

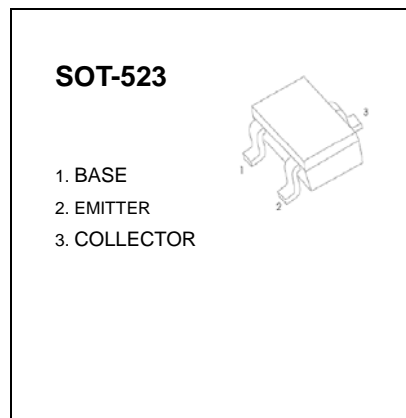
SOT-523 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

- High current.
- Low $V_{CE(sat)}$. $V_{CE(sat)} \leq 250\text{mV}$ at $I_C = 200\text{mA} / I_B = 10\text{mA}$

MARKING: BX

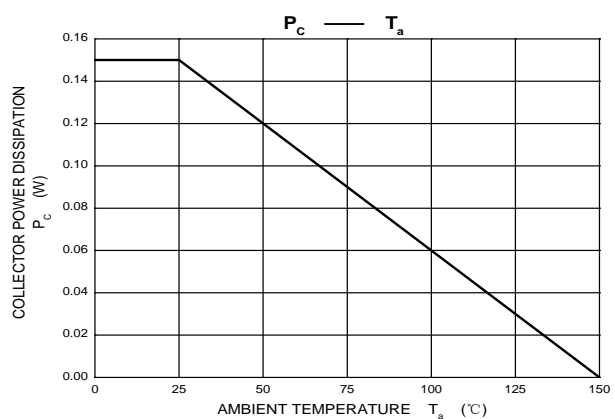
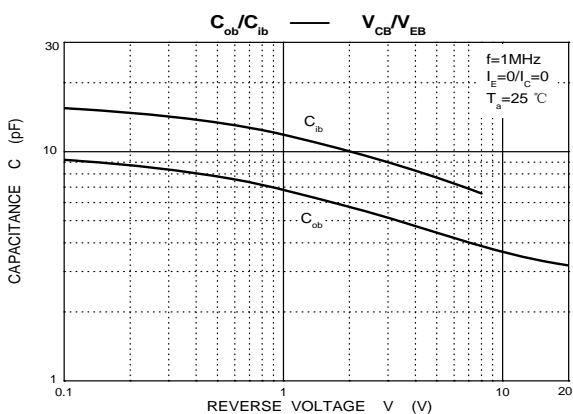
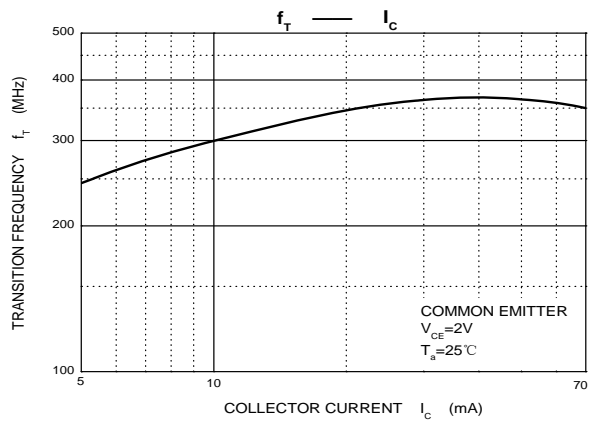
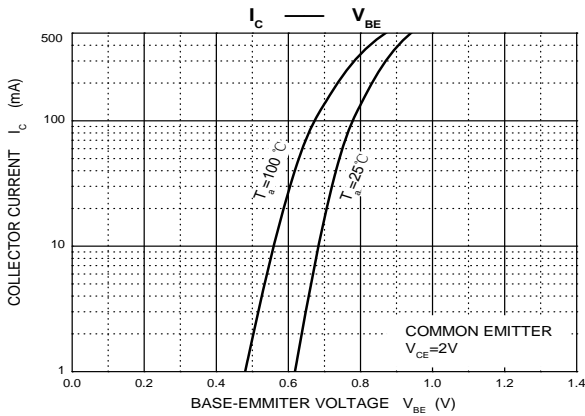
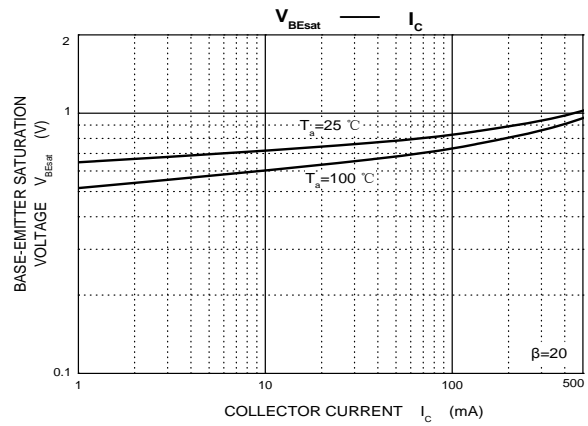
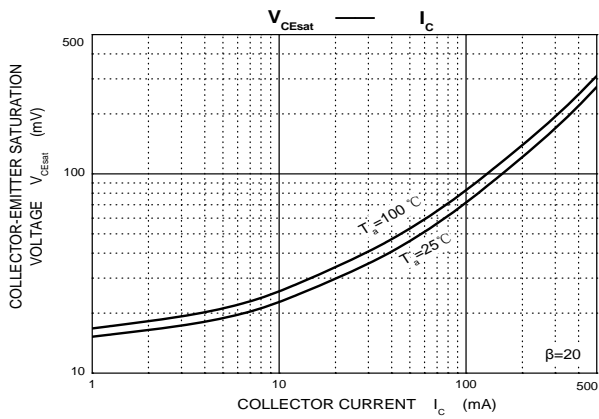
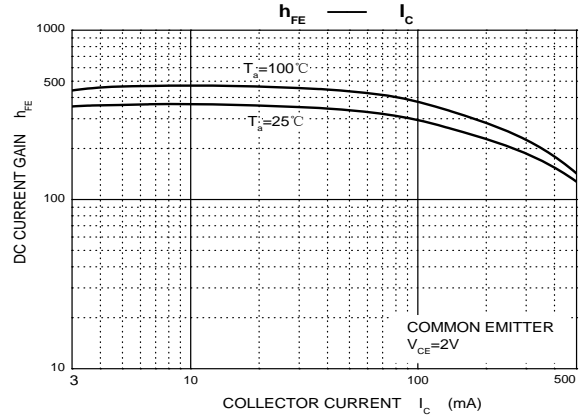
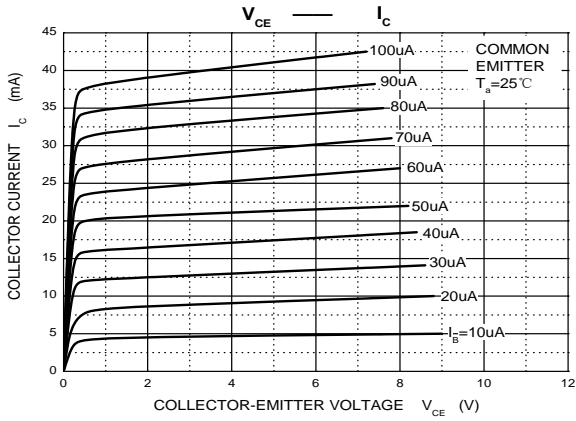


MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|---------|------------------|
| V_{CBO} | Collector- Base Voltage | 15 | V |
| V_{CEO} | Collector-Emitter Voltage | 12 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current -Continuous | 0.5 | A |
| P_C | Collector Power Dissipation | 0.15 | 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)

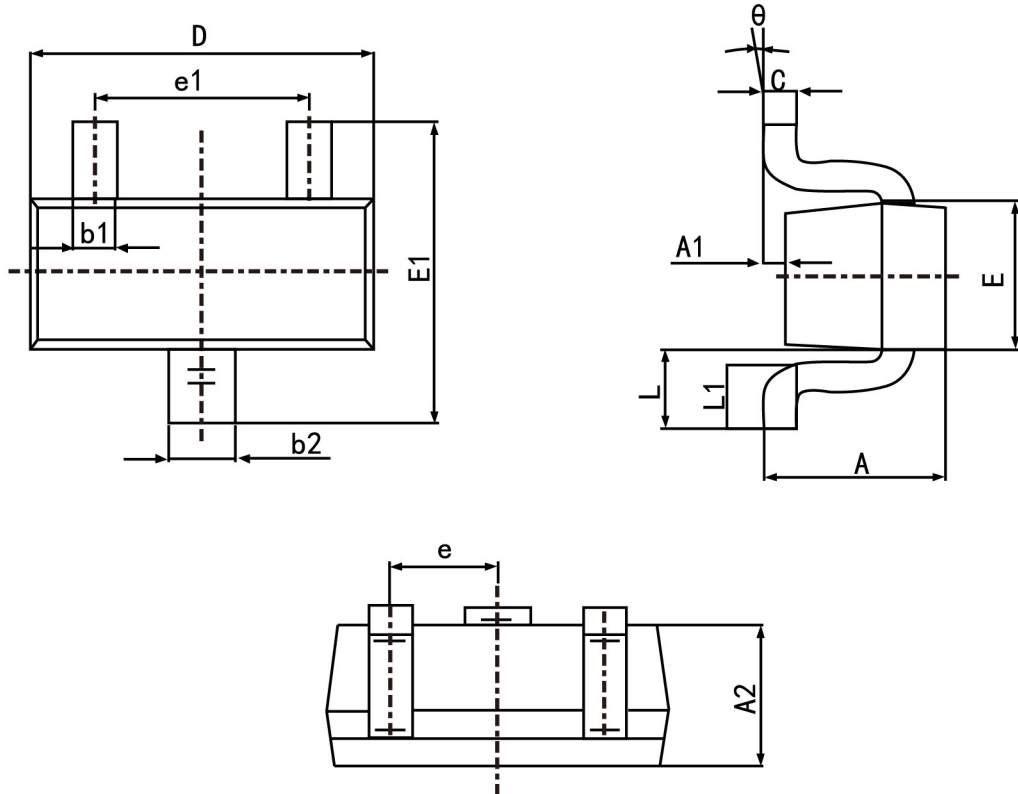
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0$ | 15 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 12 | | | 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} | $V_{CB}=15\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=6\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=2\text{V}, I_C=10\text{mA}$ | 270 | | 680 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=200\text{mA}, I_B=10\text{mA}$ | | | 0.25 | V |
| Transition frequency | f_T | $V_{CE}=2\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | | 320 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | 7.5 | | pF |



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-523



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|-------|
| | Min | Max |
| A | 0.700 | 0.900 |
| A1 | 0.000 | 0.100 |
| A2 | 0.700 | 0.800 |
| b1 | 0.150 | 0.250 |
| b2 | 0.250 | 0.350 |
| c | 0.100 | 0.200 |
| D | 1.500 | 1.700 |
| E | 0.700 | 0.900 |
| E1 | 1.450 | 1.750 |
| e | 0.500 | TYP. |
| e1 | 0.900 | 1.100 |
| L | 0.400 REF. | |
| L1 | 0.260 | 0.460 |
| θ | 0° | 8° |