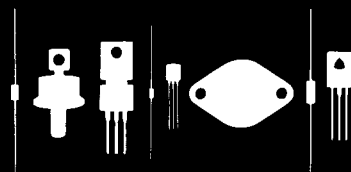


Central  
Semiconductor Corp.  
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145 Adams Avenue  
Hauppauge, New York 11788



2N3641 PN3641  
2N3642 PN3642  
2N3643 PN3643

JEDEC TO-105 JEDEC TO-92

NPN SILICON SIGNAL TRANSISTORS

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3641, PN3641 Series types are Silicon NPN Small Signal Transistors designed for general purpose amplifier applications.

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

|                                               | SYMBOL         | 2N3641<br>2N3643<br>PN3641<br>PN3643 | 2N3642<br>PN3642           | UNIT               |
|-----------------------------------------------|----------------|--------------------------------------|----------------------------|--------------------|
| Collector-Base Voltage                        | $V_{CB0}$      | 60                                   | 60                         | V                  |
| Collector-Emitter Voltage                     | $V_{CE0}$      | 30                                   | 45                         | V                  |
| Emitter-Base Voltage                          | $V_{EB0}$      | 5.0                                  | 5.0                        | V                  |
| Collector Current                             | $I_C$          | 500                                  | 500                        | mA                 |
|                                               |                | 2N3641<br>2N3642<br>2N3643           | PN3641<br>PN3642<br>PN4643 |                    |
| Power Dissipation                             | $P_D$          | 350                                  | 625                        | mW                 |
| Operating and Storage<br>Junction Temperature | $T_J, T_{stg}$ | -55 TO $+125$                        | -55 TO $+150$              | $^{\circ}\text{C}$ |

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

| SYMBOL        | TEST CONDITIONS                                                                       | 2N3641<br>PN3641<br>MIN MAX | 2N3642<br>PN3642<br>MIN MAX | 2N3643<br>PN3643<br>MIN MAX | UNIT |
|---------------|---------------------------------------------------------------------------------------|-----------------------------|-----------------------------|-----------------------------|------|
| $I_{CES}$     | $V_{CE}=50\text{V}$                                                                   | 50                          | 50                          | 50                          | nA   |
| $BV_{CB0}$    | $I_C=10\mu\text{A}$                                                                   | 60                          | 60                          | 60                          | V    |
| $BV_{CES}$    | $I_C=10\mu\text{A}$                                                                   | 60                          | 60                          | 60                          | V    |
| $BV_{CE0}$    | $I_C=10\text{mA}$                                                                     | 30                          | 45                          | 30                          | V    |
| $BV_{EB0}$    | $I_E=10\mu\text{A}$                                                                   | 5.0                         | 5.0                         | 5.0                         | V    |
| $V_{CE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$                                                   | 0.22                        | 0.22                        | 0.22                        | V    |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=150\text{mA}$                                                 | 40 120                      | 40 120                      | 100 300                     |      |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=500\text{mA}$                                                 | 15                          | 15                          | 25                          |      |
| $f_T$         | $V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=100\text{MHz}$                                | 150                         | 150                         | 250                         | MHz  |
| $C_{ob}$      | $V_{CB}=10\text{V}, f=140\text{kHz}$                                                  | 8.0                         | 8.0                         | 8.0                         | pF   |
| $G_{pe}$      | $V_{CE}=15\text{V}, R_G=140\Omega, R_L=260\Omega, f=30\text{MHz}, P_{IN}=40\text{mW}$ | 10                          | 10                          | 10                          | dB   |
| $\eta$        | $V_{CE}=15\text{V}, R_G=140\Omega, R_L=260\Omega, f=30\text{MHz}, P_{IN}=40\text{mW}$ | 60                          | 60                          | 60                          | %    |
| $t_{on}$      | $I_C=300\text{mA}, I_{B1}=30\text{mA}$                                                | 60                          | 60                          | 60                          | ns   |
| $t_{off}$     | $I_C=300\text{mA}, I_{B1}=I_{B2}=30\text{mA}$                                         | 150                         | 150                         | 150                         | ns   |

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