

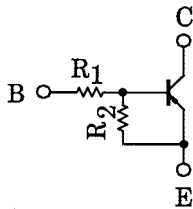
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

RN2314, RN2315, RN2316, RN2317, RN2318

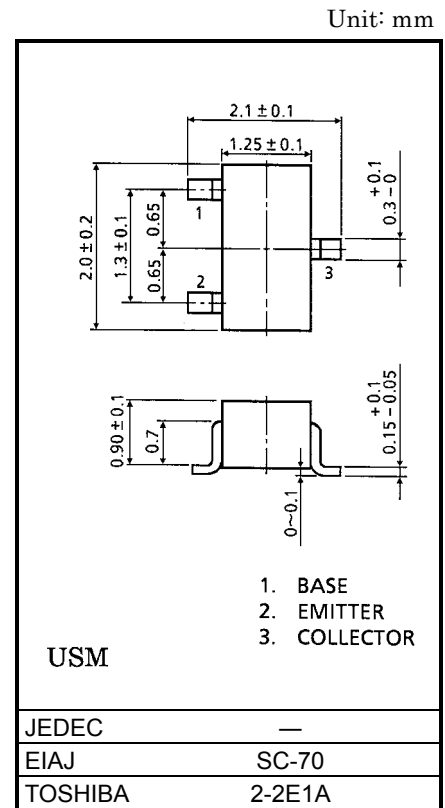
Switching, Inverter Circuit, Interface Circuit
And Driver Circuit Applications

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1314~RN1318

Equivalent Circuit and Bias Resistor Values



| Type No. | R ₁ (kΩ) | R ₂ (kΩ) |
