

2SC2405, 2SC2406

Silicon NPN epitaxial planer type

For low-frequency and low-noise amplification

Complementary to 2SA1034 and 2SA1035

Features

- Low noise voltage NV.
- High forward current transfer ratio h_{FE} .
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25°C)

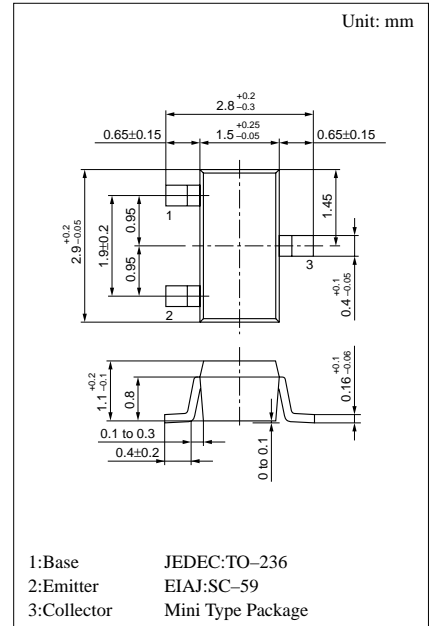
| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 35 | V |
| 2SC2405 | | | |
| 2SC2406 | | 55 | |
| Collector to emitter voltage | V_{CEO} | 35 | V |
| 2SC2405 | | | |
| 2SC2406 | | 55 | |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Peak collector current | I_{CP} | 100 | mA |
| Collector current | I_C | 50 | mA |
| Collector power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |

Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|--|-----|-----|-----|------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | | | 100 | nA |
| | I_{CEO} | $V_{CE} = 10V, I_B = 0$ | | | 1 | μA |
| Collector to base voltage | V_{CBO} | $I_C = 10\mu A, I_E = 0$ | 35 | | | V |
| | | | 55 | | | |
| Collector to emitter voltage | V_{CEO} | $I_C = 2mA, I_B = 0$ | 35 | | | V |
| | | | 55 | | | |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 5 | | | V |
| Forward current transfer ratio | h_{FE}^* | $V_{CB} = 5V, I_E = -2mA$ | 180 | | 700 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100mA, I_B = 10mA$ | | | 0.6 | V |
| Base to emitter voltage | V_{BE} | $V_{CE} = 1V, I_C = 100mA$ | | 0.7 | 1 | V |
| Transition frequency | f_T | $V_{CB} = 5V, I_E = -2mA, f = 200MHz$ | | 200 | | MHz |
| Noise voltage | NV | $V_{CE} = 10V, I_C = 1mA, G_V = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$ | | 110 | | mV |

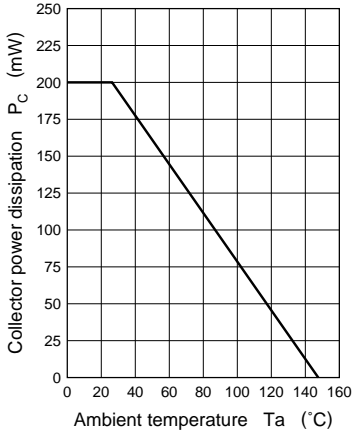
* h_{FE} Rank classification

| Rank | R | S | T |
|----------|-----------|-----------|-----------|
| h_{FE} | 180 ~ 360 | 260 ~ 520 | 360 ~ 700 |
| Marking | 2SC2405 | SR | SS |
| Symbol | 2SC2406 | TR | TS |

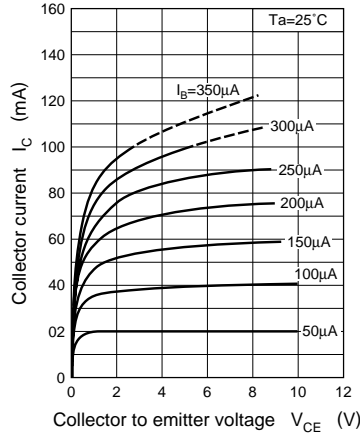


Marking symbol : S(2SC2405)
T(2SC2406)

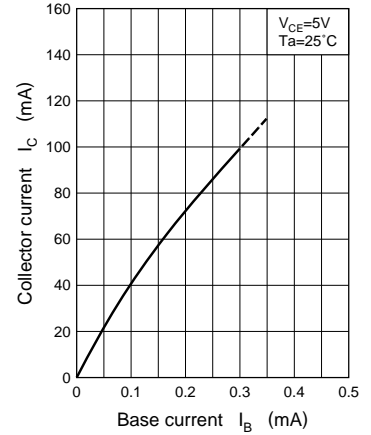
$P_C - T_a$



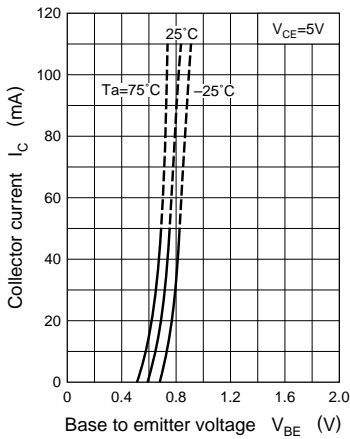
$I_C - V_{CE}$



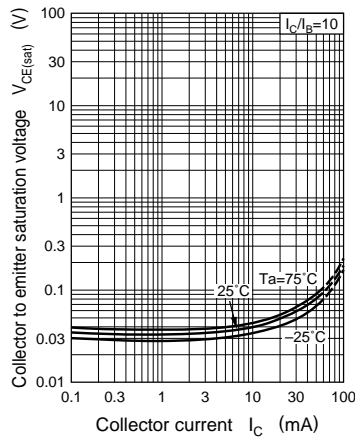
$I_C - I_B$



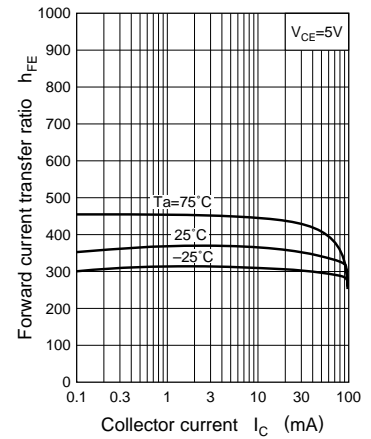
$I_C - V_{BE}$



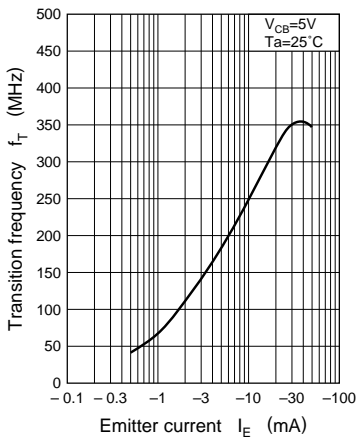
$V_{CE(sat)} - I_C$



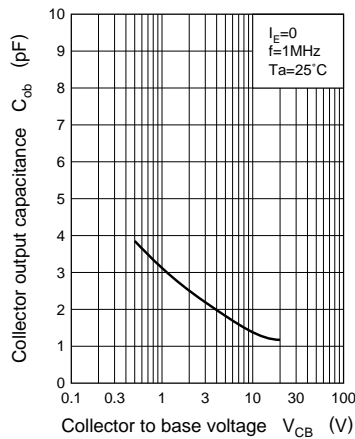
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



$NV - V_{CE}$

