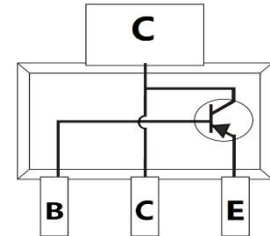


FEATURES

- High Voltage Driver Application
- Surface Mount device


SOT-223
MECHANICAL DATA

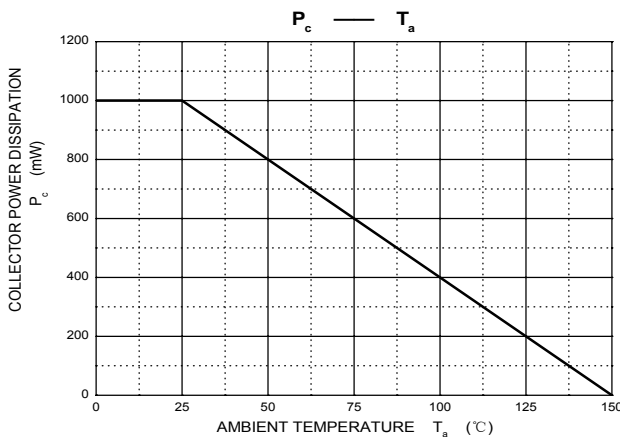
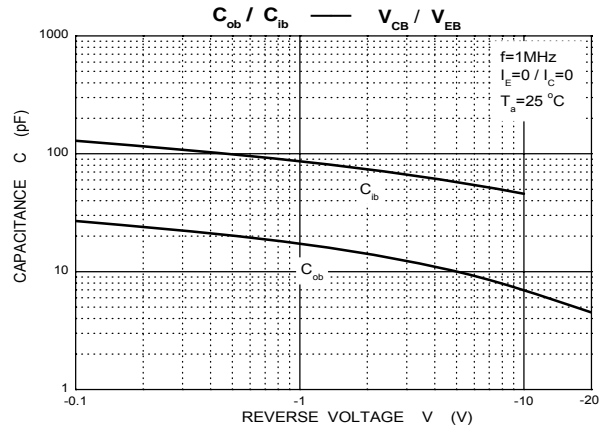
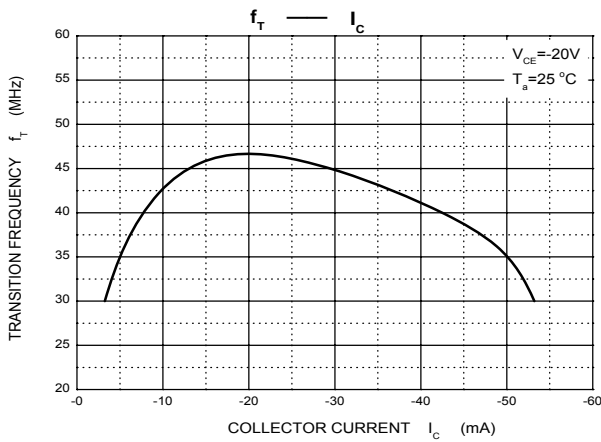
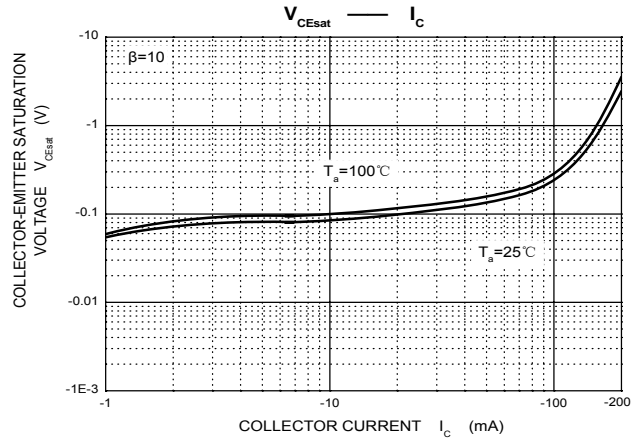
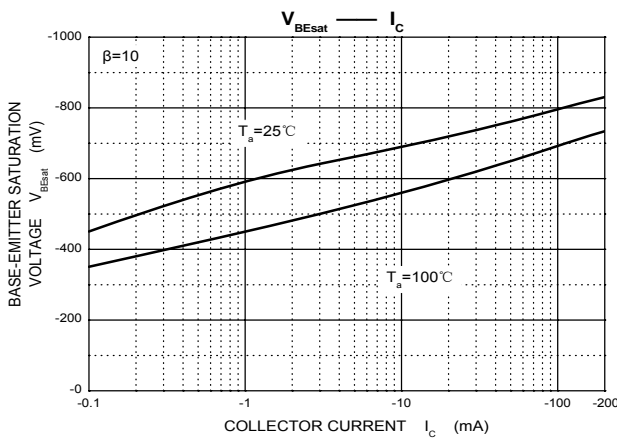
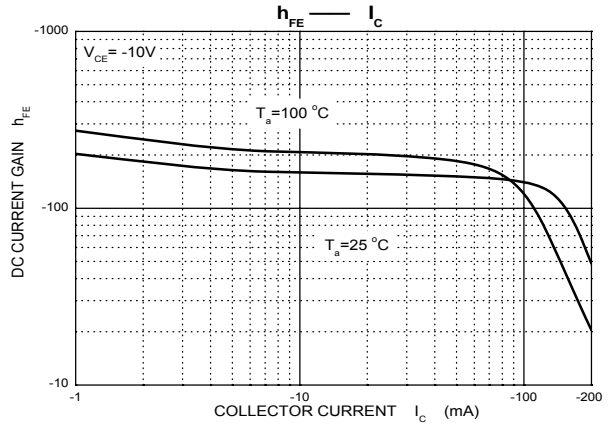
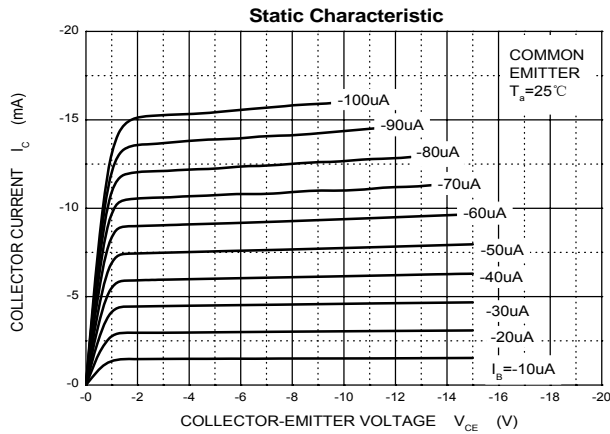
- Case: SOT-223
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.04 grams (approximate)

