

PN918

NPN SILICON RF TRANSISTOR



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR PN918 type is an NPN silicon RF transistor, manufactured by the epitaxial planar process and designed for high frequency amplifier and oscillator applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

| | SYMBOL | | UNITS |
|--|----------------|-------------|--------------------|
| Collector-Base Voltage | V_{CBO} | 30 | V |
| Collector-Emitter Voltage | V_{CEO} | 15 | V |
| Emitter-Base Voltage | V_{EBO} | 3.0 | V |
| Continuous Collector Current | I_C | 50 | mA |
| Power Dissipation | P_D | 625 | mW |
| Power Dissipation ($T_C=25^\circ\text{C}$) | P_D | 1.0 | W |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Thermal Resistance | θ_{JA} | 2.0 | $^\circ\text{C/W}$ |
| Thermal Resistance | θ_{JC} | 12.5 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

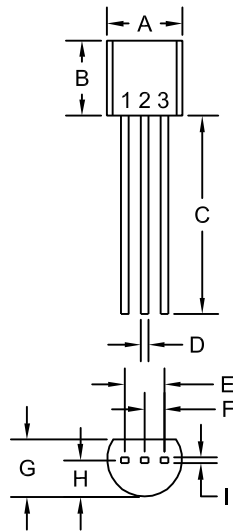
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---|-----|-----|-------|
| I_{CBO} | $V_{CB}=15\text{V}$ | | 10 | nA |
| BV_{CBO} | $I_C=1.0\mu\text{A}$ | 30 | | V |
| BV_{CEO} | $I_C=3.0\text{mA}$ | 15 | | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 3.0 | | V |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$ | | 0.4 | V |
| $V_{BE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$ | | 1.0 | V |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$ | 20 | | |
| f_T | $V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$ | 600 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 1.7 | pF |
| C_{ob} | $V_{EB}=0, I_E=0, f=1.0\text{MHz}$ | | 3.0 | pF |
| C_{ib} | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$ | | 2.0 | pF |
| P_o | $V_{CB}=15\text{V}, I_C=8.0\text{mA}, f=500\text{MHz}$ | 30 | | mW |
| G_{pe} | $V_{CB}=12\text{V}, I_C=6.0\text{mA}, f=200\text{MHz}$ | 15 | | dB |
| η | $V_{CB}=15\text{V}, I_C=8.0\text{mA}, f=500\text{MHz}$ | 25 | | % |
| NF | $V_{CE}=6.0\text{V}, I_C=1.0\text{mA}, R_G=400\Omega, f=60\text{kHz}$ | | 6.0 | dB |

R0 (11-September 2012)

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TO-92 CASE - MECHANICAL OUTLINE



R1

| SYMBOL | INCHES | | MILLIMETERS | |
|---------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A (DIA) | 0.175 | 0.205 | 4.45 | 5.21 |
| B | 0.170 | 0.210 | 4.32 | 5.33 |
| C | 0.500 | - | 12.70 | - |
| D | 0.016 | 0.022 | 0.41 | 0.56 |
| E | 0.100 | | 2.54 | |
| F | 0.050 | | 1.27 | |
| G | 0.125 | 0.165 | 3.18 | 4.19 |
| H | 0.080 | 0.105 | 2.03 | 2.67 |
| I | 0.015 | | 0.38 | |

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

R0 (11-September 2012)



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