

● Pin descriptions

| Pin No. | Pin name | Function |
|---------|------------------|--|
| 1 | Co | Output smoothing capacitor connection pin ; connect a low-impedance capacitor with a recommended capacitance of 47 μ F between this and GND. |
| 2 | V _{OUT} | Output pin. |
| 3 | V _{ref} | Output voltage adjustment pin for contrast ; output voltage is adjusted by connecting a resistor between pins 2 and 3 or pins 3 and 4. |
| 4, 7 | GND | Ground pin. |
| 8 | V _{CTL} | Output ON/OFF control pin ; output starts when the pin is HIGH level, and stops when the pin is LOW or OPEN. |
| 9 | V _{IN} | Input pin ; connect a low-impedance capacitor with a recommended capacitance of 100 μ F between this pin and GND. |

● Electrical characteristics (unless otherwise noted, T_a=25°C, V_{CTL}=5V, R₁-R₂ resistors are disconnected)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|-------------------------------|-------------------|------|------|------|-------------------|---|
| Input voltage | V _{IN} | 4.5 | 5.0 | 5.5 | V | - |
| Output current | I _{OUT} | - | - | 25 | mA | - |
| Output voltage | V _{OUT1} | 28.0 | 29.5 | 31.0 | V | V _{IN} =4.5~5.5V, I _{OUT} =0~25mA |
| Output voltage when OFF | V _{OUT2} | - | - | 0.3 | V | V _{IN} =4.5~5.5V, V _{CTL} =0V |
| Ripple noise voltage | v ₁ | - | 100 | 200 | mV _{P-P} | V _{IN} =5V, I _{OUT} =20mA * |
| Efficiency | η | 67 | 77 | - | % | V _{IN} =5V, I _{OUT} =20mA |
| ON / OFF CTL voltage when ON | V _{CTL} | 1.5 | - | - | V | V _{IN} =5V, V _O >28V |
| ON / OFF CTL voltage when OFF | V _{CTL} | - | - | 0.5 | V | V _{IN} =5V, V _O <0.3V (Alternatively, when OPEN) |
| ON / OFF CTL current | I _{CTL} | - | - | 500 | μ A | V _{IN} =5V, V _{CTL} =1.5V |
| Current consumption when OFF | I _{OFF} | - | - | 50 | μ A | V _{IN} =5V, V _{CTL} =0V |

* Measured with a band width of 20 MHz.

● Measurement circuit / Application example

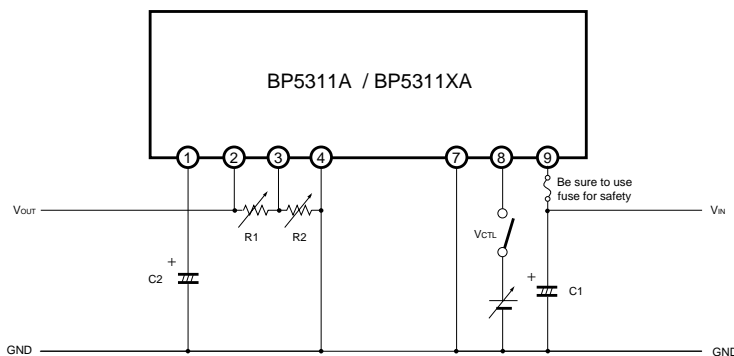


Fig.1

C1 : 100 μ F / 16V (Low impedance)
 C2 : 47 μ F / 35V (Low impedance)
 R1, 2 : Resistors for adjusting output voltage (Contrast adjustment)

● Electrical characteristic curves

- (1) Place I/O external capacitors as near as possible to the connection pins. In particular, make sure to minimize the impedance between the input-side capacitor (C1) and pin 9. A length less than 50 mm is recommended for a copper foil of 1.0 mm wide and 35μm thick.
- (2) Avoid frequent switching using the ON/OFF CTL pin (five times per second at the maximum).
- (3) R1 and R2 resistors, which are used for changing the output voltage, are usually not required.

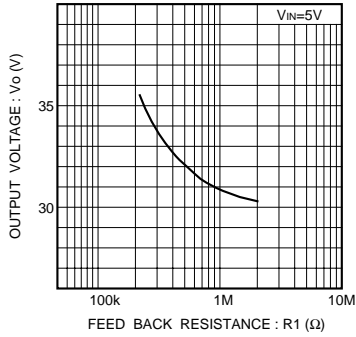


Fig.2 Output voltage vs. feedback resistance (R1)

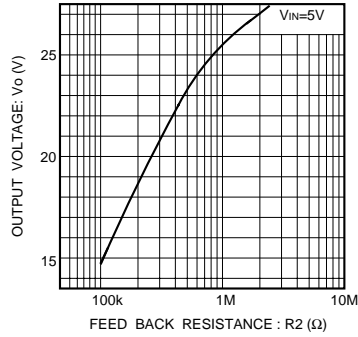
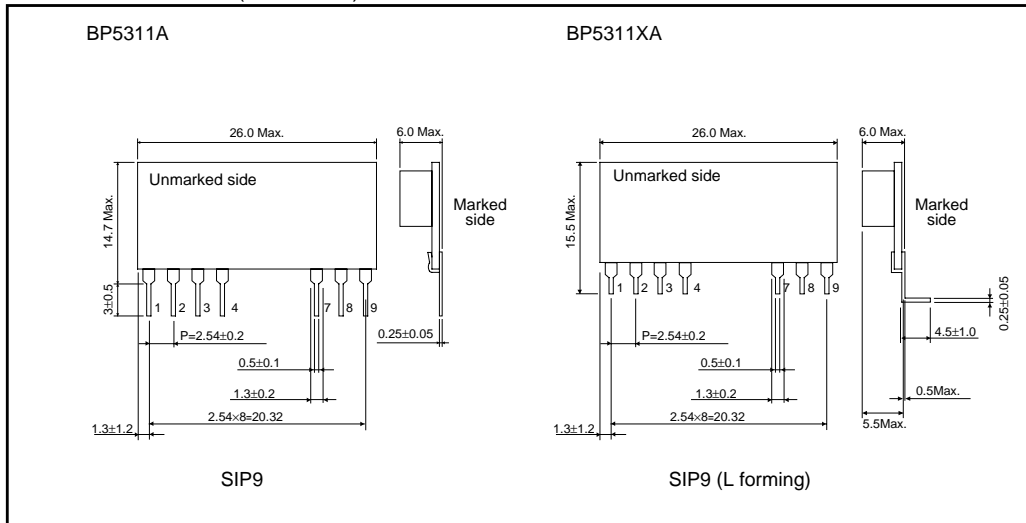


Fig.3 Output voltage and feedback resistance (R2)

● External dimensions (Units : mm)



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