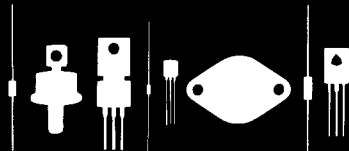


Central  
Semiconductor Corp.

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Central<sup>TM</sup>  
**Semiconductor Corp.**

145 Adams Avenue  
Hauppauge, New York 11788



2N4123 2N4124 NPN  
2N4125 2N4126 PNP

COMPLEMENTARY SILICON TRANSISTORS

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N4123 series types are complementary silicon small signal transistors manufactured by the epitaxial planar process designed for amplifier and switching applications.

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

|                                            | SYMBOL                            | 2N4123      | 2N4124 | 2N4125 | 2N4126 | UNIT  |
|--------------------------------------------|-----------------------------------|-------------|--------|--------|--------|-------|
| Collector-Base Voltage                     | V <sub>CB0</sub>                  | 40          | 30     | 30     | 25     | V     |
| Collector-Emitter Voltage                  | V <sub>CE0</sub>                  | 30          | 25     | 30     | 25     | V     |
| Emitter-Base Voltage                       | V <sub>EB0</sub>                  | 5.0         | 5.0    | 4.0    | 4.0    | V     |
| Collector Current                          | I <sub>C</sub>                    | 200         | 200    | 200    | 200    | mA    |
| Power Dissipation                          | P <sub>D</sub>                    | 625         | 625    | 625    | 625    | mW    |
| Power Dissipation (T <sub>C</sub> =25°C)   | P <sub>D</sub>                    | 1.5         | 1.5    | 1.5    | 1.5    | W     |
| Operating and Storage Junction Temperature | T <sub>J</sub> , T <sub>STG</sub> | -65 TO +150 |        |        |        | °C    |
| Thermal Resistance                         | θ <sub>JA</sub>                   | 0.2         |        |        |        | °C/mW |
| Thermal Resistance                         | θ <sub>JC</sub>                   | 83.3        |        |        |        | °C/W  |

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

| SYMBOL                | TEST CONDITIONS                                                                        | 2N4123 |      | 2N4124 |      | 2N4125 |      | 2N4126 |      | UNIT |
|-----------------------|----------------------------------------------------------------------------------------|--------|------|--------|------|--------|------|--------|------|------|
|                       |                                                                                        | MIN    | MAX  | MIN    | MAX  | MIN    | MAX  | MIN    | MAX  |      |
| I <sub>CB0</sub>      | V <sub>CB</sub> =20V                                                                   |        | 50   |        | 50   |        | 50   |        | 50   | nA   |
| I <sub>EB0</sub>      | V <sub>EB</sub> =3.0V                                                                  |        | 50   |        | 50   |        | 50   |        | 50   | nA   |
| BV <sub>CB0</sub>     | I <sub>C</sub> =10μA                                                                   | 40     |      | 30     |      | 30     |      | 25     |      | V    |
| BV <sub>CE0</sub>     | I <sub>C</sub> =1.0mA                                                                  | 30     |      | 25     |      | 30     |      | 25     |      | V    |
| BV <sub>EB0</sub>     | I <sub>E</sub> =10μA                                                                   | 5.0    |      | 5.0    |      | 4.0    |      | 4.0    |      | V    |
| V <sub>CE</sub> (SAT) | I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA                                            |        | 0.3  |        | 0.3  |        | 0.4  |        | 0.4  | V    |
| V <sub>BE</sub> (SAT) | I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA                                            |        | 0.95 |        | 0.95 |        | 0.95 |        | 0.95 | V    |
| h <sub>FE</sub>       | V <sub>CE</sub> =1.0V, I <sub>C</sub> =2.0mA                                           | 50     | 150  | 120    | 360  | 50     | 150  | 120    | 360  |      |
| h <sub>FE</sub>       | V <sub>CE</sub> =1.0V, I <sub>C</sub> =50mA                                            | 25     |      | 60     |      | 25     |      | 60     |      |      |
| h <sub>fe</sub>       | V <sub>CE</sub> =10V, I <sub>C</sub> =2.0mA, f=1.0kHz                                  | 50     | 200  | 120    | 480  | 50     | 200  | 120    | 480  |      |
| f <sub>T</sub>        | V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz                                   | 250    |      | 300    |      | 200    |      | 250    |      | MHz  |
| C <sub>ob</sub>       | V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=100kHz                                     |        | 4.0  |        | 4.0  |        | 4.5  |        | 4.5  | pF   |
| C <sub>ib</sub>       | V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=100kHz                                     |        | 8.0  |        | 8.0  |        | 10   |        | 10   | pF   |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA, R <sub>S</sub> =1.0kΩ, f=10Hz to 15.7kHz |        | 6.0  |        | 5.0  |        | 5.0  |        | 4.0  | dB   |

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