
2SC5024

Silicon NPN Epitaxial

HITACHI

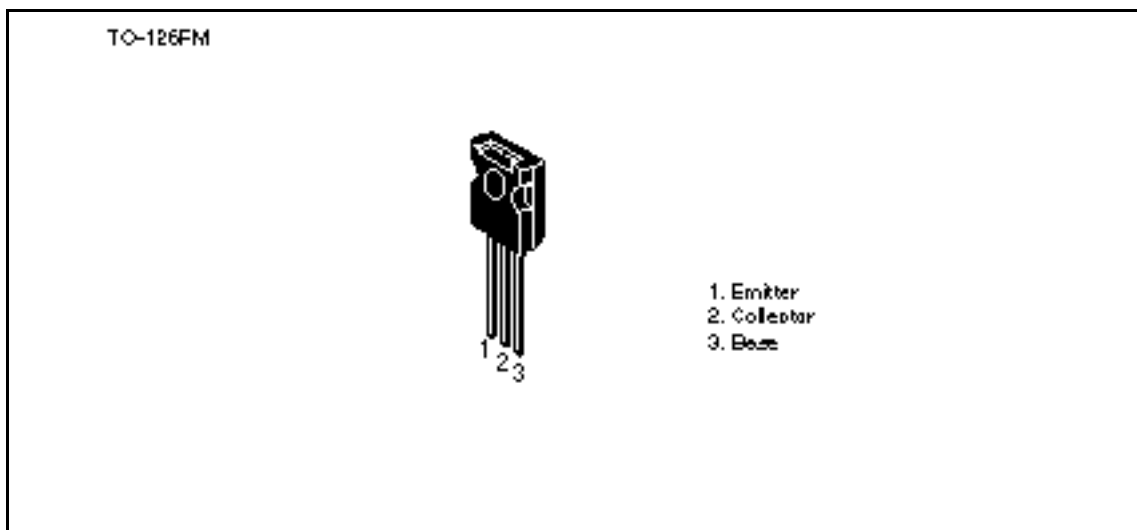
Application

High frequency amplifier

Features

- Excellent high frequency characteristics $f_T = 300$ MHz typ
- High breakdown voltage and low output capacitance $V_{CEO} = 200$ V, $C_{ob} = 5.0$ pF typ
- Suitable for wide band video amplifier
- Complimentary pair of 2SA1889

Outline



2SC5024

Absolute Maximum Ratings (Ta = 25°C)

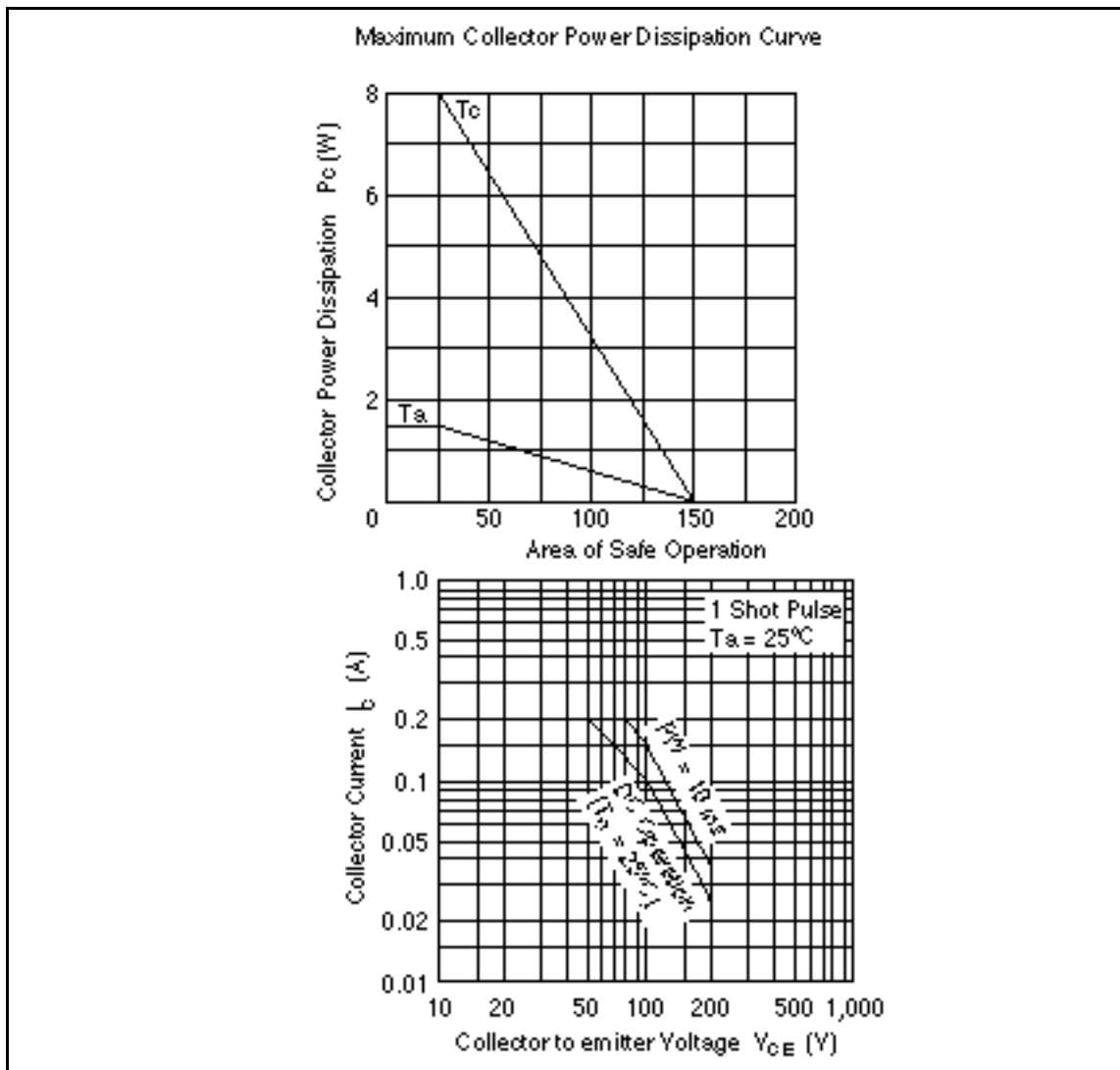
| Item | Symbol | Ratings | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | 200 | V |
| Collector to emitter voltage | V_{CEO} | 200 | V |
| Emitter to base voltage | V_{EBO} | 4 | V |
| Collector current | I_C | 0.2 | A |
| Collector peak current | $I_{C(peak)}$ | 0.5 | A |
| Collector power dissipation | P_C | 1.4 | W |
| | P_C^{*1} | 8 | |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

