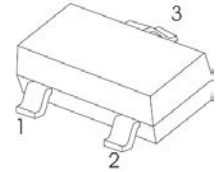


SOT-23 Plastic-Encapsulate Transistors

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Complimentary to S8050
- Collector current: $I_C=0.5A$

MARKING : 2TY

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

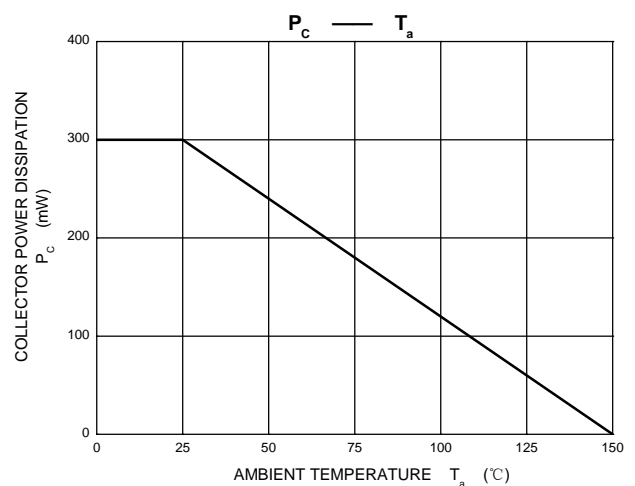
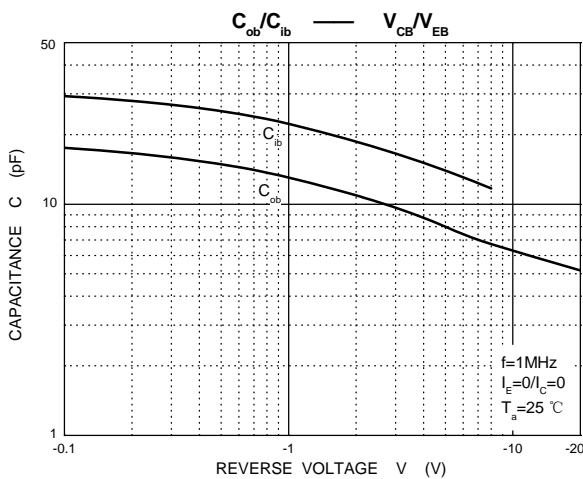
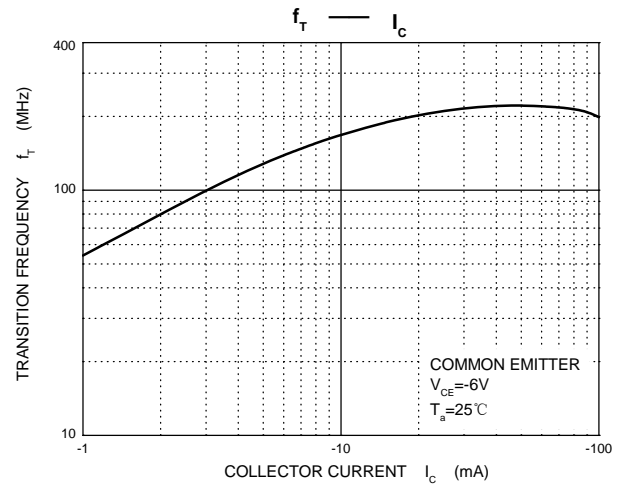
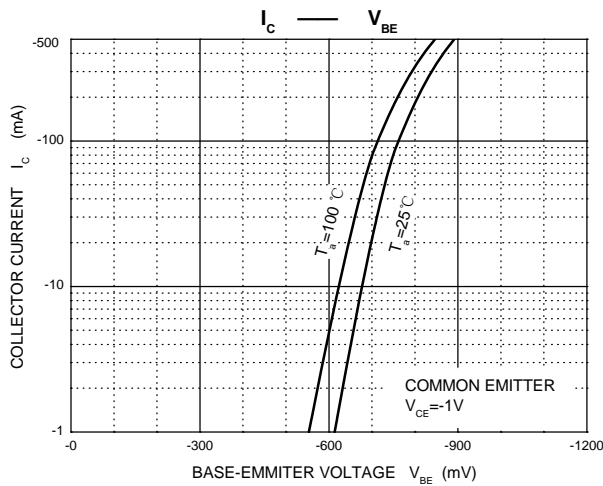
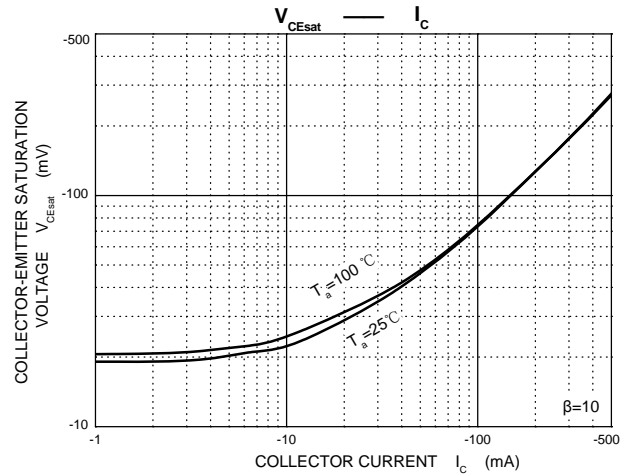
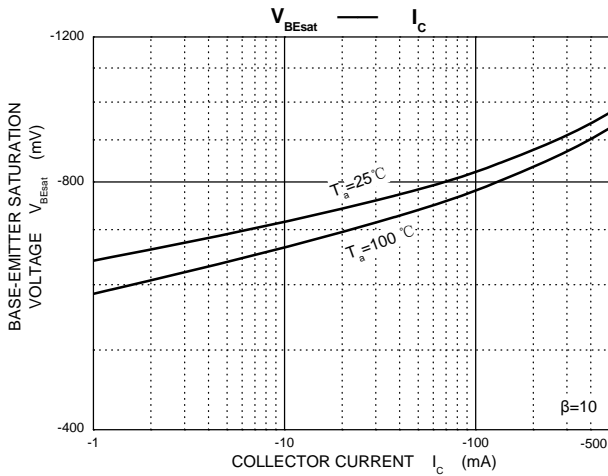
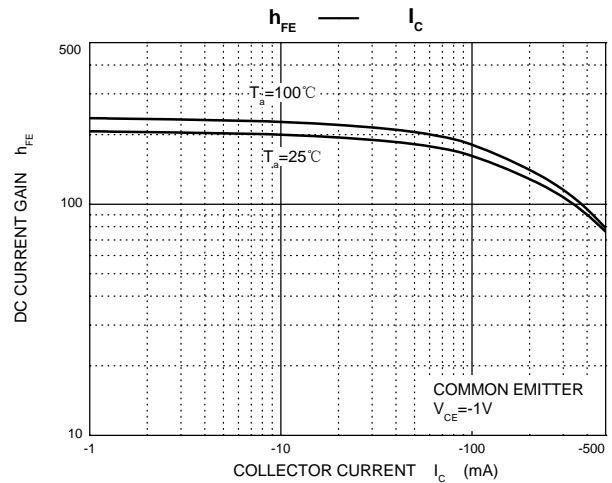
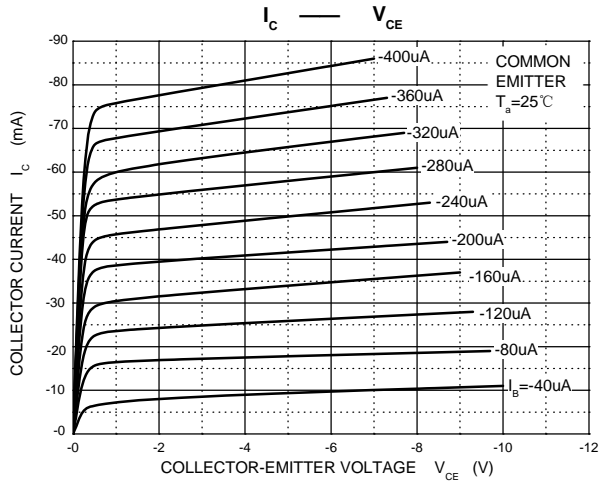
| Symbol | Parameter | Value | Unit |
|----------------|--|---------|------------|
| V_{CBO} | Collector-Base Voltage | -40 | V |
| V_{CEO} | Collector-Emitter Voltage | -25 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -Continuous | -0.5 | A |
| P_C | Collector Power Dissipation | 0.3 | W |
| T_J, T_{stg} | Operation Junction and Storage Temperature Range | -55-150 | $^\circ C$ |