|----------|---------------------|---------------------|
| RN2314 | 1 | 10 |
| RN2315 | 2.2 | 10 |
| RN2316 | 4.7 | 10 |
| RN2317 | 10 | 4.7 |
| RN2318 | 47 | 10 |



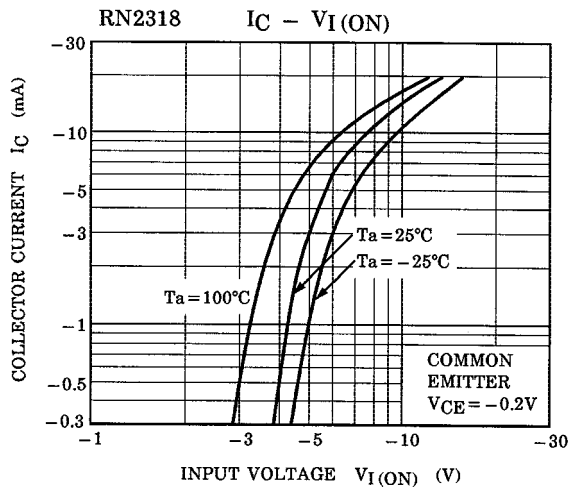
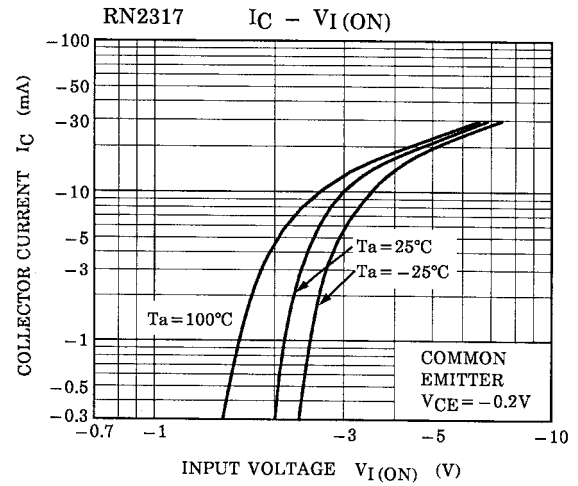
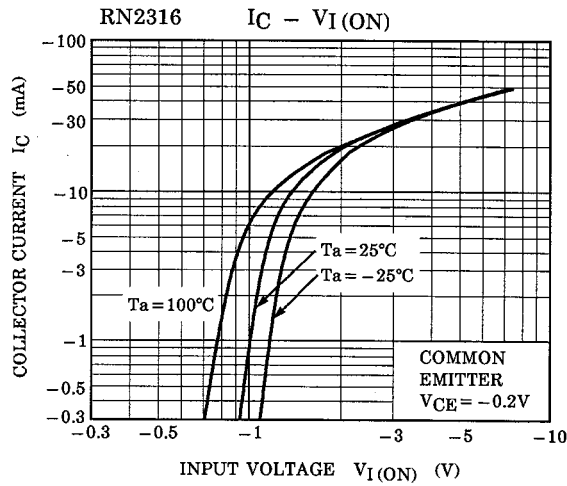
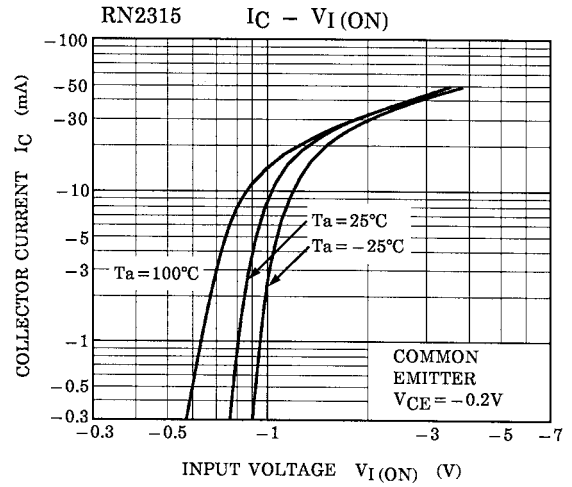
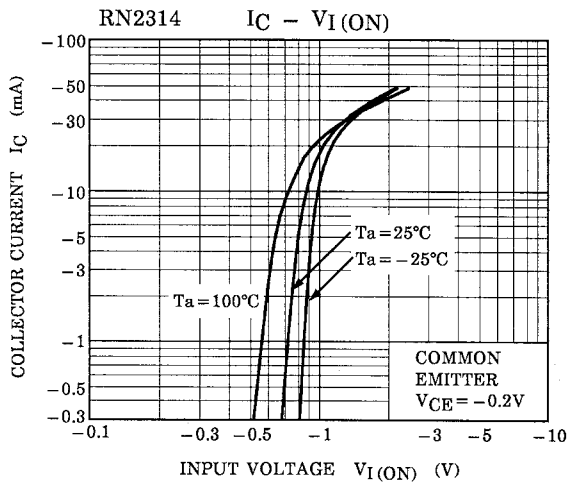
Weight: 0.006g

