to +150 ºC.
(2) 10 msec. max. pulse width
(3) Maximum value for Tj = 150 ºC.
(4) See parameter definition below :




REVERSE RECOVERY CHARACTERIST

### Conducting - on state

| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---|---|---|---|---|---|---|
| Average forward current | $I_{F(AV)}$ | | 800 | | A | Sinewave 180º, Tc =90℃ |
| RMS forward current | $I_{FRMS}$ | | 1256 | | A | Nominal value |
| Peak one cycle surge (non repetitive) current | $I_{FSM}$ | | 11200 | | A | 10 msec (50Hz), sinusoidal wave-shape, 180º conduction, Tj = 150 ℃ |
| I square t | $I^2t$ | | $62\times10^4$ | | $A^2s$ | 10 msec |
| Peak forward voltage | $V_{FM}$ | | 1.7 | | V | $I_{FM}$= 1500A;Tj =25ºC |
| Threshold voltage | $V_{FO}$ | | 0.88 | | V | Tj=150ºC,I=0.5 π $I_{F(AV)}$ to 1.5 π $I_{F(AV)}$ |
| Slope resistance | $r_F$ | | 0.45 | | mΩ | Tj=150ºC,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;$Tj_{max}$ |
| Reverse Recovery Charge (4) | $Q_{rr}$ | | | 3000 | µC | $I_{FM}$ = 500 A; di/dt = -10 A/s;$Tj_{max}$ |
| Reverse Recovery Time (4) | $t_{rr}$ | | | | µs | $I_{FM}$ = 500 A; di/dt = -10 A/s;$Tj_{max}$ |

## THERMAL AND MECHANICAL CHARACTERISTICS ZP800-Rectifier Diode

| 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 | $R_{\Theta (j-c)}$ | | 0.039 | | °C/W | Double sided cooled |
| Thermal resistance - case to heatsink | $R_{\Theta (c-s)}$ | | 0.008 | | °C/W | Double sided cooled |
| Mounting force | P | 13 | 17 | 15 | kN | |
| Weight | W | | | 0.26 | kg. | |

* Mounting surfaces smooth, flat and greaseless

## CASE OUTLINE AND DIMENSIONS