

# Small Signal Transistors

## TO-92 Case



| TYPE NO. | DESCRIPTION     | LEAD CODE | V <sub>CB0</sub> | V <sub>CEO</sub>                | V <sub>EBO</sub> | I <sub>CB0</sub> @                                    | V <sub>CB</sub> | h <sub>FE</sub> |                                   | @ V <sub>CE</sub> |      | @ I <sub>C</sub> |      | V <sub>CE (SAT)</sub> @ I <sub>C</sub> |      | C <sub>ob</sub>                 | f <sub>T</sub>       | NF          | t <sub>off</sub> |
|----------|-----------------|-----------|------------------|---------------------------------|------------------|-------------------------------------------------------|-----------------|-----------------|-----------------------------------|-------------------|------|------------------|------|----------------------------------------|------|---------------------------------|----------------------|-------------|------------------|
|          |                 |           | (V)<br>MIN       | (V)<br>*V <sub>CES</sub><br>MIN | (V)<br>MIN       | (nA)<br>*I <sub>CES</sub><br>*I <sub>CEV</sub><br>MAX |                 | MIN             | *h <sub>FE</sub><br>(1kHz)<br>MAX | (V)               | (mA) | (V)              | (mA) | (V)                                    | (mA) | (pF)<br>*C <sub>rb</sub><br>MAX | (MHz)<br>*TYP<br>MIN | (dB)<br>MAX | MAX              |
| 2N2712   | NPN AMPL/SWITCH | ECB       | 18               | 18                              | 5.0              | 500                                                   | 18              | 75              | 250                               | --                | --   | --               | --   | --                                     | --   | 12                              | --                   | 2.8         | --               |
| 2N2714   | NPN AMPL/SWITCH | ECB       | 18               | 18                              | 5.0              | 100                                                   | 18              | 75              | 250                               | 0.30              | 50   | 1.20             | 50   | --                                     | --   | --                              | --                   | --          | --               |
| 2N2923   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 90              | 180*                              | --                | --   | --               | --   | --                                     | --   | 10                              | 160*                 | --          | --               |
| 2N2924   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 150             | 300*                              | --                | --   | --               | --   | --                                     | --   | 10                              | 160*                 | --          | --               |
| 2N2925   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 235             | 470*                              | --                | --   | --               | --   | --                                     | --   | 10                              | 160*                 | 2.8         | --               |
| 2N2926   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 500                                                   | 18              | 35              | 470*                              | --                | --   | --               | --   | --                                     | --   | 10                              | 120*                 | 2.8         | --               |
| 2N3391A  | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 250             | 500                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | 120*                 | 5.0         | --               |
| 2N3392   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 150             | 300                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | 120*                 | --          | --               |
| 2N3393   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 90              | 180                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | 120*                 | --          | --               |
| 2N3395   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 150             | 500                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | --                   | --          | --               |
| 2N3396   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 90              | 500                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | --                   | --          | --               |
| 2N3397   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 55              | 500                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | --                   | --          | --               |
| 2N3398   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 55              | 800                               | 4.50              | 2.0  | --               | --   | --                                     | --   | 10                              | --                   | --          | --               |
| 2N3415   | NPN LOW NOISE   | ECB       | 25               | 25                              | 5.0              | 100                                                   | 25              | 180             | 540                               | 4.50              | 2.0  | 0.30             | 50   | --                                     | --   | --                              | --                   | --          | --               |
| 2N3416   | NPN LOW NOISE   | ECB       | 50               | 50                              | 5.0              | 100                                                   | 25              | 75              | 225                               | 4.50              | 2.0  | 0.30             | 50   | --                                     | --   | --                              | --                   | --          | --               |
| 2N3417   | NPN LOW NOISE   | ECB       | 50               | 50                              | 5.0              | 100                                                   | 50              | 180             | 540                               | 4.50              | 2.0  | 0.30             | 50   | --                                     | --   | --                              | --                   | --          | --               |
| 2N3702   | PNP AMPL/SWITCH | ECB       | 40               | 25                              | 5.0              | 100                                                   | 20              | 60              | 300                               | 5.0               | 0.05 | 0.25             | 50   | 12                                     | 100  | --                              | --                   | --          | --               |
| 2N3703   | PNP AMPL/SWITCH | ECB       | 50               | 30                              | 5.0              | 100                                                   | 20              | 30              | 150                               | 5.0               | 50   | 0.25             | 50   | 12                                     | 100  | --                              | --                   | --          | --               |
| 2N3704   | NPN AMPL/SWITCH | ECB       | 50               | 30                              | 5.0              | 100                                                   | 20              | 100             | 300                               | 2.0               | 50   | 0.60             | 100  | 12                                     | 100  | --                              | --                   | --          | --               |
| 2N3705   | NPN AMPL/SWITCH | ECB       | 50               | 30                              | 5.0              | 100                                                   | 20              | 50              | 150                               | 2.0               | 50   | 0.80             | 100  | 12                                     | 100  | --                              | --                   | --          | --               |
