

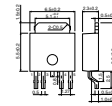
Low Voltage Variable Output LDO Regulator BA00BC0WFP/WT

● 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.

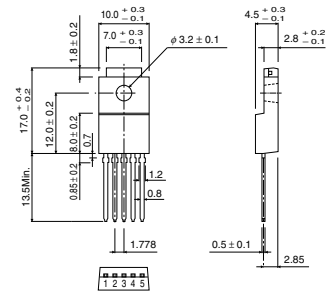
● Dimension (Units : mm)

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

