

## 2SC2785

### NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups, O, Y, G and L, 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    | $V_{CBO}$ | 60            | V                |
| Collector Emitter Voltage | $V_{CEO}$ | 50            | V                |
| Emitter Base Voltage      | $V_{EBO}$ | 5             | V                |
| Collector Current         | $I_C$     | 150           | mA               |
| Power Dissipation         | $P_{tot}$ | 250           | 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 $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$<br><br>Current Gain Group | O<br>Y<br>G<br>L | $h_{FE}$<br>$h_{FE}$<br>$h_{FE}$<br>$h_{FE}$ | 70<br>120<br>200<br>350 | -<br>-<br>-<br>- | 140<br>240<br>400<br>700 | -<br>-<br>-<br>- |
| Collector Base Cutoff Current<br>at $V_{CB} = 40\text{ V}$                                  | $I_{CBO}$        | -                                            | -                       | 100              | nA                       |                  |
| Emitter Base Cutoff Current<br>at $V_{EB} = 3\text{ V}$                                     | $I_{EBO}$        | -                                            | -                       | 100              | nA                       |                  |
| Collector Base Breakdown Voltage<br>at $I_C = 100\text{ }\mu\text{A}$                       | $V_{(BR)CBO}$    | 60                                           | -                       | -                | V                        |                  |
| Collector Emitter Breakdown Voltage<br>at $I_C = 10\text{ mA}$                              | $V_{(BR)CEO}$    | 50                                           | -                       | -                | V                        |                  |
| Emitter Base Breakdown Voltage<br>at $I_E = 10\text{ }\mu\text{A}$                          | $V_{(BR)EBO}$    | 5                                            | -                       | -                | V                        |                  |
| Collector Saturation Voltage<br>at $I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$             | $V_{CE(sat)}$    | -                                            | -                       | 0.3              | V                        |                  |
| Gain Bandwidth Product<br>at $V_{CE} = 6\text{ V}$ , $I_C = 10\text{ mA}$                   | $f_T$            | -                                            | 300                     | -                | MHz                      |                  |
| Output Capacitance<br>at $V_{CB} = 6\text{ V}$ , $f = 1\text{ MHz}$                         | $C_{ob}$         | -                                            | 2.5                     | -                | pF                       |                  |