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$ unless otherwise specified)

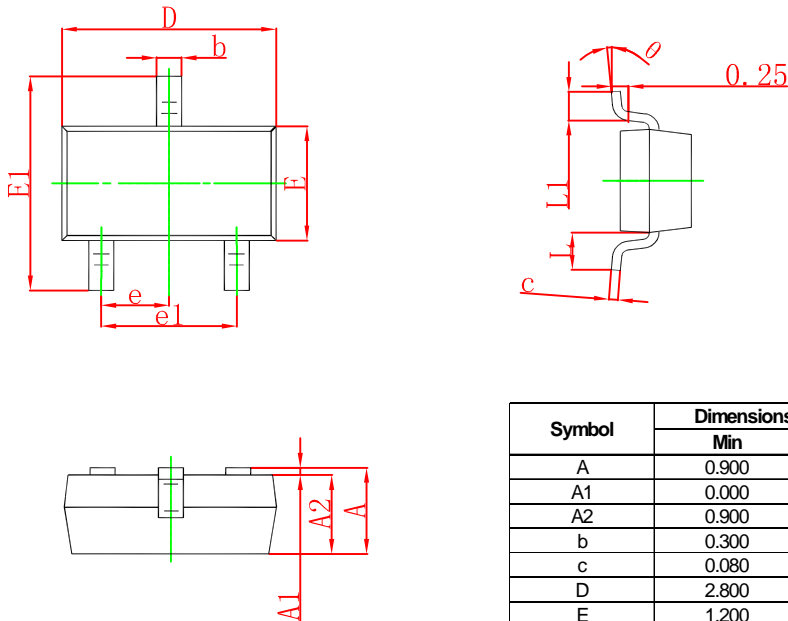
| Parameter | Symbol | Test conditions | Min | Max | Unit |
|--------------------------------------|---------------|--|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E=0$ | -40 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1mA, I_B=0$ | -25 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -100\mu A, I_C=0$ | -5 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -40V, I_E=0$ | | -0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = -20V, I_B=0$ | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -3V, I_C=0$ | | -0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = -1V, I_C = -50mA$ | 120 | 400 | |
| | $h_{FE(2)}$ | $V_{CE} = -1V, I_C = -500mA$ | 50 | | |
| 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 $h_{FE(1)}$

| Rank | | H | |
|-------|--|---------|--|
| Range | | 200-350 | |

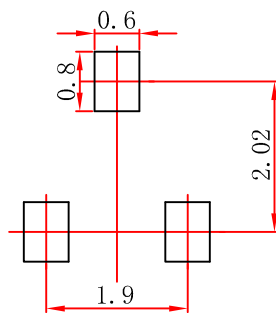


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.