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Manufacturers of World Class Discrete Semiconductors

# 2N5193
# 2N5194
# 2N5195

PNP Silicon Transistor
General Purpose Power

JEDEC TO-126 Case

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5193, 2N5194, and 2N5195 are Silicon PNP Expitaxial Base Power Transistors designed for Medium power amplifer and switching applications.

## MAXIMUM RATINGS ($T_A$=25°C Unless otherwise noted)

| | | 2N5193 | 2N5194 | 2N5195 |
|---|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 40V | 60V | 80V |
| Collector-Emitter Voltage | $V_{CEO}$ | 40V | 60V | 80V |
| Emitter-Base Voltage | $V_{EBO}$ | | 5.0V | |
| Collector Current, Continuous | $I_C$ | | 4.0A | |
| Collector Current, Peak | $I_{CM}$ | | 7.0A | |
| Base Current | $I_B$ | | 1.0A | |
| Power Dissipation | $P_D$ | | 40W | |
| Operating & Storage Junction Temperature | $T_J$, $T_{stg}$ | | -65 to +150°C | |
| Thermal Resistance, Junction to Case | $\theta_{J-C}$ | | 3.12°C/W | |

## ELECTRICAL CHARACTERISTICS ($T_C$=25°C)

| SYMBOL | TEST CONDITIONS | | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=Rated $V_{CB}$ | | | 100 | uA |
| $I_{CEV}$ | $V_{CE}$=Rated $V_{CEO}$, $V_{EB}$=1.5V | | | 100 | uA |
| $I_{CEO}$ | $V_{CE}$=Rated | | | 1.0 | mA |
| $I_{EBO}$ | $V_{EB}$=5.0V | | | 1.0 | mA |
| $BV_{CEO}$ | $I_C$=0.1A | | 40(2N5193) | | V |
| | | | 60(2N5194) | | V |
| | | | 80(2N5195) | | V |
| $V_{CE(s)}$ | $I_C$=1.5A, $I_B$=0.15A | | | 0.6 | V |
| $V_{CE(s)}$ | $I_C$=4.0A, $I_B$=1.0A | | | 1.2 | V |
| $V_{BE(on)}$ | $V_{CE}$=2.0V, $I_C$=1.5A | | | 1.2 | V |
| $h_{FE}$ | $V_{CE}$=2.0V, $I_C$=1.5A | 2N5193 | 25 | 100 | - |
| | | 2N5194 | 25 | 100 | - |
| | | 2N5195 | 20 | 80 | - |
| $h_{FE}$ | $V_{CE}$=2.0V, $I_C$=4.0A | 2N5193 | 10 | 80 | - |
| | | 2N5194 | 10 | - | - |
| | | 2N5195 | 7.0 | - | - |
| $f^T$ | $V_{CE}$=10V, $I_C$=1.0A, | f=1.0MHz | 2.0 | | MHz |