

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

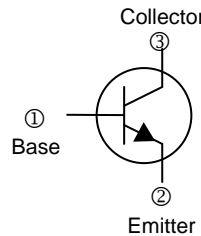
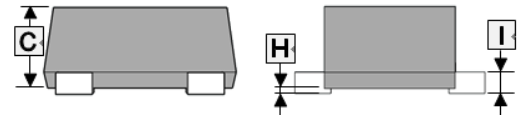
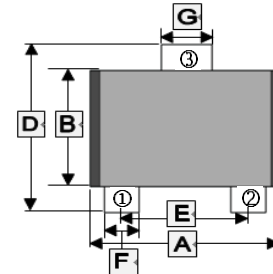
**FEATURE**

- Low current (max. 150 mA)
- Low voltage (max. 50 V).

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

|              |           |           |           |
|--------------|-----------|-----------|-----------|
| Product-Rank | 2SC2658-Q | 2SC2658-R | 2SC2658-S |
| Range        | 120~270   | 180~390   | 270~560   |
| Marking      | BQ        | BR        | BS        |

**SOT-723**



| REF. | Millimeter |       | REF. | Millimeter |       |
|------|------------|-------|------|------------|-------|
|      | Min.       | Max.  |      | Min.       | Max.  |
| A    | 1.150      | 1.250 | F    | 0.170      | 0.270 |
| B    | 0.750      | 0.850 | G    | 0.270      | 0.370 |
| C    | -          | 0.500 | H    | 0          | 0.050 |
| D    | 1.150      | 1.250 | I    | -          | 0.150 |
| E    | 0.800TYP.  |       |      |            |       |

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

| Parameter                      | Symbol         | Ratings        | Unit             |
|--------------------------------|----------------|----------------|------------------|
| Collector to Base Voltage      | $V_{CBO}$      | 60             | V                |
| Collector to Emitter Voltage   | $V_{CEO}$      | 50             | V                |
| Emitter to Base Voltage        | $V_{EBO}$      | 7              | V                |
| Collector Current - Continuous | $I_C$          | 150            | mA               |
| Collector Power Dissipation    | $P_C$          | 100            | 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     | $V_{(BR)CBO}$ | 60   | -    | -    | V             | $I_C=50\mu\text{A}, I_E=0$                           |
| Collector to Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | 50   | -    | -    | V             | $I_C=1\text{mA}, I_B=0$                              |
| Emitter to Base Breakdown Voltage       | $V_{(BR)EBO}$ | 7    | -    | -    | V             | $I_E=50\mu\text{A}, I_C=0$                           |
| Collector Cut-Off Current               | $I_{CBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{CB}=60\text{V}, I_E=0$                           |
| Emitter Cut-Off Current                 | $I_{EBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{EB}=7\text{V}, I_C=0$                            |
| DC Current Gain                         | $h_{FE}$      | 120  | -    | 560  |               | $V_{CE}=6\text{V}, I_C=1\text{mA}$                   |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | -    | -    | 0.4  | V             | $I_C=50\text{mA}, I_B=5\text{mA}$                    |
| Transition Frequency                    | $f_T$         | -    | 180  | -    | MHz           | $V_{CE}=12\text{V}, I_C=2\text{mA}, f=100\text{MHz}$ |
| Collector Output Capacitance            | $C_{ob}$      | -    | -    | 3.5  | pF            | $V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$            |

**CHARACTERISTIC CURVES**

**Static Characteristic**

