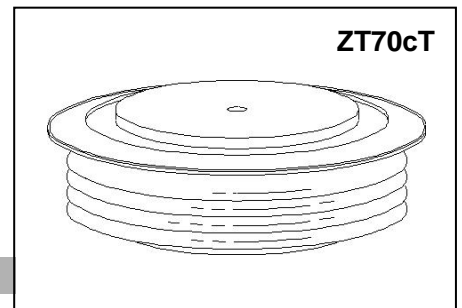




**GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER**

**Features:**

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 2400 volts
- . Ceramic Housing Hermetic Package
- . Pressure Assembled Device



**ELECTRICAL CHARACTERISTICS AND RATINGS**

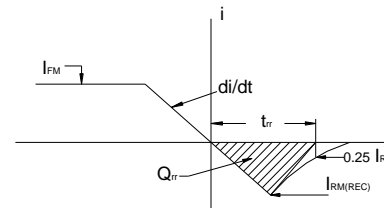
**Reverse Blocking**

| Device Type | V <sub>RRM</sub> (1) | V <sub>RSM</sub> (1) |
|-------------|----------------------|----------------------|
| ZP3400-18   | 1800                 | 2000                 |
| ZP3400-20   | 2000                 | 2200                 |
| ZP3400-22   | 2200                 | 2400                 |
| ZP3400-24   | 2400                 | 2600                 |

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

|                                 |                  |                   |
|---------------------------------|------------------|-------------------|
| Repetitive peak reverse leakage | I <sub>RRM</sub> | 5 mA<br>90 mA (3) |
|---------------------------------|------------------|-------------------|

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 CHARACTERIST

**Conducting - on state**

| Parameter                                     | Symbol               | Min. | Max.                  | Typ. | Units            | Conditions  |
|---|----------------------|------|-----------------------|------|------------------|---|
| Average forward current                       | I <sub>F(AV)</sub>   |      | 3400                  |      | A                | Sinewave, 180°, T <sub>c</sub> =100 °C  |
| RMS forward current                           | I <sub>FRMS</sub>    |      | 5338                  |      | A                | Nominal value   |
| Peak one cycle surge (non repetitive) current | I <sub>FSM</sub>     |      | 40800                 |      | A                | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175 °C |
| I square t                                    | I <sup>2</sup> t     |      | 8.3 × 10 <sup>6</sup> |      | A <sup>2</sup> s | 10 msec   |
| Peak forward voltage                          | V <sub>FM</sub>      |      | 1.25                  |      | V                | I <sub>FM</sub> = 3000A;T <sub>j</sub> =25°C                                    |
| Threshold voltage                             | V <sub>FO</sub>      |      | 0.8                   |      | 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>       |      | 0.09                  |      | 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>j</sub> max                     |
| Reverse Recovery Charge (4)                   | Q <sub>rr</sub>      |      |                       | 5000 | μC               | I <sub>FM</sub> = 500 A; di/dt = -10 A/s;T <sub>j</sub> max                     |
| Reverse Recovery Time (4)                     | t <sub>rr</sub>      |      |                       |      | μs               | I <sub>FM</sub> = 500 A; di/dt = -10 A/s;T <sub>j</sub> max                     |

| 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 | $R_{\Theta(j-c)}$ |      | 0.0125 |      | °C/W  | Double sided cooled |
| Thermal resistance - case to heatsink | $R_{\Theta(c-s)}$ |      | 0.004  |      | °C/W  | Double sided cooled |
| Mounting force                        | P                 | 30   | 37     | 33   | kN    |                     |
| Weight                                | W                 |      |        | 0.85 | kg.   |                     |

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

