



SOT-23 Plastic-Encapsulate Transistors

C945 TRANSISTOR (NPN)

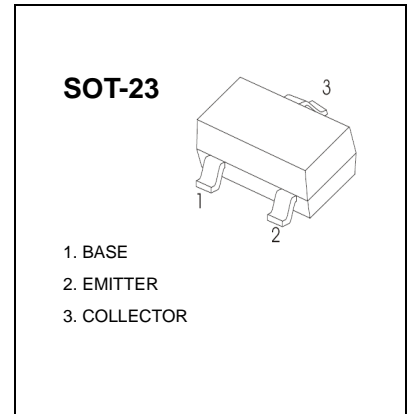
FEATURE

- Excellent h_{FE} Linearity
- Low noise
- Complementary to A733

MARKING:CR •

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 150 | mA |
| P_C | Collector Power Dissipation | 200 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55-150 | $^\circ\text{C}$ |



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

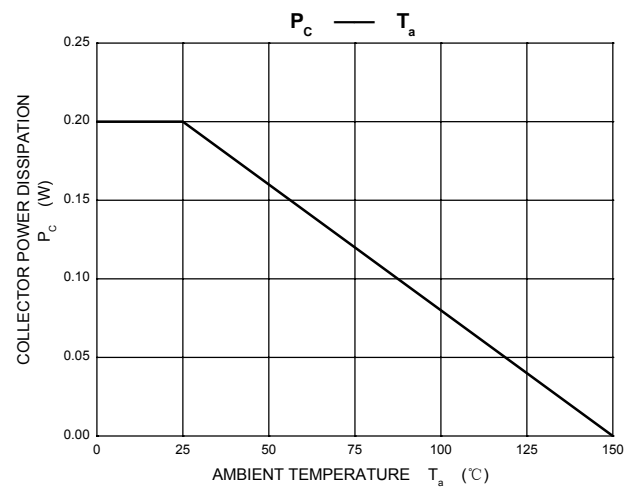
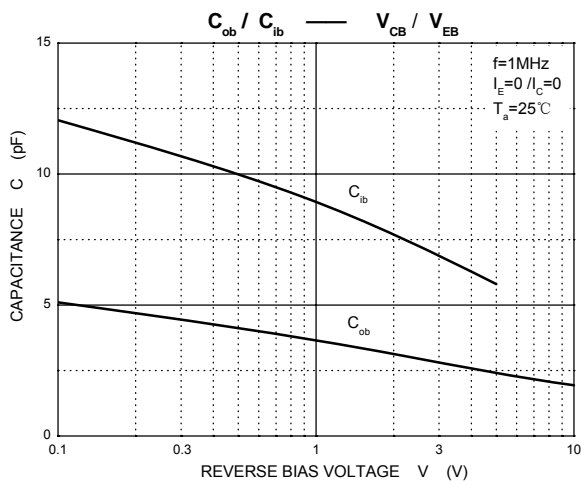
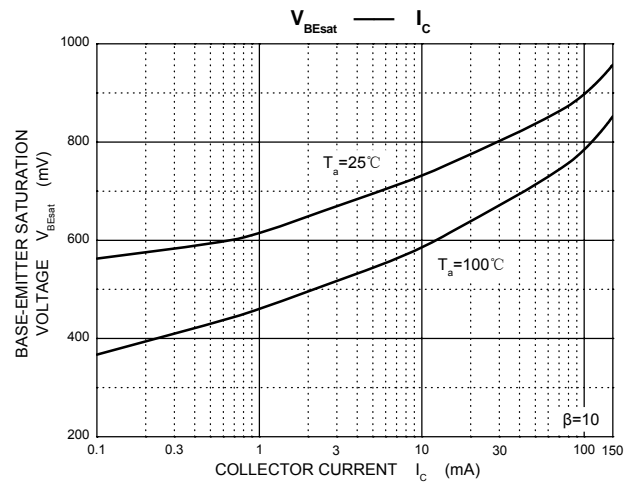
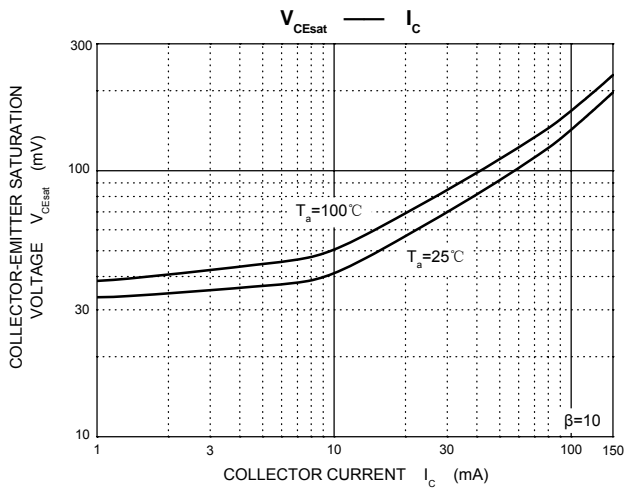
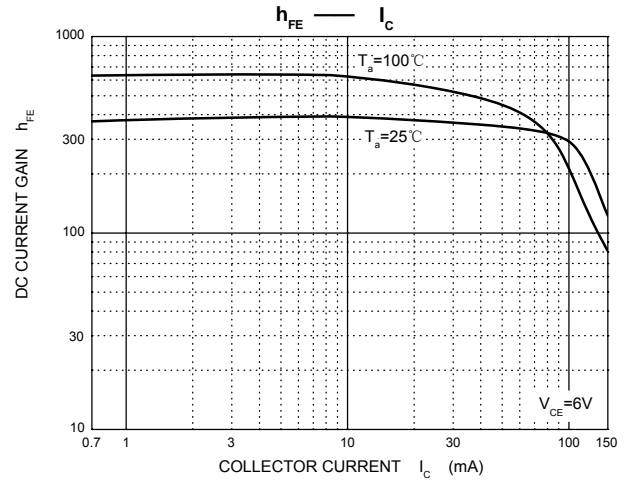
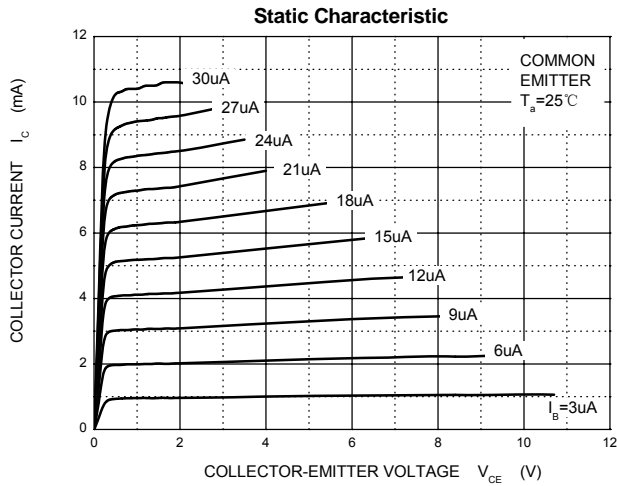
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$ | 60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=0.1\text{mA}, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=60\text{V}, I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CER} | $V_{CE}=55\text{V}, R=10\text{M}\Omega$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 130 | | 400 | |
| | $h_{FE(2)}$ | $V_{CE}=6\text{V}, I_C=0.1\text{mA}$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{MHz}$ | 150 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | | 3.0 | pF |
| Noise figure | NF | $V_{CE}=6\text{V}, I_C=0.1\text{mA}$ $R_g=10\text{k}\Omega, f=1\text{kHz}$ | | 4 | 10 | dB |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | L | H |
|-------|---------|---------|
| Range | 130-200 | 200-400 |

Typical Characteristics

C945



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