# 2SC5345 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

## FEATURES

- RF amplifier
- High current transition frequency $f_T$=550MHz(Typ.), [$V_{CE}$=6V, $I_E$=-1mA]
- Low output capacitance : $C_{ob}$=1.4pF(Typ.) [$V_{CB}$=6V, $I_E$=0]
- Low base time constant and high gain
- Excellent noise response

**Marking: 5345**

## MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 20 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 4 | V |
| $I_C$ | Collector Current | 20 | mA |
| $P_C$ | Collector Power dissipation | 300 | mW |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55-150 | ℃ |

## ELECTRICAL CHARACTERISTICS ($T_a$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=10μA, $I_E$=0 | 30 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=5mA, $I_B$=0 | 20 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=10μA, $I_C$=0 | 4 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=30V, $I_E$=0 | | | 0.5 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 0.5 | μA |
| **DC current gain** | $h_{FE}$ | $V_{CE}$=6V, $I_C$=1mA | 40 | | 240 | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=10mA, $I_B$=1mA | | | 0.3 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=6V, $I_C$=1mA | | 550 | | MHz |
| **Collector output capacitance** | $C_{ob}$ | $V_{CB}$=6V, $I_E$=0, f=1MHz | | 1.4 | | pF |

## CLASSIFICATION OF $h_{FE}$

| Rank | R | O | Y |
|---|---|---|---|
| **Range** | 40-80 | 70-140 | 120-240 |