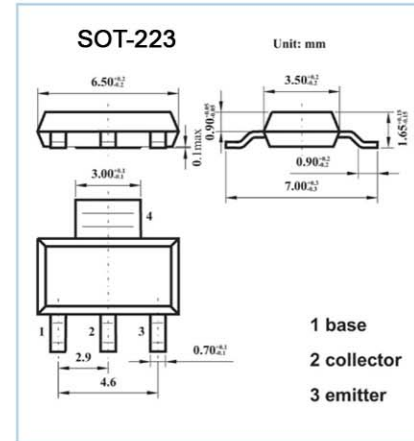


■ Features

- High current.
- Three current gain selections.
- 1.4 W total power dissipation.



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|--|----------------------|-------------|------|
| Collector-base voltage | V _{CB0} | -32 | V |
| Collector-emitter voltage | V _{CE0} | -20 | V |
| Emitter-base voltage | V _{EB0} | -5 | V |
| Collector current (DC) | I _C | -1 | A |
| Peak collector current | I _{CM} | -2 | A |
| Peak base current | I _{BM} | -200 | mA |
| Total power dissipation | P _{tot} | | |
| * 1 | | 0.625 | W |
| * 2 | | 1 | W |
| * 3 | | 1.4 | W |
| Storage temperature | T _{stg} | -65 to +150 | °C |
| Junction temperature | T _j | 150 | °C |
| Operating ambient temperature | T _{amb} | -65 to +150 | °C |
| Thermal resistance from junction to ambient * | R _{th(j-a)} | | |
| * 1 | | 200 | K/W |
| * 2 | | 125 | K/W |
| * 3 | | 89 | K/W |
| Thermal resistance from junction to solder point | R _{th(j-s)} | 15 | K/W |

*1 Device mounted on a FR4 PCB; single-sided copper; tinplated; standard footprint for SOT223.

*2 Device mounted on a FR4 PCB; single-sided copper; tinplated; 1 cm² collector mounting pad.

*3 Device mounted on a FR4 PCB; single-sided copper; tinplated; 6 cm² collector mounting pad.

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--------------------------------------|-------------|---------------------------------------|-----|-----|------|------|
| Collector cutoff current | IcBO | IE = 0 A; VCB = -25 V | | | -100 | nA |
| | | IE = 0 A; VCB = -25 V; Tj = 150 °C | | | -10 | μA |
| Emitter cutoff current | IEBO | Ic = 0 A; VEB = -5 V | | | -100 | nA |
| DC current gain | BCP69 | VCE = -10 V; Ic = -5 mA | 50 | | | |
| | | VCE = -1 V; Ic = -500 mA | 85 | | 375 | |
| | | VCE = -1 V; Ic = -1 A | 60 | | | |
| | BCP69-16 | | 100 | | 250 | |
| | BCP69-16/IN | VCE = -1 V; Ic = -500 mA | 140 | | 230 | |
| | BCP69-25 | | 160 | | 375 | |
| Collector-emitter saturation voltage | VCEsat | Ic = -1 A; IB = -100 mA; | | | -500 | mV |
| Base-emitter voltage | VBE | VCE = -10 V; Ic = -5 mA | | | -700 | mV |
| | | VCE = -1 V; Ic = -1 A | | | -1 | V |
| Collector capacitance | Cc | IE = ie = 0 A; VCB = -10 V; f = 1 MHz | | 28 | | pF |
| Transition frequency | fr | Ic = -50 mA; VCE = -5 V; f = 100 MHz | 40 | 140 | | MHz |