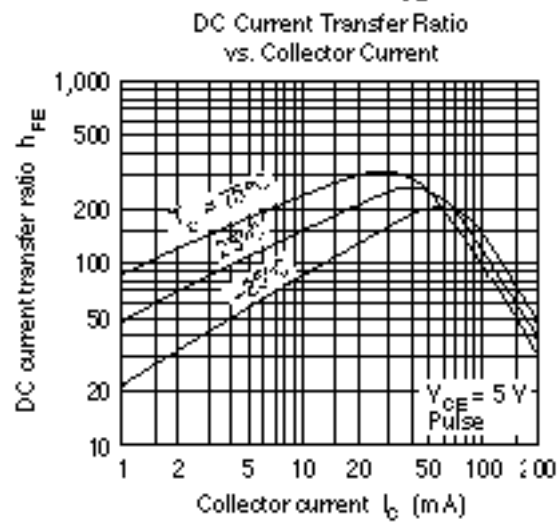
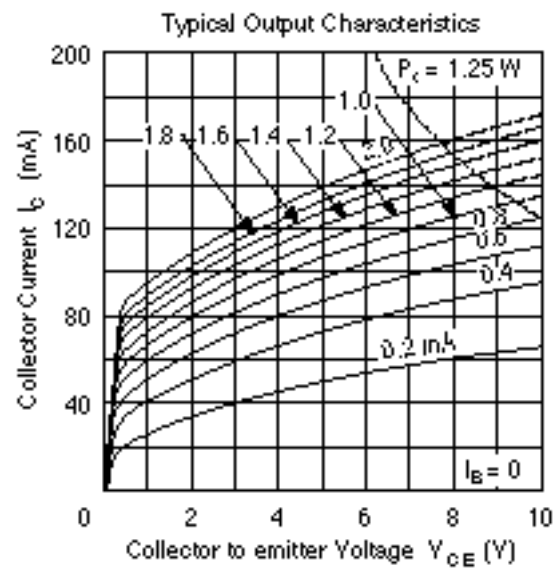
Note: 1. Value at $T_C = 25^\circ\text{C}$.

