



2SA1521/2SC3915

Switching Applications (with Bias Resistance)

Applications

- Switching circuits, inverter circuits, interface circuits, driver circuits.

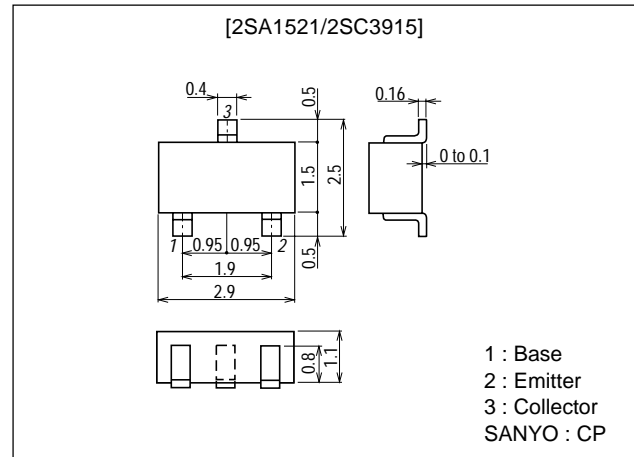
Features

- On-chip bias resistance : $R_1=2.2k\Omega$, $R_2=2.2k\Omega$.
- Small-sized package : CP.
- Large current capacity : $I_C=500mA$.

Package Dimensions

unit:mm

2018B



() : 2SA1521

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------------|
| Collector-to-Base Voltage | V_{CB0} | | (-)-50 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-)-50 | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-)-6 | V |
| Collector Current | I_C | | (-)-500 | mA |
| Collector Current (Pulse) | I_{CP} | | (-)-800 | mA |
| Collector Dissipation | P_C | | 200 | mW |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|-----------|---------------------------------|---------|-------------|-------------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CB0} | $V_{CB} = (-)40V, I_E = 0$ | | | (-)-0.1 | μA |
| | I_{CEO} | $V_{CE} = (-)40V, I_B = 0$ | | | (-)-0.5 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)5V, I_C = 0$ | (-)-860 | (-) 1140 | (-) 1670 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = (-)5V, I_C = (-)50mA$ | 50 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)10V, I_C = (-)5mA$ | | 250 | | MHz |
| | | | | (200) | | MHz |

Marking 2SA1521 : OL, 2SC3915 ; WY

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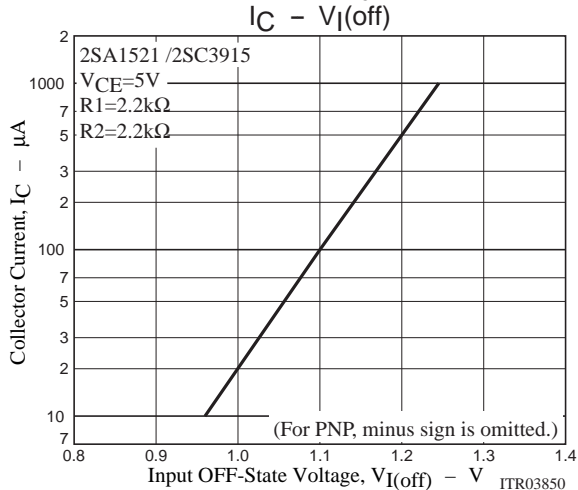
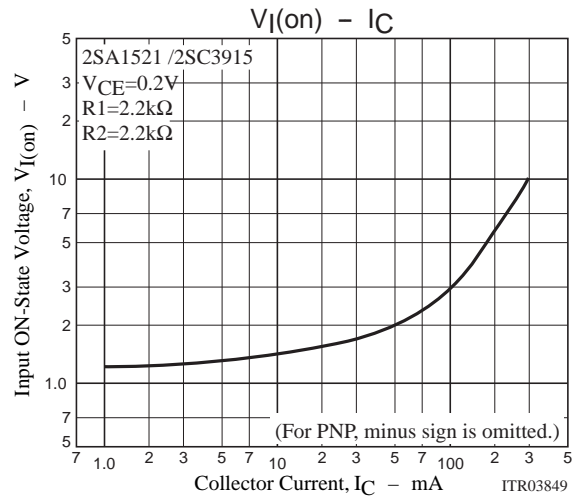
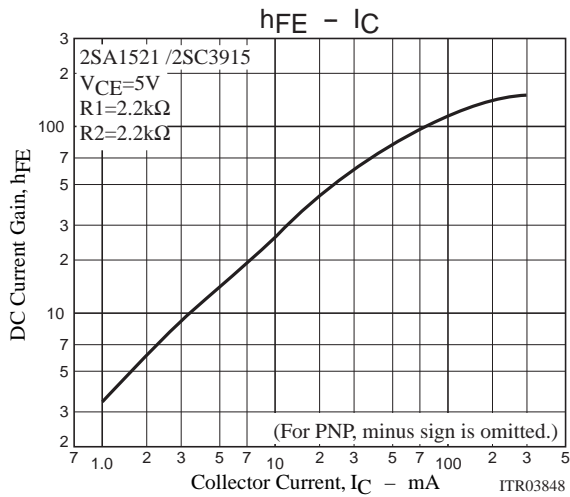
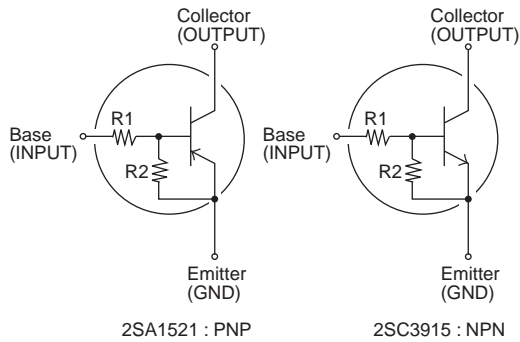
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|----------------------------------|---------|--------|--------|------------|
| | | | min | typ | max | |
| Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | 3.7 | | pF |
| | | | | (5.5) | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)50mA, I_B=(-)2.5mA$ | | (-)0.1 | (-)0.3 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$ | (-)50 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)100\mu A, R_{BE}=\infty$ | (-)50 | | | V |
| Input OFF-State Voltage | $V_{I(off)}$ | $V_{CE}=(-)5V, I_C=(-)100\mu A$ | (-)0.8 | (-)1.1 | (-)1.5 | V |
| Input ON-State Voltage | $V_{I(on)}$ | $V_{CE}=(-)0.2V, I_C=(-)50mA$ | (-)1.0 | (-)1.9 | (-)4.0 | V |
| Input Resistance | R1 | | 1.5 | 2.2 | (-)2.9 | k Ω |
| Resistance Ratio | R1/R2 | | 0.9 | 1.0 | (-)1.1 | |

Electrical Connection



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