

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

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Manufacturers of World Class Discrete Semiconductors

2N2484 TO-18 CASE  
PN2484 TO-92 CASE

NPN SILICON TRANSISTOR

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N/PN 2484 types are Silicon NPN Transistors designed for low noise amplifier applications.

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

|                                                  | SYMBOL                            |             | UNIT  |
|--------------------------------------------------|-----------------------------------|-------------|-------|
| Collector-Base Voltage                           | V <sub>CB0</sub>                  | 60          | V     |
| Collector-Emitter Voltage                        | V <sub>CE0</sub>                  | 60          | V     |
| Emitter-Base Voltage                             | V <sub>EB0</sub>                  | 6.0         | V     |
| Collector Current                                | I <sub>C</sub>                    | 50          | mA    |
| Power Dissipation (TO-18)                        | P <sub>D</sub>                    | 360         | mW    |
| Power Dissipation (TO-92)                        | P <sub>D</sub>                    | 625         | mW    |
| Operating & Storage Junction Temperature (TO-18) | T <sub>J</sub> , T <sub>stg</sub> | -65 TO +200 | °C    |
| Operating & Storage Junction Temperature (TO-92) | T <sub>J</sub> , T <sub>stg</sub> | -65 TO +150 | °C    |
| Thermal Resistance                               | θ <sub>JA</sub>                   | 0.49        | °C/mW |
| Thermal Resistance                               | θ <sub>JA</sub>                   | 0.2         | °C/mW |

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

| SYMBOL                | TEST CONDITIONS                                                                                        | MIN | MAX  | UNIT              |
|-----------------------|--------------------------------------------------------------------------------------------------------|-----|------|-------------------|
| I <sub>CB0</sub>      | V <sub>CB</sub> =45V                                                                                   |     | 10   | nA                |
| I <sub>CB0</sub>      | V <sub>CB</sub> =45V, T <sub>A</sub> =150°C                                                            |     | 10   | μA                |
| I <sub>CE0</sub>      | V <sub>CE</sub> =5.0V                                                                                  |     | 2.0  | nA                |
| I <sub>EB0</sub>      | V <sub>EB</sub> =5.0V                                                                                  |     | 10   | nA                |
| BV <sub>CB0</sub>     | I <sub>C</sub> =10μA                                                                                   | 60  |      | V                 |
| BV <sub>CE0</sub>     | I <sub>C</sub> =10mA                                                                                   | 60  |      | V                 |
| BV <sub>EB0</sub>     | I <sub>E</sub> =10μA                                                                                   | 6.0 |      | V                 |
| V <sub>CE</sub> (SAT) | I <sub>C</sub> =1.0mA, I <sub>B</sub> =0.1mA                                                           |     | 0.35 | V                 |
| V <sub>BE</sub> (ON)  | V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA                                                           | 0.5 | 0.7  | V                 |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0μA                                                           | 30  |      |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA                                                            | 100 | 500  |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA, T <sub>A</sub> =-55°C                                     | 20  |      |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA                                                           | 175 |      |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =500μA                                                           | 200 |      |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA                                                           | 250 |      |                   |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA                                                            |     | 800  |                   |
| h <sub>fe</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz                                                 | 150 | 900  |                   |
| f <sub>T</sub>        | V <sub>CE</sub> =5.0V, I <sub>C</sub> =50μA, f=5.0MHz                                                  | 15  |      | MHz               |
| f <sub>T</sub>        | V <sub>CE</sub> =5.0V, I <sub>C</sub> =0.5mA, f=30MHz                                                  | 60  |      | MHz               |
| h <sub>ie</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz                                                 | 3.5 | 24   | kΩ                |
| h <sub>oe</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz                                                 |     | 40   | μmhos             |
| h <sub>re</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz                                                 |     | 800  | x10 <sup>-6</sup> |
| C <sub>ob</sub>       | V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=140kHz                                                     |     | 6.0  | pF                |
| C <sub>ib</sub>       | V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=140kHz                                                     |     | 6.0  | pF                |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA, R <sub>S</sub> =10KΩ, BW=15.7kHz, 3.0db PTS @ 10Hz, 10kHz |     | 3.0  | dB                |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA, R <sub>S</sub> =10KΩ, f=100Hz, BW=20 Hz                   |     | 10   | dB                |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA, R <sub>S</sub> =10KΩ, f=1.0kHz, BW=200Hz                  |     | 3.0  | dB                |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA, R <sub>S</sub> =10KΩ, f=10kHz, BW=2.0kHz                  |     | 2.0  | dB                |