

2N5415  
2N5416

SILICON  
PNP TRANSISTORS



TO-39 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N5415 and 2N5416 are silicon PNP transistors designed for consumer and industrial line-operated 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               |
| Continuous Base Current                    |
| Power Dissipation                          |
| Operating and Storage Junction Temperature |

| SYMBOL         | 2N5415      | 2N5416 | UNITS            |
|----------------|-------------|--------|------------------|
| $V_{CBO}$      | 200         | 350    | V                |
| $V_{CEO}$      | 200         | 300    | V                |
| $V_{EBO}$      | 4.0         | 6.0    | V                |
| $I_C$          |             | 1.0    | A                |
| $I_B$          |             | 0.5    | A                |
| $P_D$          |             | 1.0    | W                |
| $T_J, T_{stg}$ | -65 to +200 |        | $^\circ\text{C}$ |

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

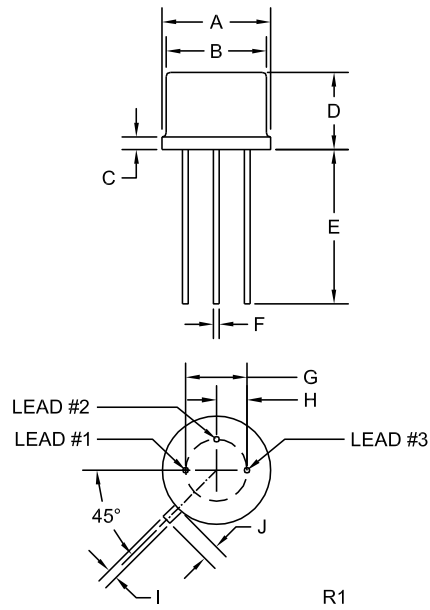
| SYMBOL        | TEST CONDITIONS  | 2N5415 |     | 2N5416 |     | UNITS         |
|---------------|--|--------|-----|--------|-----|---------------|
|               |  | MIN    | MAX | MIN    | MAX |               |
| $I_{CBO}$     | $V_{CB}=175\text{V}$                                   | -      | 50  | -      | -   | $\mu\text{A}$ |
| $I_{CBO}$     | $V_{CB}=280\text{V}$                                   | -      | -   | -      | 50  | $\mu\text{A}$ |
| $I_{CEV}$     | $V_{CE}=200\text{V}, V_{EB}=1.5\text{V}$               | -      | 50  | -      | -   | $\mu\text{A}$ |
| $I_{CEV}$     | $V_{CE}=300\text{V}, V_{EB}=1.5\text{V}$               | -      | -   | -      | 50  | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=150\text{V}$                                   | -      | 50  | -      | -   | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=250\text{V}$                                   | -      | -   | -      | 50  | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                                   | -      | 20  | -      | -   | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=6.0\text{V}$                                   | -      | -   | -      | 20  | $\mu\text{A}$ |
| $BV_{CEO}$    | $I_C=50\text{mA}$                                      | 200    | -   | 300    | -   | V             |
| $BV_{CER}$    | $I_C=50\text{mA}, R_{BE}=50\Omega$                     | -      | -   | 350    | -   | V             |
| $V_{CE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$                    | -      | 2.5 | -      | 2.0 | V             |
| $V_{BE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$                    | -      | 1.5 | -      | 1.5 | V             |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=50\text{mA}$                   | 30     | 150 | 30     | 120 |               |
| $h_{fe}$      | $V_{CE}=10\text{V}, I_C=5.0\text{mA}, f=1.0\text{kHz}$ | 25     | -   | 25     | -   |               |
| $f_T$         | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=5.0\text{MHz}$  | 15     | -   | 15     | -   | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$            | -      | 25  | -      | 25  | pF            |

R2 (16-December 2013)

