## NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into two groups O and Y , according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.


1. Emitter 2. Collector 3. Base

TO-92 Plastic Package
Weight approx. 0.19 g

## Absolute Maximum Ratings $\left(\mathrm{T}_{\mathrm{a}}=25^{\circ} \mathrm{C}\right)$

|  | Symbol | Value | Unit |
| :--- | :---: | :---: | :---: |
| Collector Base Voltage | $\mathrm{V}_{\text {CBO }}$ | 50 | V |
| Collector Emitter Voltage | $\mathrm{V}_{\text {CEO }}$ | 50 | V |
| Emitter Base Voltage | $\mathrm{V}_{\text {EBO }}$ | 5 | V |
| Collector Current | $\mathrm{I}_{\mathrm{C}}$ | 2 | A |
| Power Dissipation | $\mathrm{P}_{\text {tot }}$ | 900 | mW |
| Junction Temperature | $\mathrm{T}_{\mathrm{j}}$ | 150 | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature Range | $\mathrm{T}_{\mathrm{s}}$ | -55 to +150 | ${ }^{\circ} \mathrm{C}$ |

Characteristics at $\mathrm{T}_{\mathrm{amb}}=\mathbf{2 5}{ }^{\circ} \mathrm{C}$

|  | Symbol | Min. | Typ. | Max. | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DC Current Gain <br> at $\mathrm{V}_{\mathrm{CE}}=2 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=0.5 \mathrm{~A}$ <br> at $V_{C E}=2 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=1.5 \mathrm{~A}$ | $\begin{aligned} & \mathrm{h}_{\mathrm{FE}} \\ & \mathrm{~h}_{\mathrm{FE}} \\ & \mathrm{~h}_{\mathrm{FE}} \end{aligned}$ | $\begin{gathered} 70 \\ 120 \\ 40 \end{gathered}$ |  | $\begin{aligned} & 140 \\ & 240 \end{aligned}$ |  |
| Collector Base Breakdown Voltage at $\mathrm{I}_{\mathrm{C}}=1 \mathrm{~mA}$ | $\mathrm{V}_{\text {(BR)Cbo }}$ | 50 | - | - | V |
| Collector Emitter Breakdown Voltage at $\mathrm{I}_{\mathrm{C}}=10 \mathrm{~mA}$ | $V_{\text {(BR)CEO }}$ | 50 | - | - | V |
| Emitter Base Breakdown Voltage at $\mathrm{I}_{\mathrm{E}}=1 \mathrm{~mA}$ | $\mathrm{V}_{\text {(BR)Ebo }}$ | 5 | - | - | V |
| Collector Cutoff Current at $\mathrm{V}_{\mathrm{CB}}=50 \mathrm{~V}$ | $\mathrm{I}_{\text {cbo }}$ | - | - | 1 | $\mu \mathrm{A}$ |
| Emitter Cutoff Current at $\mathrm{V}_{\mathrm{EB}}=5 \mathrm{~V}$ | $\mathrm{I}_{\text {Ebo }}$ | - | - | 1 | $\mu \mathrm{A}$ |
| Collector Saturation Voltage at $I_{C}=1 \mathrm{~A}, \mathrm{I}_{\mathrm{B}}=50 \mathrm{~mA}$ | $\mathrm{V}_{\mathrm{CE} \text { (sat) }}$ | - | - | 0.5 | V |
| Base Saturation Voltage at $\mathrm{I}_{\mathrm{C}}=1 \mathrm{~A}, \mathrm{I}_{\mathrm{B}}=50 \mathrm{~mA}$ | $V_{B E \text { (sat) }}$ | - | - | 1.2 | V |
| Gain Bandwidth Product at $\mathrm{V}_{\mathrm{CE}}=2 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=0.5 \mathrm{~A}$ | $\mathrm{f}_{\text {T }}$ | - | 100 | - | MHz |
| Output Capacitance at $\mathrm{V}_{\mathrm{CB}}=10 \mathrm{~V}, \mathrm{f}=1 \mathrm{MHz}$ | $\mathrm{C}_{\text {ов }}$ | - | 40 | - | pF |