| 2N3706   | NPN AMPL/SWITCH | ECB       | 40               | 20                              | 5.0              | 100                                                   | 20              | 30              | 600                               | 2.0               | 50   | 1.0              | 100  | 12                                     | 100  | --                              | --                   | --          | --               |
| 2N3707   | NPN LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 100             | 400                               | 5.0               | 1.0  | 1.0              | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N3708   | NPN LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 45              | 660                               | 5.0               | 1.0  | 1.0              | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N3709   | NPN LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 45              | 165                               | 5.0               | 1.0  | 1.0              | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N3710   | NPN LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 90              | 330                               | 5.0               | 1.0  | 1.0              | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N3711   | NPN LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 180             | 660                               | 5.0               | 1.0  | 1.0              | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N3859A  | NPN LOW NOISE   | ECB       | 60               | 60                              | 6.0              | 50                                                    | 60              | 100             | 200                               | 4.50              | 2.0  | 0.125            | 10   | 4.0                                    | --   | 5.0                             | --                   | --          | --               |
| 2N3860   | NPN LOW NOISE   | ECB       | 30               | 30                              | 4.0              | 50                                                    | 30              | 150             | 300                               | 4.50              | 2.0  | 0.125            | 10   | 4.0                                    | 90   | --                              | --                   | --          | --               |
| 2N3903   | NPN AMPL/SWITCH | EBC       | 60               | 40                              | 6.0              | 50*                                                   | 30              | 50              | 150                               | 1.0               | 10   | 0.30             | 50   | 4.0                                    | 250  | 6.0                             | 225                  | --          | --               |
| 2N3904   | NPN AMPL/SWITCH | EBC       | 60               | 40                              | 6.0              | 50*                                                   | 30              | 100             | 300                               | 1.0               | 10   | 0.30             | 50   | 4.0                                    | 300  | 5.0                             | 250                  | --          | --               |
| 2N3905   | PNP AMPL/SWITCH | EBC       | 40               | 40                              | 5.0              | 50*                                                   | 30              | 50              | 150                               | 1.0               | 10   | 0.40             | 50   | 4.5                                    | 200  | 5.0                             | 260                  | --          | --               |
| 2N3906   | PNP AMPL/SWITCH | EBC       | 40               | 40                              | 5.0              | 50*                                                   | 30              | 100             | 300                               | 1.0               | 10   | 0.40             | 50   | 4.5                                    | 250  | 4.0                             | 300                  | --          | --               |
| 2N4058   | PNP LOW NOISE   | ECB       | 30               | 30                              | 6.0              | 100                                                   | 20              | 100             | 400                               | 5.0               | 0.10 | 0.70             | 10   | --                                     | --   | 5.0                             | --                   | --          | --               |
| 2N4123   | NPN AMPL/SWITCH | EBC       | 40               | 30                              | 5.0              | 50                                                    | 20              | 50              | 150                               | 1.0               | 2.0  | 0.30             | 50   | 4.0                                    | 250  | 6.0                             | --                   | --          | --               |
| 2N4124   | NPN AMPL/SWITCH | EBC       | 30               | 25                              | 5.0              | 50                                                    | 20              | 120             | 360                               | 1.0               | 2.0  | 0.30             | 50   | 4.0                                    | 300  | 5.0                             | --                   | --          | --               |
| 2N4125   | PNP AMPL/SWITCH | EBC       | 30               | 30                              | 4.0              | 50                                                    | 20              | 50              | 150                               | 1.0               | 2.0  | 0.40             | 50   | 4.5                                    | 200  | 5.0                             | --                   | --          | --               |
| 2N4126   | PNP AMPL/SWITCH | EBC       | 25               | 25                              | 4.0              | 50                                                    | 20              | 120             | 360                               | 1.0               | 2.0  | 0.40             | 50   | 4.5                                    | 250  | 4.0                             | --                   | --          | --               |
| 2N4264   | NPN SAT SWITCH  | EBC       | 30               | 15                              | 6.0              |                                                       | 12              | 40              | 160                               | 1.0               | 10   | 0.35             | 100  | 4.0                                    | 350  | --                              | --                   | 35          | --               |
| 2N4287   | NPN LOW NOISE   | ECB       | 45               | 45                              | 7.0              | 10                                                    | 30              | 150             | 600                               | 5.0               | 1.0  | 0.35             | 1.0  | 6.0                                    | 40   | 5.0                             | --                   | --          | --               |
| 2N4289   | PNP LOW NOISE   | ECB       | 60               | 45                              | 7.0              | 10                                                    | 45              | 150             | 600                               | 0.35              | 1.0  | 0.80             | 1.0  | 8.0                                    | 40   | 4.0                             | --                   | --          | --               |
| 2N4400   | NPN AMPL/SWITCH | EBC       | 60               | 40                              | 6.0              | 100*                                                  | 35              | 50              | 150                               | 1.0               | 150  | 0.75             | 500  | 6.5                                    | 200  | --                              | --                   | 255         | --               |

**Central**  
Semiconductor Corp.  
www.centalsemi.com

Devices are available lead formed,  
See pages 216 thru 219 for details.  
Also available in Ammopack or Tape & Reel,  
See pages 230 thru 235 for details.

(14-May 2015)

---

### 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 (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

---

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

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

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)