



## TO-92MOD Plastic-Encapsulate Transistors

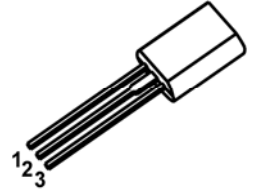
### 2SA1283 TRANSISTOR (PNP)

#### FEATURES

- High Collector-Emitter Voltage
- Low Collector-Emitter Saturation Voltage

#### TO – 92MOD

1. EMITTER
2. COLLECTOR
3. BASE



#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                        |
|-----------------|---|----------|-----------------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | -60      | V                           |
| $V_{CEO}$       | Collector-Emitter Voltage                   | -60      | V                           |
| $V_{EBO}$       | Emitter-Base Voltage                        | -6       | V                           |
| $I_C$           | Collector Current                           | -1       | A                           |
| $P_C$           | Collector Power Dissipation                 | 900      | mW                          |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 139      | $^{\circ}\text{C}/\text{W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$          |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$          |

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

| Parameter                            | Symbol        | Test conditions                                  | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -10\mu\text{A}, I_E = 0$                  | -60 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -2\text{mA}, I_B = 0$                     | -60 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -10\mu\text{A}, I_C = 0$                  | -6  |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -50\text{V}, I_E = 0$                  |     |     | -0.2 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -4\text{V}, I_C = 0$                   |     |     | -0.2 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -4\text{V}, I_C = -100\text{mA}$       | 55  |     | 300  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500\text{mA}, I_B = -25\text{mA}$        |     |     | -0.3 | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ |     |     | 25   | pF            |
| Transition frequency                 | $f_T$         | $V_{CE} = -2\text{V}, I_C = -10\text{mA}$        | 50  |     |      | MHz           |

#### CLASSIFICATION OF $h_{FE}$

| RANK  | C      | D      | E       |
|-------|--------|--------|---------|
| RANGE | 55-110 | 90-180 | 150-300 |