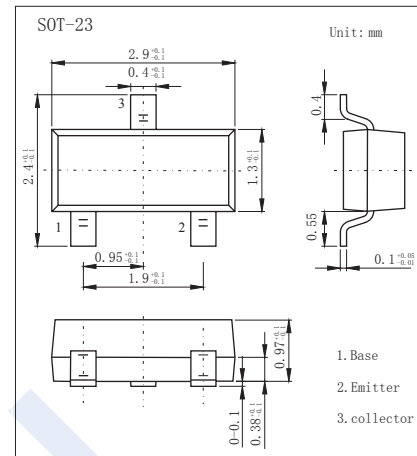


NPN Transistors

2SC2713

■ Features

- High voltage: $V_{CE0} = 120\text{ V}$
- High h_{FE} : $h_{FE} = 200\sim 700$
- Low noise: $NF = 1\text{ dB (typ.)}$, 10 dB (max)
- Small package
- Complementary to 2SA1163



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

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CBO} | 120 | V |
| Collector - Emitter Voltage | V_{CEO} | 120 | |
| Emitter - Base Voltage | V_{EBO} | 5 | |
| Collector Current - Continuous | I_C | 100 | mA |
| Base Current | I_B | 20 | |
| Collector Power Dissipation | P_C | 150 | mW |
| Junction Temperature | T_J | 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to 125 | |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|------|
| Collector- base breakdown voltage | V_{CBO} | $I_C = 100\ \mu\text{A}$, $I_E = 0$ | 120 | | | V |
| Collector- emitter breakdown voltage | V_{CEO} | $I_C = 1\ \text{mA}$, $I_B = 0$ | 120 | | | |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = 100\ \mu\text{A}$, $I_C = 0$ | 5 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 120\ \text{V}$, $I_E = 0$ | | | 100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5\ \text{V}$, $I_C = 0$ | | | 100 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\ \text{mA}$, $I_B = 1\ \text{mA}$ | | | 0.3 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10\ \text{mA}$, $I_B = 1\ \text{mA}$ | | | 1.2 | |
| DC current gain | h_{FE} | $V_{CE} = 6\ \text{V}$, $I_C = 2\ \text{mA}$ | 200 | | 700 | |
| Noise figure | NF | $V_{CE} = 6\ \text{V}$, $I_C = 0.1\ \text{mA}$, $f = 1\ \text{KHz}$ $R_G = 10\ \text{k}\Omega$ | | 1 | 10 | dB |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$ | | 3 | | pF |
| Transition frequency | f_t | $V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$ | | 100 | | MHz |

