XP01501 (XP1501)

Silicon NPN epitaxial planer transistor

For general amplification

Features

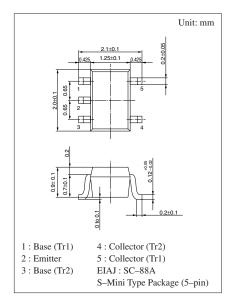
- Two elements incorporated into one package. (Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

• $2SD0601A(2SD601A) \times 2$ elements

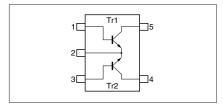
Absolute Maximum Ratings (Ta=25°C)

| Parameter | | Symbol | Ratings | Unit | |
|-------------------------|------------------------------|-----------|-------------|------|--|
| Rating of element | Collector to base voltage | V_{CBO} | 60 | V | |
| | Collector to emitter voltage | V_{CEO} | 50 | V | |
| | Emitter to base voltage | V_{EBO} | 7 | V | |
| | Collector current | I_{C} | 100 | mA | |
| | Peak collector current | I_{CP} | 200 | mA | |
| Overall | Total power dissipation | P_{T} | 150 | mW | |
| | Junction temperature | T_{j} | 150 | °C | |
| | Storage temperature | T_{stg} | -55 to +150 | °C | |



Marking Symbol: 5R

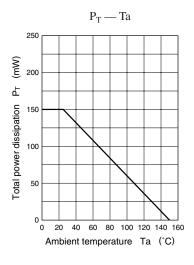
Internal Connection

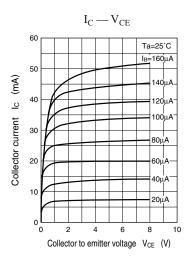


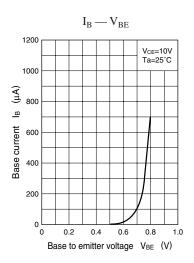
Electrical Characteristics (Ta=25°C)

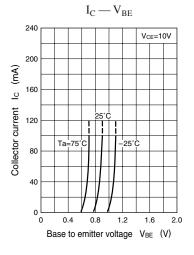
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--|---------------------------------|---|-----|------|-----|------|
| Collector to base voltage | V _{CBO} | $I_C = 10 \mu A, I_E = 0$ | 60 | | | V |
| Collector to emitter voltage | V _{CEO} | $I_C = 2mA, I_B = 0$ | 50 | | | V |
| Emitter to base voltage | V _{EBO} | $I_{\rm E} = 10 \mu A, I_{\rm C} = 0$ | 7 | | | V |
| Collector cutoff current | I_{CBO} | $V_{CB} = 20V, I_{E} = 0$ | | | 0.1 | μΑ |
| Collector cutoff current | I_{CEO} | $V_{CE} = 10V, I_B = 0$ | | | 100 | μΑ |
| Forward current transfer ratio | h _{FE} | $V_{CE} = 10V, I_C = 2mA$ | 160 | | 460 | |
| Forward current transfer h _{FE} ratio | h _{FE} (small/large)*1 | $V_{CE} = 10V, I_{C} = 2mA$ | 0.5 | 0.99 | | |
| Collector to emitter saturation voltage | V _{CE(sat)} | $I_C = 100 \text{mA}, I_B = 10 \text{mA}$ | | 0.1 | 0.3 | V |
| Transition frequency | f_T | $V_{CB} = 10V, I_{E} = -2mA, f = 200MHz$ | | 150 | | MHz |
| Collector output capacitance | C _{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 3.5 | | pF |

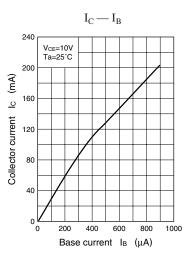
^{*1} Ratio between 2 elements

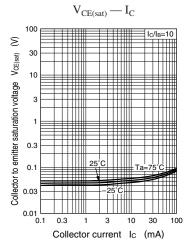


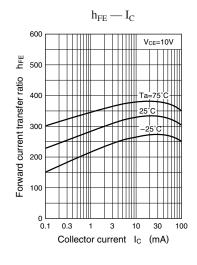


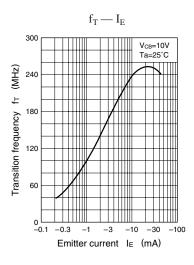


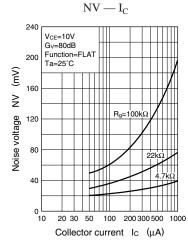












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