Pb Free Plating Product

# L4202S

20Amperes,200Volts Insulated Common Cathode Ultra Fast Recovery Rectifiers

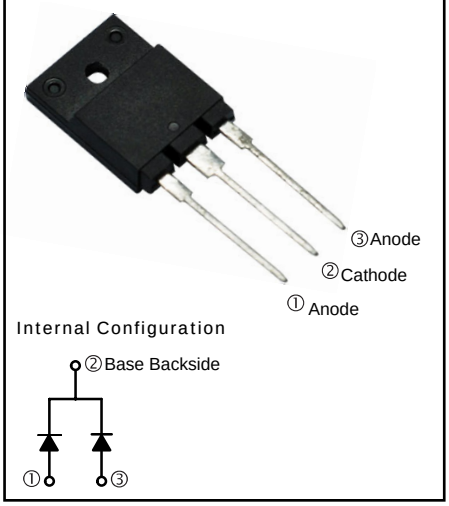
## APPLICATION

- 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-3PF(TO-3PML)




## GENERAL DESCRIPTION

L4202S using the lastest 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(total device) | $I_{F(AV)}$ | Tc =110°C | 20 | A |
| Single pulse forward current(total device) | $I_{FSM}$ | Tc =25°C | 200 | |
| Maximum repetitive forward current | $I_{FRM}$ | Square wave, 20kHZ | 50 | |
| Operating junction | Tj | | 175 | °C |
| Storage temperatures | Tstg | | -55 to +175 | °C |

**Electrical characteristics (Ta=25°C unless otherwise specified)**

| Parameter | Symbol | Test Conditions | Min | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Breakdown voltage Blocking voltage | $V_{BR}$, $V_R$ | $I_R$=100μA | 200 | | | V |
| Forward voltage (Per Diode) | $V_F$ | $I_F$=10A | | 0.88 | 1.20 | |
| | | $I_F$=10A, Tj =125°C | | 0.78 | 1.15 | |
| Reverse leakage current(Per Diode) | $I_R$ | $V_R$= $V_{RRM}$ | | | 10 | μA |
| | | Tj=150°C, $V_R$=200V | | | 100 | |
| Reverse recovery time(Per Diode) | $t_{rr}$ | $I_F$=0.5A, $I_R$=1A, $I_{RR}$=0.25A | | 30 | 40 | ns |
| | | $I_F$=1A,$V_R$=30V, di/*dt* =200A/us | | 20 | 30 | |

## Thermal characteristics

| Paramter | Symbol | Typ | Units |
|---|---|---|---|
| Junction-to-Case | $R_{\theta JC}$ | 1.2 | ℃/W |

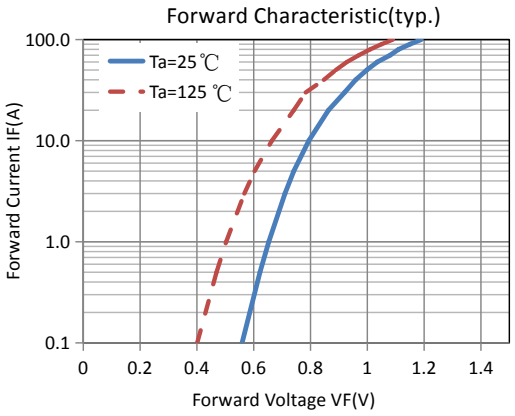


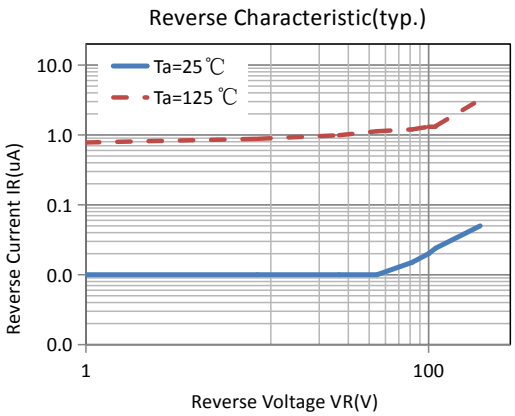
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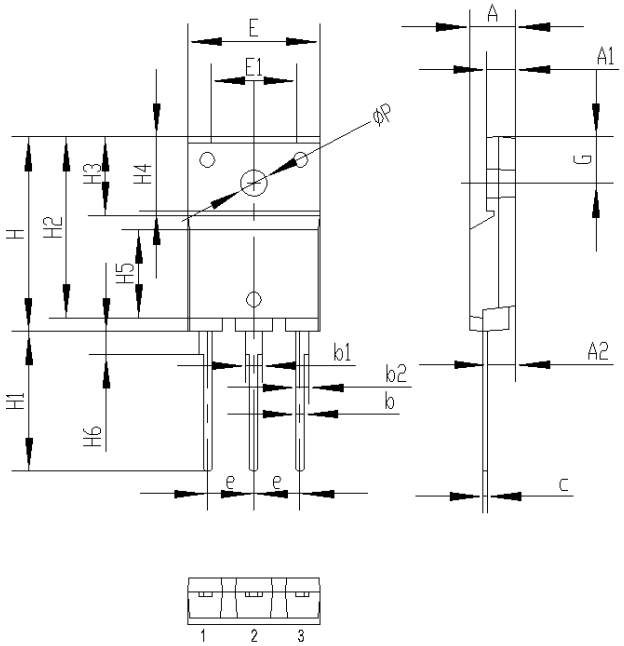
## Electrical performance (typical)




## Package Information

**TO-3PF PACKAGE**




| | mm | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| A | 5.3 | 5.5 | 5.7 |
| A1 | 3.25 | 3.45 | 3.65 |
| A2 | 3.15 | 3.35 | 3.55 |
| b | 0.85 | 1.0 | 1.15 |
| b1 | 1.85 | 2.0 | 2.15 |
| b2 | 1.45 | 1.6 | 1.75 |
| c | 0.4 | 0.5 | 0.6 |
| e | 5.3 | 5.45 | 5.6 |
| E | 15.40 | 15.60 | 15.80 |
| E1 | 10.00 | 10.20 | 10.40 |
| H | 22.80 | 23.00 | 23.20 |
| H1 | 16.00 | 16.50 | 17.00 |
| H2 | 21.20 | 21.40 | 21.60 |
| H3 | 9.10 | 9.30 | 9.50 |
| H4 | 8.55 | 8.75 | 8.95 |
| H5 | 10.20 | 10.40 | 10.60 |
| H6 | 2.55 | 2.70 | 2.85 |
| G | 5.3 | 5.5 | 5.7 |
| ØP | 3.05 | 3.2 | 3.35 |



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