

DC/DC converter step-up

BP5326

Suitable for LCD panels, tuner power supply. Only additional electrolysis capacitor, the source of step-up power supply can be constituted easily.

●Applications

LCD panel, Tuner.

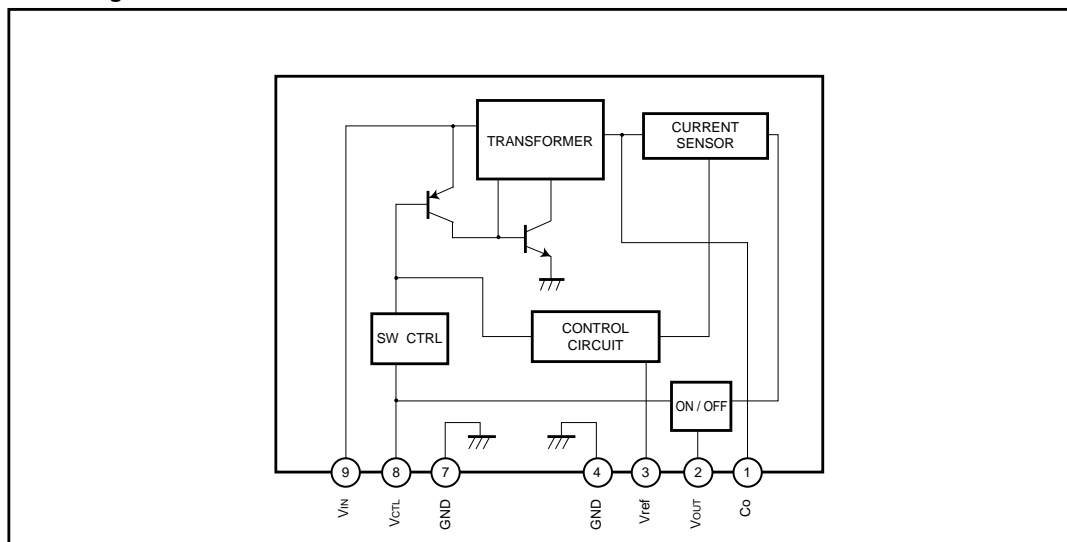
●Features

- 1) High conversion efficiency.
- 2) Built-in protection circuit.
- 3) Built-in ON / OFF switch.
- 4) Compact and light.
- 5) Surface mounting is possible because parts are concentrated on one side.

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V _{IN}	7	V
Operating temperature range	T _{opr}	0 to 60	°C
Storage temperature range	T _{stg}	-30 to +85	°C

●Block diagram



Power Module

● 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, Ta=25°C, V_{CTL}=5V, R1 to 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 to 5.5V, I _{OUT} =0 to 25mA
Output voltage when OFF	V _{OUT2}	–	–	0.3	V	V _{IN} =4.5 to 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

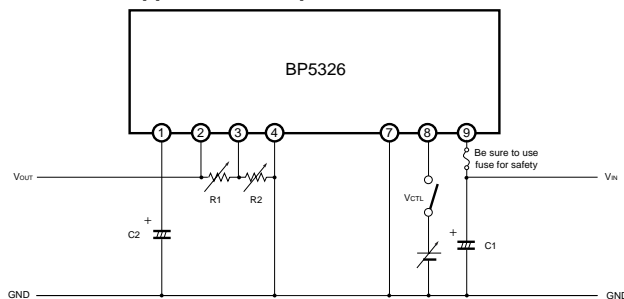


Fig.1

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

Power Module

● Electrical characteristics 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 pin9. A length less than 50mm is recommended for a copper foil of 1.0mm wide 35 μ m 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.

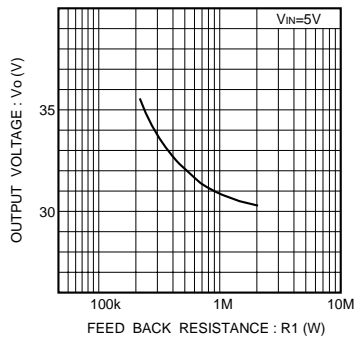


Fig.2 Output voltage vs. feedback resistance (R1)

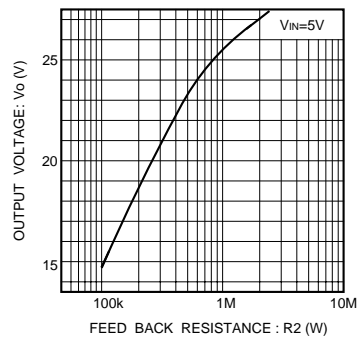
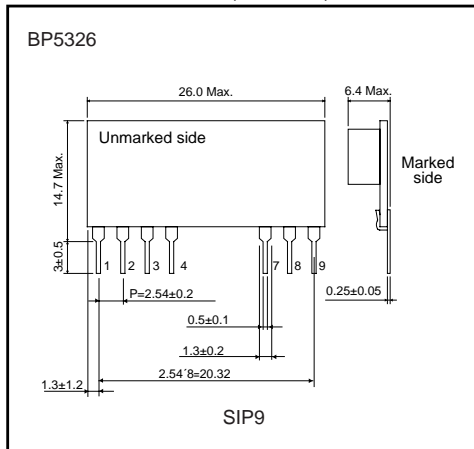


Fig.3 Output voltage and feedback resistance (R2)

● External dimensions (Unit : mm)



Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.