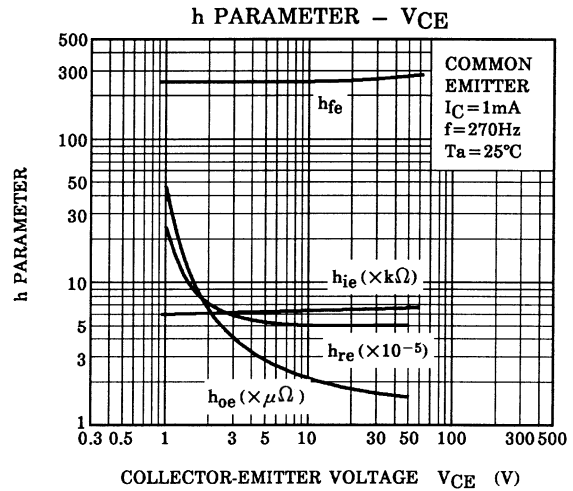
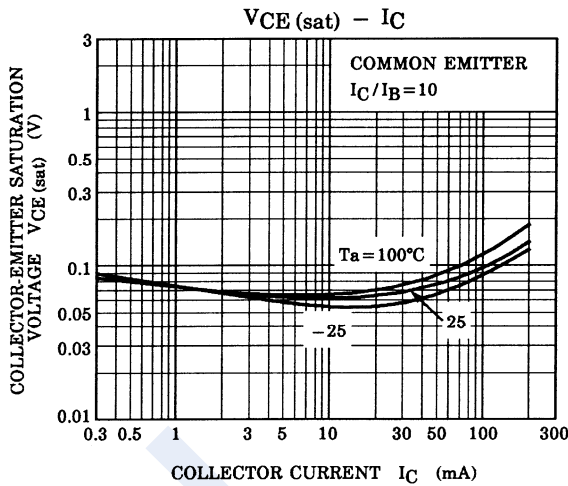
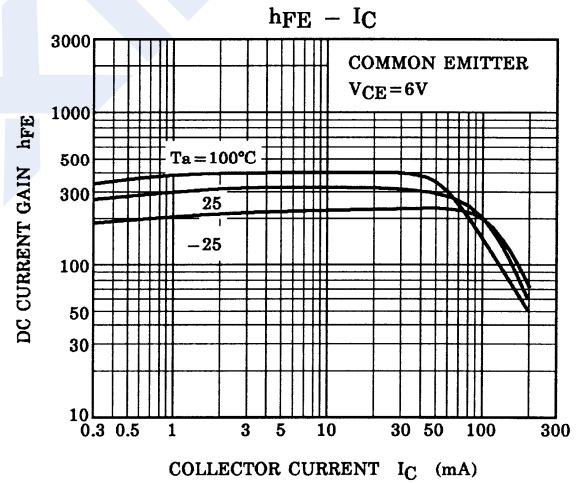
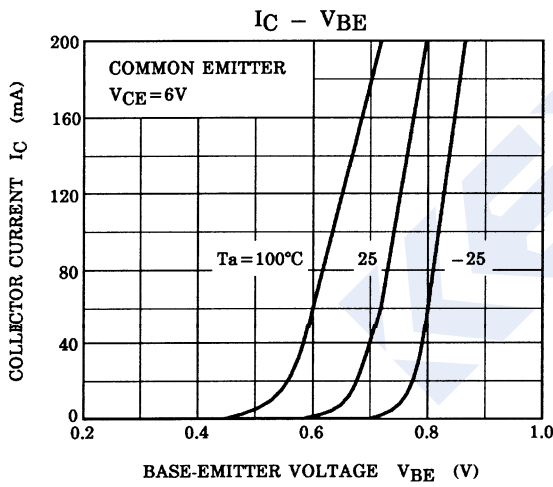
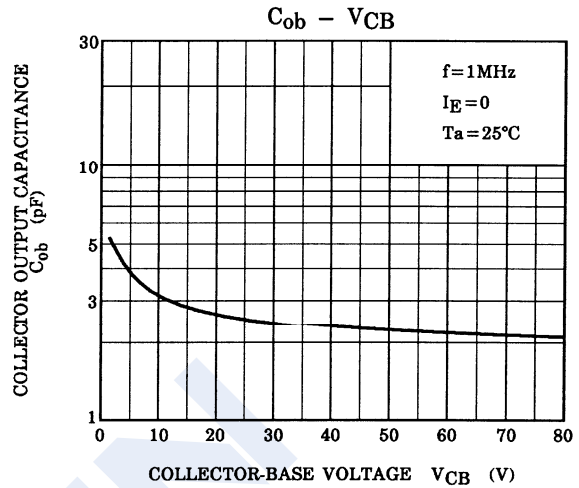
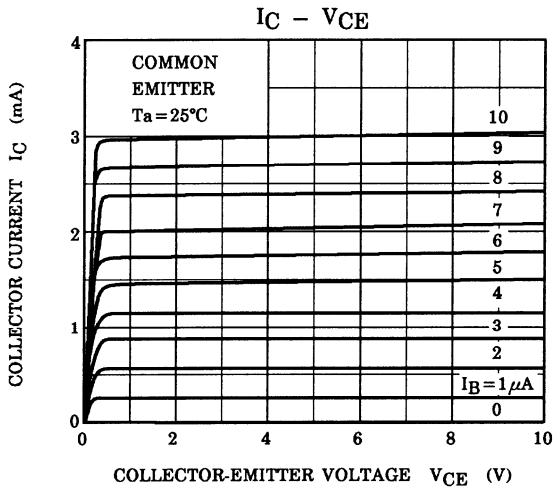
■ Classification of h_{FE}

| Type | 2SC2713-G | 2SC2713-L |
|---------|-----------|-----------|
| Range | 200-400 | 350-700 |
| Marking | DG | DL |

NPN Transistors

2SC2713

■ Typical Characteristics



NPN Transistors

2SC2713

■ Typical Characteristics

