

# ST 1702

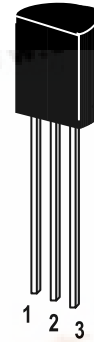
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## NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications

The transistor is subdivided into five groups, L, M, N, O and P, according to its DC current gain.

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



1. Emitter 2. Base 3. Collector

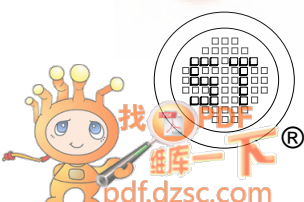
TO-92 Plastic Package  
Weight approx. 0.19g

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

| Parameter                 | Symbol    | Value         | Unit             |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage    | $V_{CBO}$ | 30            | V                |
| Collector Emitter Voltage | $V_{CEO}$ | 25            | V                |
| Emitter Base Voltage      | $V_{EBO}$ | 5             | V                |
| Collector Current         | $I_C$     | 1             | A                |
| Power Dissipation         | $P_{tot}$ | 600           | mW               |
| Junction Temperature      | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range | $T_s$     | - 55 to + 150 | $^\circ\text{C}$ |

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

| Parameter  | Symbol        | Min.     | Typ. | Max. | Unit          |   |
|--|---------------|----------|------|------|---------------|---|
| DC Current Gain<br>at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$ Current Gain Group | L             | $h_{FE}$ | 132  | -    | 189           | - |
|  | M             | $h_{FE}$ | 170  | -    | 233           | - |
|  | N             | $h_{FE}$ | 213  | -    | 300           | - |
|  | O             | $h_{FE}$ | 263  | -    | 370           | - |
|  | P             | $h_{FE}$ | 333  | -    | 476           | - |
| Collector Base Breakdown Voltage<br>at $I_C = 10\text{ }\mu\text{A}$                   | $V_{(BR)CBO}$ | 30       | -    | -    | V             |   |
| Collector Emitter Breakdown Voltage<br>at $I_C = 10\text{ mA}$                         | $V_{(BR)CEO}$ | 25       | -    | -    | V             |   |
| Emitter Base Breakdown Voltage<br>at $I_E = 100\text{ }\mu\text{A}$                    | $V_{(BR)EBO}$ | 5        | -    | -    | V             |   |
| Collector Cutoff Current<br>at $V_{CB} = 20\text{ V}$                                  | $I_{CBO}$     | -        | -    | 0.1  | $\mu\text{A}$ |   |
| Emitter Cutoff Current<br>at $V_{EB} = 5\text{ V}$                                     | $I_{EBO}$     | -        | -    | 0.5  | $\mu\text{A}$ |   |
| Collector Saturation Voltage<br>at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$        | $V_{CE(sat)}$ | -        | -    | 0.7  | V             |   |
| Gain Bandwidth Product<br>at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$              | $f_T$         | -        | 100  | -    | MHz           |   |
| Output Capacitance<br>at $V_{CB} = 5\text{ V}$ , $f = 1\text{ MHz}$                    | $C_{OB}$      | -        | 12   | -    | pF            |   |



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103    ISO 14001:2004 Certificate No. 7116    ISO 9001:2000 Certificate No. 0506098

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