

2SC829

Silicon NPN epitaxial planer type

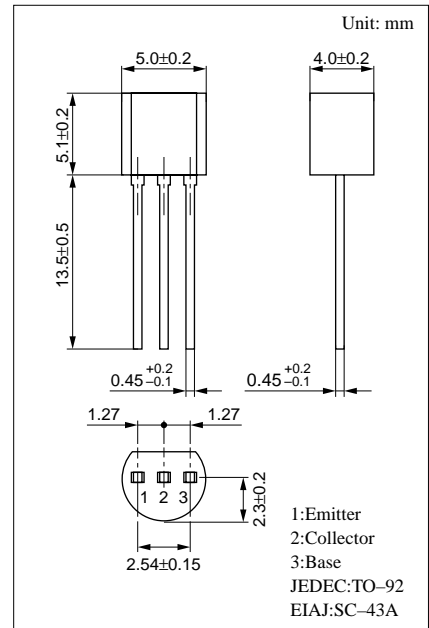
For high-frequency amplification

Features

- Optimum for RF amplification, oscillation, mixing, and IF stage of FM/AM radios.

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 30 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 30 | mA |
| Collector power dissipation | P_C | 400 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



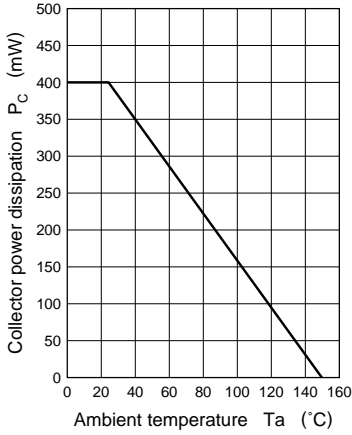
Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|------------|--|-----|-----|-----|----------|
| Collector to base voltage | V_{CBO} | $I_C = 10\mu A, I_E = 0$ | 30 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = 2mA, I_B = 0$ | 20 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 5 | | | V |
| Forward current transfer ratio | h_{FE}^* | $V_{CE} = 10V, I_C = 1mA$ | 70 | | 250 | |
| Transition frequency | f_T | $V_{CB} = 10V, I_C = 1mA, f = 200MHz$ | 150 | 230 | | MHz |
| Common emitter reverse transfer capacitance | C_{re} | $V_{CE} = 10V, I_C = 1mA, f = 10.7MHz$ | | 1.3 | 1.6 | pF |
| Reverse transfer impedance | Z_{rb} | $V_{CB} = 10V, I_E = -1mA, f = 2MHz$ | | | 60 | Ω |

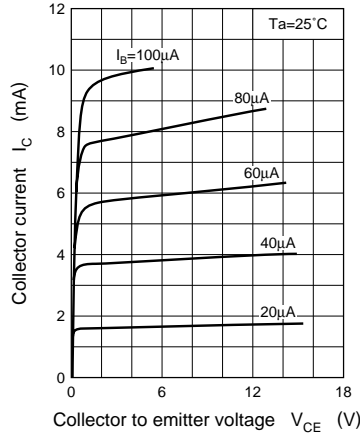
* h_{FE} Rank classification

| Rank | B | C |
|----------|----------|-----------|
| h_{FE} | 70 ~ 160 | 110 ~ 250 |

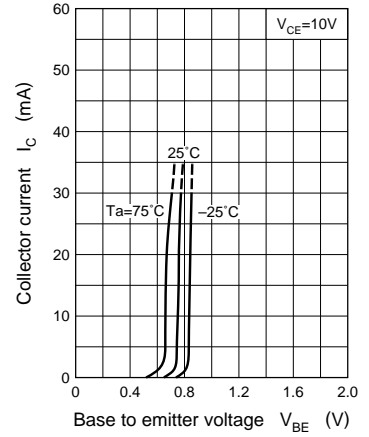
$P_C - T_a$



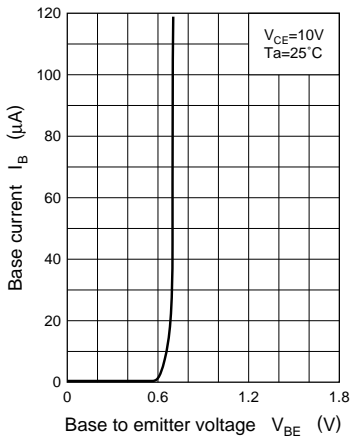
$I_C - V_{CE}$



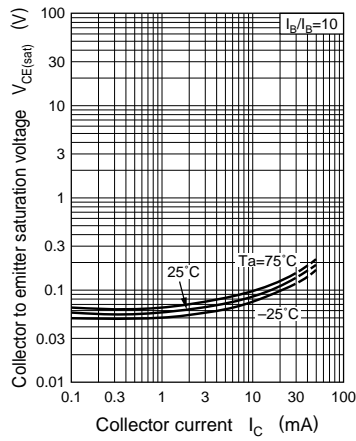
$I_C - V_{BE}$



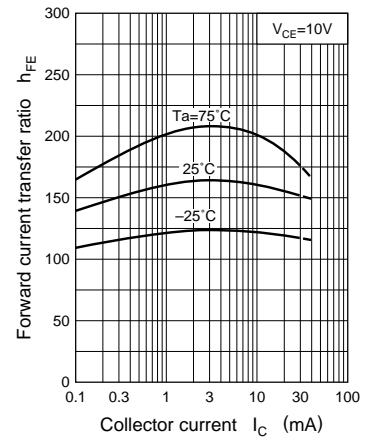
$I_B - V_{BE}$



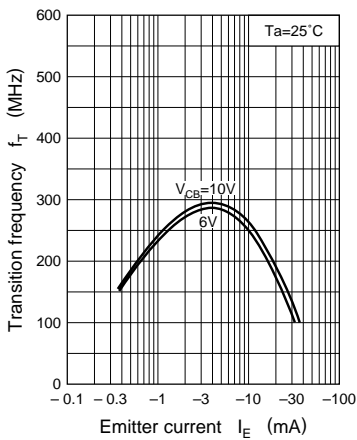
$V_{CE(sat)} - I_C$



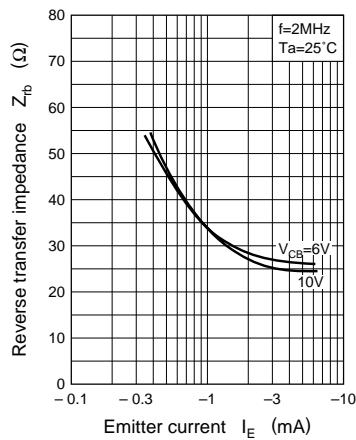
$h_{FE} - I_C$



$f_T - I_E$



$Z_{rb} - I_E$



$C_{re} - V_{CE}$

