

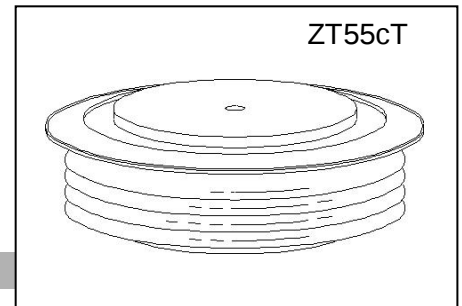


\*\*\*\*\*

STANDARD DIODE WITH HIGH JUNCTION TEMPERATURE

Features:

- . All diffused structure, high surge rating
- . Blocking capability up to 3200 volts
- . Soft reverse recovery
- . Rugged ceramic hermetic package
- . Pressure assembled device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

| Device Type | V <sub>RRM</sub> (1) | V <sub>RSM</sub> (1) |
|-------------|----------------------|----------------------|
| YA750LE     | 2500                 | 2700                 |
| YA750LM     | 2600                 | 2800                 |
| YA750LN     | 2800                 | 3000                 |
| YA750LT     | 2900                 | 3100                 |
| YA750CP     | 3000                 | 3200                 |
| YA750CB     | 3200                 | 3400                 |

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>50 mA (3) |
|-----------------------------------------|------------------|--------------------|

Notes:

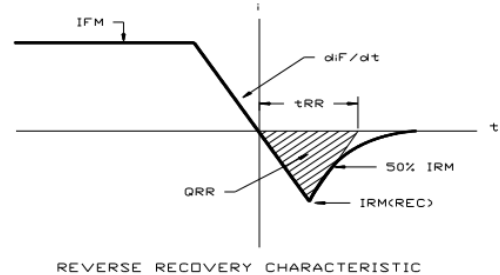
All ratings are specified for T<sub>j</sub>=25 °C, unless otherwise stated

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +175°C.

(2) 10 msec. max. pulse width

(3) Maximum value for T<sub>j</sub> = 175°C.

(4) See parameter definition below :



Conducting - on state

| Parameter                                     | Symbol               | Min. | Max.                | Typ. | Units            | Conditions                                                                                                                                                        |
|-----------------------------------------------|----------------------|------|---------------------|------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Average forward current                       | I <sub>F(AV)</sub>   |      | 1800                |      | A                | Sinewave 180°, T <sub>c</sub> = 100°C                                                                                                                             |
| RMS forward current                           | I <sub>FRMS</sub>    |      | 2700                |      | A                | Nominal value                                                                                                                                                     |
| Peak one cycle surge (non repetitive) current | I <sub>FSM</sub>     |      | 25000<br>22000      |      | A                | 8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175°C<br>10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175°C |
| I square t                                    | I <sup>2</sup> t     |      | 2.4x10 <sup>6</sup> |      | A <sup>2</sup> s | 8.3 msec and 10.0 msec                                                                                                                                            |
| Peak forward voltage                          | V <sub>FM</sub>      |      | 0.96                |      | V                | I <sub>FM</sub> = 1000A; Duty cycle ≤ 0.01%; T <sub>j</sub> = 160°C                                                                                               |
| Reverse Recovery Current (4)                  | I <sub>RM(REC)</sub> |      | 260                 |      | A                | I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>j</sub> = 160°C                                                                                   |
| Reverse Recovery Charge (4)                   | Q <sub>rr</sub>      |      | *                   |      | μC               |                                                                                                                                                                   |
| Reverse Recovery Time (4)                     | t <sub>rr</sub>      |      | *                   |      | μs               |                                                                                                                                                                   |

\* For guaranteed maximum values, contact factory

| 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 | $R_{\theta(j-c)}$ |      | 0.022<br>0.044 |      | °C/W  | Double sided cooled<br>Single sided cooled    |
| Thermal resistance - case to heatsink | $R_{\theta(c-s)}$ |      | 0.005<br>0.010 |      | °C/W  | Double sided cooled *<br>Single sided cooled* |
| Mounting force                        | P                 |      |                | 25   | kN    |                                               |
| Weight                                | W                 |      |                | 0.46 | kg.   |                                               |

\* Mounting surfaces smooth, flat and greaseless

## CASE OUTLINE AND DIMENSIONS

