

2SA821S

Transistors

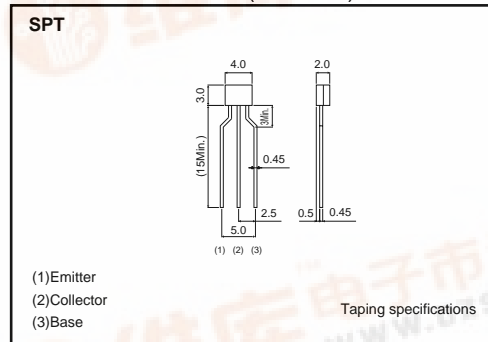
High-voltage Amplifier Transistor (-210V, -30mA)

2SA821S

●Features

- 1) High breakdown voltage, ($V_{CEr} = -210V$)
- 2) Complements the 2SC1651S.

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|------|
| Collector-base voltage | V_{CB0} | -210 | V |
| Collector-emitter voltage | V_{CES} | -210 | V * |
| Emitter-base voltage | V_{EB0} | -5 | V |
| Collector current | I_c | -30 | A |
| Collector power dissipation | P_c | 250 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

* $R_{\theta E} = 10k\Omega$

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|---|
| Collector-base breakdown voltage | BV_{CB0} | -210 | - | - | V | $I_c = -50\mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | -210 | - | - | V | $I_c = -100\mu A, R_{\theta E} = 10k\Omega$ |
| Emitter-base breakdown voltage | BV_{EB0} | -5 | - | - | V | $I_E = -50\mu A$ |
| Collector cutoff current | I_{c0} | - | - | - | μA | $V_{CB} = -150V$ |
| Emitter cutoff current | I_{E0} | - | - | -1 | μA | $V_{EB} = -4.5V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | - | -1 | V | $I_c/I_E = -2mA/-0.2mA$ |
| DC current transfer ratio | h_{FE} | 82 | - | -1 | - | $V_{CE} = -3V, I_c = -5A$ |
| Transition frequency | f_T | - | 50 | 270 | MHz | $V_{CE} = -5V, I_E = 2mA, f = 30MHz$ |
| Output capacitance | C_{ob} | - | 8 | - | pF | $V_{CE} = -10V, I_E = 0A, f = 1MHz$ |

●Packaging specifications and hFE

| | |
|------------------------------|---------|
| Type | 2SA821S |
| Package | SPT |
| h_{FE} | PQ |
| Code | TP |
| Basic ordering unit (pieces) | 5000 |

Transistors

●Electrical characteristics curves

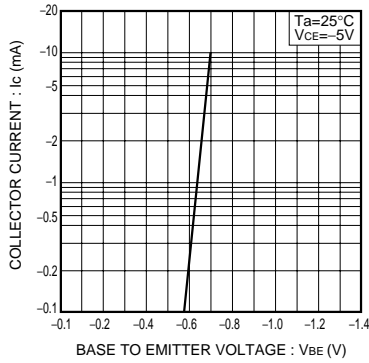


Fig.1 Ground emitter propagation characteristics

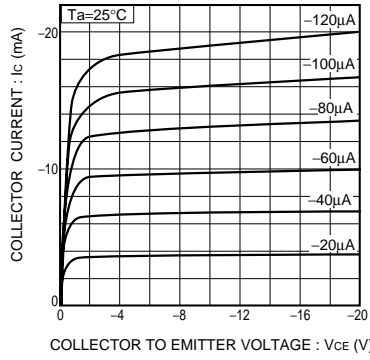


Fig.2 Ground emitter output characteristics (I)

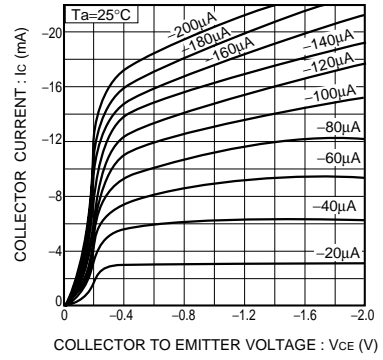


Fig.3 Ground emitter output characteristics (II)

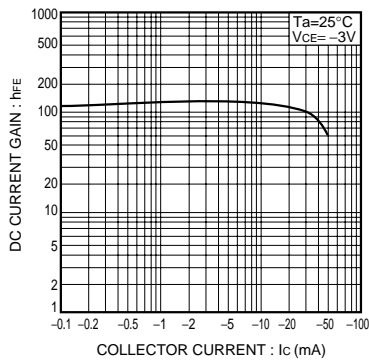


Fig.4 DC current gain vs. collector current

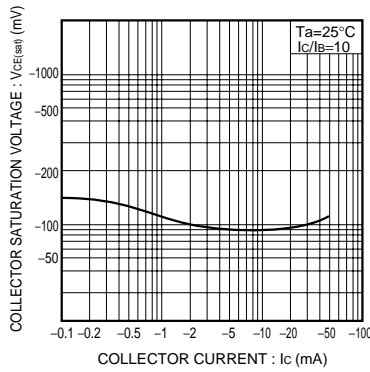


Fig.5 Collector-emitter saturation voltage vs. collector current

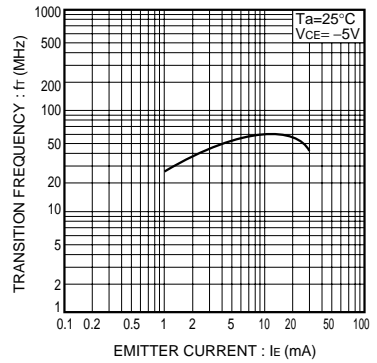


Fig.6 Gain bandwidth product vs. emitter current

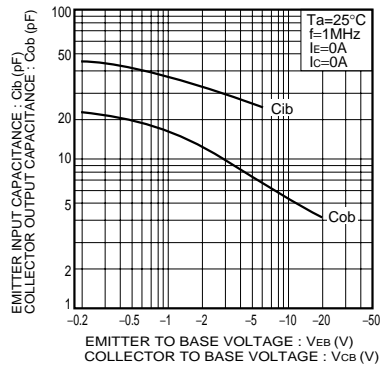


Fig.7 Emitter input capacitance vs. emitter-base voltage
Collector output capacitance vs. collector-base voltage

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