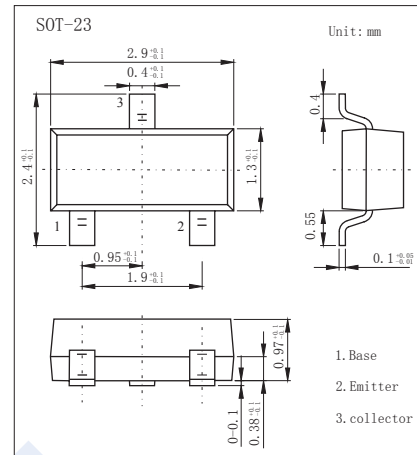


NPN Transistors

KST9013

■ Features

- Excellent h_{FE} linearity
- Collector Current : $I_C=0.5A$

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

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------|
| Collector - Base Voltage | V_{CB0} | 40 | V |
| Collector - Emitter Voltage | V_{CEO} | 25 | V |
| Emitter - Base Voltage | V_{EBO} | 5 | V |
| Collector Current - Continuous | I_C | 500 | mA |
| Collector Power Dissipation | P_C | 300 | mW |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 to 150 | $^\circ C$ |

■ Electrical Characteristics $T_a = 25^\circ C$

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--|---------------|--------------------------------------|-----|-----|-----|---------|
| Collector - base breakdown voltage | V_{CB0} | $I_C = 100 \mu A, I_E = 0$ | 40 | | | V |
| Collector - emitter breakdown voltage | V_{CEO} | $I_C = 0.1mA, I_B = 0$ | 25 | | | V |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = 100 \mu A, I_C = 0$ | 5 | | | V |
| Collector cut - off current | I_{CBO} | $V_{CB} = 40V, I_E = 0$ | | | 0.1 | μA |
| Collector cut -off current | I_{CEO} | $V_{CE} = 20V, I_B = 0$ | | | 1 | μA |
| Emitter cut - off current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = 1V, I_C = 50mA$ | 120 | | 400 | |
| | | $V_{CE} = 1V, I_C = 500mA$ | 40 | | | |
| Collector - emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | | | 0.6 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE} = 6V, I_C = 20mA, f = 30MHz$ | 150 | | | MHz |

■ Classification of $h_{FE}(1)$

| Type | KST9013 | KST9013-L | KST9013-H | KST9013-J |
|---------|---------|-----------|-----------|-----------|
| Range | 200-350 | 120-200 | 144-202 | 300-400 |
| Marking | J3 | | | |

KST9013

Typical Characteristics

