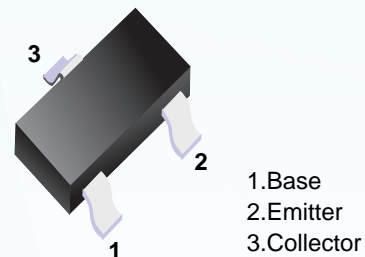


■ NPN Transistors

■ Features

- Collector Current Capability $I_C=100\text{mA}$
- Collector Emitter Voltage $V_{CEO}=12\text{V}$



■ Simplified outline(SOT-323)

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

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CBO} | 20 | V |
| Collector - Emitter Voltage | V_{CEO} | 12 | |
| Emitter - Base Voltage | V_{EBO} | 3 | |
| Collector Current - Continuous | I_C | 100 | mA |
| Collector Power Dissipation | P_C | 150 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -65 to 150 | |

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

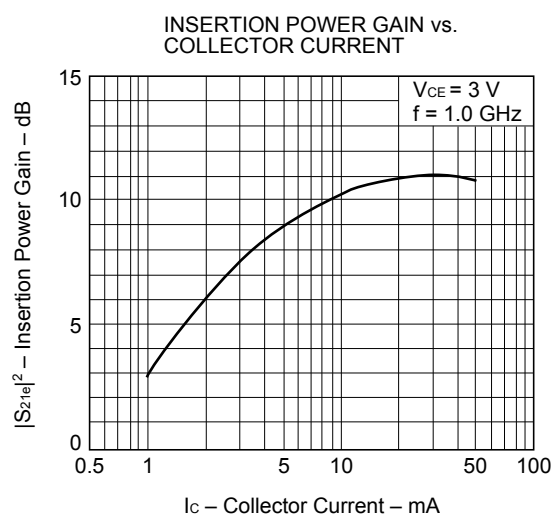
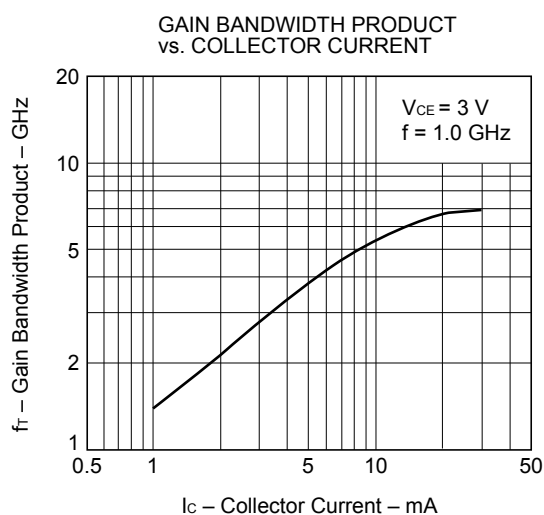
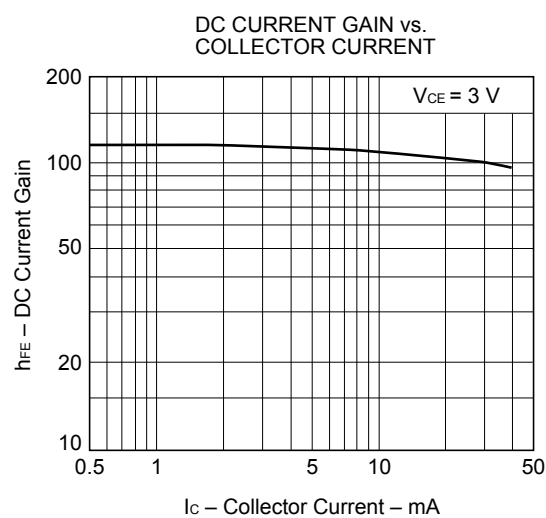
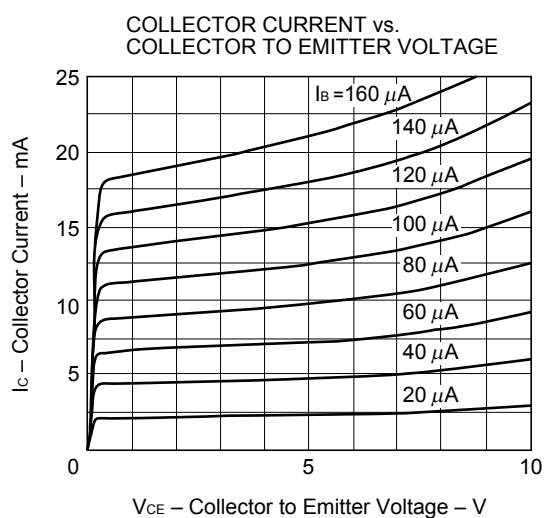
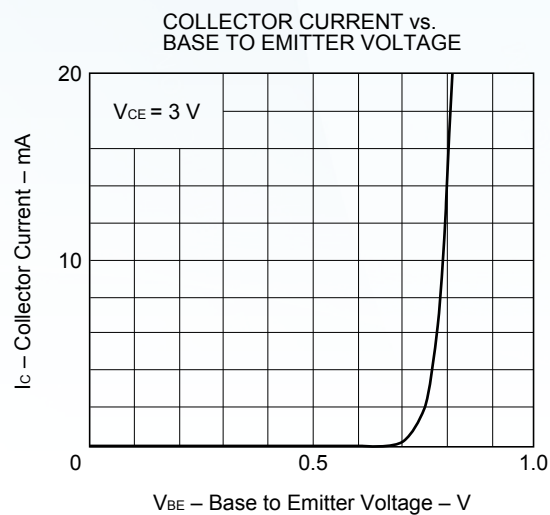
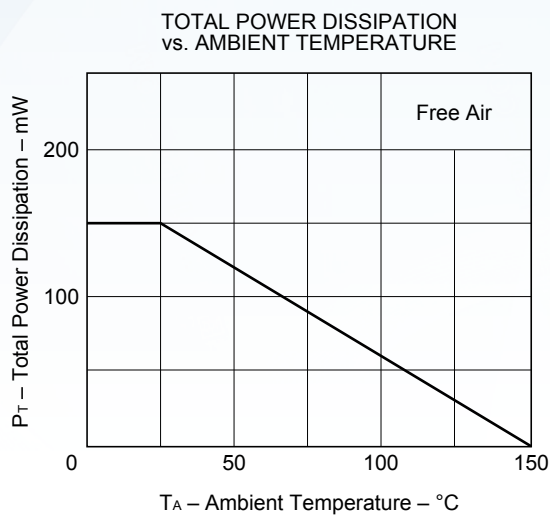
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector- base breakdown voltage | V_{CBO} | $I_C = 100\ \mu\text{A}, I_E = 0$ | 20 | | | V |
| Collector- emitter breakdown voltage | V_{CEO} | $I_C = 1\ \text{mA}, I_B = 0$ | 12 | | | |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = 100\ \mu\text{A}, I_C = 0$ | 3 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 10\ \text{V}, I_E = 0$ | | | 1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 1\ \text{V}, I_C = 0$ | | | 1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100\ \text{mA}, I_B = 10\ \text{mA}$ | | | 0.5 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 100\ \text{mA}, I_B = 10\ \text{mA}$ | | | 1.2 | |
| DC current gain | h_{FE} | $V_{CE} = 3\ \text{V}, I_C = 7\ \text{mA}$ | 40 | | 250 | |
| Insertion Power Gain | $ S_{21e} ^2$ | $V_{CE} = 3\ \text{V}, I_C = 7\ \text{mA}, f = 1\ \text{GHz}$ | 7 | | | dB |
| Noise Figure | NF | $V_{CE} = 3\ \text{V}, I_C = 7\ \text{mA}, f = 1\ \text{GHz}$ | | | 2.5 | |
| Feed back Capacitance | C_{re} | $V_{CE} = 3\ \text{V}, I_E = 0, f = 1\ \text{MHz}$ | | | 1.5 | |
| Transition frequency | f_T | $V_{CE} = 3\ \text{V}, I_C = 7\ \text{mA}$ | 3 | | | GHz |

Note.Pulse Measurement ; $PW \leq 350\ \mu\text{s}$, Duty Cycle $\leq 2\%$ Pulsed.

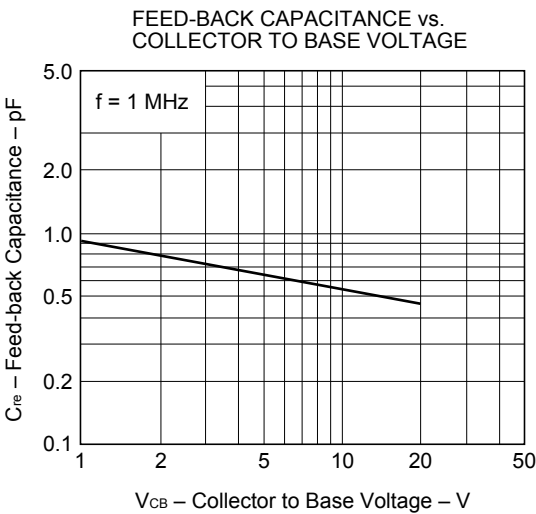
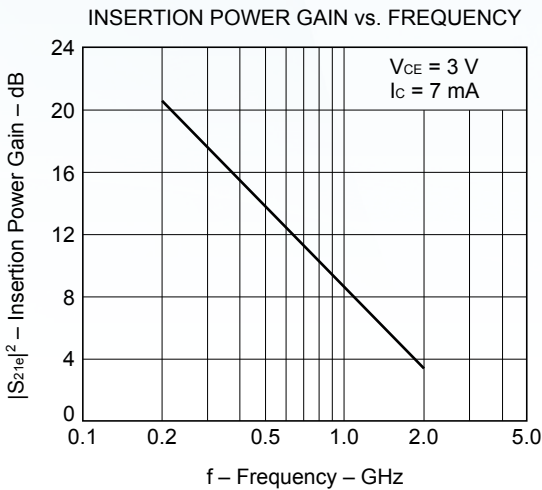
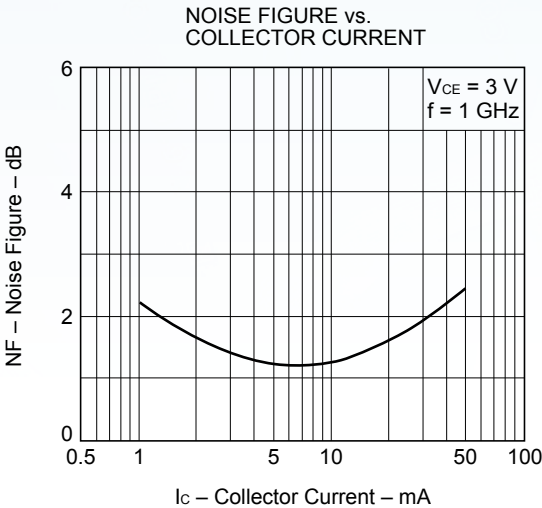
■ Classification of h_{FE}