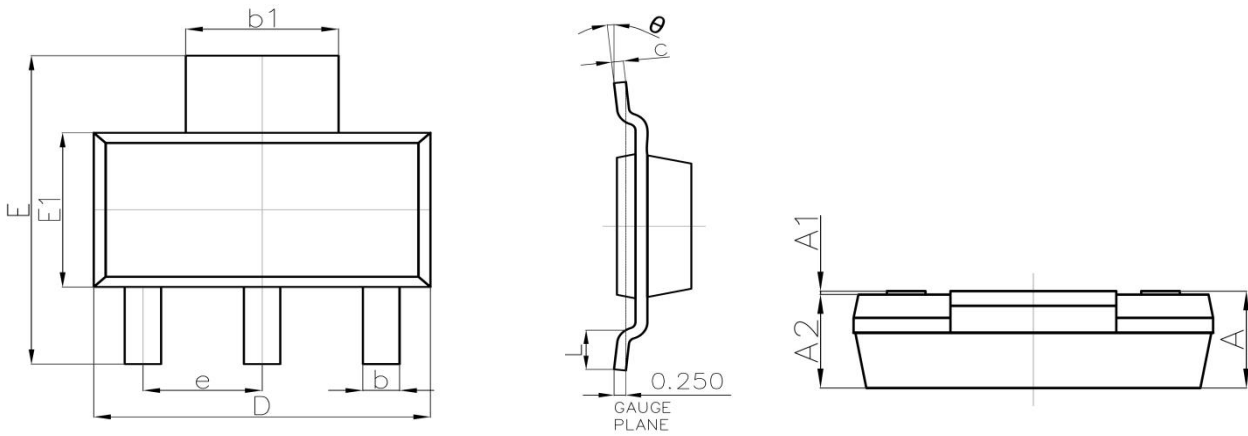
MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|------------------|-----------|------|
| Collector-Base Voltage | V _{CB0} | -500 | V |
| Collector-Emitter Voltage | V _{CEO} | -500 | V |
| Emitter-Base Voltage | V _{EBO} | -5 | V |
| Collector Current-Continuous | I _C | -200 | mA |
| Collector Current-Pulsed | I _{CM} | -300 | mA |
| Collector Power Dissipation | P _C | 1 | W |
| Thermal Resistance From Junction To Ambient | R _{θJA} | 125 | °C/W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{STG} | -55 ~+150 | °C |

