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| SANYO | No.2164A | 2SA1524/2SC3918 |
| | | PNP/NPN Epitaxial Planar Silicon Transistors |

Switching Applications
(with Bias Resistance)

Applications

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

Features

- . On-chip bias resistance ($R_1=2.2k\Omega, R_2=10k\Omega$)
- . Small-sized package (SPA)
- . Large current capacity ($I_C=500mA$)

(): 2SA1524

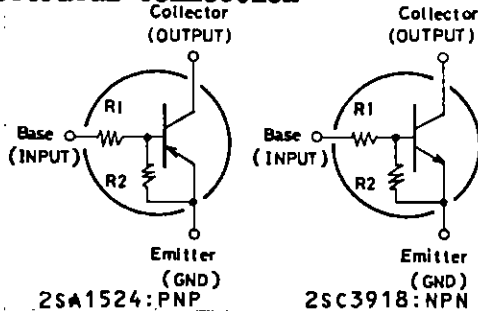
Absolute Maximum Ratings at $T_a=25^\circ C$

| | | | unit |
|------------------------------|-----------|-------------|------------|
| Collector to Base Voltage | V_{CB0} | (-)50 | V |
| Collector to Emitter Voltage | V_{CE0} | (-)50 | V |
| Emitter to Base Voltage | V_{EB0} | (-)6 | V |
| Collector Current | I_C | (-)500 | mA |
| Collector Current (Pulse) | I_{CP} | (-)800 | mA |
| Collector Dissipation | P_C | 300 | mW |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ C$ |

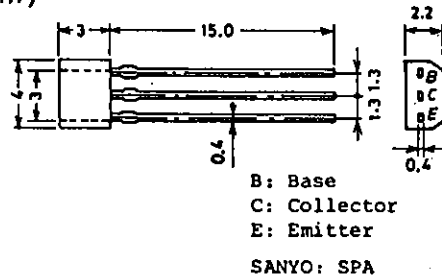
Electrical Characteristics at $T_a=25^\circ C$

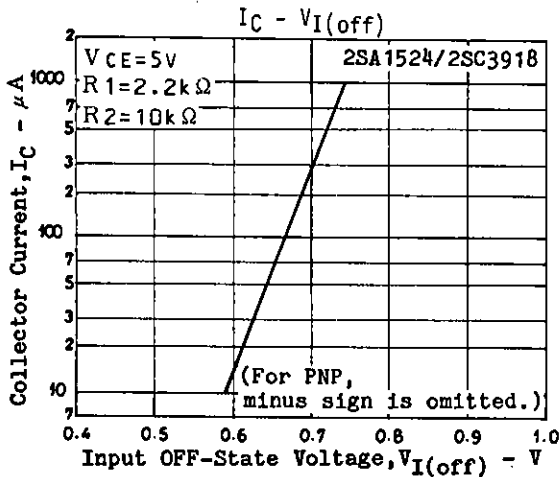
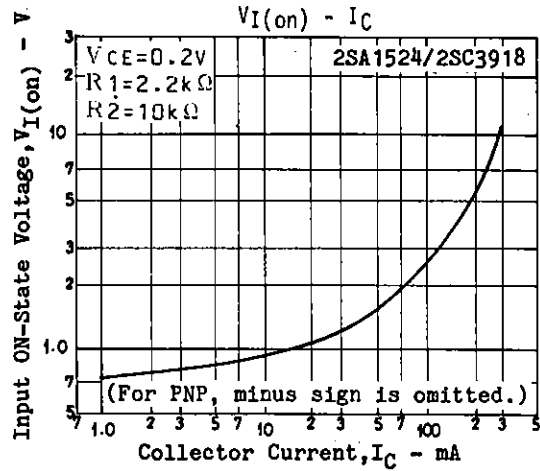
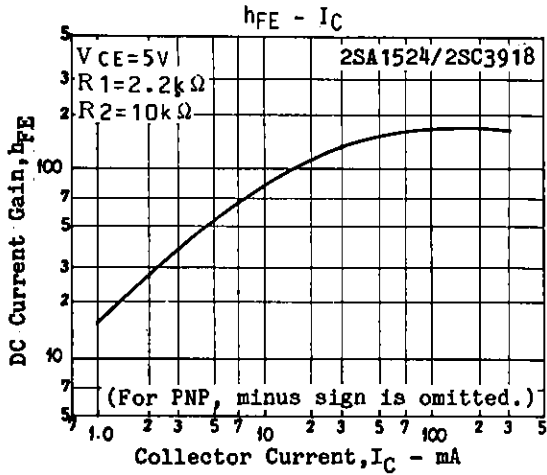
| | | min | typ | max | unit |
|--------------------------|--|--------|---------|--------|------------|
| Collector Cutoff Current | I_{CBO} $V_{CB}=(-)40V, I_E=0$ | | | (-)0.1 | μA |
| | I_{CEO} $V_{CE}=(-)40V, I_B=0$ | | | (-)0.5 | μA |
| Emitter Cutoff Current | I_{EBO} $V_{EB}=(-)5V, I_C=0$ | (-)315 | (-)410 | (-)590 | μA |
| DC Current Gain | h_{FE} $V_{CE}=(-)5V, I_C=(-)10mA$ | 50 | | | |
| Gain-Bandwidth Product | f_T $V_{CE}=(-)10V, I_C=(-)5mA$ | | 250 | | MHz |
| | | | (200) | | MHz |
| Output Capacitance | C_{ob} $V_{CB}=(-)10V, f=1MHz$ | | 3.7 | | pF |
| | | | (5.5) | | pF |
| C-E Saturation Voltage | $V_{CE(sat)}$ $I_C=(-)50mA, I_B=(-)2.5mA$ | (-)0.1 | (-)0.3 | | V |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ $I_C=(-)10\mu A, I_E=0$ | (-)50 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ $I_C=(-)100\mu A, R_{BE}=\infty$ | (-)50 | | | V |
| Input OFF-State Voltage | $V_{I(off)}$ $V_{CE}=(-)5V, I_C=(-)100\mu A$ | (-)0.5 | (-)0.67 | (-)0.9 | V |
| Input ON-State Voltage | $V_{I(on)}$ $V_{CE}=(-)0.2V, I_C=(-)50mA$ | (-)0.7 | (-)1.6 | (-)3.0 | V |
| Input Resistance | R_1 | 1.5 | 2.2 | 2.9 | k Ω |
| Resistance Ratio | R_1/R_2 | 0.198 | 0.22 | 0.242 | |

Electrical Connection



Package Dimensions 2033
(unit: mm)





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