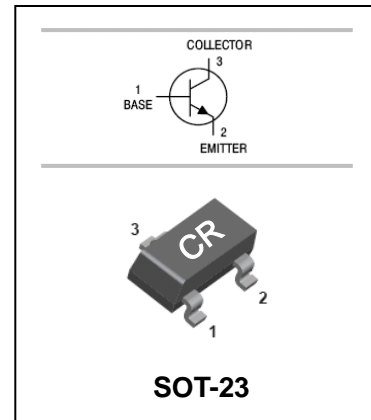


FEATURES

- High voltage and high current.
- Excellent h_{FE} linearity.
- Low noise.

APPLICATIONS

- Audio frequency amplifier.



MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Symbol | Parameter | Value | Units |
|----------------|----------------------------------|-------------|------------------|
| 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 | 100 | mA |
| P_C | Collector Dissipation | 200 | mW |
| T_j, T_{stg} | Junction and Storage Temperature | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

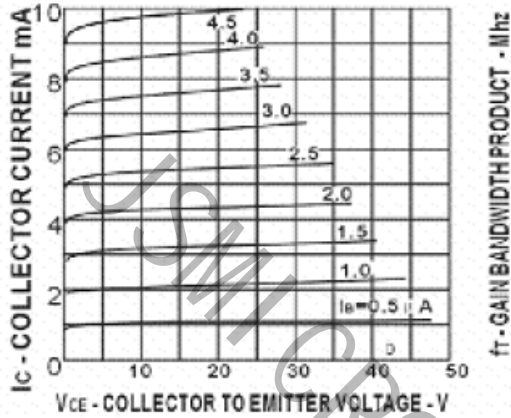
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|------|------|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=0.1mA, I_E=0$ | 60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$ | 50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=0.1mA, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=60V, I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE}=50V, I_B=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=6V, I_C=1mA$ | 130 | | 400 | |
| | | $V_{CE}=6V, I_C=0.1mA$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100mA, I_B=10mA$ | | 0.15 | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100mA, I_B=10mA$ | | 0.86 | 1 | V |
| Base to Emitter Voltage | V_{BE} | $V_{CE}=6V, I_C=1.0mA$ | 0.55 | 0.62 | 0.65 | V |
| Transition frequency | f_T | $V_{CE}=6V, I_C=10mA$ $f=30MHz$ | 150 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10V, I_E=0, f=1MHz$ | | 3.0 | 4.0 | pF |
| Noise figure | NF | $V_{CE}=6V, I_C=0.1mA$ $f=1kHz, R_g=10k\Omega$ | | 4 | 10 | dB |

CLASSIFICATION OF $h_{FE(1)}$

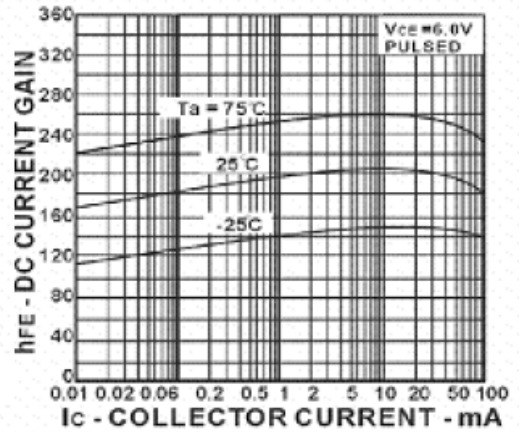
| Rank | L | H |
|-------|---------|---------|
| Range | 130-200 | 200-400 |

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

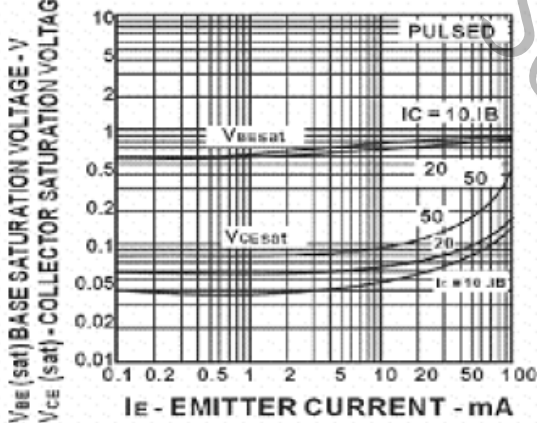
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



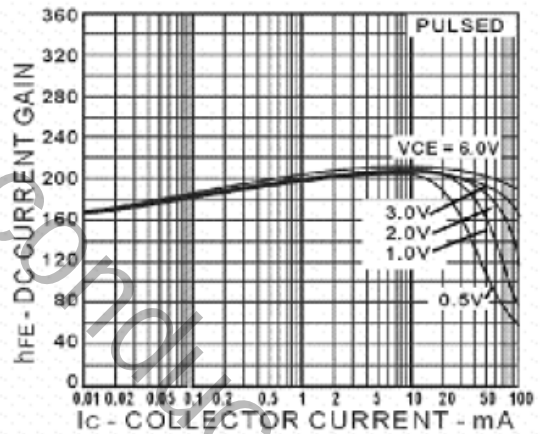
DC CURRENT GAIN vs. COLLECTOR CURRENT



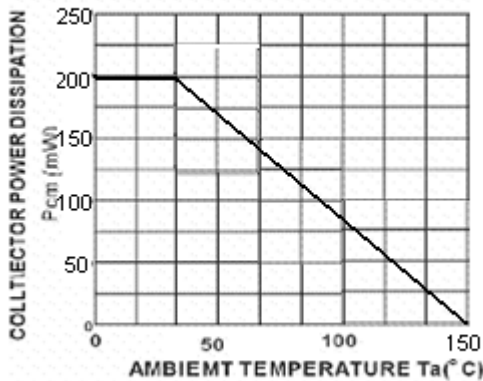
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



