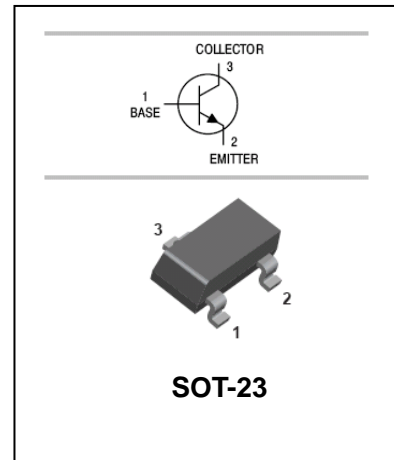


Silicon Epitaxial Planar Transistor

2SC5345

FEATURES

- High current transition frequency.
- Low output capacitance: $C_{ob}=1.4\text{pF}$
- Low base time constant and high gain.
- Excellent noise response.



APPLICATIONS

- General small signal amplifier.

ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| 2SC5345 | 5345 | SOT-23 |

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

| Symbol | Parameter | Value | Units |
|----------------|----------------------------------|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 30 | V |
| V_{CEO} | Collector-Emitter Voltage | 20 | V |
| V_{EBO} | Emitter-Base Voltage | 4 | V |
| I_C | Collector Current | 20 | mA |
| P_C | Collector Dissipation | 200 | mW |
| T_j, T_{stg} | Junction and Storage Temperature | -55~150 | $^\circ\text{C}$ |

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

Silicon Epitaxial Planar Transistor

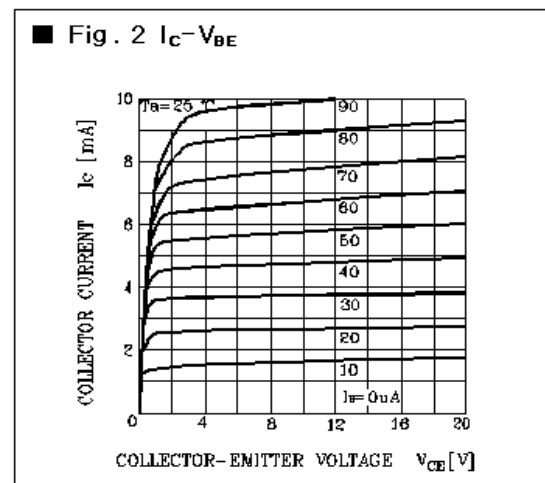
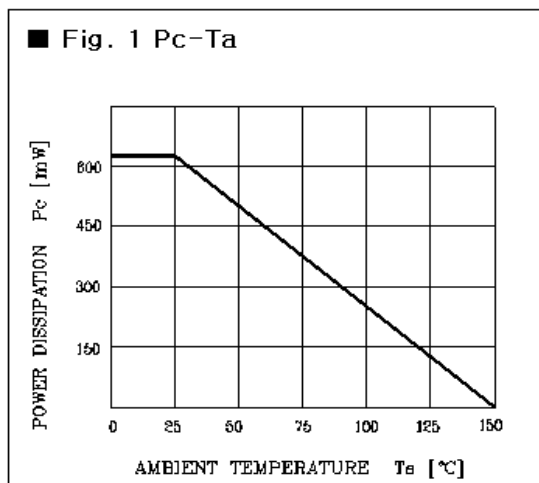
2SC5345

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$ | 30 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10mA, I_B=0$ | 20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$ | 4 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=30V, I_E=0$ | | | 0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=4V, I_C=0$ | | | 0.5 | μA |
| DC current gain | h_{FE} | $V_{CE}=6V, I_C=1mA$ | 40 | | 240 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10mA, I_B=1mA$ | | | 0.3 | V |
| Transition frequency | f_T | $V_{CE}=6V, I_C=1mA$ | 550 | | | MHz |
| Output capacitance | C_{ob} | $V_{CB}=6V, I_E=0, f=100MHz$ | | | 1.4 | pF |

CLASSIFICATION OF h_{FE}

| Rank | R | O | Y |
|---------|-------|--------|---------|
| Range | 40-80 | 70-140 | 120-240 |
| Marking | 5345 | | |

