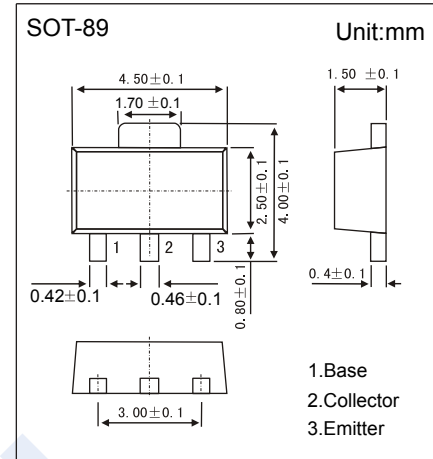


## PNP Transistors

## 2SA1948

## ■ Features

- Collector Current Capability  $I_c = -0.1A$
- Collector Emitter Voltage  $V_{CE0} = -120V$
- Complementary to 2SC5213

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

| Parameter                      | Symbol    | Rating     | Unit       |
|--------------------------------|-----------|------------|------------|
| Collector - Base Voltage       | $V_{CB0}$ | -120       | V          |
| Collector - Emitter Voltage    | $V_{CE0}$ | -120       |            |
| Emitter - Base Voltage         | $V_{EB0}$ | -5         |            |
| Collector Current - Continuous | $I_c$     | -100       | mA         |
| Collector Power Dissipation    | $P_c$     | 500        | mW         |
| Junction Temperature           | $T_J$     | 150        | $^\circ C$ |
| Storage Temperature range      | $T_{stg}$ | -55 to 150 |            |

■ Electrical Characteristics  $T_a = 25^\circ C$ 

| Parameter                            | Symbol        | Test Conditions                    | Min  | Typ | Max  | Unit |
|--------------------------------------|---------------|------------------------------------|------|-----|------|------|
| Collector- base breakdown voltage    | $V_{CB0}$     | $I_c = -100 \mu A, I_E = 0$        | -120 |     |      | V    |
| Collector- emitter breakdown voltage | $V_{CE0}$     | $I_c = -1 mA, R_{BE} = \infty$     | -120 |     |      |      |
| Emitter - base breakdown voltage     | $V_{EB0}$     | $I_E = -100 \mu A, I_c = 0$        | -5   |     |      |      |
| Collector-base cut-off current       | $I_{CB0}$     | $V_{CB} = -100 V, I_E = 0$         |      |     | -100 | nA   |
| Emitter cut-off current              | $I_{EB0}$     | $V_{EB} = -4V, I_c = 0$            |      |     | -100 |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c = -50 mA, I_B = -2.5mA$       |      |     | -0.6 | V    |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_c = -50 mA, I_B = -2.5mA$       |      |     | -1.2 |      |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -10V, I_c = -10mA$       | 150  |     | 800  |      |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -20V, I_E = 0, f = 1MHz$ |      | 3.5 |      | pF   |
| Transition frequency                 | $f_T$         | $V_{CE} = -10V, I_E = 10mA$        |      | 200 |      | MHz  |

