

2SC3930

Silicon NPN epitaxial planer type

For high-frequency amplification

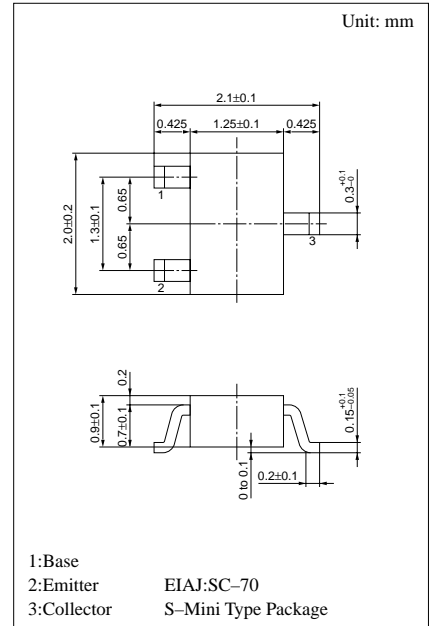
Complementary to 2SA1532

Features

- Optimum for RF amplification of FM/AM radios.
- High transition frequency f_T .
- S-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} | 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 | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



Marking symbol : V

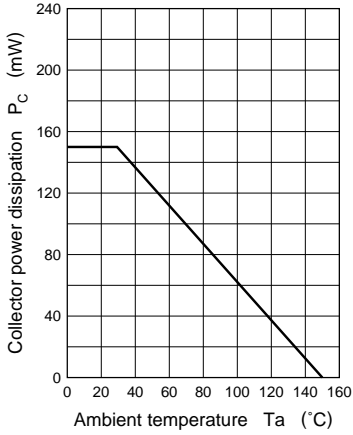
Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|------------|--|-----|-----|-----|----------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | | | 0.1 | μA |
| Forward current transfer ratio | h_{FE}^* | $V_{CB} = 10V, I_E = -1mA$ | 70 | | 220 | |
| Transition frequency | f_T | $V_{CB} = 10V, I_E = -1mA, f = 200MHz$ | 150 | 250 | | MHz |
| Noise figure | NF | $V_{CB} = 10V, I_E = -1mA, f = 5MHz$ | | 2.8 | 4 | dB |
| Reverse transfer impedance | Z_{rb} | $V_{CB} = 10V, I_E = -1mA, f = 2MHz$ | | 22 | 50 | Ω |
| Common emitter reverse transfer capacitance | C_{re} | $V_{CE} = 10V, I_C = 1mA, f = 10.7MHz$ | | 0.9 | 1.5 | pF |

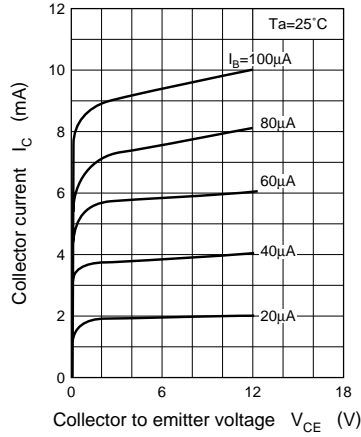
* h_{FE} Rank classification

| Rank | B | C |
|----------------|----------|-----------|
| h_{FE} | 70 ~ 140 | 110 ~ 220 |
| Marking Symbol | VB | VC |

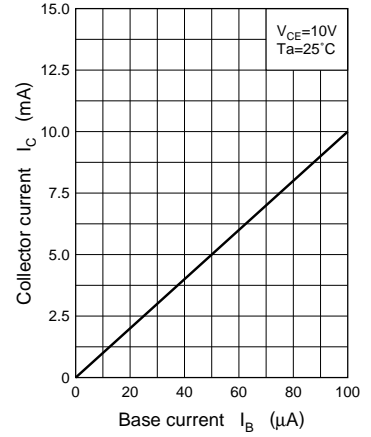
$P_C - T_a$



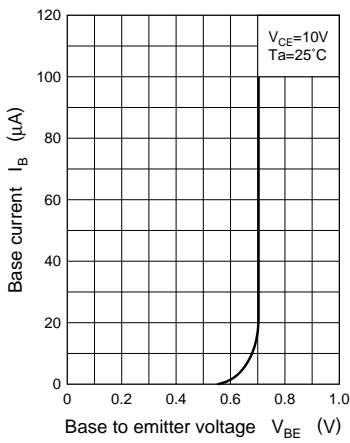
$I_C - V_{CE}$



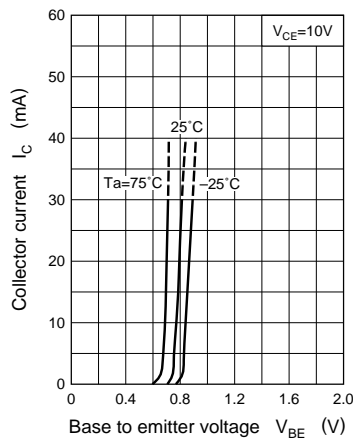
$I_C - I_B$



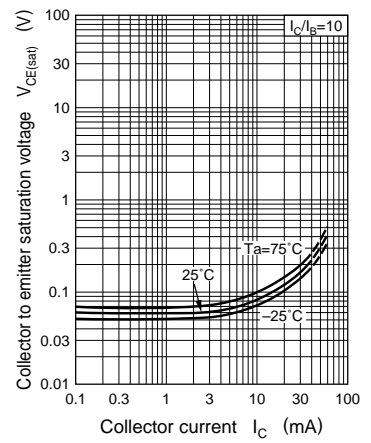
$I_B - V_{BE}$



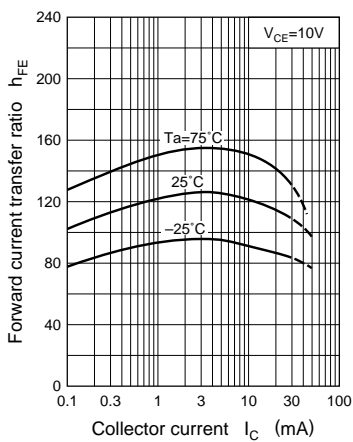
$I_C - V_{BE}$



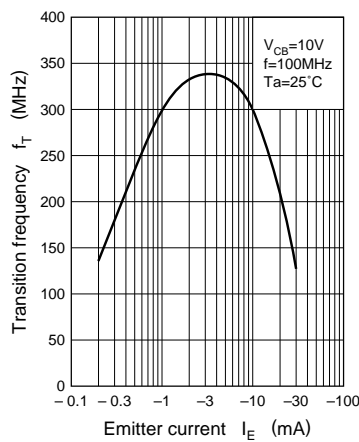
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$Z_{rb} - I_E$

