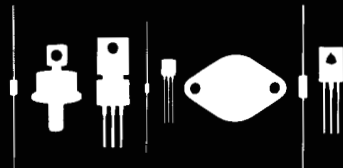


145 Adams Avenue  
 Hauppauge, New York 11788  
**Central Semiconductor Corp.**  
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2N6428  
 2N6429

NPN SILICON TRANSISTOR

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6428, 2N6429 types are NPN Silicon Transistors manufactured by the epitaxial planar process, designed for high gain amplifier applications.

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

|                                                | SYMBOL         | 2N6428      | 2N6429 | UNITS                |
|------------------------------------------------|----------------|-------------|--------|----------------------|
| Collector-Base Voltage                         | $V_{CBO}$      | 60          | 55     | V                    |
| Collector-Emitter Voltage                      | $V_{CEO}$      | 50          | 45     | V                    |
| Emitter-Base Voltage                           | $V_{EBO}$      | 6.0         |        | V                    |
| Collector Current                              | $I_C$          | 200         |        | mA                   |
| Power Dissipation                              | $P_D$          | 625         |        | mW                   |
| Power Dissipation $(T_C = 25^{\circ}\text{C})$ | $P_D$          | 1.5         |        | W                    |
| Operating and Storage                          |                |             |        |                      |
| Junction Temperature                           | $T_J, T_{stg}$ | -65 to +150 |        | $^{\circ}\text{C}$   |
| Thermal Resistance                             | $\Theta_{JA}$  | 200         |        | $^{\circ}\text{C/W}$ |
| Thermal Resistance                             | $\Theta_{JC}$  | 83.3        |        | $^{\circ}\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                               | 2N6428 |      | 2N6429 |      | UNITS            |
|---------------|---------------------------------------------------------------|--------|------|--------|------|------------------|
|               |                                                               | MIN    | MAX  | MIN    | MAX  |                  |
| $I_{CBO}$     | $V_{CB} = 30\text{V}$                                         |        | 10   |        | 10   | nA               |
| $I_{CEO}$     | $V_{CE} = 30\text{V}$                                         |        | 25   |        | 25   | nA               |
| $I_{EBO}$     | $V_{BE} = 5.0\text{V}$                                        |        | 10   |        | 10   | nA               |
| $BV_{CBO}$    | $I_C = 100\mu\text{A}$                                        | 60     |      | 55     |      | V                |
| $BV_{CEO}$    | $I_C = 1.0\text{mA}$                                          | 50     |      | 45     |      | V                |
| $V_{CE(SAT)}$ | $I_C = 10\text{mA}, I_B = 0.5\text{mA}$                       |        | 0.20 |        | 0.20 | V                |
| $V_{CE(SAT)}$ | $I_C = 100\text{mA}, I_B = 5.0\text{mA}$                      |        | 0.60 |        | 0.60 | V                |
| $V_{BE(ON)}$  | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}$                    | 0.56   | 0.66 | 0.56   | 0.66 | V                |
| $h_{FE}$      | $V_{CE} = 5.0\text{V}, I_C = 10\mu\text{A}$                   | 250    |      | 500    |      |                  |
| $h_{FE}$      | $V_{CE} = 5.0\text{V}, I_C = 100\mu\text{A}$                  | 250    | 650  | 500    | 1250 |                  |
| $h_{FE}$      | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}$                    | 250    |      | 500    |      |                  |
| $h_{FE}$      | $V_{CE} = 5.0\text{V}, I_C = 10\text{mA}$                     | 250    |      | 500    |      |                  |
| $f_T$         | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}, f = 100\text{MHz}$ | 100    | 700  | 100    | 700  | MHz              |
| $C_{ob}$      | $V_{CB} = 10\text{V}, I_E = 0, f = 1.0\text{MHz}$             |        | 3.0  |        | 3.0  | pF               |
| $C_{ib}$      | $V_{BE} = 0.5\text{V}, I_C = 0, f = 1.0\text{MHz}$            |        | 8.0  |        | 8.0  | pF               |
| $h_{ie}$      | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}, f = 1.0\text{kHz}$ | 3.0    | 30   | 6.0    | 60   | $k\Omega$        |
| $h_{re}$      | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}, f = 1.0\text{kHz}$ | 2.0    | 20   | 5.0    | 50   | $\times 10^{-4}$ |
| $h_{fe}$      | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}, f = 1.0\text{kHz}$ | 200    | 800  | 400    | 1600 |                  |
| $h_{oe}$      | $V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}, f = 1.0\text{kHz}$ | 5.0    | 50   | 10     | 100  | $\mu\text{mhos}$ |

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## 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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### 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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### CONTACT US

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