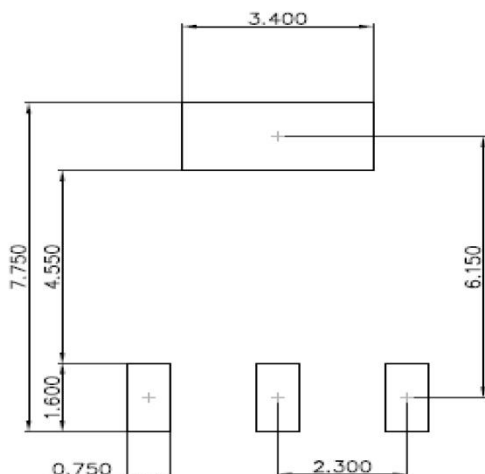
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|--------------------------------------|----------------------|------|-----|-------|------|---|
| Collector-base breakdown voltage | V _{(BR)CBO} | -500 | | | V | I _C = -100uA, I _E = 0 |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | -500 | | | V | I _C = -1mA, I _B = 0 |
| Emitter-base breakdown voltage | V _{(BR)EBO} | -5 | | | V | I _E = -100uA, I _C = 0 |
| Collector cut-off current | I _{CB0} | | | -0.1 | uA | V _{CB} = -500V, I _E = 0 |
| Collector cut-off current | I _{CEO} | | | -5 | uA | V _{CE} = -500V, I _E = 0 |
| Emitter cut-off current | I _{EBO} | | | -0.1 | uA | V _{EB} = -4V, I _C = 0 |
| DC current gain | h _{FE} | 80 | | 300 | | V _{CE} = -10V, I _C = -10mA |
| | | 70 | | | | V _{CE} = -10V, I _C = -1mA |
| | | 60 | | | | V _{CE} = -10V, I _C = -100mA |
| | | 80 | | | | V _{CE} = -10V, I _C = -50mA |
| Collector-emitter saturation voltage | V _{CE(sat)} | | | -0.2 | V | I _C = -10mA, I _B = -1mA |
| | | | | -0.3 | V | I _C = -50mA, I _B = -5mA |
| Base-emitter saturation voltage | V _{BE(sat)} | | | -0.75 | V | I _C = -10mA, I _B = -1mA |
| Transition frequency | f _T | 50 | | | MHz | V _{CE} = -20V, I _C = -10mA, f = 30MHz |

Typical Characteristics


SOT-223 Package Outline Dimensions


| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | — | 1.800 | ----- | 0.071 |
| A1 | 0.020 | 0.100 | 0.001 | 0.004 |
| A2 | 1.500 | 1.700 | 0.059 | 0.067 |
| b | 0.660 | 0.840 | 0.026 | 0.033 |
| b1 | 2.900 | 3.100 | 0.114 | 0.122 |
| c | 0.230 | 0.350 | 0.009 | 0.014 |
| D | 6.300 | 6.700 | 0.248 | 0.264 |
| E | 6.700 | 7.300 | 0.264 | 0.287 |
| E1 | 3.300 | 3.700 | 0.130 | 0.146 |
| e | 2.300(BSC) | | 0.091(BSC) | |
| L | 0.750 | ----- | 0.030 | ----- |
| θ | 0° | 10° | 0° | 10° |

SOT-223 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only