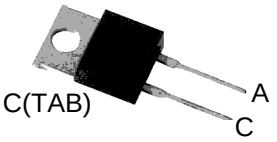
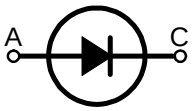
# STPR805DB thru STPR820DB

## Ultra Fast Recovery Diodes

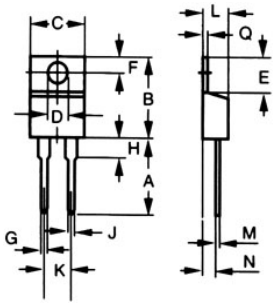



A=Anode, C=Cathode, TAB=Cathode

| | $V_{RRM}$ V | $V_{RMS}$ V | $V_{DC}$ V |
|---|---|---|---|
| **STPR805DB** | 50 | 35 | 50 |
| **STPR810DB** | 100 | 70 | 100 |
| **STPR815DB** | 150 | 105 | 150 |
| **STPR820DB** | 200 | 140 | 200 |

Dimensions TO-220AC




| Dim. | Inches Min. | Inches Max. | Milimeter Min. | Milimeter Max. |
|---|---|---|---|---|
| A | 0.500 | 0.580 | 12.70 | 14.73 |
| B | 0.560 | 0.650 | 14.23 | 16.51 |
| C | 0.380 | 0.420 | 9.66 | 10.66 |
| D | 0.139 | 0.161 | 3.54 | 4.08 |
| E | 2.300 | 0.420 | 5.85 | 6.85 |
| F | 0.100 | 0.135 | 2.54 | 3.42 |
| G | 0.045 | 0.070 | 1.15 | 1.77 |
| H | - | 0.250 | - | 6.35 |
| J | 0.025 | 0.035 | 0.64 | 0.89 |
| K | 0.190 | 0.210 | 4.83 | 5.33 |
| L | 0.140 | 0.190 | 3.56 | 4.82 |
| M | 0.015 | 0.022 | 0.38 | 0.56 |
| N | 0.080 | 0.115 | 2.04 | 2.49 |
| Q | 0.025 | 0.055 | 0.64 | 1.39 |

| Symbol | Characteristics | Maximum Ratings | Unit |
|---|---|---|---|
| $I_{(AV)}$ | Maximum Average Forward Rectified Current @$T_C$=125°C | 8.0 | A |
| $I_{FSM}$ | Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD) | 100 | A |
| $V_F$ | Maximum Forward Voltage $I_F$=8A @$T_J$=25°C<br>@$T_J$=150°C | 1.3<br>0.8 | V |
| $I_R$ | Maximum DC Reverse Current At Peak Reverse Voltage @$T_J$=25°C<br>@$T_J$=100°C | 10<br>500 | uA |
| $C_J$ | Typical Junction Capacitance (Note 1) | 45 | pF |
| $T_{RR}$ | Maximum Reverse Recovery Time (Note 2) | 25 | ns |
| $R_{\theta JC}$ | Typical Thermal Resistance (Note 3) | 3.0 | °C/W |
| $T_J$, $T_{STG}$ | Operating And Storage Temperature Range | -55 to +150 | °C |

NOTES: 1. Measured At 1.0MHz And Applied Reverse Voltage Of 4.0V DC.
2. Reverse Recovery Test Conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A.
3. Thermal Resistance Junction To Case.