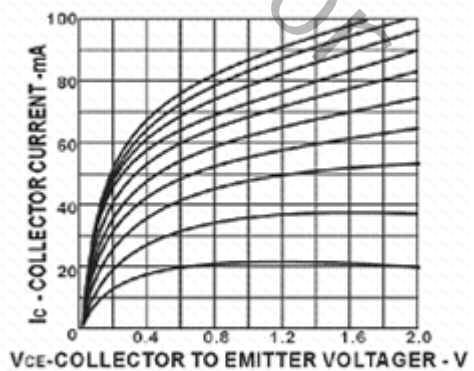
DC CURRENT GAIN vs. COLLECTOR CURRENT



TOTAL Power Dissipation vs AMBIENT Temperature



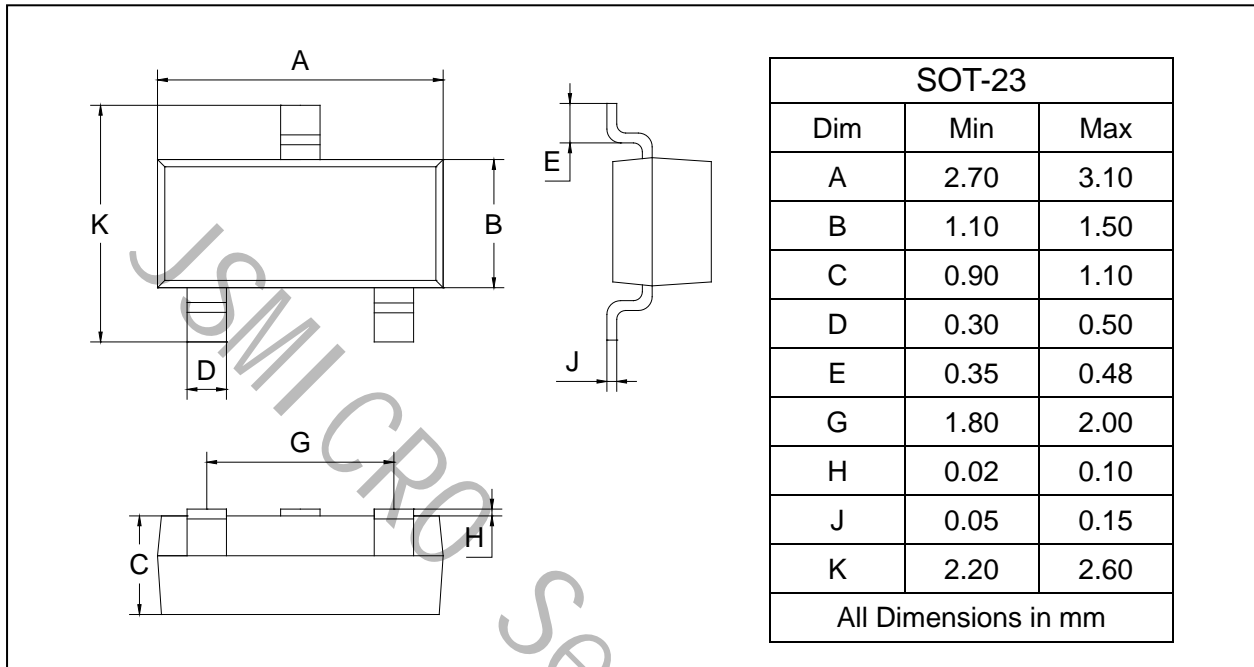
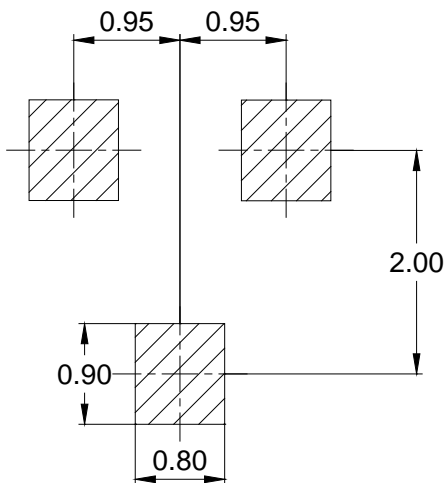
COLLECTOR CURRENT vs COLLECTOR TO EMITTER VOLTAGE



PACKAGE OUTLINE

Plastic surface mounted package

SOT-23


SOLDERING FOOTPRINT

PACKAGE INFORMATION

| Device | Package | Shipping |
|--------|---------|-----------------------|
| C945 | SOT-23 | 3000pcs / Tape & Reel |