| Type | EV2SC4226-SM | EV2SC4226-SM | EV2SC4226-SM |
|---------|--------------|--------------|--------------|
| Range | 40-80 | 70-140 | 125-250 |
| Marking | R23 | R24 | R25 |

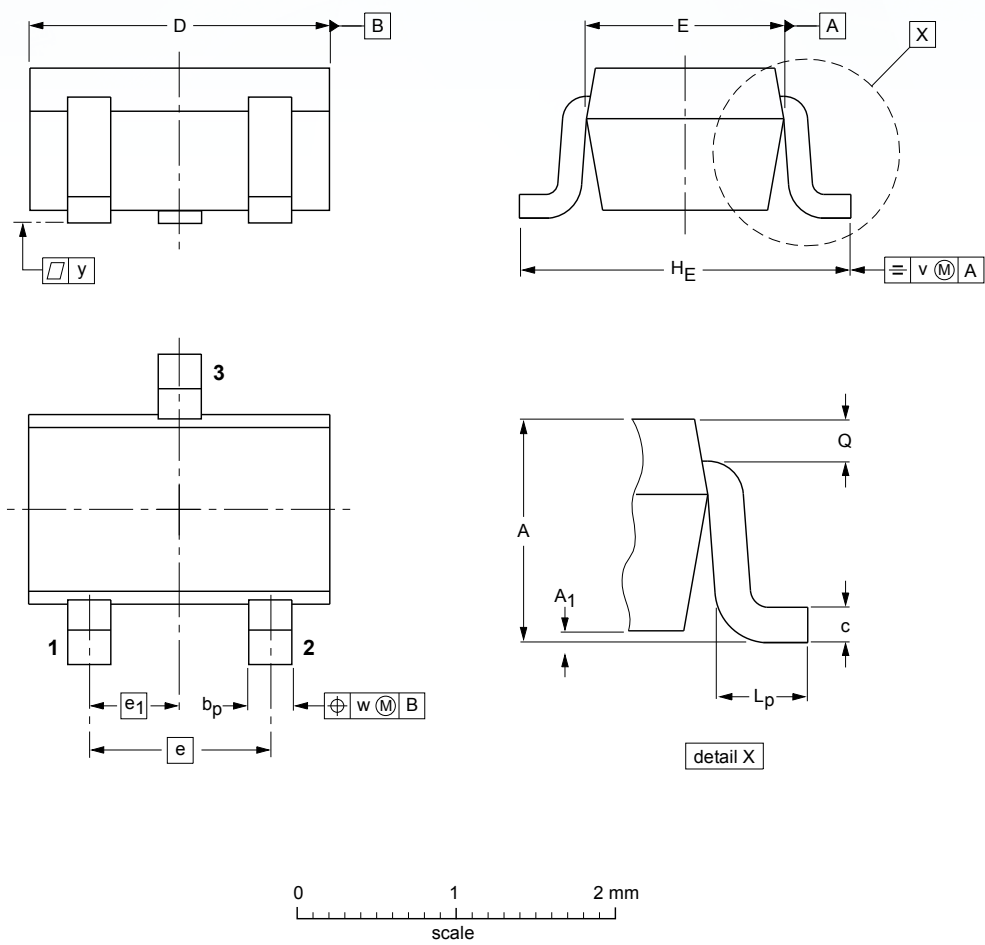
■ Typical Characteristics



■ Typical Characteristics



■ SOT-323



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max | b _p | c | D | E | e | e ₁ | H _E | L _p | Q | v | w |
|------|------------|-----------------------|----------------|--------------|------------|--------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm | 1.1 0.8 | 0.1 | 0.4 0.3 | 0.25 0.10 | 2.2 1.8 | 1.35 1.15 | 1.3 | 0.65 | 2.2 2.0 | 0.45 0.15 | 0.23 0.13 | 0.2 | 0.2 |

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