

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

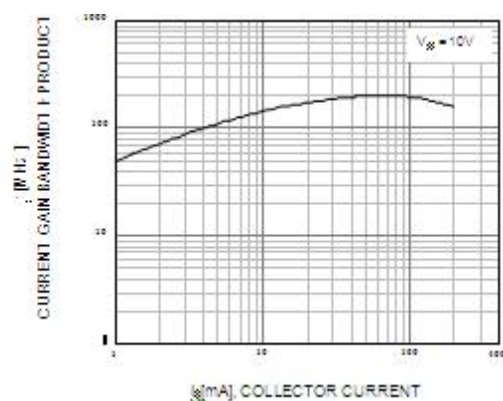
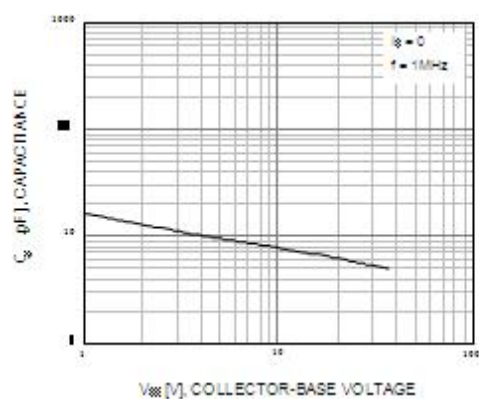
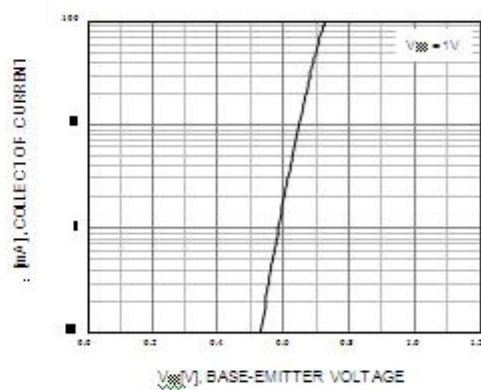
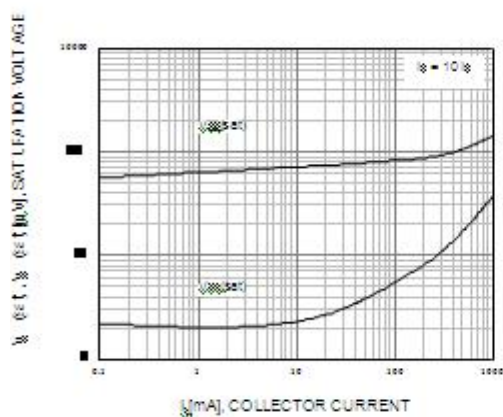
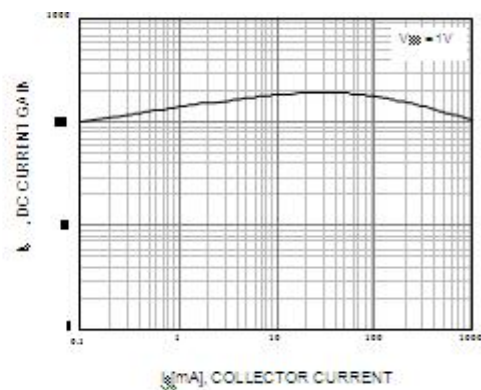
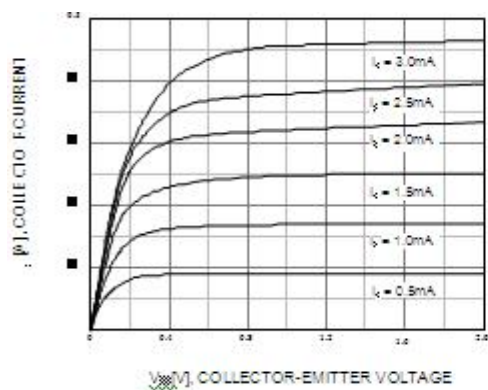
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|--------------------|
| V_{CBO} | Collector-Base Voltage | 40 | V |
| V_{CEO} | Collector-Emitter Voltage | 25 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 1.5 | A |
| P_C | Collector Power Dissipation | 0.3 | W |
| T_j | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature | -55-125 | $^{\circ}\text{C}$ |

