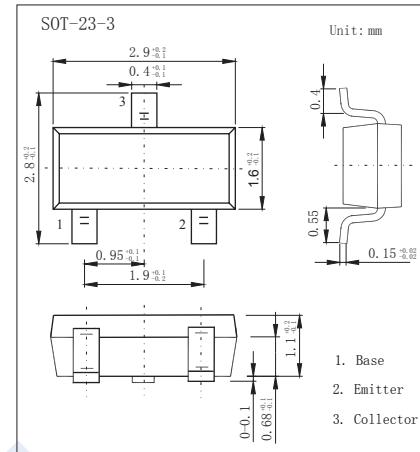


PNP Transistors

2SA1607

■ Features

- Fast switching speed.
- High gain-bandwidth product.
- Low saturation voltage.
- Complementary to 2SC4168



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

| Parameter | Symbol | Rating | Unit |
|---------------------------|-----------|-------------|------------------|
| Collector-base voltage | V_{CB0} | -40 | V |
| Collector-emitter voltage | V_{CE0} | -20 | V |
| Emitter-base voltage | V_{EB0} | -5 | V |
| Collector current | I_C | -150 | mA |
| Collector current (pulse) | I_{CP} | -300 | mA |
| Base current | I_B | -30 | mA |
| Collector dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-------|------|------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = -100 \mu\text{A}$, $I_E = 0$ | -40 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = -1 \text{ mA}$, $R_{BE} = \infty$ | -20 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = -100 \mu\text{A}$, $I_C = 0$ | -5 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = -30 \text{ V}$, $I_E = 0$ | | | -100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -4 \text{ V}$, $I_C = 0$ | | | -100 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -10 \text{ mA}$, $I_B = -1 \text{ mA}$ | | -0.07 | -0.2 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -10 \text{ mA}$, $I_B = -1 \text{ mA}$ | | -0.75 | -1 | |
| DC current gain | h_{FE} | $V_{CE} = -1 \text{ V}$, $I_C = -10 \text{ mA}$ | 60 | | 180 | |
| Delay time | t_d | See specified Test Circuit | | 14 | 20 | ns |
| Rise time | t_r | | | 11 | 20 | |
| Storage time | t_s | | | 80 | 180 | |
| Fall time | t_f | | | 16 | 25 | |
| Output capacitance | C_{ob} | $V_{CE} = -10 \text{ V}$, $f = 100 \text{ MHz}$ | | 2.9 | | pF |
| Transition frequency | f_T | $V_{CE} = -10 \text{ V}$, $I_C = -1 \text{ mA}$ | | 400 | | MHz |