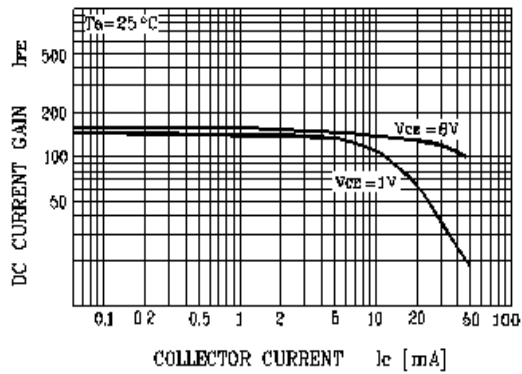
TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified



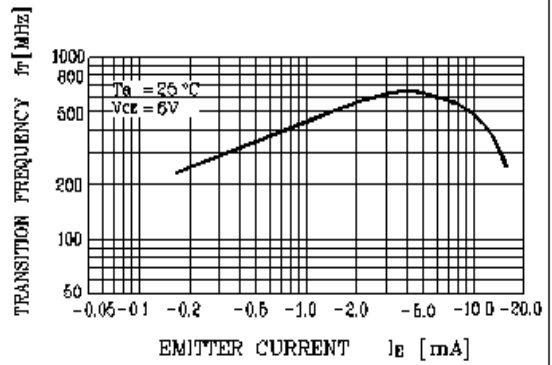
Silicon Epitaxial Planar Transistor

2SC5345

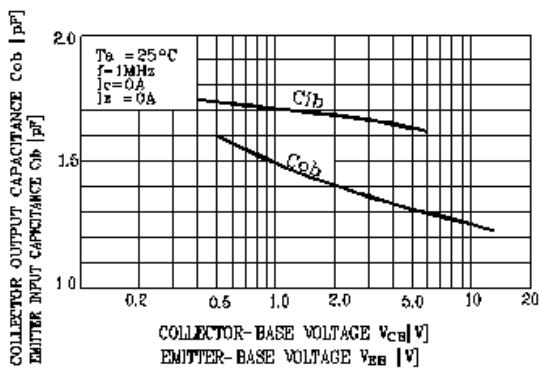
■ Fig. 3 $h_{FE}-I_C$



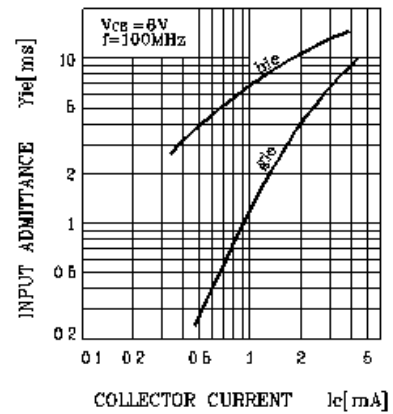
■ Fig. 4 f_T-I_E



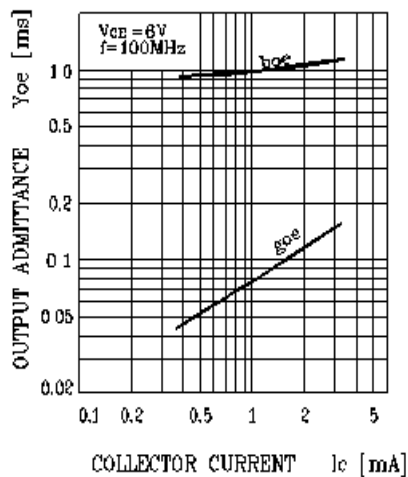
■ Fig. 5 $V_{CB}, V_{BE}-C_{ob}$



