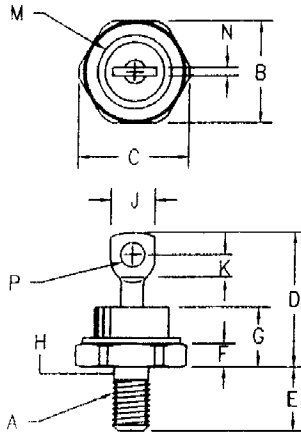


# Ultra Fast Rectifier

## 1N6304 1N6306



**Notes:**

- 1/4-28UNF3A threads
- Full threads within 2 1/2 threads
- For Reverse Polarity add R to Part Number  
Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | ---     | ---     | ---        | ---     | 1     |
| B    | .669    | .688    | 16.99      | 17.48   |       |
| C    | ---     | .793    | ---        | 20.14   |       |
| D    | .750    | 1.00    | 19.05      | 25.40   |       |
| E    | .422    | .453    | 10.72      | 11.51   |       |
| F    | .115    | .200    | 2.92       | 5.08    |       |
| G    | ---     | .450    | ---        | 11.43   |       |
| H    | .220    | .249    | 5.59       | 6.32    | 2     |
| J    | ---     | .375    | ---        | 9.53    |       |
| K    | .156    | ---     | 3.97       | ---     |       |
| M    | ---     | .667    | ---        | 16.94   | Dia   |
| N    | ---     | .080    | ---        | 2.03    |       |
| P    | .140    | .175    | 3.56       | 4.45    | Dia   |

(D05)

| Number  | Working Peak Reverse Voltage | Peak Reverse Voltage |
|---------|------------------------------|----------------------|
| 1N6304* | 50V                          | 50V                  |
| 1N6305* | 100V                         | 100V                 |
| 1N6306* | 150V                         | 150V                 |

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 70 Amps current rating
- 800 Amps surge rating
- VRRM 50 to 150 Volts

### Electrical Characteristics

|                              |                     |  |
|------------------------------|---------------------|--|
| Average forward current      | $I_F(AV)$ 70 Amps   | $T_C = 100^\circ C$ , Square wave, $R_{\theta JC} = 0.8^\circ C/W$ |
| Maximum surge current        | $I_{FSM}$ 800 Amps  | 8.3 ms, half sine $T_C = 55^\circ C$                               |
| Max peak forward voltage     | $V_{FM}$ .975 Volts | $I_{FM} = 70A$ ; $T_J = 25^\circ C^*$                              |
| Max peak reverse current     | $I_{RM}$ 30 mA      | $V_{RRM}$ , $T_J = 150^\circ C^*$                                  |
| Max peak reverse current     | $I_{RM}$ 25 $\mu A$ | $V_{RRM}$ , $T_J = 25^\circ C$                                     |
| Max reverse recovery time    | $t_{RR}$ 50 ns      | $I_F = .5A$ , $I_R = 1A$ , $i(REC) = .25A$ , $di/dt = 85A/\mu s$   |
| Typical junction capacitance | $C_J$ 300 pF        | $V_R = 10V$ , $f = 1Mhz$ , $T_J = 25^\circ C$                      |

\*Pulse test: Pulse width 300  $\mu s$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

|                               |                 |                                  |
|-------------------------------|-----------------|----------------------------------|
| Storage temp range            | $T_{STG}$       | $-65^\circ C$ to $175^\circ C$   |
| Operating junction temp range | $T_J$           | $-65^\circ C$ to $175^\circ C$   |
| Max thermal resistance        | $R_{\theta JC}$ | $0.8^\circ C/W$ Junction to case |
| Mounting torque               |                 | 25-30 inch pounds                |
| Weight                        |                 | 54 ounces (15.3 grams) typical   |