

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

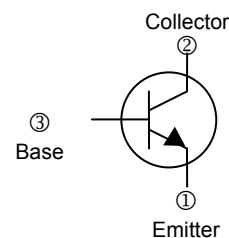
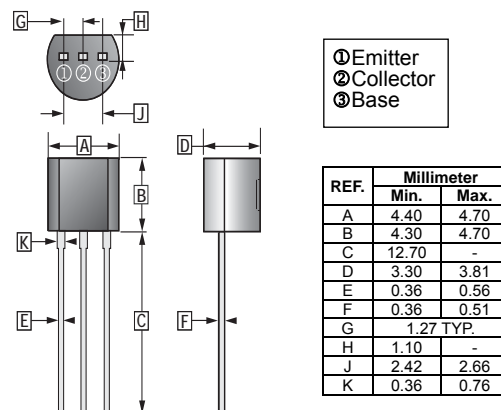
## FEATURES

TO-92

- Collector output capacitance :  
Cob=11 pF (TYP), 20 pF (MAX)

## CLASSIFICATION OF $h_{FE(1)}$

| Product-Rank | 2SC1318A-Q | 2SC1318A-R | 2SC1318A-S |
|--------------|------------|------------|------------|
| Range        | 85~170     | 120~240    | 170~340    |



## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                      | Symbol         | Rating       | Unit             |
|--------------------------------|----------------|--------------|------------------|
| Collector to Base Voltage      | $V_{CBO}$      | 80           | V                |
| Collector to Emitter Voltage   | $V_{CEO}$      | 70           | V                |
| Emitter to Base Voltage        | $V_{EBO}$      | 5            | V                |
| Collector Current - Continuous | $I_C$          | 0.5          | A                |
| Collector Power Dissipation    | $P_C$          | 750          | mW               |
| Junction, Storage Temperature  | $T_J, T_{STG}$ | 150, -55~150 | $^\circ\text{C}$ |

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                               | Symbol        | Min | Typ | Max | Unit          | Test condition  |
|---|---------------|-----|-----|-----|---------------|---|
| Collector to Base Breakdown Voltage     | $V_{(BR)CBO}$ | 80  | -   | -   | V             | $I_C = 10\mu\text{A}, I_E = 0$                              |
| Collector to Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | 70  | -   | -   | V             | $I_C = 2\text{mA}, I_B = 0$                                 |
| Emitter to Base Breakdown Voltage       | $V_{(BR)EBO}$ | 5   | -   | -   | V             | $I_E = 10\mu\text{A}, I_C = 0$                              |
| Collector Cut-Off Current               | $I_{CBO}$     | -   | -   | 0.1 | $\mu\text{A}$ | $V_{CB} = 20\text{V}, I_E = 0$                              |
| DC Current Gain                         | $h_{FE(1)}$   | 85  | -   | 340 |               | $V_{CE} = 10\text{V}, I_C = 0.15\text{A}$                   |
|   | $h_{FE(2)}$   | 40  | -   | -   |               | $V_{CE} = 10\text{V}, I_C = 0.5\text{A}$                    |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | -   | -   | 0.6 | V             | $I_C = 300\text{mA}, I_B = 30\text{mA}$                     |
| Base to Emitter Voltage                 | $V_{BE(sat)}$ | -   | -   | 1.5 | V             | $I_C = 300\text{mA}, I_B = 30\text{mA}$                     |
| Transition Frequency                    | $f_T$         | -   | 120 | -   | MHz           | $V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 200\text{MHz}$ |
| Collector Output Capacitance            | $C_{ob}$      | -   | 11  | 20  | pF            | $V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$             |

**CHARACTERISTICS CURVE**