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

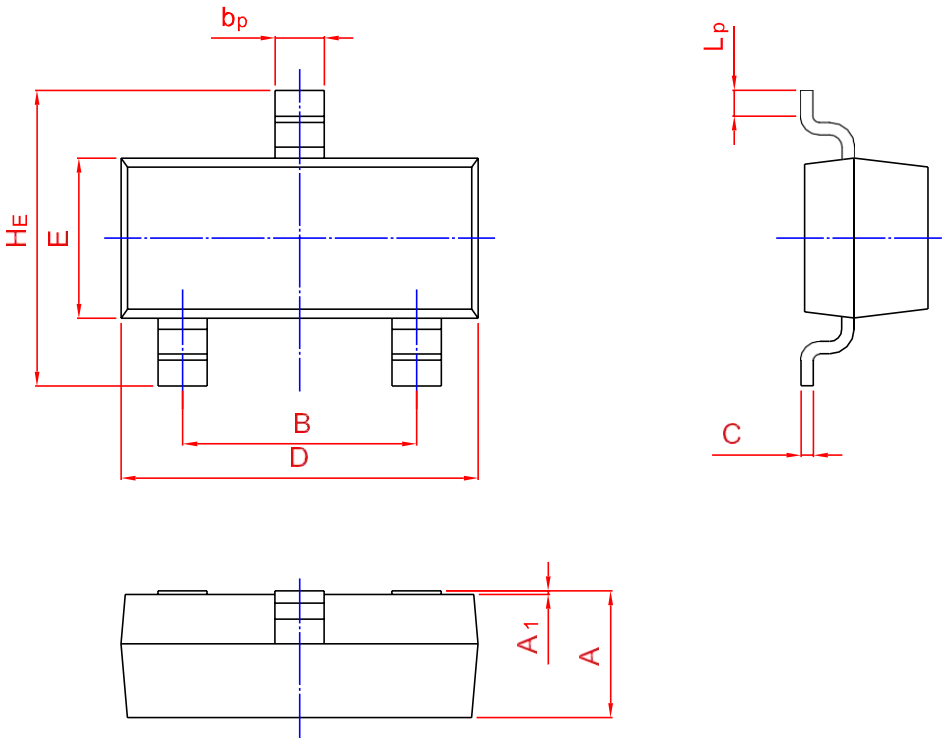
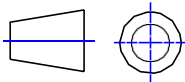
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$, $I_E=0$ | 40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=0.1\text{mA}$, $I_B=0$ | 25 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}$, $I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=40\text{V}$, $I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CB}=20\text{V}$, $I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5\text{V}$, $I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=1\text{V}$, $I_C=100\text{mA}$ | 200 | | 350 | |
| | $h_{FE(2)}$ | $V_{CE}=1\text{V}$, $I_C=800\text{mA}$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=800\text{mA}$, $I_B=80\text{mA}$ | | | 0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=800\text{mA}$, $I_B=80\text{mA}$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE}=10\text{V}$, $I_C=50\text{mA}$ $f=30\text{MHz}$ | 100 | | | MHz |

Typical Characteristics



Plastic surface mounted package; 3 leads

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| UNIT | A | B | bp | C | D | E | HE | A1 | Lp |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|
| mm | 1.40 0.95 | 2.04 1.78 | 0.50 0.35 | 0.19 0.08 | 3.10 2.70 | 1.65 1.20 | 3.00 2.20 | 0.100 0.013 | 0.50 0.20 |

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