

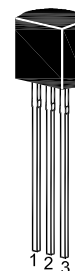
# ST 2SC1740

## NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups Q, R, S and E. 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 ( $T_a = 25\text{ }^\circ\text{C}$ )

| 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         | $P_{tot}$ | 300           | mW               |
| Junction Temperature      | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

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

| Parameter   | Symbol        | Min.     | Typ. | Max. | Unit          |   |
|---|---------------|----------|------|------|---------------|---|
| DC Current Gain<br>at $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$<br>Current Gain Group | Q             | $h_{FE}$ | 120  | -    | 270           | - |
|   | R             | $h_{FE}$ | 180  | -    | 390           | - |
|   | S             | $h_{FE}$ | 270  | -    | 560           | - |
|   | E             | $h_{FE}$ | 390  | -    | 820           | - |
| Collector Base Cutoff Current<br>at $V_{CB} = 60\text{ V}$                              | $I_{CBO}$     | -        | -    | 0.1  | $\mu\text{A}$ |   |
| Emitter Base Cutoff Current<br>at $V_{EB} = 5\text{ V}$                                 | $I_{EBO}$     | -        | -    | 0.1  | $\mu\text{A}$ |   |
| Collector Base Breakdown Voltage<br>at $I_C = 50\text{ }\mu\text{A}$                    | $V_{(BR)CBO}$ | 60       | -    | -    | V             |   |
| Collector Emitter Breakdown Voltage<br>at $I_C = 1\text{ mA}$                           | $V_{(BR)CEO}$ | 50       | -    | -    | V             |   |
| Emitter Base Breakdown Voltage<br>at $I_E = 50\text{ }\mu\text{A}$                      | $V_{(BR)EBO}$ | 5        | -    | -    | V             |   |
| Collector Emitter Saturation Voltage<br>at $I_C = 50\text{ mA}$ , $I_B = 5\text{ mA}$   | $V_{CE(sat)}$ | -        | -    | 0.4  | V             |   |
| Gain Bandwidth Product<br>at $V_{CE} = 12\text{ V}$ , $I_C = 2\text{ mA}$               | $f_T$         | -        | 180  | -    | MHz           |   |
| Output Capacitance<br>at $V_{CB} = 12\text{ V}$ , $f = 1\text{ MHz}$                    | $C_{ob}$      | -        | 2    | 3.5  | pF            |   |