

RoHS Compliant Product

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

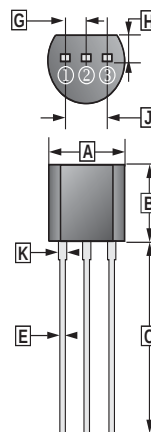
## FEATURES

- General Purpose Switching and Amplification

## CLASSIFICATION OF $h_{FE}$

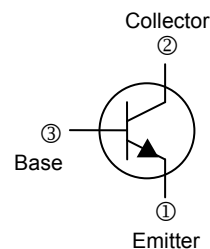
| Product-Rank | 2SC1923-R | 2SC1923-O | 2SC1923-Y |
|--------------|-----------|-----------|-----------|
| Range        | 40~80     | 70~140    | 100~200   |

## TO-92



① Emitter  
② Collector  
③ Base

| REF. | Millimeter |      |
|------|------------|------|
|      | Min.       | Max. |
| A    | 4.40       | 4.70 |
| B    | 4.30       | 4.70 |
| C    | 12.70      | -    |
| D    | 3.30       | 3.81 |
| E    | 0.36       | 0.56 |
| F    | 0.36       | 0.51 |
| G    | 1.27 TYP.  |      |
| H    | 1.10       | -    |
| J    | 2.42       | 2.66 |
| K    | 0.36       | 0.76 |



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

| Parameter                                   | Symbol          | Rating       | Unit                        |
|---------------------------------------------|-----------------|--------------|-----------------------------|
| Collector to Base Voltage                   | $V_{CBO}$       | 40           | V                           |
| Collector to Emitter Voltage                | $V_{CEO}$       | 30           | V                           |
| Emitter to Base Voltage                     | $V_{EBO}$       | 4            | V                           |
| Collector Current - Continuous              | $I_C$           | 20           | mA                          |
| Collector Power Dissipation                 | $P_C$           | 100          | mW                          |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 1250         | $^\circ\text{C} / \text{W}$ |
| 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 Conditions                    |
|----------------------------------------|---------------|------|------|------|---------------|------------------------------------|
| Collector to Base Breakdown Voltage    | $V_{(BR)CBO}$ | 40   | -    | -    | V             | $I_C=0.1\text{mA}, I_E=0$          |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 30   | -    | -    | V             | $I_C=1\text{mA}, I_B=0$            |
| Emitter to Base Breakdown Voltage      | $V_{(BR)EBO}$ | 4    | -    | -    | V             | $I_E=0.1\text{mA}, I_C=0$          |
| Collector Cut – Off Current            | $I_{CBO}$     | -    | -    | 0.5  | $\mu\text{A}$ | $V_{CB}=18\text{V}, I_E=0$         |
| Emitter Cut – Off Current              | $I_{EBO}$     | -    | -    | 0.5  | $\mu\text{A}$ | $V_{EB}=4\text{V}, I_C=0$          |
| DC Current Gain                        | $h_{FE}$      | 40   | -    | 200  |               | $V_{CE}=6\text{V}, I_C=1\text{mA}$ |
| Transition Frequency                   | $f_T$         | -    | 550  | -    | MHz           | $V_{CE}=6\text{V}, I_C=1\text{mA}$ |