

Low Voltage Variable Output LDO Regulator

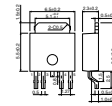
BA00BC0WFP/WT

●Description

BA00BC0WFP/WT is a PNP output LDO regulator IC with the output current of 1A 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.

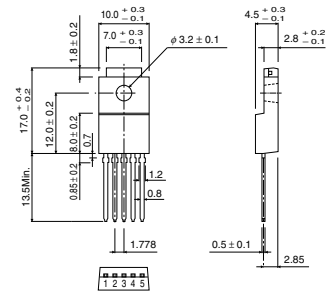
●Dimension (Units : mm)

BA00BC0WFP



TO252-5

BA00BC0WT



TO220FP-5

●Features

- 1) Maximum output current : 1A
- 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 for protecting thermal break down
- 6) Built-in ON/OFF switch to realize the shutdown current 0uA
- 7) TO252-5, TO220FP-5 package
- 8) C pin output voltage accuracy : $\pm 2\%$

●Applications

Printer, TV, DVD and Storage etc.

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	18 ^{*1}	V
Power dissipation	P _d	1300 ^{*2} (TO252-5) 2000 ^{*3} (TO220FP-5)	mW
Operating temperature range	T _{opr}	-40 ~ +105	°C
Storage temperature range	T _{stg}	-55 ~ +150	°C
Junction temperature	T _{jmax}	150	°C

*1 Do not however exceed P_d.

*2 Mounted on 70mm x 70mm x 1.6mm glass-epoxy PCB Derating in done at 10.4mW/°C for operating above Ta=25°C

*3 Derating in done at 16mW/°C for operating above Ta=25°C

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input voltage	V _{CC}	3.0	-	16.0	V
Output current ^{*4}	I _o	-	-	1	A
Output voltage	V _{OUT}	1.5	-	12.0	V

*4 Do not however, V_{CC} ≥ 3.3V

● Electrical Characteristics (Unless otherwise specified, Ta=25°C, V_{CC}=3.3V, I_o=200mA, R₁=30kΩ, R₂=30kΩ)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Shut down current	I _{SD}	-	0	10	μA	V _{ctl} =0V
V _c pin voltage	V _c	1.225	1.250	1.275	V	I _o =50mA
Output voltage	V _o	-	2.50	-	V	I _o =200mA
Dropout voltage	ΔV _d	-	0.3	0.5	V	V _{CC} =3.0V
Peak output current	I _o	1.0	-	-	A	
Ripple rejection	R.R.	44	55	-	dB	f=120Hz, e _{in} =-20dBV, I _o =100mA
Line regulation	Reg.I	-	15	30	mV	V _{CC} =4.5V → 16V
Load regulation	Reg.L	-	35	75	mV	I _o =0mA → 1A
Temperature coefficient of output voltage [*]	T _{cvo}	-	±0.015	-	% / °C	I _o =5mA, T _j =0~125°C
Bias current	I _b	-	0.5	0.9	mA	I _o =0mA
Short circuit output current	I _{os}	-	0.4	-	A	V _{CC} =16V
Stand-by ON level	V _{th1}	2.0	-	16	V	ACTIVE MODE, I _o =0mA
Stand-by OFF level	V _{th2}	-	-	0.8	V	OFF MODE, I _o =0mA
Input high current	I _{in}	40	80	130	μA	V _{ctl} =3V, I _o =0mA

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

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

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

● Application Circuit

