# 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.

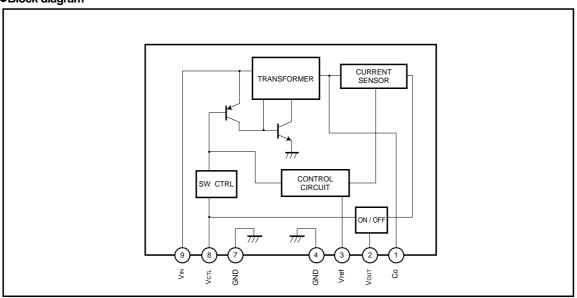
#### Features

- 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	Vin	7	V
Operating temperature range	Topr	0 to 60	°C
Storage temperature range	Tstg	-30 to +85	°C

## ●Block diagram



## Pin descriptions

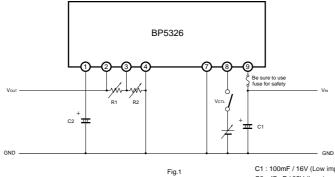
Pin No.	Pin name	Function
1	Co	Output smoothing capacitor connection pin; connect a low-impedance capacitor with a recommended capacitance of 47µF between this and GND.
2	Vouт	Output pin.
3	Vref	Output voltage adjustment pin for contrast; output voltage is adjusted by connecting a resistor between pins 2 and 3 or pins 3 and 4.
4, 7	GND	Ground pin.
8	VctL	Output ON/OFF control pin ; output starts when the pin is HIGH level, and stops when the pin is LOW or OPEN.
9	Vin	Input pin; connect a low-impedance capacitor with a recommended capacitance of 100µF between this pin and GND.

## ● Electrical characteristics (Unless otherwise noted, Ta=25°C, VcTL=5V, R1 to R2 resistors are disconnected)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage	Vin	4.5	5.0	5.5	V	-
Output current	Іоит	_	-	25	mA	_
Output voltage	Vоит1	28.0	29.5	31.0	V	VIN=4.5 to 5.5V, IOUT=0 to 25mA
Output voltage when OFF	Vоит2	_	-	0.3	V	V <sub>IN</sub> =4.5 to 5.5V, V <sub>CTL</sub> =0V
Ripple noise voltage	υ1	_	100	200	mV <sub>P-P</sub>	V <sub>IN</sub> =5V, I <sub>OUT</sub> =20mA *
Efficiency	η	67	77	_	%	VIN=5V, IOUT=20mA
ON / OFF CTL voltage when ON	Vctl	1.5	_	_	V	VIN=5V, Vo>28V
ON / OFF CTL voltage when OFF	Vctl	0.5 (Alternatively, when OPEN)		V	V <sub>IN</sub> =5V, Vo<0.3V	
ON / OFF CTL current	Ictl	_	_	500	μΑ	VIN=5V, VCTL=1.5V
Current consumption when OFF	loff	_	-	50	μΑ	VIN=5V, VCTL=0V

<sup>\*</sup> Measured with a band width of 20 MHz.

## • Measurement circuit / Application example



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

#### • 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 35μm trick.
- (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.

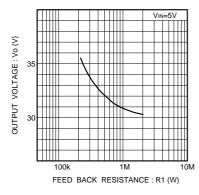


Fig.2 Output voltage vs. feedback resistance (R1)

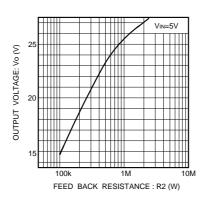
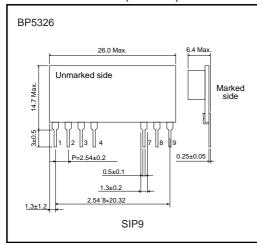


Fig.3 Output voltage and feedback resistance (R2)

#### ●External dimensions (Unit: mm)



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