

Transistor

Panasonic

2SD1821, 2SD1821A

Silicon NPN epitaxial planer type

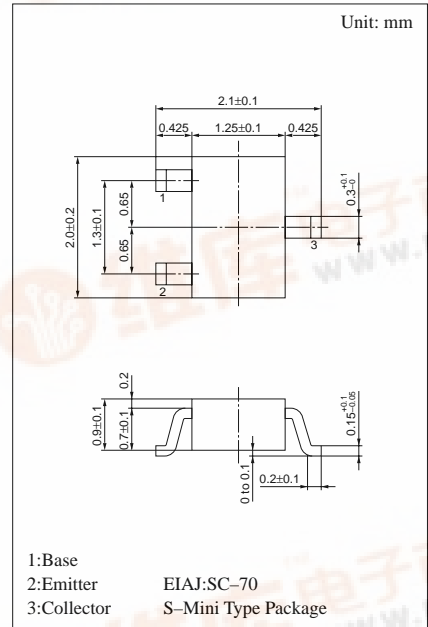
For high breakdown voltage low-frequency and low-noise amplification

Features

- High collector to emitter voltage V_{CE0} .
- Low noise voltage NV.
- 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} | 150 | V |
| 2SD1821A | | 185 | |
| Collector to emitter voltage | V_{CEO} | 150 | V |
| 2SD1821A | | 185 | |
| 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 | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



Marking symbol : P(2SD1821)
L(2SD1821A)

Electrical Characteristics (Ta=25°C)

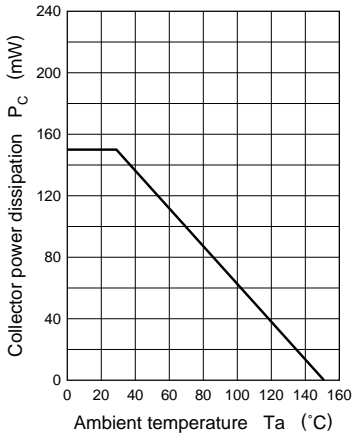
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|--|-----|-----|-----|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 100V, I_E = 0$ | | | 1 | μA |
| Collector to emitter voltage | V_{CEO} | $I_C = 100\mu A, I_B = 0$ | 150 | | | V |
| | | | 185 | | | |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 5 | | | V |
| Forward current transfer ratio | h_{FE}^* | $V_{CE} = 5V, I_C = 10mA$ | 130 | | 330 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 30mA, I_B = 3mA$ | | | 1 | V |
| Transition frequency | f_T | $V_{CB} = 10V, I_E = -10mA, f = 200MHz$ | | 150 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 2.3 | | pF |
| Noise voltage | NV | $V_{CE} = 10V, I_C = 1mA, G_V = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$ | | 150 | | mV |

* h_{FE} Rank classification

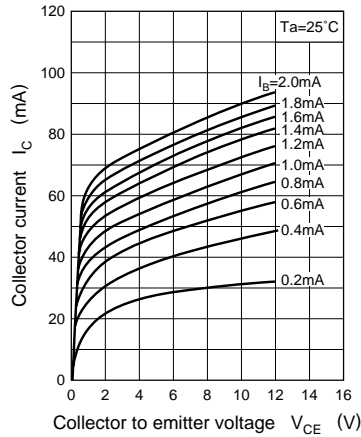
| Rank | R | S |
|----------|-----------|-----------|
| h_{FE} | 130 ~ 220 | 185 ~ 330 |
| Marking | PR | PS |
| Symbol | LR | LS |



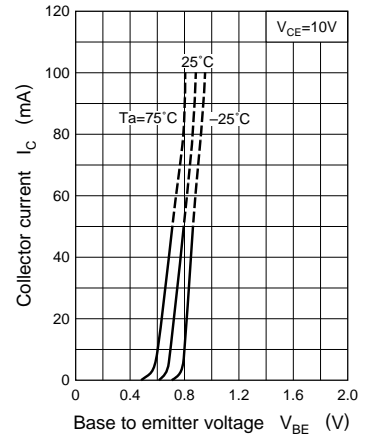
$P_C - T_a$



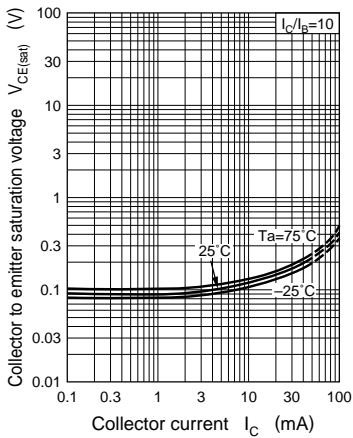
$I_C - V_{CE}$



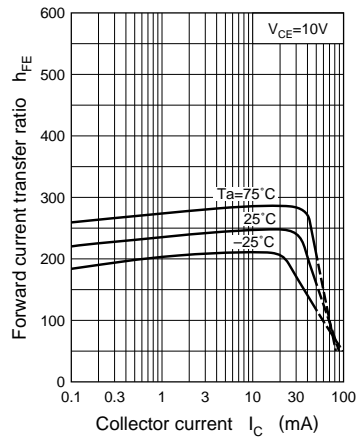
$I_C - V_{BE}$



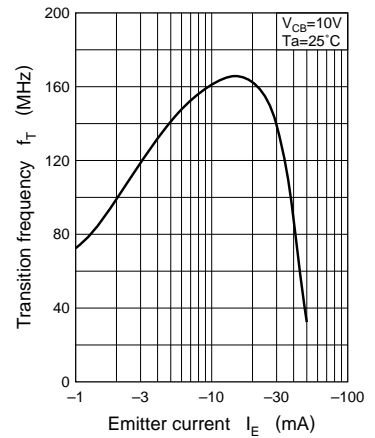
$V_{CE(sat)} - I_C$



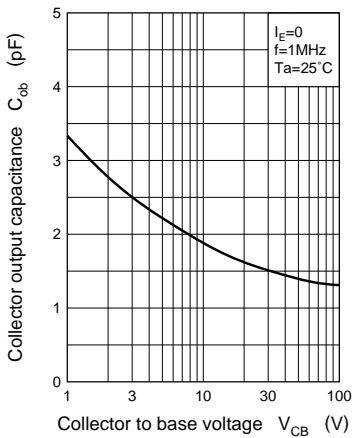
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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