### *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

### *MECHANICAL DATA*

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

Sirectifier®

# STPR805DB thru STPR820DB

## Ultra Fast Recovery Diodes

FIG.1 - FORWARD CURRENT DERATING CURVE

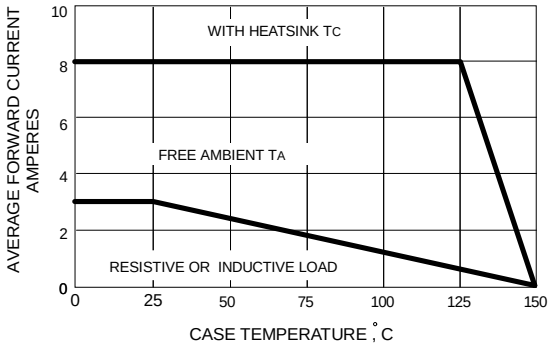



FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

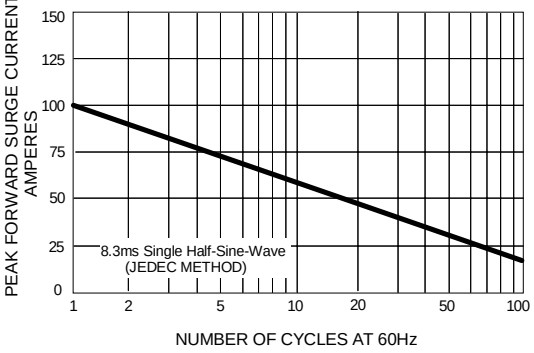



FIG.3 - TYPICAL REVERSE CHARACTERISTICS

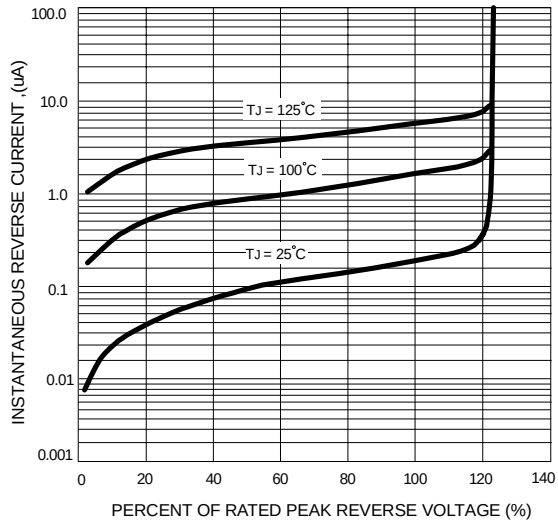



FIG.4 - TYPICAL FORWARD CHARACTERISTICS

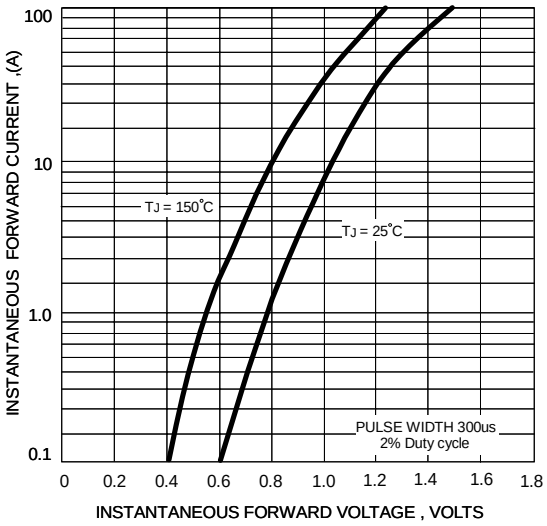
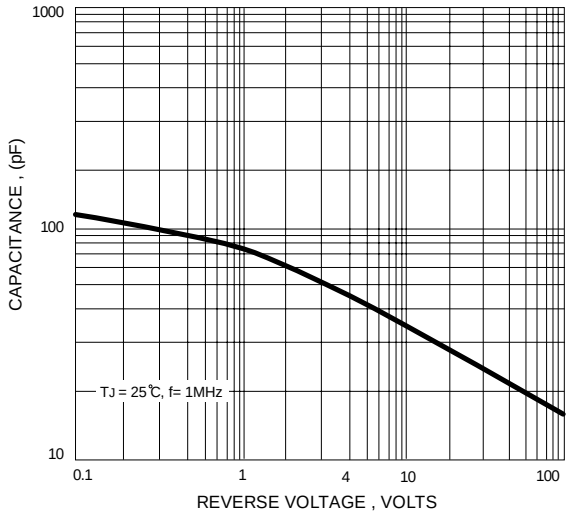



FIG.5 - TYPICAL JUNCTION CAPACITANCE




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