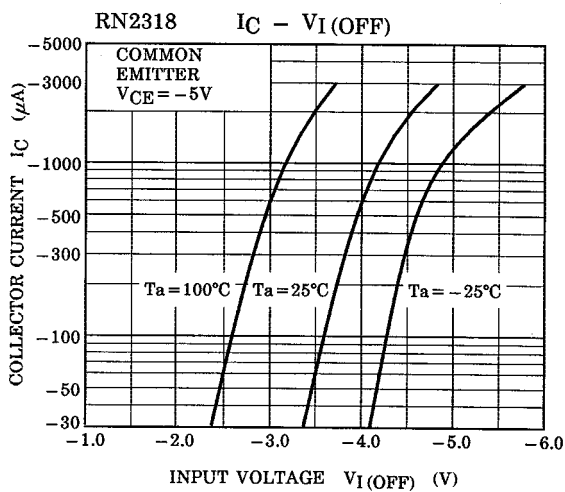
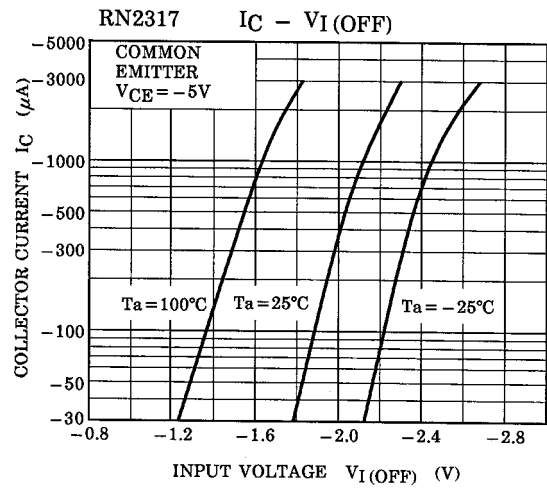
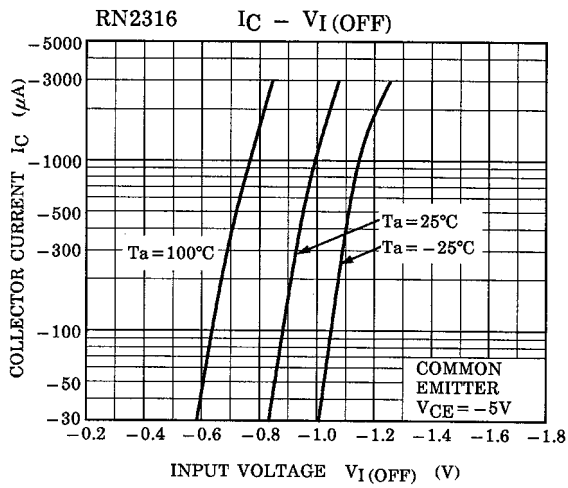
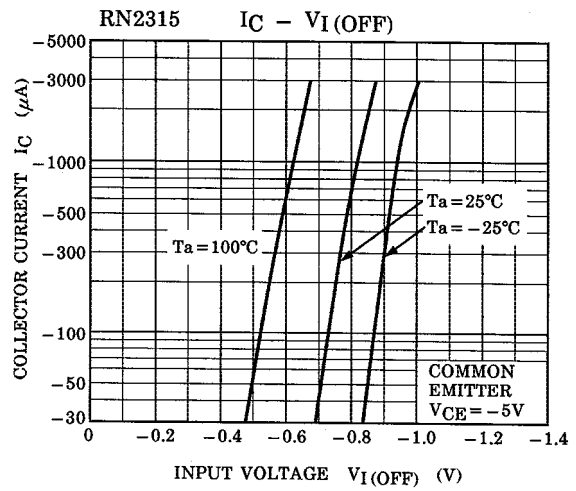
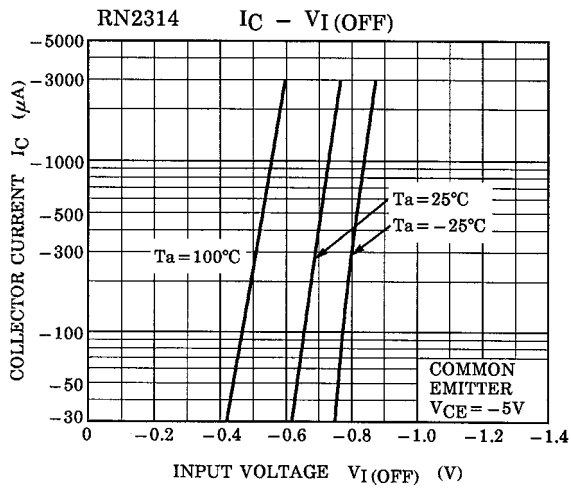
Maximum Ratings (Ta = 25°C)

