

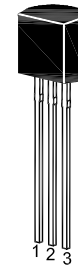
# ST 2SC3875

## 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.



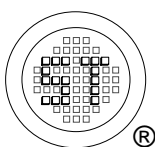
1. Emitter 2. Collector 3. Base  
TO-92 Plastic Package

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

| 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               |
| Base Current              | $I_B$     | 30            | mA               |
| Power Dissipation         | $P_{tot}$ | 150           | 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.     | Max. | Unit |   |
|---|---------------|----------|------|------|---|
| DC Current Gain<br>at $V_{CE} = 6\text{ V}$ , $I_C = 2\text{ mA}$<br>Current Gain Group | O             | $h_{FE}$ | 70   | 140  | - |
|   | Y             | $h_{FE}$ | 120  | 240  | - |
|   | G             | $h_{FE}$ | 200  | 400  | - |
|   | L             | $h_{FE}$ | 350  | 700  | - |
| Collector Base Cutoff Current<br>at $V_{CB} = 60\text{ V}$                              | $I_{CBO}$     | -        | 100  | nA   |   |
| Emitter Base Cutoff Current<br>at $V_{EB} = 5\text{ V}$                                 | $I_{EBO}$     | -        | 100  | nA   |   |
| Collector Emitter Saturation Voltage<br>at $I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$ | $V_{CE(sat)}$ | -        | 0.25 | V    |   |
| Transition Frequency<br>at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$                 | $f_T$         | 80       | -    | MHz  |   |
| Collector Output Capacitance<br>at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$          | $C_{ob}$      | -        | 3.5  | pF   |   |



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