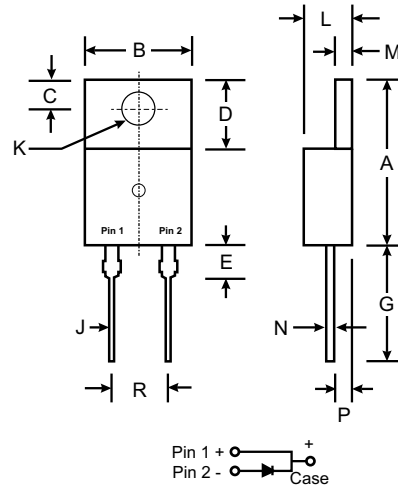


Features

- Glass Passivated Die Construction
- Diffused Junction
- Super-Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.24 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



| TO-220AC | | |
|----------------------|--------------------|--------------------|
| Dim | Min | Max |
| A | 14.22 | 15.88 |
| B | 9.65 | 10.67 |
| C | 2.54 | 3.43 |
| D | 5.84 | 6.86 |
| E | — | 6.35 |
| G | 12.70 | 14.73 |
| J | 0.51 | 1.14 |
| K | 3.53 \varnothing | 4.09 \varnothing |
| L | 3.56 | 4.83 |
| M | 1.14 | 1.40 |
| N | 0.30 | 0.64 |
| P | 2.03 | 2.92 |
| R | 4.83 | 5.33 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | STPR 1505D | STPR 1510D | STPR 1515D | STPR 1520D | Unit |
|---|------------------------------------|--------------|------------|------------|------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RWM} V _R | 50 | 100 | 150 | 200 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 105 | 140 | V |
| Average Rectified Output Current @ T _C = 115°C | I _O | 15 | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 150 | | | | A |
| Forward Voltage @ I _F = 15A @ T _J = 25°C @ T _J = 125°C | V _{FM} | 1.25 1.20 | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage @ T _C = 25°C @ T _C = 100°C | I _{RM} | 50 1000 | | | | μA |
| Reverse Recovery Time (Note 2) | t _{rr} | 30 | | | | ns |
| Typical Junction Capacitance (Note 3) | C _j | 160 | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | R _{θJC} | 2.3 | | | | °C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -65 to +150 | | | | °C |

- Notes:
1. Case mounted on heatsink.
 2. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.
 3. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.

