

PN4033

PNP SILICON TRANSISTOR



TO-92 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR PN4033 type is a PNP silicon transistor manufactured by the epitaxial planar process, designed for high current general purpose amplifier 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
Operating and Storage Junction Temperature
Thermal Resistance

| SYMBOL | | UNITS |
|----------------|-------------|----------------------|
| V_{CB0} | 80 | V |
| V_{CEO} | 80 | V |
| V_{EBO} | 5.0 | V |
| I_C | 1.0 | A |
| P_D | 625 | mW |
| T_J, T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |
| Θ_{JA} | 200 | $^{\circ}\text{C/W}$ |

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

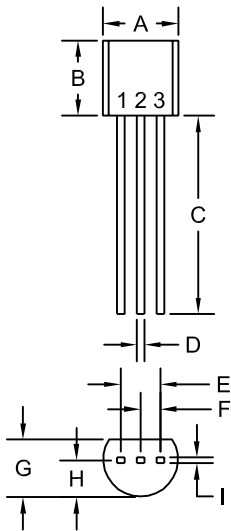
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---|-----|------|---------------|
| I_{CBO} | $V_{CB}=60\text{V}$ | | 50 | nA |
| I_{CBO} | $V_{CB}=60\text{V}, T_A=150^{\circ}\text{C}$ | | 50 | μA |
| I_{EBO} | $V_{EB}=5.0\text{V}$ | | 10 | μA |
| BV_{CBO} | $I_C=10\mu\text{A}$ | 80 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 80 | | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 5.0 | | V |
| $V_{CE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | | 0.15 | V |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 0.50 | V |
| $V_{BE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | | 0.90 | V |
| $V_{BE(ON)}$ | $V_{CE}=0.5\text{V}, I_C=500\text{mA}$ | | 1.10 | V |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$ | 75 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$ | 100 | 300 | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=500\text{mA}$ | 70 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$ | 25 | | |
| f_T | $V_{CE}=10\text{V}, I_C=50\text{mA}$ | 100 | 400 | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 20 | pF |
| t_{on} | $I_C=500\text{mA}, I_{B1}=50\text{mA}$ | | 100 | ns |
| t_s | $I_C=500\text{mA}, I_{B1}=I_{B2}=50\text{mA}$ | | 350 | ns |
| t_f | $I_C=500\text{mA}, I_{B1}=I_{B2}=50\text{mA}$ | | 50 | ns |

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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

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

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

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- 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

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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