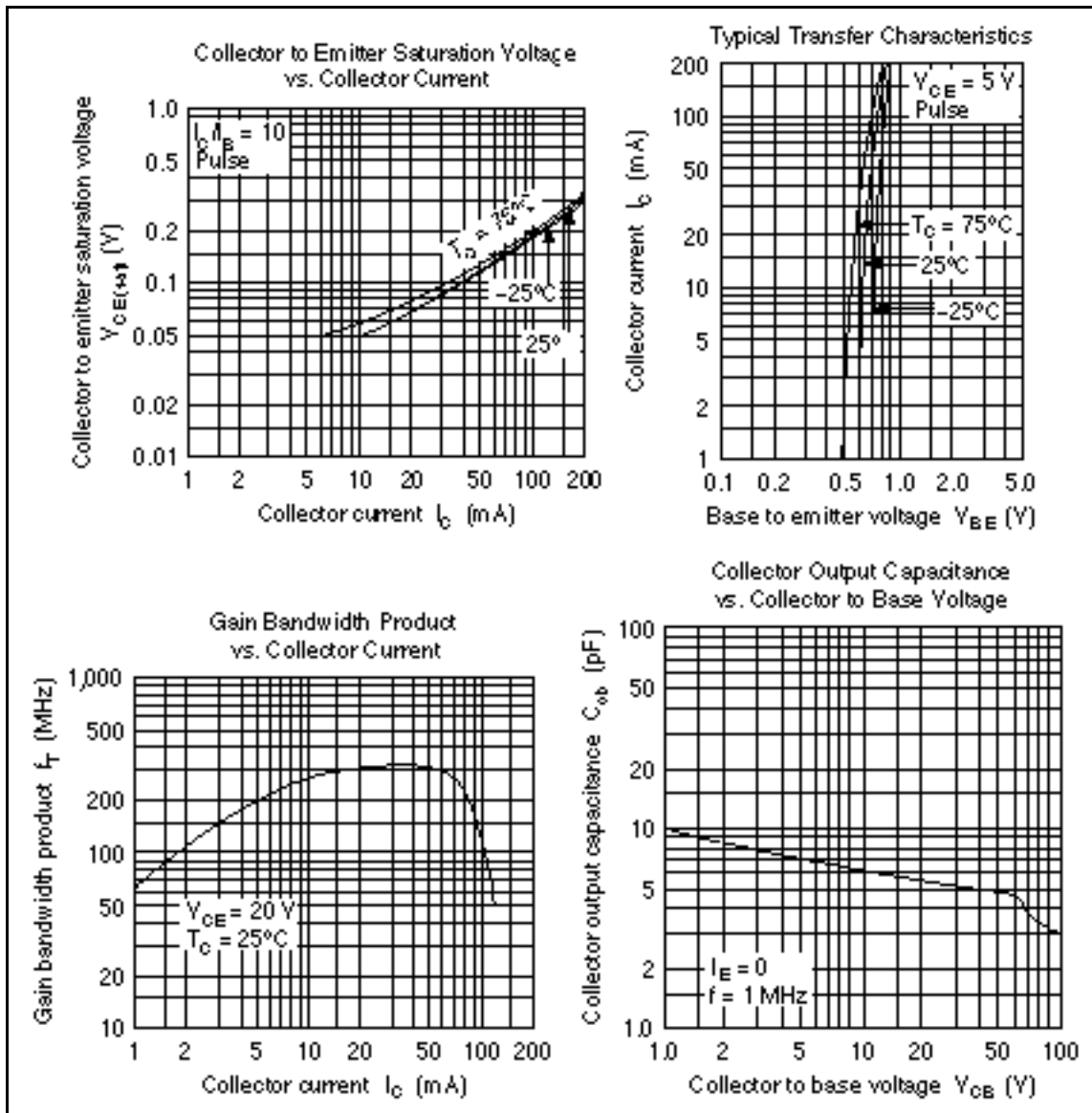
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|-------------------|-----|-----|-----|---------------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 200 | — | — | V | $I_C = 10 \mu\text{A}$, $I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 200 | — | — | V | $I_C = 1 \text{ mA}$, $R_{BE} =$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 4 | — | — | V | $I_E = 10 \mu\text{A}$, $I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 10 | μA | $V_{CB} = 160 \text{ V}$, $I_E = 0$ |
| DC current transfer ratio | 2SC5024B h_{FE} | 60 | — | 120 | | $V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$ |
| | 2SC5024C h_{FE} | 100 | — | 200 | | |
| Base to emitter voltage | V_{BE} | — | — | 1.0 | V | $V_{CE} = 5 \text{ V}$, $I_C = 30 \text{ mA}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 1.0 | V | $I_C = 30 \text{ mA}$, $I_B = 3 \text{ mA}$ |
| Gain bandwidth product | f_T | 200 | 300 | — | MHz | $V_{CE} = 20 \text{ V}$, $I_C = 30 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 5.0 | — | pF | $V_{CB} = 30 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$ |

See characteristic curves of 2SC4704.







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