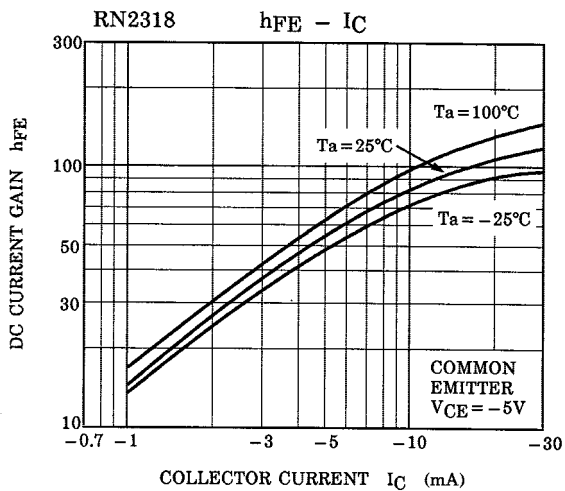
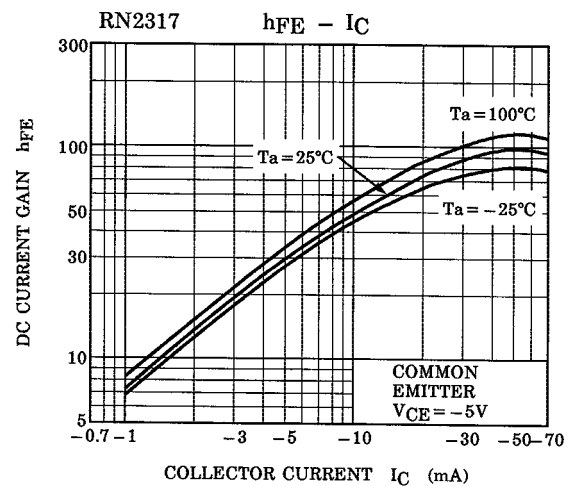
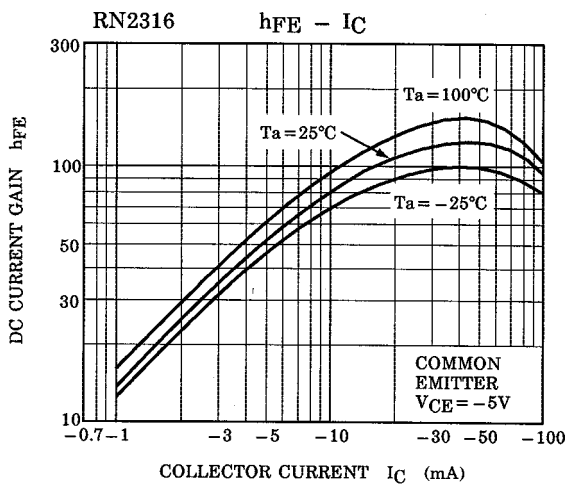
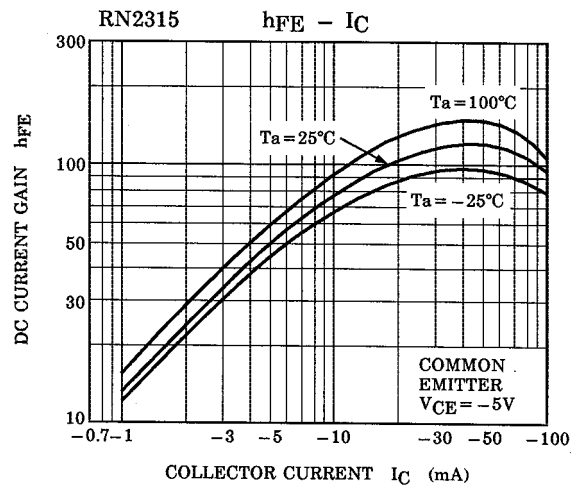
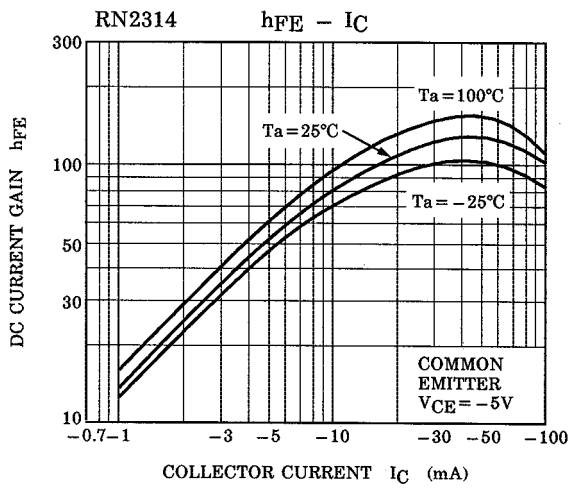
| Characteristic | Symbol | Rating | Unit |
|-----------------------------|------------------|---------|------|
| Collector-base voltage | V _{CBO} | -50 | V |
| Collector-emitter voltage | | | |
| Emitter-base voltage | V _{EBO} | -5 | V |
| | | -6 | |
| | | -7 | |
| | | -15 | |
| | | -25 | |
| Collector current | I _C | -100 | mA |
| Collector power dissipation | P _C | 100 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature range | T _{stg} | -55~150 | °C |

