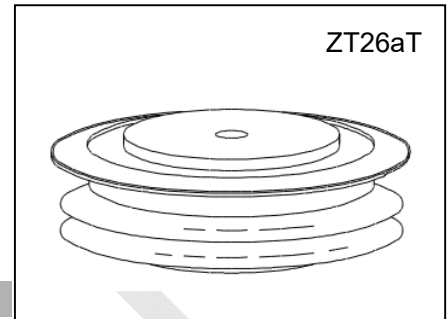




## FAST RECOVERY RECTIFIER

### Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 3000 volts
- . Soft recovery
- . Ceramic housing hermetic package
- . Pressure assembled device



## ELECTRICAL CHARACTERISTICS AND RATINGS

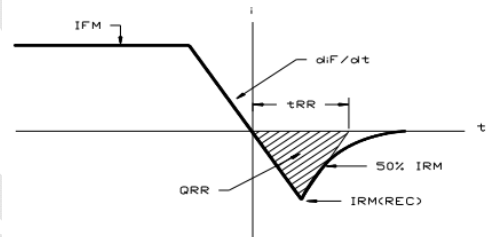
### Reverse Blocking

| Device Type | V <sub>RRM</sub> (1) | V <sub>RSM</sub> (1) |
|-------------|----------------------|----------------------|
| ZK200/20    | 2000                 | 2200                 |
| ZK200/22    | 2200                 | 2400                 |
| ZK200/24    | 2400                 | 2600                 |
| ZK200/26    | 2600                 | 2800                 |
| ZK200/28    | 2800                 | 3000                 |
| ZK200/30    | 3000                 | 3200                 |

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 -40 to +125°C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T<sub>j</sub> = 125°C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

V<sub>RRM</sub> = Repetitive peak reverse voltage

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

|   |                  |                    |
|---|------------------|--------------------|
| Repetitive peak reverse leakage current | I <sub>RRM</sub> | 10 mA<br>15 mA (3) |
|---|------------------|--------------------|

### Conducting - on state

| Parameter                                     | Symbol               | Min. | Max.  | Typ. | Units            | Conditions   |
|---|----------------------|------|-------|------|------------------|--|
| Average forward current                       | I <sub>F(AV)</sub>   |      | 200   |      | A                | Sinewave 180°, T <sub>c</sub> = 70°C   |
| RMS forward current                           | I <sub>FRMS</sub>    |      | 314   |      | A                |  |
| Peak one cycle surge (non repetitive) current | I <sub>FSM</sub>     |      | 3000  |      | A                | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 125°C |
| I square t                                    | I <sup>2</sup> t     |      | 45000 |      | A <sup>2</sup> s | 8.3 msec and 10.0 msec   |
| Peak forward voltage                          | V <sub>FM</sub>      |      | 2.40  |      | V                | I <sub>FM</sub> = 600A; Duty cycle ≤ 0.01%                                     |
| Reverse Recovery Current (4)                  | I <sub>RM(REC)</sub> |      | *     |      | A                | I <sub>FM</sub> = 200 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>j</sub> max     |
| Reverse Recovery Charge (4)                   | Q <sub>rr</sub>      |      | *     |      | μC               | I <sub>FM</sub> = 200 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>j</sub> max     |
| Reverse Recovery Time (4)                     | t <sub>rr</sub>      |      | 6     |      | μs               | I <sub>FM</sub> = 200 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>j</sub> max     |

\* For guaranteed maximum values, contact factory

| Parameter                             | Symbol            | Min. | Max.         | Typ. | Units | Conditions  |
|---------------------------------------|-------------------|------|--------------|------|-------|---|
| Operating temperature                 | $T_j$             | -40  | +125         |      | °C    |   |
| Storage temperature                   | $T_{stg}$         | -40  | +140         |      | °C    |   |
| Thermal resistance - junction to case | $R_{\Theta(j-c)}$ |      | 0.08         |      | °C/W  | Double sided cooled<br>(1) @ 2000 lb.; (2) @800 lb. |
| Thermal resistance - junction to case | $R_{\Theta(j-c)}$ |      | 0.16         |      | °C/W  | Single sided cooled<br>(1) @ 2000 lb.; (2) @800 lb. |
| Thermal resistance - case to heatsink | $R_{\Theta(c-s)}$ |      | 0.02<br>0.04 |      | °C/W  | Double sided cooled *<br>Single sided cooled *      |
| Mounting force                        | P                 |      |              | 4    | kN    |   |
| Weight                                | W                 |      |              | 60   | g     |   |

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

