# TECHSEM

# Y38ZPC
RECTIFIER DIODE

**Features**

- Low forward voltage drop
- High reverse voltage
- Hermetic metal cases with ceramic insulators

**Typical Applications**

- All purpose high power rectifier diodes
- High power resistance welding equipment
- Non-controllable and half-controllable rectifiers
- Controlled rectifiers

| | |
|---|---|
| $I_{F(AV)}$ | 1390A |
| $V_{RRM}$ | 1100~2000 V |
| $I_{FSM}$ | 15 kA |
| $I^2t$ | 1125 $10^3A^2S$ |

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | | $T_j$(°C) | VALUE | | | UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | Min | Type | Max | |
| $I_{F(AV)}$ | Mean forward current | 180° half sine wave 50Hz Double side cooled, | $T_C$=85°C | 175 | | | 1390 | A |
| $V_{RRM}$ | Repetitive peak reverse voltage | tp=10ms | | 175 | 1100 | | 2000 | V |
| $I_{RRM}$ | Repetitive peak current | at $V_{RRM}$ | | 175 | | | 40 | mA |
| $I_{FSM}$ | Surge forward current | 10ms half sine wave $V_R$=0.6$V_{RRM}$ | | 175 | | | 15 | kA |
| $I^2t$ | $I^2t$ for fusing coordination | | | | | | 1125 | $A^2s*10^3$ |
| $V_{FO}$ | Threshold voltage | | | 175 | | | 0.85 | V |
| $r_F$ | Forward slope resistance | | | | | | 0.29 | mΩ |
| $V_{FM}$ | Peak forward voltage | $I_{FM}$=2400A, F=15kN | | 25 | | | 2.0 | V |
| $Q_{rr}$ | Recovery charge | $I_{FM}$=2000A, tp=1000μs, di/dt=-20A/μs, $V_R$=50V | | 175 | | 2000 | | μC |
| $R_{th(j-c)}$ | Thermal resistance Junction to case | At $180^0$ sine, double side cooled Clamping force 15.0kN | | | | | 0.035 | °C /W |
| $R_{th(c-h)}$ | Thermal resistance case to heat sink | | | | | | 0.008 | |
| $F_m$ | Mounting force | | | | 10 | | 20 | kN |
| $T_{stg}$ | Stored temperature | | | | -40 | | 175 | °C |
| $W_t$ | Weight | | | | | 240 | | g |
| Outline | ZT33cT | | | | | | | |