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TO-39 CASE - MECHANICAL OUTLINE



| SYMBOL  | INCHES |       | MILLIMETERS |      |
|---------|--------|-------|-------------|------|
|         | MIN    | MAX   | MIN         | MAX  |
| A (DIA) | 0.335  | 0.370 | 8.51        | 9.40 |
| B (DIA) | 0.315  | 0.335 | 8.00        | 8.51 |
| C       | -      | 0.040 | -           | 1.02 |
| D       | 0.240  | 0.260 | 6.10        | 6.60 |
| E       | 0.500  | -     | 12.70       | -    |
| F (DIA) | 0.016  | 0.021 | 0.41        | 0.53 |
| G (DIA) | 0.200  |       | 5.08        |      |
| H       | 0.100  |       | 2.54        |      |
| I       | 0.028  | 0.034 | 0.71        | 0.86 |
| J       | 0.029  | 0.045 | 0.74        | 1.14 |

TO-39 (REV: R1)

LEAD CODE:

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

MARKING: FULL PART NUMBER

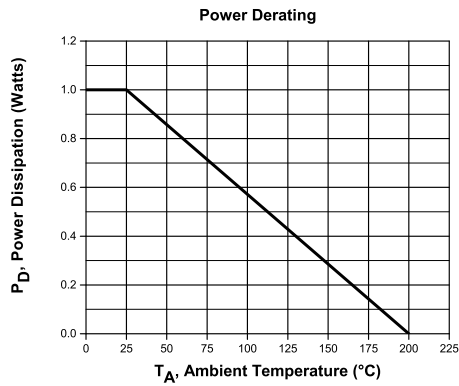
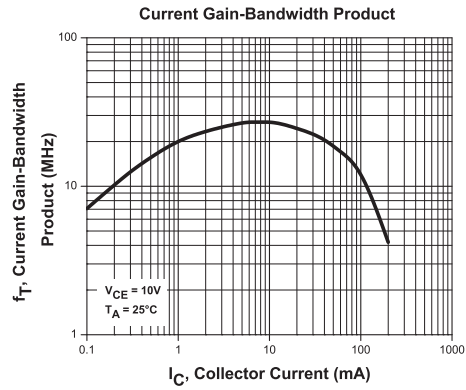
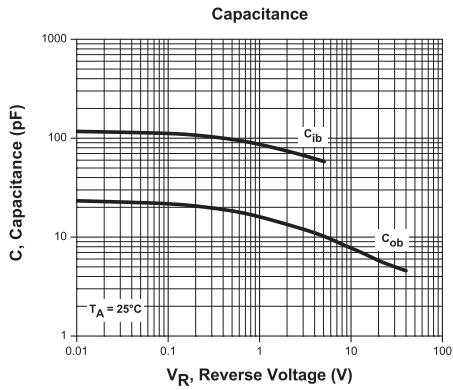
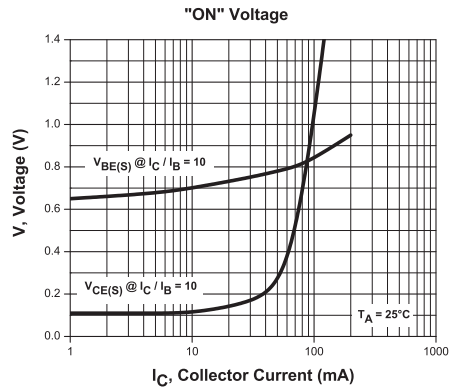
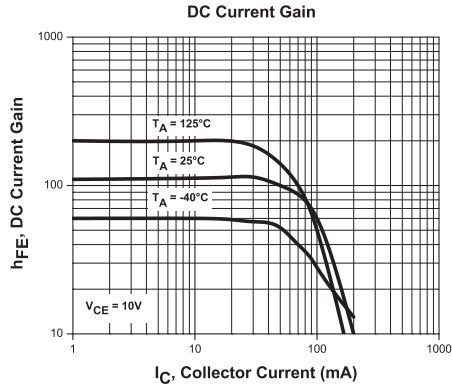
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TYPICAL ELECTRICAL CHARACTERISTICS



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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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