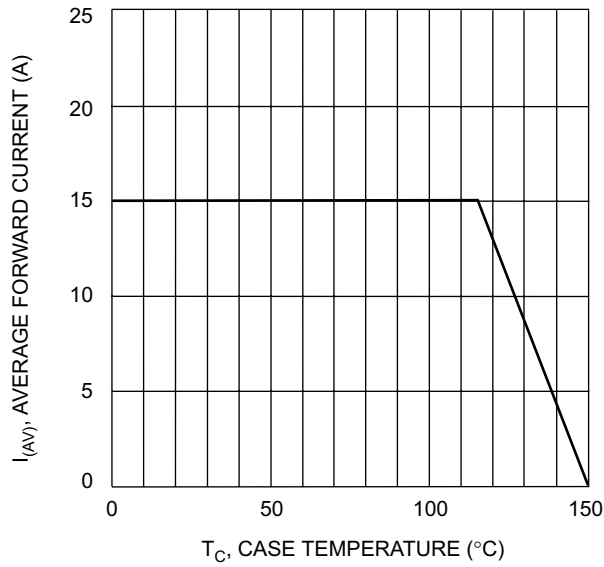


Fig. 1 Forward Current Derating Curve

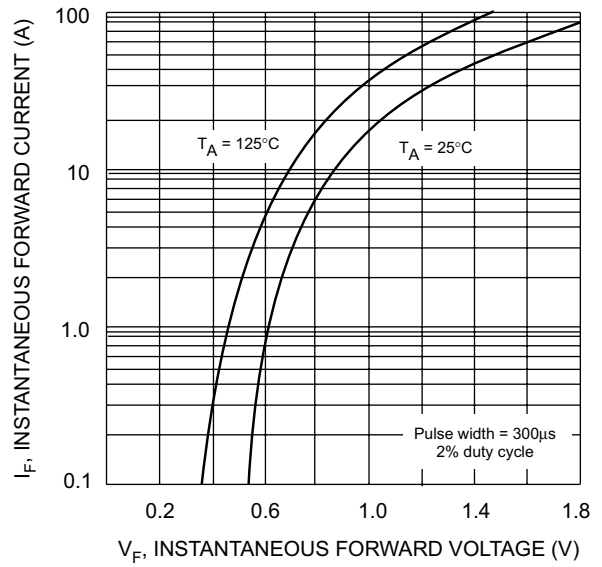


Fig. 2 Typical Forward Characteristics

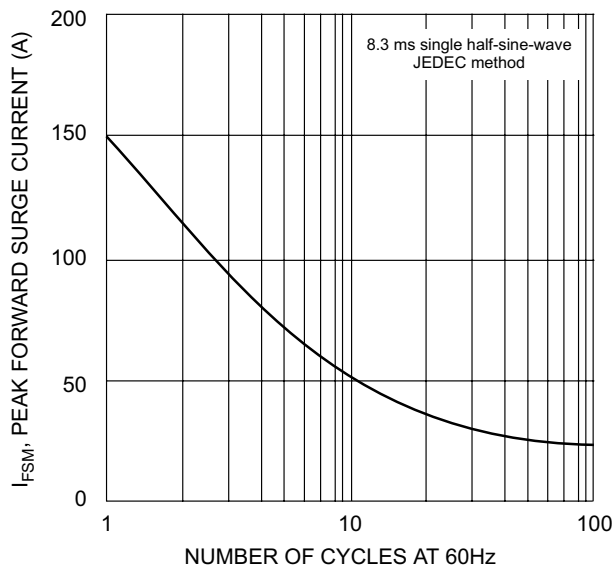


Fig. 3 Max Non-Repetitive Surge Current

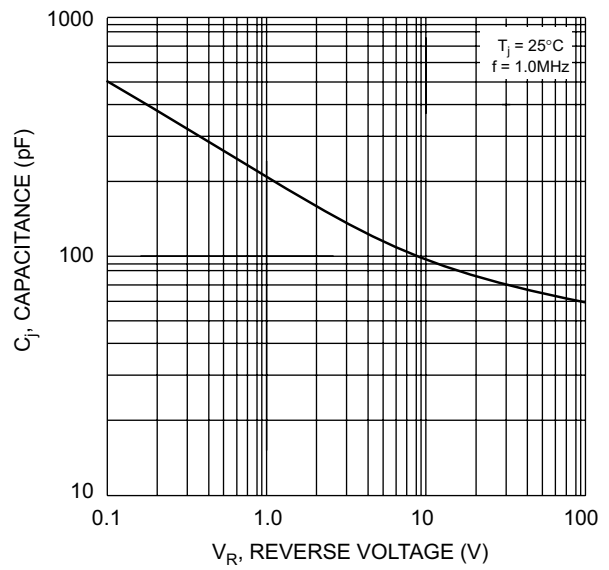


Fig. 4 Typical Junction Capacitance

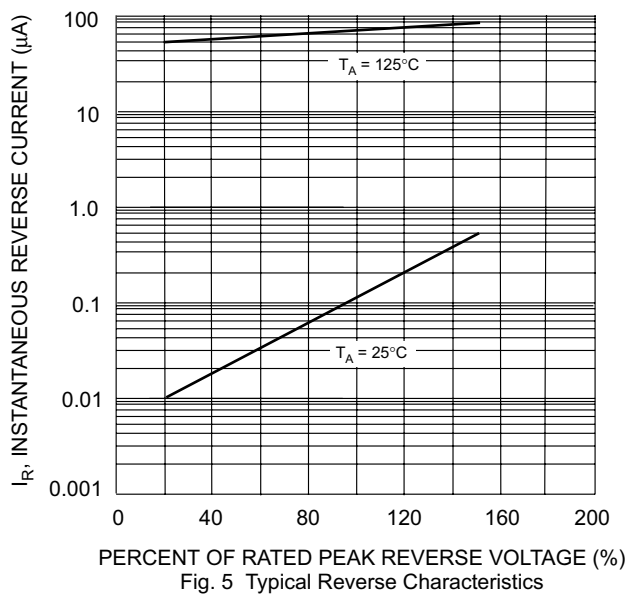


Fig. 5 Typical Reverse Characteristics