

2SD1979

Silicon NPN epitaxial planer type

For low-voltage output amplification

For muting

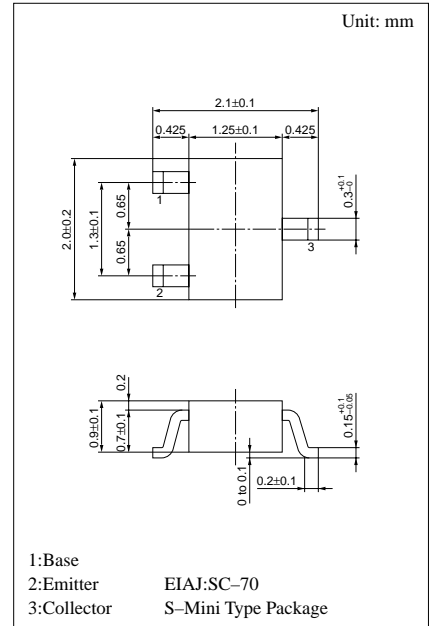
For DC-DC converter

Features

- Low ON resistance R_{on} .
- High forward current transfer ratio h_{FE} .
- 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 | Rated | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 50 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | V_{EBO} | 25 | V |
| Peak collector current | I_{CP} | 500 | mA |
| Collector current | I_C | 300 | mA |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



Marking symbol : 3W

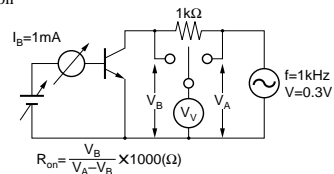
Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|---------------------------------------|-----|-----|------|----------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 50V, I_E = 0$ | | | 1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 25V, I_C = 0$ | | | 1 | μA |
| Collector to emitter voltage | V_{CEO} | $I_C = 1mA, I_B = 0$ | 20 | | | V |
| Forward current transfer ratio | h_{FE}^{*1} | $V_{CE} = 2V, I_C = 4mA$ | 500 | | 2500 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 30mA, I_B = 3mA$ | | | 0.1 | V |
| Base to emitter voltage | V_{BE} | $V_{CE} = 2V, I_C = 4mA$ | | 0.6 | | V |
| Transition frequency | f_T | $V_{CB} = 6V, I_E = -4mA, f = 200MHz$ | | 80 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 4.5 | | pF |
| ON resistance | R_{on}^{*2} | | | 1.0 | | Ω |

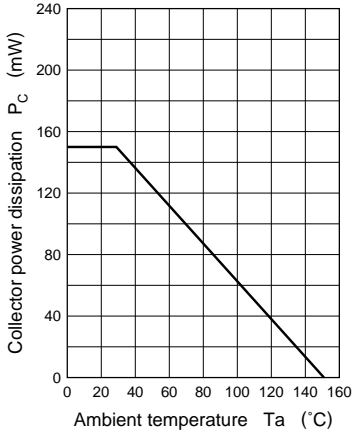
*1 h_{FE} Rank classification

| Rank | S | T |
|----------------|------------|------------|
| h_{FE} | 500 ~ 1500 | 800 ~ 2500 |
| Marking Symbol | 3WS | 3WT |

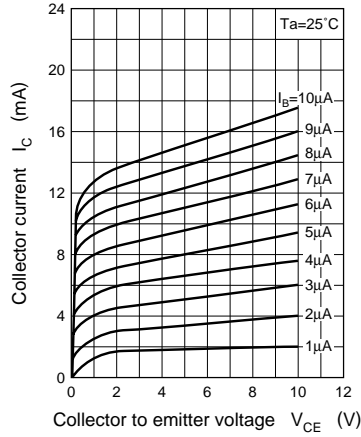
*2 R_{on} Measurement circuit



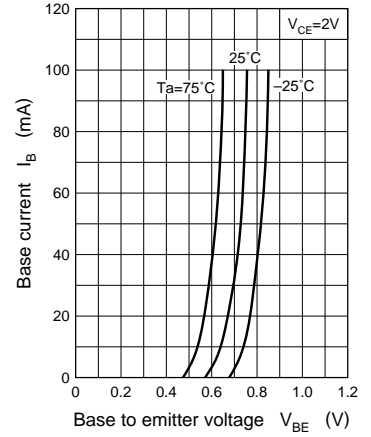
$P_C - T_a$



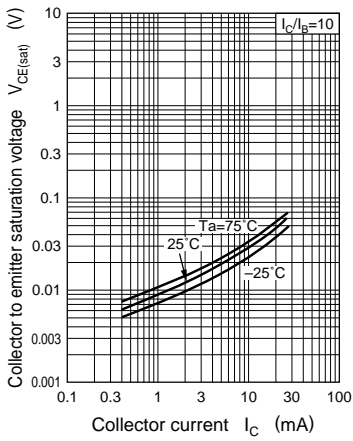
$I_C - V_{CE}$



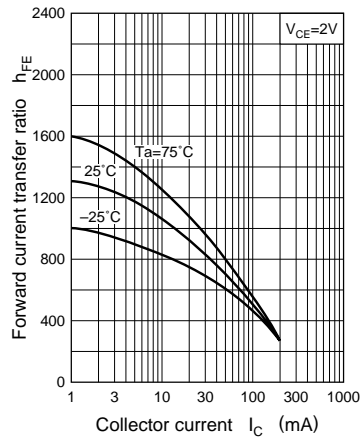
$I_C - V_{BE}$



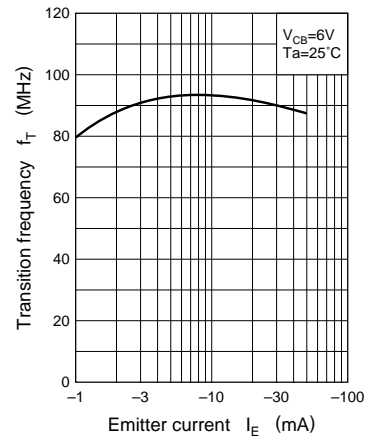
$V_{CE(sat)} - I_C$



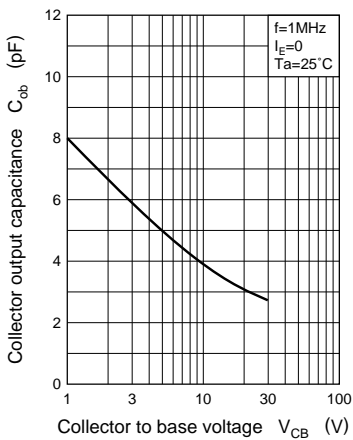
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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