

2N6430 2N6431 NPN  
2N6432 2N6433 PNP

**COMPLEMENTARY  
SILICON TRANSISTORS**



**TO-18 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6430 series devices are complementary small signal silicon transistors manufactured by the epitaxial planar process, designed for high voltage amplifier applications.

**MARKING: FULL PART NUMBER**

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

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

| SYMBOL         | 2N6430 | 2N6431      | UNITS                      |
|----------------|--------|-------------|----------------------------|
|                | 2N6432 | 2N6433      |                            |
| $V_{CB0}$      | 200    | 300         | V                          |
| $V_{CEO}$      | 200    | 300         | V                          |
| $V_{EBO}$      |        | 6.0         | V                          |
| $V_{EBO}$      |        | 5.0         | V                          |
| $I_C$          |        | 100         | mA                         |
| $P_D$          |        | 1.8         | W                          |
| $P_D$          |        | 500         | mW                         |
| $T_J, T_{stg}$ |        | -65 to +200 | $^\circ\text{C}$           |
| $\theta_{JA}$  |        | 0.35        | $^\circ\text{C}/\text{mW}$ |
| $\theta_{JC}$  |        | 97.2        | $^\circ\text{C}/\text{W}$  |

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

| SYMBOL        | TEST CONDITIONS                       | 2N6430 |        | 2N6432 |        | UNITS |
|---------------|---------------------------------------|--------|--------|--------|--------|-------|
|               |                                       | 2N6431 | 2N6433 | 2N6432 | 2N6433 |       |
|               |                                       | MIN    | MAX    | MIN    | MAX    |       |
| $I_{CB0}$     | $V_{CB}=160\text{V}$ (2N6430, 2N6432) | -      | 100    | -      | 250    | nA    |
| $I_{CB0}$     | $V_{CB}=200\text{V}$ (2N6431, 2N6433) | -      | 100    | -      | 250    | nA    |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                  | -      | 100    | -      | -      | nA    |
| $I_{EBO}$     | $V_{EB}=3.0\text{V}$                  | -      | -      | -      | 100    | nA    |
| $BV_{CB0}$    | $I_C=100\mu\text{A}$ (2N6430, 2N6432) | 200    | -      | 200    | -      | V     |
| $BV_{CB0}$    | $I_C=100\mu\text{A}$ (2N6431, 2N6433) | 300    | -      | 300    | -      | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$ (2N6430, 2N6432)   | 200    | -      | 200    | -      | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$ (2N6431, 2N6433)   | 300    | -      | 300    | -      | V     |
| $BV_{EBO}$    | $I_E=100\mu\text{A}$                  | 6.0    | -      | 5.0    | -      | V     |
| $V_{CE(SAT)}$ | $I_C=20\text{mA}, I_B=2.0\text{mA}$   | -      | 0.5    | -      | 0.5    | V     |
| $V_{BE(SAT)}$ | $I_C=20\text{mA}, I_B=2.0\text{mA}$   | -      | 0.9    | -      | 0.9    | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{mA}$ | 25     | -      | 25     | -      |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=10\text{mA}$  | 40     | -      | 40     | -      |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=30\text{mA}$  | 50     | 200    | 30     | 150    |       |

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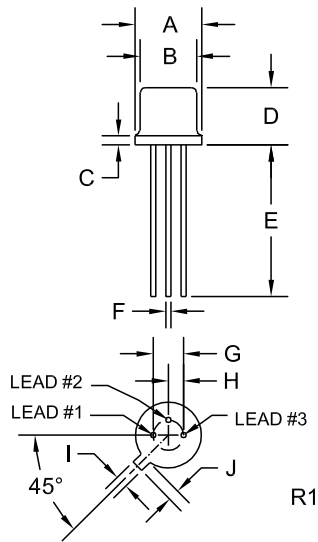
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ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$  unless otherwise noted)

| SYMBOL   | TEST CONDITIONS   | 2N6430 |     | 2N6432 |     | UNITS |
|----------|---|--------|-----|--------|-----|-------|
|          |   | MIN    | MAX | MIN    | MAX |       |
| $f_T$    | $V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=100\text{MHz}$ | 50     | 200 | -      | -   | MHz   |
| $f_T$    | $V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=20\text{MHz}$  | -      | -   | 50     | -   | MHz   |
| $C_{ob}$ | $V_{CB}=20\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$           | -      | 4.0 | -      | 6.0 | pF    |

