

Pb Free Plating Product

80CPU02



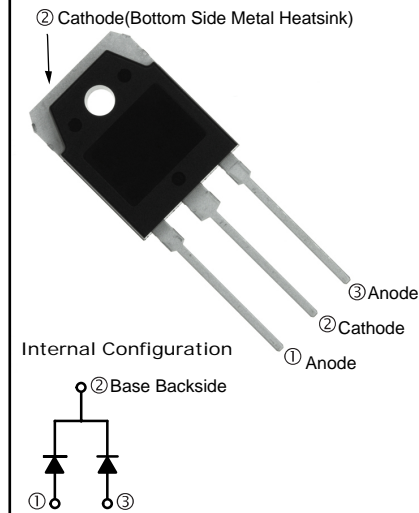
80Amperes,200Volts Heatsink Common Cathode Ultra Fast Recovery Rectifiers

APPLICATION

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

PRODUCT FEATURE

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

TO-3PB(TO-3PN)**GENERAL DESCRIPTION**

80CPU02 using the latest FRED FAB process(planar passivation chip) with ultrafast and soft recovery characteristic.

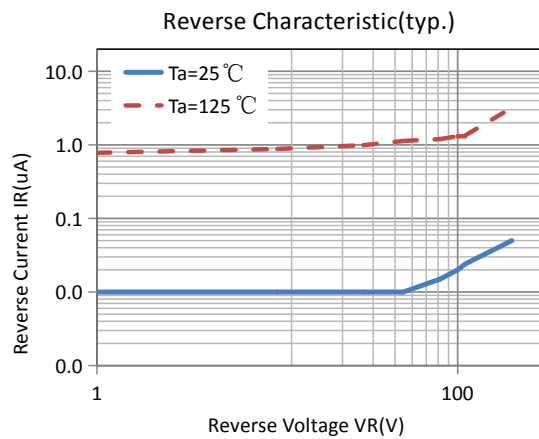
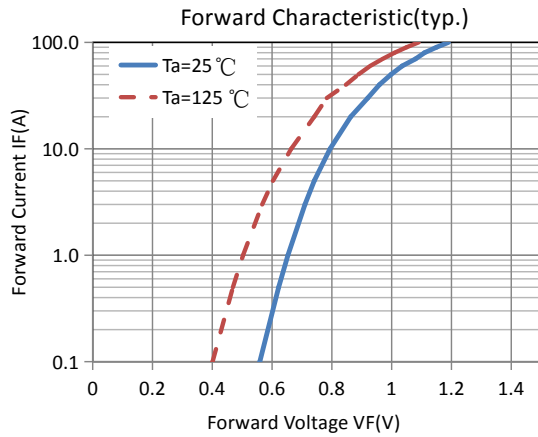
| Absolute Maximum Ratings | | | | |
|------------------------------------|-------------|---------------------------|-------------|------------------|
| Parameter | Symbol | Test Conditions | Values | Units |
| Repetitive peak reverse voltage | V_{RRM} | | 200 | V |
| Continuous forward current | $I_{F(AV)}$ | $T_c = 110^\circ\text{C}$ | 80 | A |
| Single pulse forward current | I_{FSM} | $T_c = 25^\circ\text{C}$ | 800 | |
| Maximum repetitive forward current | I_{FRM} | Square wave, 20kHz | 320 | |
| Operating junction | T_j | | 175 | $^\circ\text{C}$ |
| Storage temperatures | T_{stg} | | -55 to +175 | $^\circ\text{C}$ |

| Electrical characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified) | | | | | | |
|---|---------------|---|-----|------|------|---------------|
| Parameter | Symbol | Test Conditions | Min | Typ. | Max. | Units |
| Breakdown voltage Blocking voltage | V_{BR}, V_R | $I_R=100\mu\text{A}$ | 200 | | | V |
| Forward voltage (Per Diode) | V_F | $I_F=40\text{ A}$ | | 0.97 | 1.20 | |
| | | $I_F=40\text{ A}, T_j=125^\circ\text{C}$ | | 0.86 | 1.00 | |
| Reverse leakage current (Per Diode) | I_R | $V_R=V_{RRM}$ | | | 10 | μA |
| | | $T_j=150^\circ\text{C}, V_R=200\text{V}$ | | | 100 | |
| Reverse recovery time (Per Diode) | t_{rr} | $I_F=0.5\text{A}, I_R=1\text{A}, I_{RR}=0.25\text{A}$ | | 37 | 50 | ns |
| | | $I_F=1\text{A}, V_R=30\text{V}, di/dt=-200\text{A}/\mu\text{s}$ | | 25 | 40 | |

Thermal characteristics

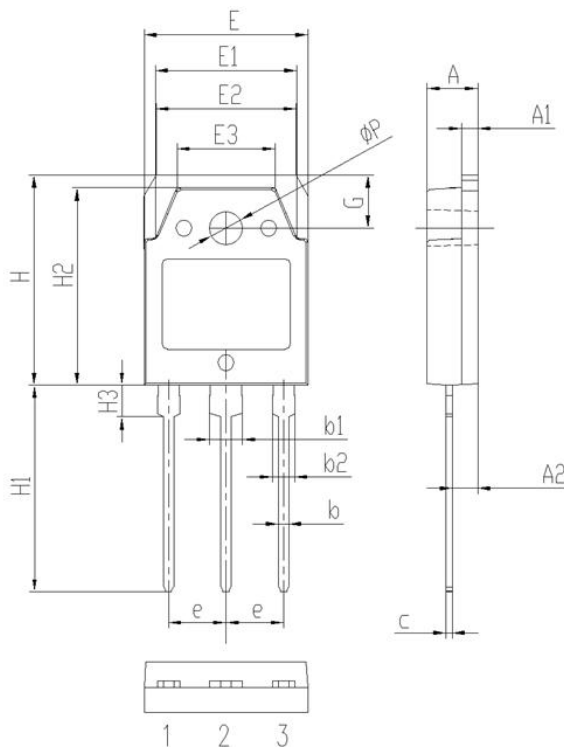
| Parameter | Symbol | Typ | Units |
|------------------|-----------------|-----|---------------------------|
| Junction-to-Case | $R_{\theta JC}$ | 0.8 | $^\circ\text{C}/\text{W}$ |

Electrical performance (typical)



Package Information

TO-3PB PACKAGE



| Symbol | Dimensions (millimeters) | |
|----------|--------------------------|------|
| | Min. | Max. |
| A | 4.60 | 5.00 |
| A1 | 1.30 | 1.70 |
| A2 | 2.20 | 2.60 |
| b | 0.80 | 1.20 |
| b1 | 2.90 | 3.30 |
| b2 | 1.90 | 2.30 |
| c | 0.40 | 0.80 |
| e | 5.25 | 5.65 |
| E | 15.3 | 15.7 |
| E1 | 13.2 | 13.6 |
| E2 | 13.1 | 13.5 |
| E3 | 9.10 | 9.50 |
| H | 19.7 | 20.1 |
| H1 | 19.1 | 20.1 |
| H2 | 18.3 | 18.7 |
| H3 | 2.80 | 3.20 |
| G | 4.80 | 5.20 |
| ΦP | 3.00 | 3.40 |