

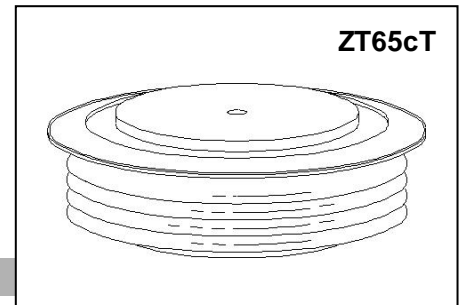


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**GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER**

**Features:**

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 4500 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) |
|-------------|----------------------|----------------------|
| ZP1350-36   | 3600                 | 3800                 |
| ZP1350-38   | 3800                 | 4000                 |
| ZP1350-40   | 4000                 | 4200                 |
| ZP1350-42   | 4200                 | 4400                 |
| ZP1350-45   | 4500                 | 4700                 |

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>70 mA (3) |
|---------------------------------|------------------|-------------------|

Notes:

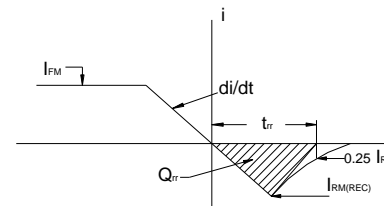
All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range 0 to +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 CHARACTERIST

**Conducting - on state**

| Parameter                                     | Symbol               | Min. | Max.                | Typ. | Units            | Conditions  |
|---|----------------------|------|---------------------|------|------------------|---|
| Average value of on-state current             | I <sub>F(AV)</sub>   |      | 1350                |      | A                | Sinewave, 180°, T <sub>c</sub> = 100 °C   |
| RMS value of on-state current                 | I <sub>FRMS</sub>    |      | 2119                |      | A                | Nominal value   |
| Peak one cycle surge (non repetitive) current | I <sub>FSM</sub>     |      | 20250               |      | A                | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 150 °C   |
| I square t                                    | I <sup>2</sup> t     |      | 2 × 10 <sup>6</sup> |      | A <sup>2</sup> s | 10 msec   |
| Peak on-state voltage                         | V <sub>FM</sub>      |      | 1.8                 |      | V                | I <sub>FM</sub> = 3000A; T <sub>j</sub> = 25 °C                                   |
| Threshold voltage                             | V <sub>FO</sub>      |      | 0.95                |      | 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> |
| Threshold voltage, Low-level                  | r <sub>F</sub>       |      | 0.22                |      | 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>      |      |                     | 5000 | 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 | $R_{\Theta(j-c)}$ |      | 0.015  |      | °C/W  | Double sided cooled |
| Thermal resistance - case to heatsink | $R_{\Theta(c-s)}$ |      | 0.0045 |      | °C/W  | Double sided cooled |
| Mounting force                        | P                 | 27   | 33     | 30   | kN    |                     |
| Weight                                | W                 |      |        | 0.72 | kg.   |                     |

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

