

**SUPER FAST  
GLASS PASSIVATED RECTIFIERS**

REVERSE VOLTAGE - **50 to 600** Volts  
FORWARD CURRENT - **8.0** Amperes

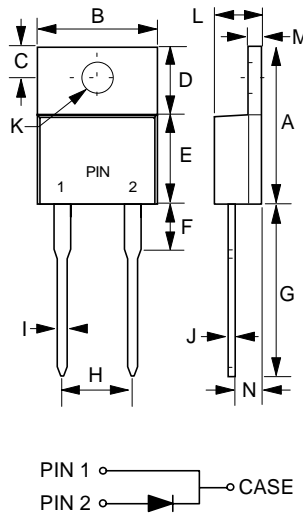
**FEATURES**

- Glass passivated chip
- Superfast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- High surge capacity
- Plastic package has UL flammability classification 94V-0

**MECHANICAL DATA**

- Case : TO-220AC molded plastic
- Polarity : As marked on the body
- Weight : 0.08 ounces, 2.24 grams
- Mounting position : Any

**TO-220AC**



| 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        | 8.26               | 9.28               |
| F        | -                  | 6.35               |
| G        | 12.70              | 14.73              |
| H        | 4.83               | 5.33               |
| I        | 0.51               | 1.14               |
| J        | 0.30               | 0.64               |
| K        | 3.53 $\varnothing$ | 4.09 $\varnothing$ |
| L        | 3.56               | 4.83               |
| M        | 1.14               | 1.40               |
| N        | 2.03               | 2.92               |

All Dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

| CHARACTERISTICS  | SYMBOL                            | STPR 805DF  | STPR 810DF | STPR 815DF | STPR 820DF | STPR 830DF | STPR 840DF | STPR 850DF | STPR 860DF | UNIT |
|--|-----------------------------------|-------------|------------|------------|------------|------------|------------|------------|------------|------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                  | 50          | 100        | 150        | 200        | 300        | 400        | 500        | 600        | V    |
| Maximum RMS Voltage  | V <sub>RMS</sub>                  | 35          | 70         | 105        | 140        | 210        | 280        | 350        | 420        | V    |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 50          | 100        | 150        | 200        | 300        | 400        | 500        | 600        | V    |
| Maximum Average Forward Rectified Current @T <sub>C</sub> =100°C                                     | I <sub>(AV)</sub>                 | 8           |            |            |            |            |            |            |            | A    |
| Peak Forward Surge Current 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)     | I <sub>FSM</sub>                  | 125         |            |            |            |            |            |            |            | A    |
| Maximum Forward Voltage at 8.0A DC   | V <sub>F</sub>                    | 0.95        |            |            | 1.3        |            | 1.5        |            |            | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @T <sub>J</sub> =25°C @T <sub>J</sub> =100°C | I <sub>R</sub>                    | 5           |            |            |            | 500        |            |            |            | uA   |
| Typical Junction Capacitance (Note 1)  | C <sub>J</sub>                    | 110         |            |            |            |            |            | 60         |            | pF   |
| Maximum Reverse Recovery Time (Note 2)   | T <sub>RR</sub>                   | 35          |            |            |            | 50         |            |            |            | ns   |
| Typical Thermal Resistance (Note 3)  | R <sub>θJC</sub>                  | 2.5         |            |            |            |            |            |            |            | °C/W |
| Operating and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |            |            |            |            |            |            |            | °C   |

NOTES :1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
2.Reverse Recovery Test Conditions:IF=0.5A,IR=1.0A,IRR 0.25A.  
3.Thermal Resistance Junction to Case.

FIG. 1 - FORWARD CURRENT DERATING CURVE

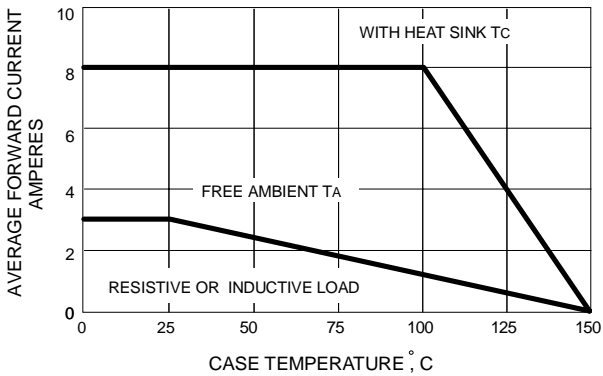


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

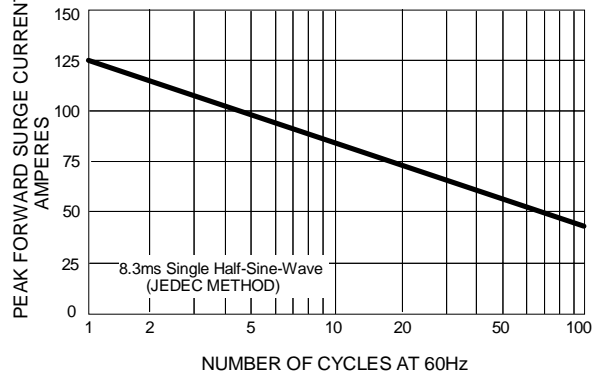


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

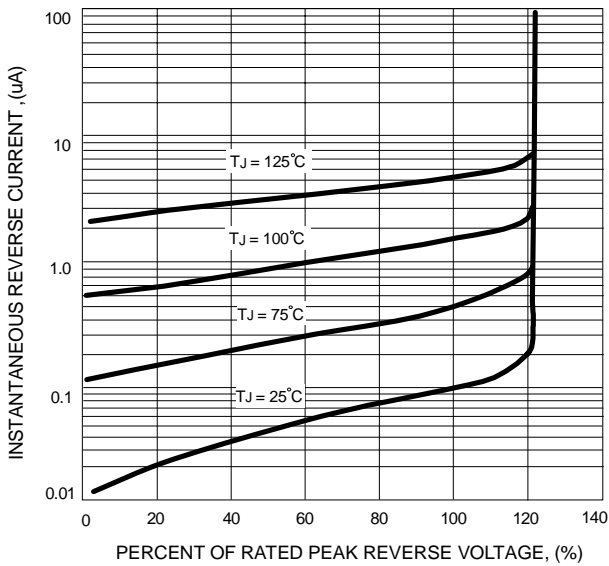


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

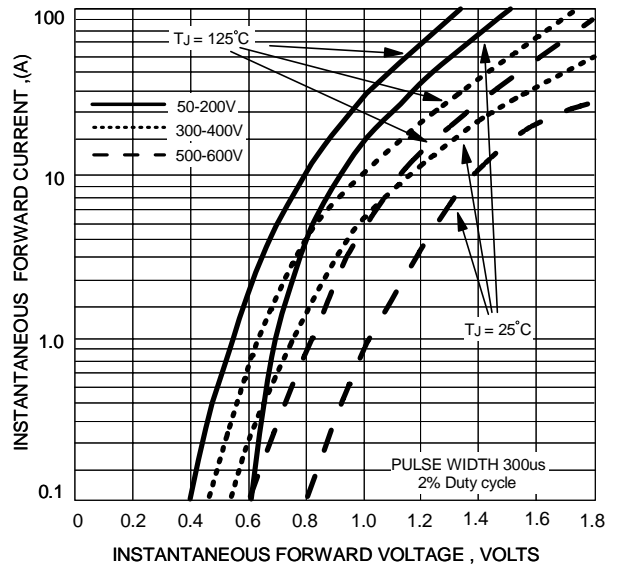


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