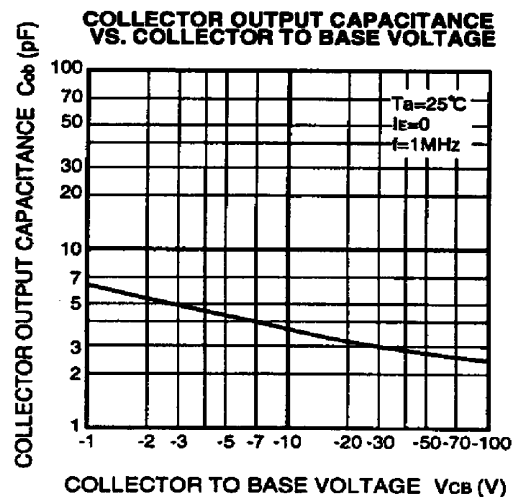
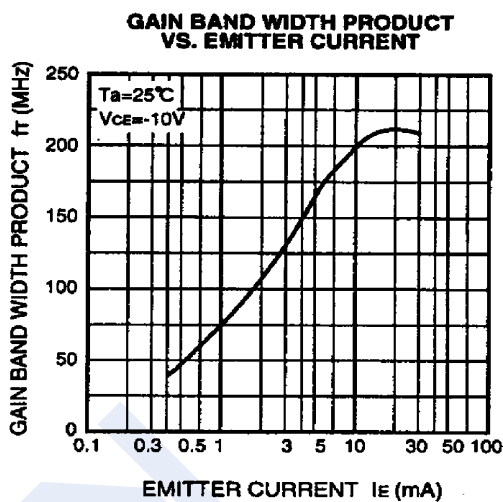
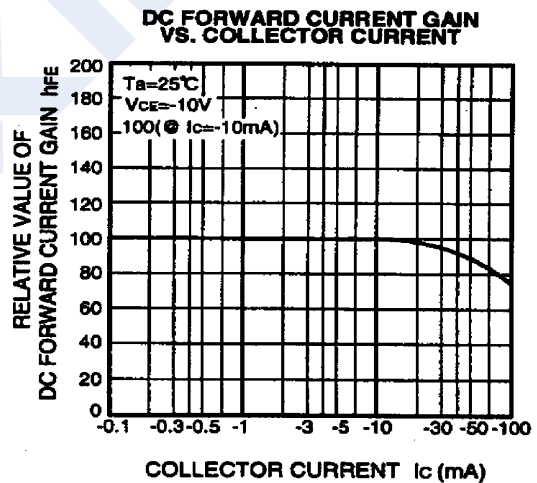
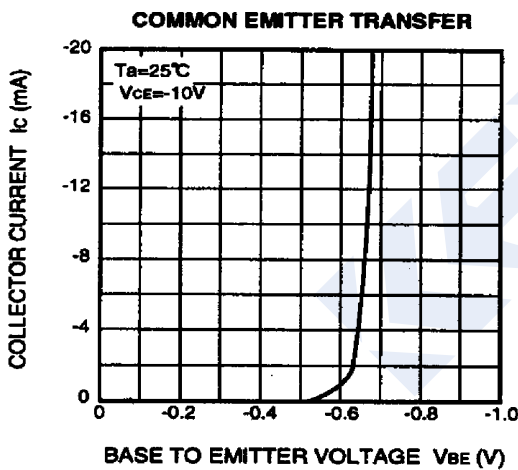
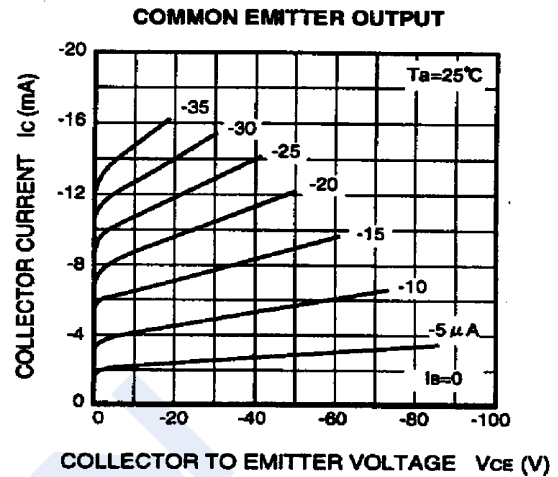
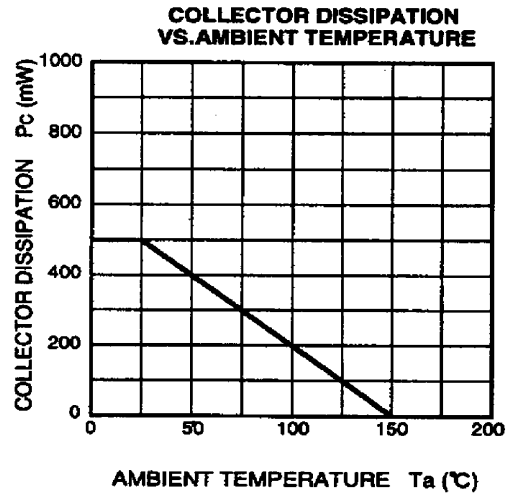
■ Classification of  $h_{FE}$ 

| Type    | 2SA1948-E | 2SA1948-F | 2SA1948-G |
|---------|-----------|-----------|-----------|
| Range   | 150-300   | 250-500   | 400-800   |
| Marking | AC*E      | AC*F      | AC*G      |

### PNP Transistors

### 2SA1948

■ Typical Characteristics



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■ Typical Characteristics

