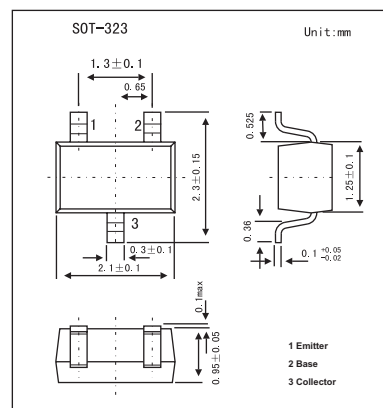


## Silicon PNP Epitaxial Planar Type

## 2SA1531A

## ■ Features

- Low noise voltage NV.
- High forward current transfer ratio  $h_{FE}$ .

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

| Parameter                   | Symbol    | Rating      | Unit             |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage      | $V_{CBO}$ | -55         | V                |
| Collector-emitter voltage   | $V_{CEO}$ | -55         | V                |
| Emitter-base voltage        | $V_{EBO}$ | -5          | V                |
| Collector current           | $I_C$     | -50         | mA               |
| Peak collector current      | $I_{CP}$  | -100        | mA               |
| Collector power dissipation | $P_C$     | 150         | mW               |
| Junction temperature        | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

| Parameter                            | Symbol        | Testconditions                                                                                                           | Min | Typ  | Max  | Unit          |
|--------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------|-----|------|------|---------------|
| Collector-base voltage               | $V_{CBO}$     | $I_C = -10\ \mu\text{A}$ , $I_E = 0$                                                                                     | -55 |      |      | V             |
| Collector-emitter voltage            | $V_{CEO}$     | $I_C = -2\ \text{mA}$ , $I_B = 0$                                                                                        | -55 |      |      | V             |
| Emitter-base voltage                 | $V_{EBO}$     | $I_E = -10\ \mu\text{A}$ , $I_C = 0$                                                                                     | -5  |      |      | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE} = -1\ \text{V}$ , $I_C = -100\ \text{mA}$                                                                        |     | -0.7 | -1   | V             |
| Collector-base cutoff current        | $I_{CBO}$     | $V_{CB} = -10\ \text{V}$ , $I_E = 0$                                                                                     |     |      | -0.1 | $\mu\text{A}$ |
| Collector-emitter cutoff current     | $I_{CEO}$     | $V_{CE} = -10\ \text{V}$ , $I_B = 0$                                                                                     |     |      | -1   | $\mu\text{A}$ |
| Forward current transfer ratio       | $h_{FE}$      | $V_{CE} = -5\ \text{V}$ , $I_C = -2\ \text{mA}$                                                                          | 180 |      | 700  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\ \text{mA}$ , $I_B = -10\ \text{mA}$                                                                         |     |      | -0.6 | V             |
| Transition frequency                 | $f_T$         | $V_{CB} = -5\ \text{V}$ , $I_E = 2\ \text{mA}$ , $f = 200\ \text{MHz}$                                                   |     | 150  |      | MHz           |
| Noise voltage                        | $C_{ob}$      | $V_{CE} = -10\ \text{V}$ , $I_C = -1\ \text{mA}$ , $G_v = 80\ \text{dB}$ , $R_g = 100\ \text{k}\Omega$ , Function = FLAT |     |      | 150  | mV            |

■  $h_{FE}$  Classification

| Marking  | H       |         |         |
|----------|---------|---------|---------|
| Rank     | R       | S       | T       |
| $h_{FE}$ | 180~360 | 260~520 | 360~700 |