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

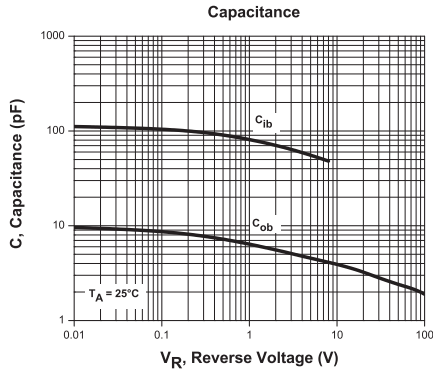
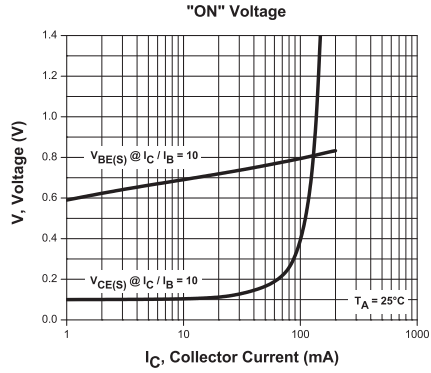
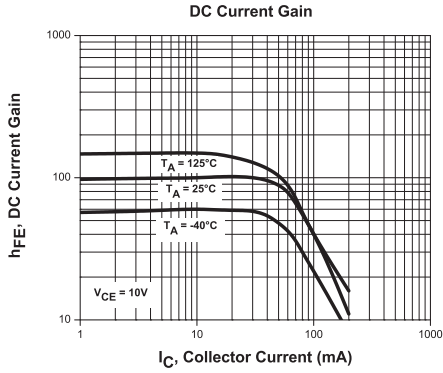
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NPN TYPICAL ELECTRICAL CHARACTERISTICS



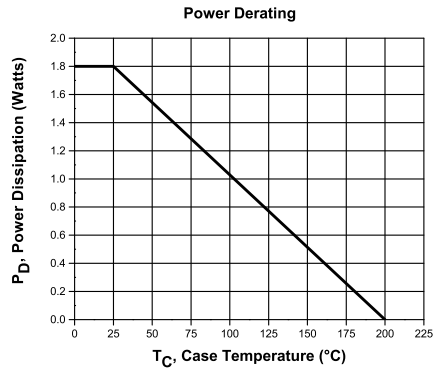
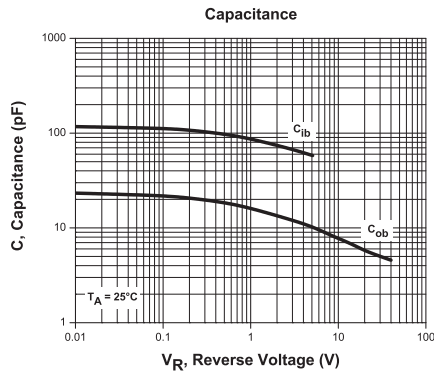
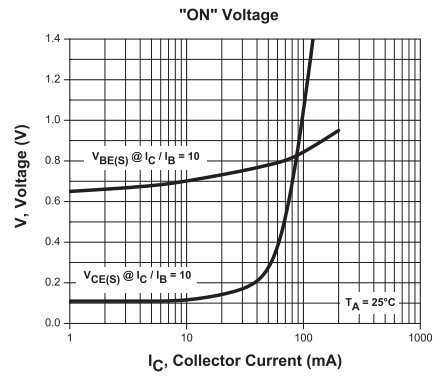
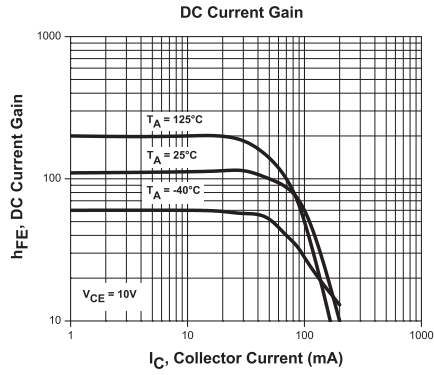
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PNP TYPICAL ELECTRICAL CHARACTERISTICS



R1 (26-July 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### CONTACT US

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