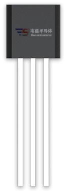
# 2SD2152 TRANSISTOR (NPN)

## FEATURES

- High DC Current Gain
- Low Saturation Medium Current Application



TO-92

## ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|---|---|---|---|
| 2SD2152 | TO-92 | Bulk | 1000pcs/Bag |
| 2SD2152-TA | TO-92 | Tape | 2000pcs/Box |

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

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 22 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 22 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | Collector Current | 3 | A |
| $P_C$ | Collector Power Dissipation | 700 | mW |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 178 | ℃/W |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55~+150 | ℃ |

### $T_a$=25℃ unless otherwise specified

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$= 0.05mA,$I_E$=0 | 22 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=1mA,$I_B$=0 | 22 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=0.01mA,$I_C$=0 | 6 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=20V,$I_E$=0 | | | 0.1 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=5V,$I_C$=0 | | | 0.1 | μA |
| **DC current gain** | $h_{FE(1)}$ | $V_{CE}$=2V, $I_C$=0.15mA | 130 | | | |
| | $h_{FE(2)}$ | $V_{CE}$=2V, $I_C$=100mA | 180 | | 950 | |
| | $h_{FE(3)}$ | $V_{CE}$=2V, $I_C$=500mA | 180 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=2000mA,$I_B$=100mA | | | 0.4 | V |
| **Transition frequency** | $f_T$ | VCE=6V,IC=50mA, f=30MHz | 150 | | | MHz |

### CLASSIFICATION OF $h_{FE}$

| **RANK** | **Q** | **R** | **S** | **T** |
|---|---|---|---|---|
| **RANGE** | 180-290 | 270-380 | 340-560 | 560-950 |