

## 2SC3202

### NPN Silicon Epitaxial Planar Transistor

for switching and general purpose 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

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                 | Symbol    | Value         | Unit             |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage    | $V_{CBO}$ | 35            | V                |
| Collector Emitter Voltage | $V_{CEO}$ | 30            | V                |
| Emitter Base Voltage      | $V_{EBO}$ | 5             | V                |
| Collector Current         | $I_C$     | 500           | mA               |
| Emitter Current           | $I_E$     | -500          | mA               |
| Power Dissipation         | $P_{tot}$ | 625           | mW               |
| Junction Temperature      | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

### Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                                                                                                                   | Symbol                                 | Min.     | Typ. | Max. | Unit          |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------|------|------|---------------|
| DC Current Gain<br>at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$<br><br>at $V_{CE} = 6\text{ V}$ , $I_C = 400\text{ mA}$ | Current Gain Group<br>O<br>Y<br>O<br>Y | $h_{FE}$ | 70   | 140  | -             |
|                                                                                                                             |                                        | $h_{FE}$ | 120  | 240  | -             |
|                                                                                                                             |                                        | $h_{FE}$ | 25   | -    | -             |
|                                                                                                                             |                                        | $h_{FE}$ | 40   | -    | -             |
| Collector Base Cutoff Current<br>at $V_{CB} = 35\text{ V}$                                                                  | $I_{CBO}$                              | -        | -    | 0.1  | $\mu\text{A}$ |
| Emitter Base Cutoff Current<br>at $V_{EB} = 5\text{ V}$                                                                     | $I_{EBO}$                              | -        | -    | 0.1  | $\mu\text{A}$ |
| Collector Emitter Saturation Voltage<br>at $I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$                                     | $V_{CE(sat)}$                          | -        | 0.1  | 0.25 | V             |
| Base Emitter Voltage<br>at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$                                                    | $V_{BE}$                               | -        | 0.8  | 1    | V             |
| Transition Frequency<br>at $V_{CE} = 6\text{ V}$ , $I_C = 20\text{ mA}$                                                     | $f_T$                                  | -        | 300  | -    | MHz           |
| Collector Output Capacitance<br>at $V_{CB} = 6\text{ V}$ , $f = 1\text{ MHz}$                                               | $C_{ob}$                               | -        | 7.0  | -    | pF            |

