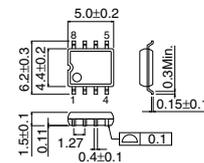


## LDO Regulator With Shutdown Circuit BA00BC0WF

### ● Description

BA00BC0WF is a PNP output LDO regulator IC with the output current of 0.5A and a voltage accuracy of  $\pm 2\%$ . Output voltage can be set (1.5V to 12V) by external resistor. Over-current protection circuit and thermal protection circuit are incorporated to prevent IC from being damaged by short and thermal break down.

### ● Dimension (Unit : mm)



### ● Features

- 1) Maximum output current : 0.5A
- 2) Output voltage setting by external resistor
- 3) Low drop-out voltage(1.5V to 12V) type with PNP output
- 4) Built-in over-current protection circuit to prevent IC from being damaged by short
- 5) Built-in thermal protection circuit
- 6) Built-in ON/OFF switch to realize the shutdown current 0uA
- 7) SOP8 package
- 8) C pin output voltage accuracy :  $\pm 2\%$

**SOP8**

### ● Applications

Printer, TV, DVD and Storage etc.

### ● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	18 <sup>*1</sup>	V
Power dissipation	P <sub>d</sub>	620 <sup>*2</sup>	mW
Operating temperature range	T <sub>opr</sub>	-40 ~ +85	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ +125	°C
Junction temperature	T <sub>jmax</sub>	125	°C

\*1 Do not however exceed P<sub>d</sub>.

\*2 Mounted on 70mm x 70mm x 1.6mm glass-epoxy PCB Derating in done at 6.2mW/°C for operating above Ta=25°C

### ● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input voltage	V <sub>CC</sub>	3.0	-	16.0	V
Output current	I <sub>o</sub>	-	-	0.5	A
Output voltage	V <sub>OUT</sub>	1.5	-	12.0	V

### ● Electrical Characteristics (Unless otherwise specified, Ta=25°C, V<sub>CC</sub>=3.3V, I<sub>o</sub>=150mA, R<sub>1</sub>=30kΩ, R<sub>2</sub>=30kΩ)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Shut down current	I <sub>SD</sub>	-	0	10	μA	V <sub>ctl</sub> =0V
V <sub>c</sub> pin voltage	V <sub>c</sub>	1.225	1.250	1.275	V	I <sub>o</sub> =10mA
Output voltage	V <sub>o</sub>	-	2.50	-	V	I <sub>o</sub> =150mA
Dropout voltage	ΔV <sub>d</sub>	-	0.18	0.30	V	V <sub>CC</sub> =2.5V
Peak output current	I <sub>o</sub>	0.5	-	-	A	
Ripple rejection	R.R.	44	55	-	dB	f=120Hz, e <sub>in</sub> =-20dBV, I <sub>o</sub> =100mA
Line regulation	Reg.I	-	20	50	mV	V <sub>CC</sub> =4.5V → 16V
Load regulation	Reg.L	-	50	150	mV	I <sub>o</sub> =0mA → 500mA
Temperature coefficient of output voltage <sup>*1</sup>	T <sub>cvo</sub>	-	±0.02	-	% / °C	I <sub>o</sub> =5mA, T <sub>j</sub> =0~125°C
Bias current	I <sub>b</sub>	-	0.6	-	mA	I <sub>o</sub> =0mA
Short circuit output current	I <sub>os</sub>	-	0.4	-	A	V <sub>CC</sub> =16V
Stand-by ON level	V <sub>th1</sub>	2.0	-	-	V	ACTIVE MODE, I <sub>o</sub> =0mA
Stand-by OFF level	V <sub>th2</sub>	-	-	0.8	V	OFF MODE, I <sub>o</sub> =0mA
Input high current	I <sub>in</sub>	40	80	130	μA	V <sub>ctl</sub> =3V, I <sub>o</sub> =0mA

• This product is not designed for protection against radioactive rays.

\*1 Designed Guarantee.(Outgoing inspection is not done all products.)

\* All characteristics are measured with a capacity across the input of 0.33μF and a capacity across the output of 0.22μF.

Measurement is done at Ta=T<sub>j</sub>, and variations in the parameter of all measurement(except Temperature Coefficient of Output Voltage)caused by temperature change are not considered.

### ● Application Circuit

