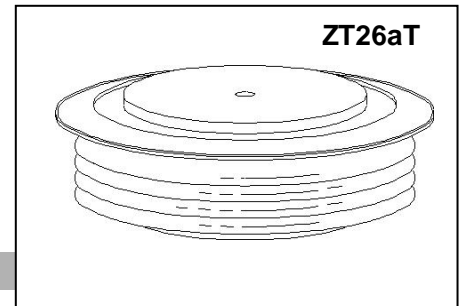




GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

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 _{RRM} (1) | V _{RSM} (1) |
|-------------|----------------------|----------------------|
| ZP300-18 | 1800 | 2000 |
| ZP300-20 | 2000 | 2200 |
| ZP300-22 | 2200 | 2400 |
| ZP300-24 | 2400 | 2600 |

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) |
|---|------------------|-------------------|

Notes:

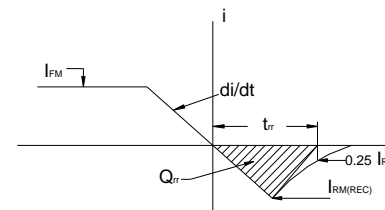
All ratings are specified for T_j=25 °C, unless otherwise stated

(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 CHARACTERIST

Conducting - on state

| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---|----------------------|------|-----------------------|------|------------------|--|
| Average forward current | I _{F(AV)} | | 300 | | A | Sinewave 180°, T _c = 100°C |
| RMS forward current | I _{FRMS} | | 471 | | A | Nominal value |
| Peak one cycle surge (non repetitive) current | I _{FSM} | | 3600 | | A | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 175 °C |
| I square t | I ² t | | 6.5 × 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 | P | 3.5 | 4.5 | 4 | kN | |
| Weight | W | | | 0.06 | kg. | |

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS