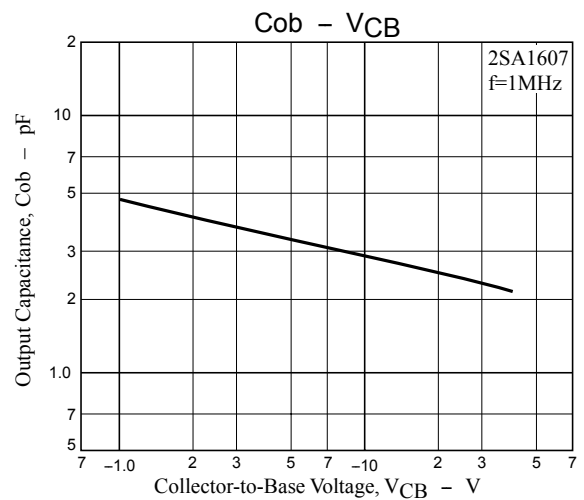
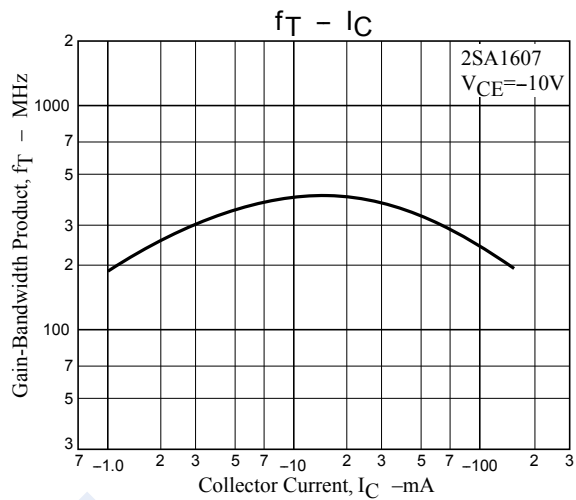
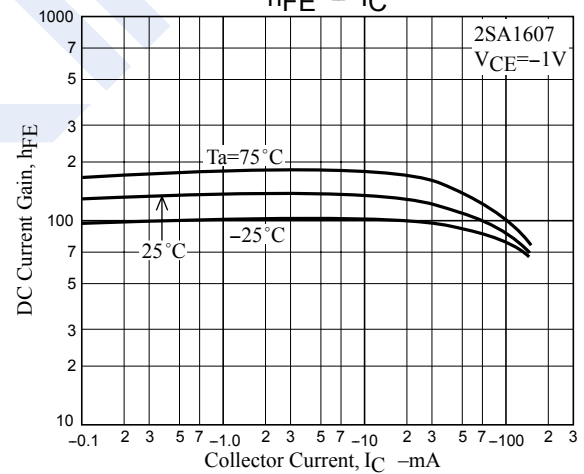
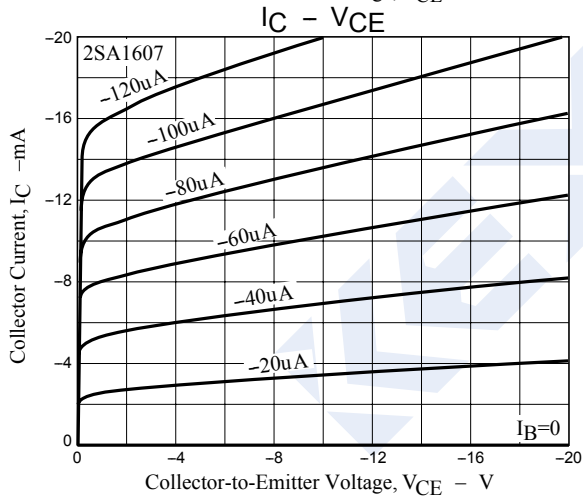
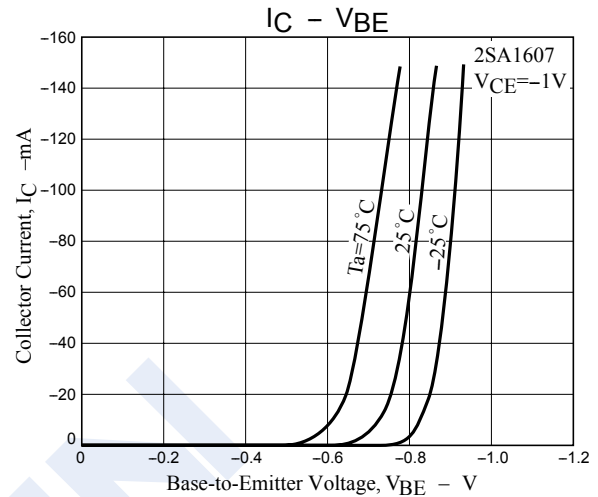
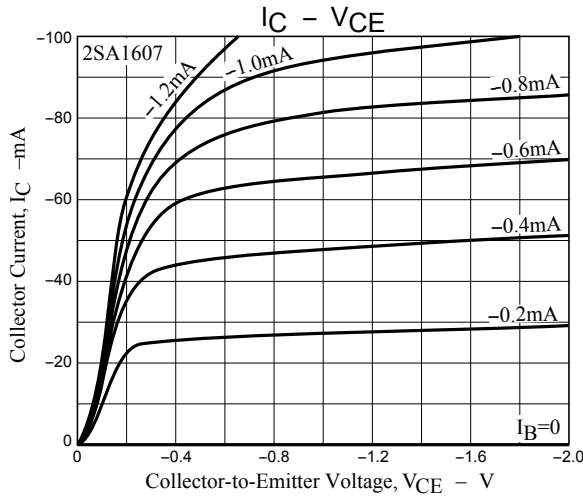
■ Classification of h_{FE}