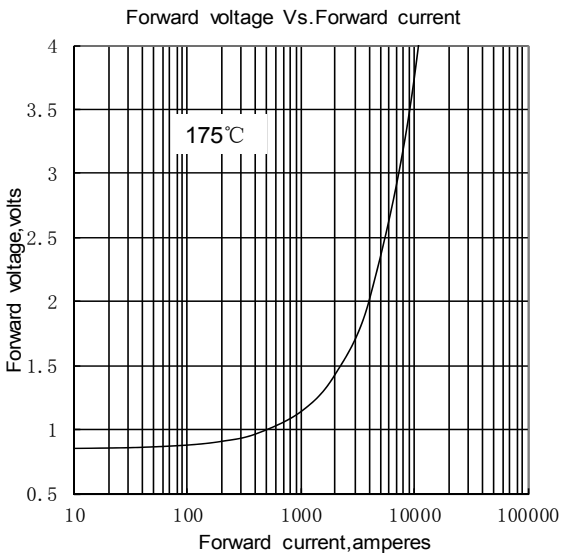


Fig.1

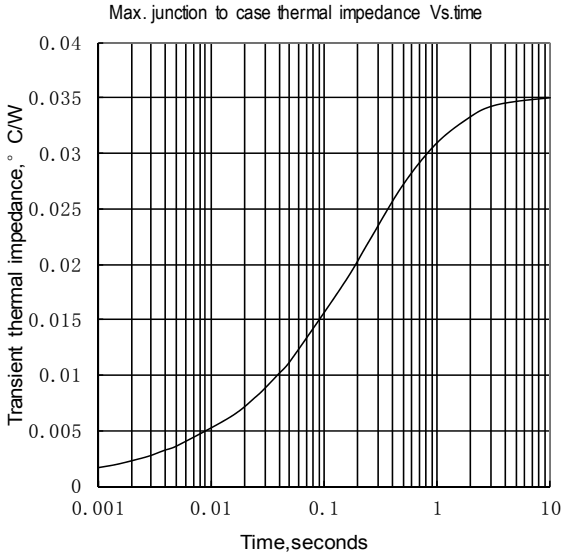


Fig.2

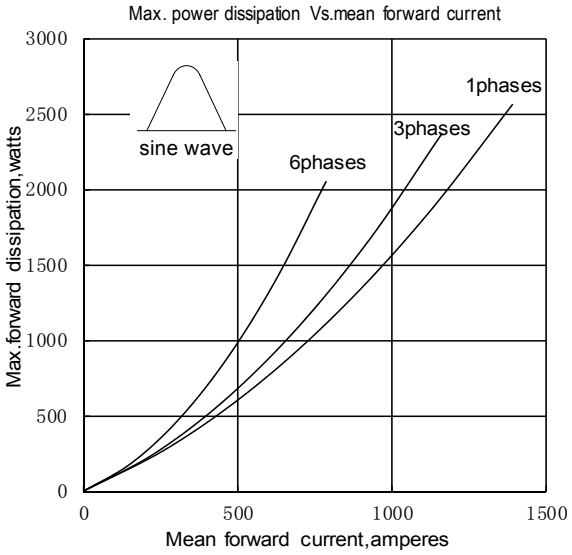


Fig.3

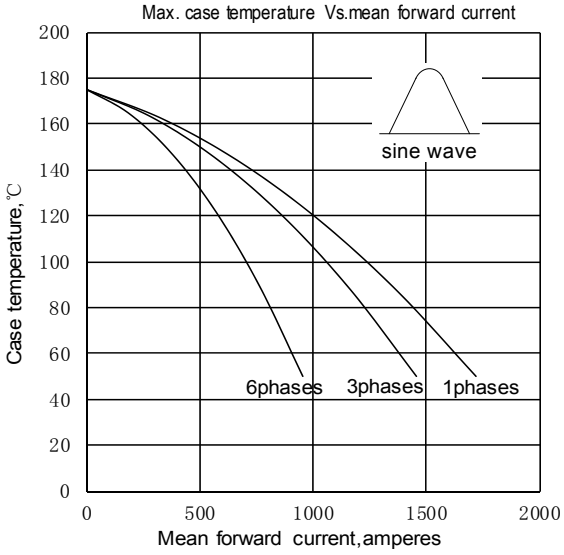


Fig.4

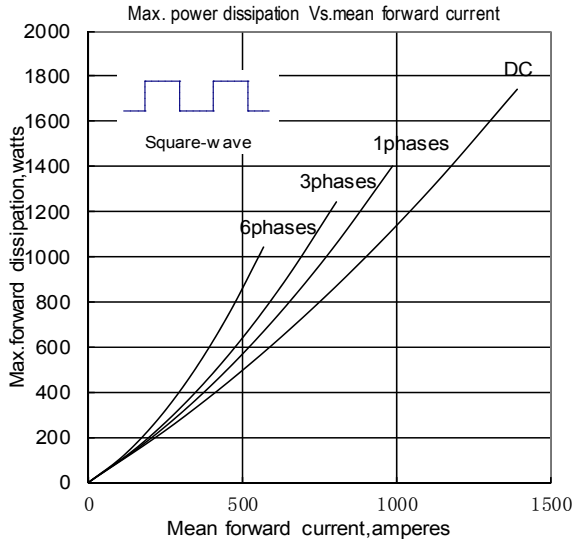


Fig.5

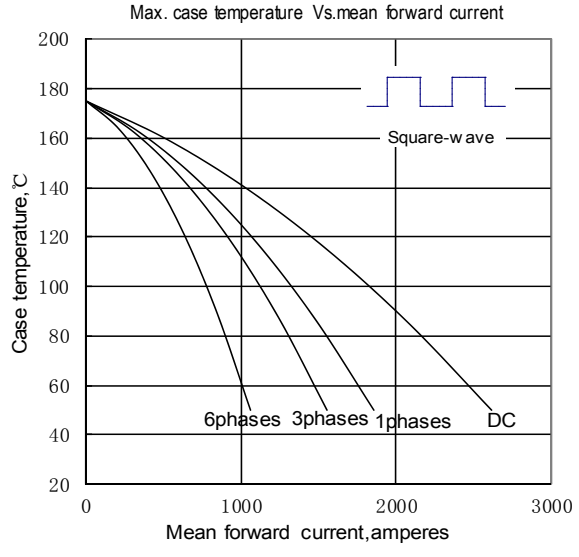


Fig.6

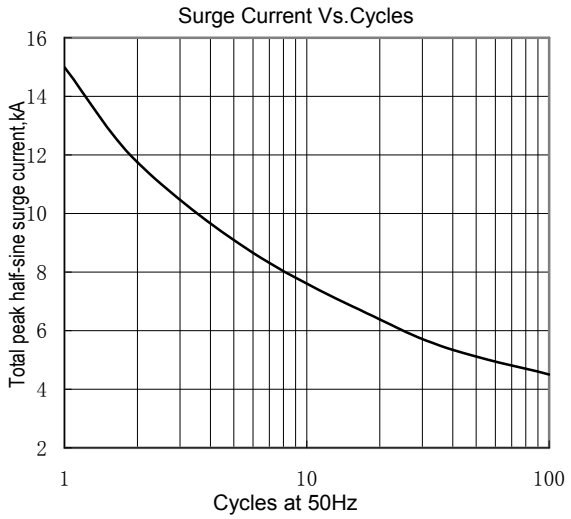


Fig.7

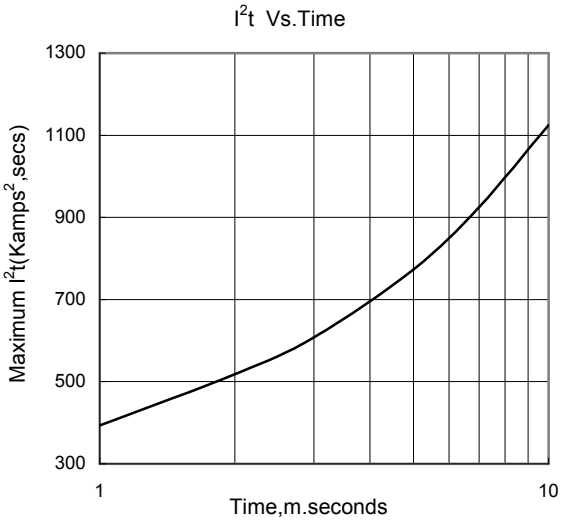


Fig.8

**Outline:**