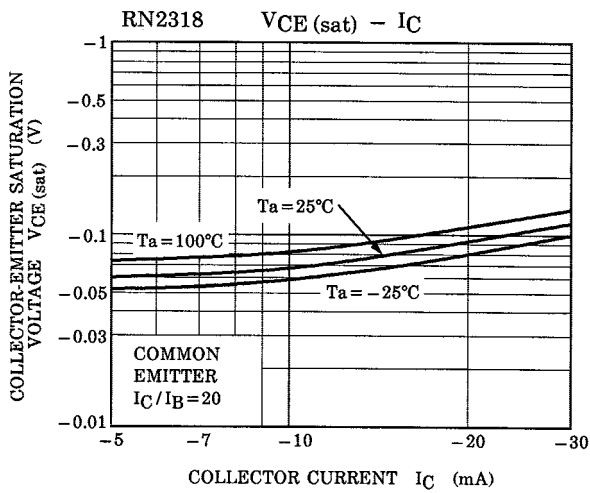
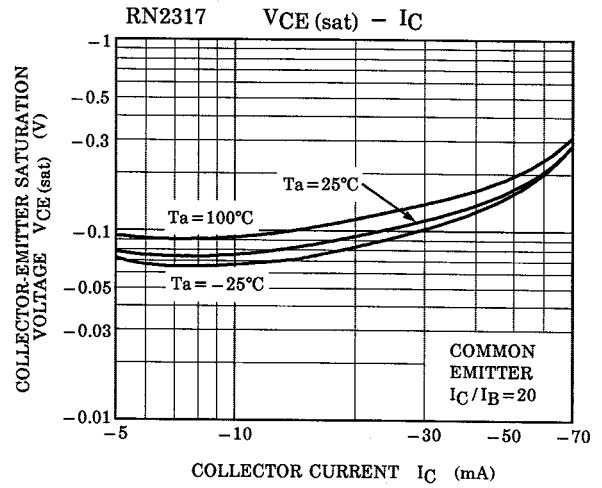
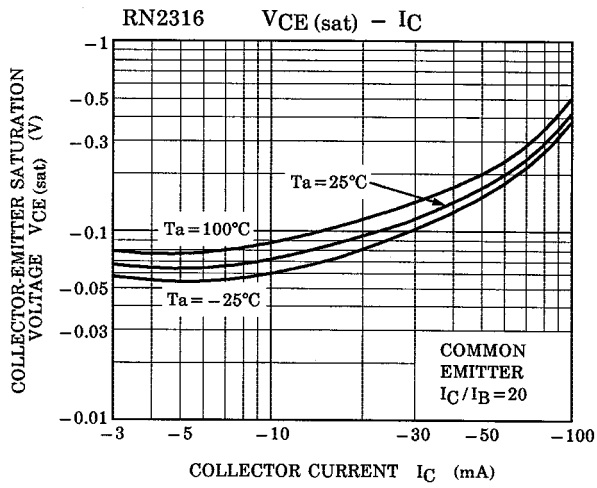
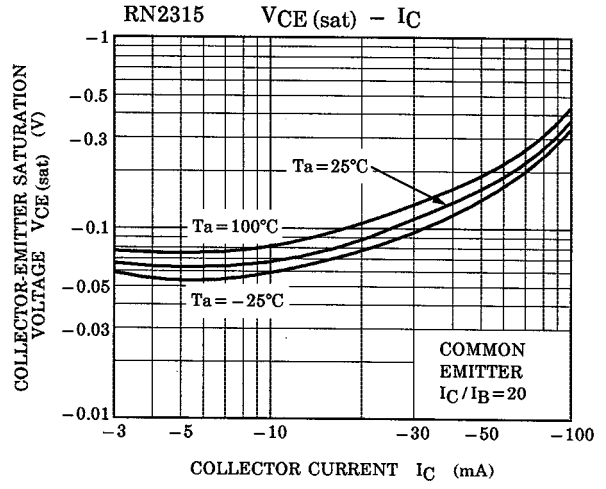
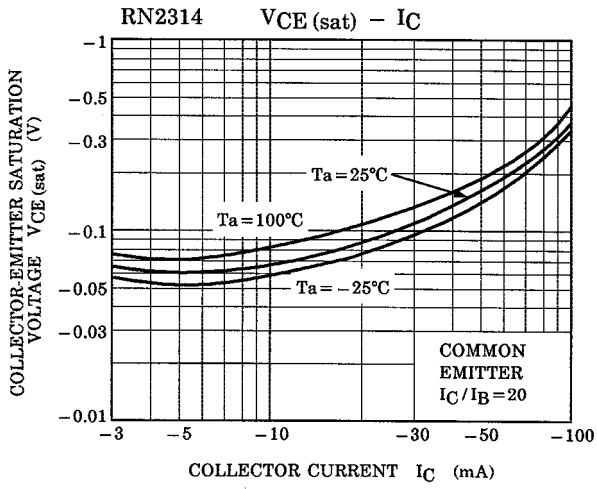
Electrical Characteristics (Ta = 25°C)

