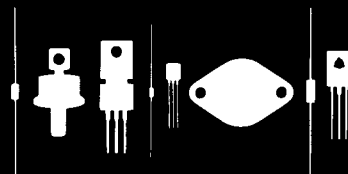


Central  
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145 Adams Avenue  
 Hauppauge, New York 11788



2N5814 2N5816 2N5818 NPN  
 2N5815 2N5817 2N5819 PNP

COMPLEMENTARY SILICON  
 TRANSISTORS

T0-92-18R CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5814 Series types are epoxy molded Complementary Silicon Small Signal Transistors manufactured by the epitaxial Planar process designed for general purpose amplifier applications where a high collector current rating is required.

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

|   | SYMBOL         |             | UNIT             |
|---|----------------|-------------|------------------|
| Collector Base Voltage                        | $V_{CBO}$      | 50          | V                |
| Collector Emitter Voltage                     | $V_{CES}$      | 50          | V                |
| Collector Emitter Voltage                     | $V_{CEO}$      | 40          | V                |
| Emitter Base Voltage                          | $V_{EBO}$      | 5.0         | V                |
| Collector Current                             | $I_C$          | 750         | mA               |
| Collector Current (PEAK)                      | $I_{CM}$       | 1000        | mA               |
| Power Dissipation                             | $P_D$          | 625         | mW               |
| Power Dissipation ( $T_C=25^\circ\text{C}$ )  | $P_D$          | 1500        | mW               |
| Operating and Storage<br>Junction Temperature | $T_J, T_{stg}$ | -65 TO +150 | $^\circ\text{C}$ |

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

| SYMBOL        | TEST CONDITIONS  | MIN  | MAX  | UNIT          |
|---------------|--|------|------|---------------|
| $T_{CBO}$     | $V_{CB}=25\text{V}$  |      | TOO  | nA            |
| $I_{CBO}$     | $V_{CB}=25\text{V}, T_A=100^\circ\text{C}$                             |      | 15   | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$   |      | 10   | $\mu\text{A}$ |
| $BV_{CES}$    | $I_C=10\mu\text{A}$  | 50   |      | V             |
| $BV_{CEO}$    | $I_C=10\text{mA}$  | 40   |      | V             |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$  | 5.0  |      | V             |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$                                    |      | 0.75 | V             |
| $V_{BE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$                                    |      | 1.2  | V             |
| $V_{BE(ON)}$  | $V_{CE}=2.0\text{V}, I_C=500\text{mA}$                                 | 0.60 | 1.1  | V             |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5814, 2N5815)                | 60   | 120  |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5816, 2N5817)                | 100  | 200  |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5818, 2N5819)                | 150  | 300  |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5814, 2N5815)                | 20   | -    |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5816, 2N5817)                | 25   | -    |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5818, 2N5819)                | 25   | -    |               |
| $f_T$         | $V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5814, 2N5815) | 100  |      | MHz           |
| $f_T$         | $V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5816, 2N5817) | 120  |      | MHz           |
| $f_T$         | $V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5818, 2N5819) | 135  |      | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, f=1.0\text{MHz}$                                   |      | 15   | pF            |
| $C_{ib}$      | $V_{EB}=0.5\text{V}, f=1.0\text{MHz}$                                  |      | 55   | pF            |

**Central™**  
**Semiconductor Corp.**

145 Adams Avenue  
 Hauppauge, NY 11788 USA  
 Tel: (631) 435-1110 • Fax: (631) 435-1824  
[www.centralsemi.com](http://www.centralsemi.com)

## 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)
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- 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

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centalsemi.com](http://www.centalsemi.com)

**Worldwide Field Representatives:**  
[www.centalsemi.com/wwreps](http://www.centalsemi.com/wwreps)

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