| Type | 2SA1607-YL3 | 2SA1607-YL4 |
|---------|-------------|-------------|
| Range | 60-120 | 90-180 |
| Marking | YL3 | YL4 |

PNP Transistors

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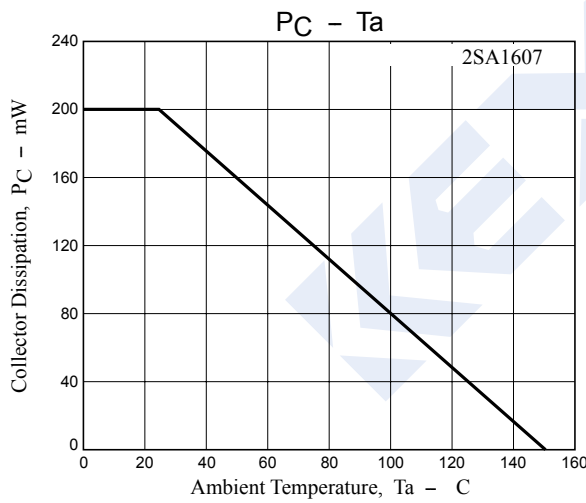
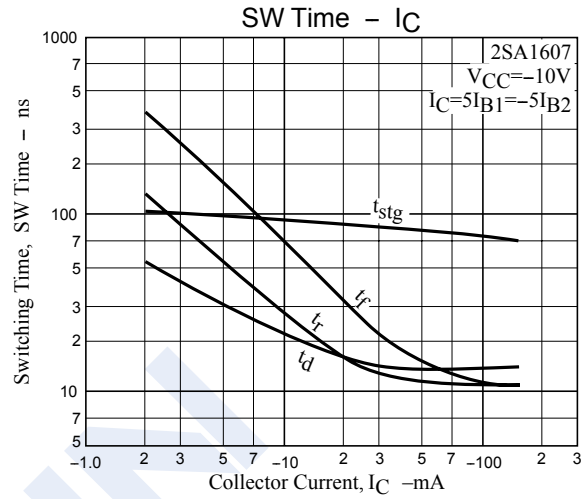
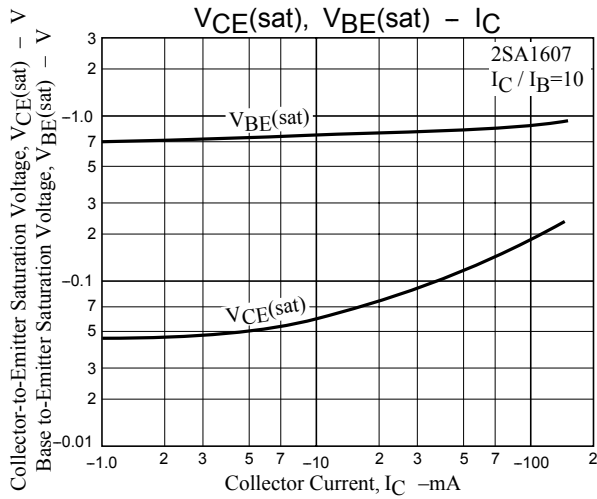
■ Typical Characteristics



PNP Transistors

2SA1607

Typical Characteristics



Switching Time Test Circuit