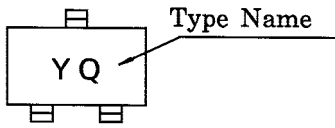
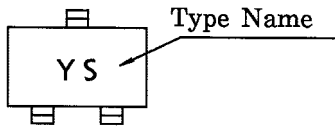
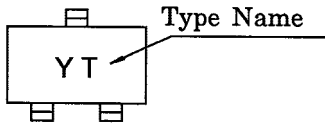
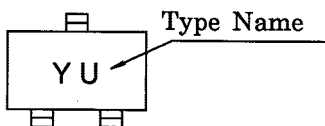
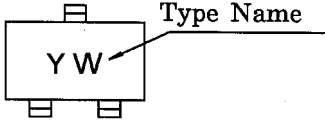
| Characteristic | | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|---------------|---------------|--------------|------------------------------------|-------|------|-------|------|
| Collector cut-off current | RN2314~2318 | I_{CBO} | — | $V_{CB} = -50V, I_E = 0$ | — | — | -100 | nA |
| | RN2314~2318 | I_{CEO} | — | $V_{CE} = -50V, I_B = 0$ | — | — | -500 | nA |
| Emitter cut-off current | RN2314 | I_{EBO} | — | $V_{EB} = -5V, I_C = 0$ | -0.35 | — | -0.65 | mA |
| | RN2315 | | — | $V_{EB} = -6V, I_C = 0$ | -0.37 | — | -0.71 | |
| | RN2316 | | — | $V_{EB} = -7V, I_C = 0$ | -0.36 | — | -0.68 | |
| | RN2317 | | — | $V_{EB} = -15V, I_C = 0$ | -0.78 | — | -1.46 | |
| | RN2318 | | — | $V_{EB} = -25V, I_C = 0$ | -0.33 | — | -0.63 | |
| DC current gain | RN2314~16, 18 | h_{FE} | — | $V_{CE} = -5V, I_C = -10mA$ | 50 | — | — | — |
| | RN2317 | | — | | 30 | — | — | |
| Collector-emitter saturation voltage | RN2314~2318 | $V_{CE(sat)}$ | — | $I_C = -5mA, I_B = -0.25mA$ | — | -0.1 | -0.3 | V |
| Input voltage (ON) | RN2314 | $V_{I(ON)}$ | — | $V_{CE} = -0.2V, I_C = -5mA$ | -0.5 | — | -2.0 | V |
| | RN2315 | | — | | -0.6 | — | -2.5 | |
| | RN2316 | | — | | -0.7 | — | -2.5 | |
| | RN2317 | | — | | -1.5 | — | -3.5 | |
| | RN2318 | | — | | -2.5 | — | -10.0 | |
| Input voltage (OFF) | RN2314 | $V_{I(OFF)}$ | — | $V_{CE} = -5V, I_C = -0.1mA$ | -0.3 | — | -0.9 | V |
| | RN2315 | | — | | -0.3 | — | -1.0 | |
| | RN2316 | | — | | -0.3 | — | -1.1 | |
| | RN2317 | | — | | -0.3 | — | -3.0 | |
| | RN2318 | | — | | -0.5 | — | -5.7 | |
| Translation frequency | RN2314~2318 | f_T | — | $V_{CE} = -10V, I_C = -5mA$ | — | 200 | — | MHz |
| Collector output capacitance | RN2314~2318 | C_{ob} | — | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | — | 3.0 | 6.0 | pF |
| Input resistor | RN2314 | R_1 | — | — | 0.7 | 1.0 | 1.3 | kΩ |
| | RN2315 | | — | | 1.54 | 2.2 | 2.86 | |
| | RN2316 | | — | | 3.29 | 4.7 | 6.11 | |
| | RN2317 | | — | | 7.0 | 10.0 | 13.0 | |
| | RN2318 | | — | | 32.9 | 47.0 | 61.1 | |
| Resistor ratio | RN2314 | R_1/R_2 | — | — | — | 0.1 | — | |
| | RN2315 | | — | | — | 0.22 | — | |
| | RN2316 | | — | | — | 0.47 | — | |
| | RN2317 | | — | | — | 2.13 | — | |
| | RN2318 | | — | | — | 4.7 | — | |









| Type Name | Marking |
|-----------|---|
| RN2314 |  |
| RN2315 |  |
| RN2316 |  |
| RN2317 |  |
| RN2318 |  |

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000707EAA

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