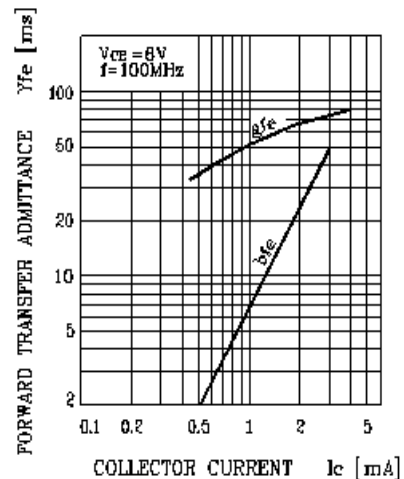
■ Fig. 6 I_C-Y_{ie}



■ Fig. 6 I_C-Y_{oe}



■ Fig. 7 I_C-Y_{fe}



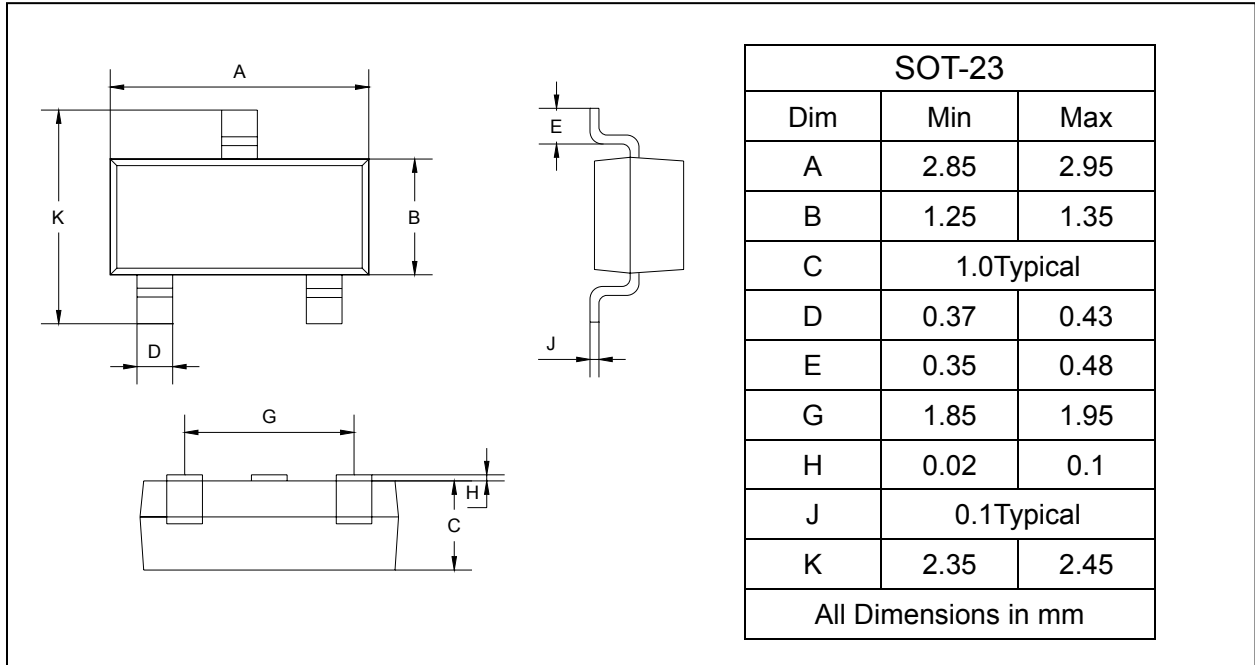
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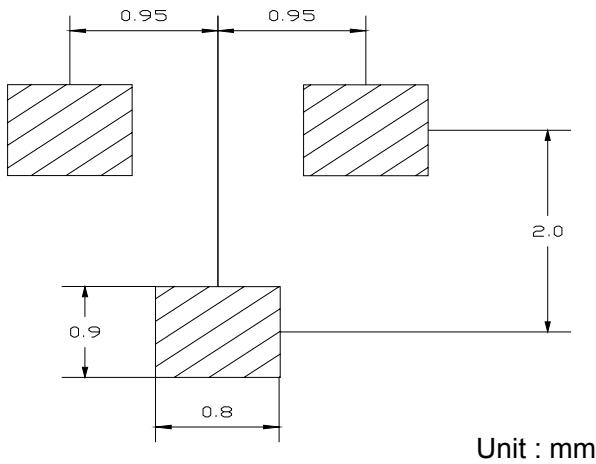
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|---------|---------|----------------|
| 2SC5345 | SOT-23 | 3000/Tape&Reel |