

2N2906 2N2906A
2N2907 2N2907A

PNP SILICON TRANSISTOR



TO-18 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N2906, 2N2907 series types are silicon PNP epitaxial planar transistors designed for small signal, general purpose switching applications.

MARKING: FULL PART NUMBER

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Power Dissipation ($T_C=25^\circ\text{C}$)
Operating and Storage Junction Temperature
Thermal Resistance
Thermal Resistance

| SYMBOL | 2N2906 | 2N2906A | UNITS |
|----------------|--------|-------------|--------------------|
| | 2N2907 | 2N2907A | |
| V_{CB0} | 60 | 60 | V |
| V_{CEO} | 40 | 60 | V |
| V_{EBO} | | 5.0 | V |
| I_C | | 600 | mA |
| P_D | | 400 | mW |
| P_D | | 1.8 | W |
| T_J, T_{stg} | | -65 to +200 | $^\circ\text{C}$ |
| θ_{JA} | | 438 | $^\circ\text{C/W}$ |
| θ_{JC} | | 97 | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS | 2N2906 | | 2N2906A | | UNITS |
|---------------|---|--------|-----|---------|-----|---------------|
| | | 2N2907 | | 2N2907A | | |
| | | MIN | MAX | MIN | MAX | |
| I_{CBO} | $V_{CB}=50\text{V}$ | - | 20 | - | 10 | nA |
| I_{CBO} | $V_{CB}=50\text{V}, T_A=150^\circ\text{C}$ | - | 20 | - | 10 | μA |
| I_{CEV} | $V_{CE}=30\text{V}, V_{EB}=0.5\text{V}$ | - | 50 | - | 50 | nA |
| BV_{CBO} | $I_C=10\mu\text{A}$ | 60 | - | 60 | - | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 40 | - | 60 | - | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 5.0 | - | 5.0 | - | V |
| $V_{CE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | - | 0.4 | - | 0.4 | V |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | - | 1.6 | - | 1.6 | V |
| $V_{BE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | - | 1.3 | - | 1.3 | V |
| $V_{BE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | - | 2.6 | - | 2.6 | V |
| f_T | $V_{CE}=20\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ | 200 | - | 200 | - | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | - | 8.0 | - | 8.0 | pF |
| C_{ib} | $V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$ | - | 30 | - | 30 | pF |
| t_{on} | $V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$ | - | 45 | - | 45 | ns |
| t_{off} | $V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$ | - | 100 | - | 100 | ns |

2N2906 2N2906A
2N2907 2N2907A

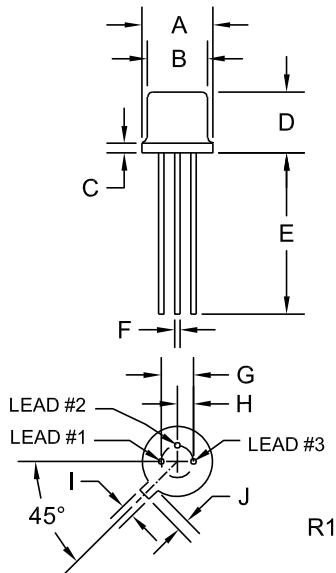
PNP SILICON TRANSISTOR



ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$)

| SYMBOL | TEST CONDITIONS | 2N2906 2N2906A | | 2N2907 2N2907A | |
|--------|---|-------------------|-----|-------------------|-----|
| | | MIN | MAX | MIN | MAX |
| hFE | $V_{CE}=10\text{V}$, $I_C=0.1\text{mA}$ (2N2906, 2N2907) | 20 | - | 35 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=0.1\text{mA}$ (2N2906A, 2N2907A) | 40 | - | 75 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$ (2N2906, 2N2907) | 25 | - | 50 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$ (2N2906A, 2N2907A) | 40 | - | 100 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=10\text{mA}$ (2N2906, 2N2907) | 35 | - | 75 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=10\text{mA}$ (2N2906A, 2N2907A) | 40 | - | 100 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=150\text{mA}$ | 40 | 120 | 100 | 300 |
| hFE | $V_{CE}=10\text{V}$, $I_C=500\text{mA}$ (2N2906, 2N2907) | 20 | - | 30 | - |
| hFE | $V_{CE}=10\text{V}$, $I_C=500\text{mA}$ (2N2906A, 2N2907A) | 40 | - | 50 | - |

TO-18 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|---------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A (DIA) | 0.209 | 0.230 | 5.31 | 5.84 |
| B (DIA) | 0.178 | 0.195 | 4.52 | 4.95 |
| C | - | 0.030 | - | 0.76 |
| D | 0.170 | 0.210 | 4.32 | 5.33 |
| E | 0.500 | - | 12.70 | - |
| F (DIA) | 0.016 | 0.019 | 0.41 | 0.48 |
| G (DIA) | 0.100 | | 2.54 | |
| H | 0.050 | | 1.27 | |
| I | 0.036 | 0.046 | 0.91 | 1.17 |
| J | 0.028 | 0.048 | 0.71 | 1.22 |

TO-18 (REV: R1)

LEAD CODE:

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

MARKING: FULL PART NUMBER

R4 (30-January 2012)

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Central's operations team provides the highest level of support to insure product is delivered on-time.

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- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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