

## 35V MAX Variable Output LDO Regulator BA00CC0WFP/WT(-V5)

### ● Description

BA00CC0WFP/WT(-V5) is a variable output LDO regulator IC with the output current of 1A and C pin voltage accuracy of  $\pm 2\%$ . Output voltage can be set (3V to 15V) by external resistor. Over-current protection circuit, over-voltage protection circuit and thermal protection circuit are incorporated in this IC. BA00CC0WFP/WT(-V5) incorporates shutdown switch to control output ON/OFF. This IC is perfect for applications with high-voltage requirements and power supply applications.

### ● Features

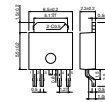
- 1) Maximum output current : 1A
- 2) Output voltage setting (3V to 15V) by external resistor
- 3) Low drop-out voltage type with PNP output
- 4) 35V high-voltage process
- 5) Built-in over-voltage protection circuit, over-current protection circuit, thermal protection circuit
- 6) Built-in shutdown circuit which circuit current is 0uA.
- 7) Two types of package  
(Small mounting type and insertion type)
- 8) C pin output voltage accuracy :  $\pm 2\%$

### ● Applications

Consumer products

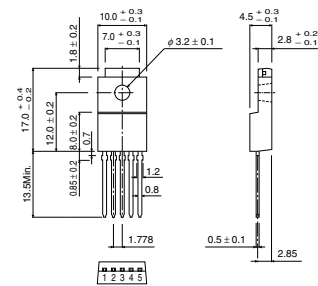
### ● Dimension (Unit : mm)

BA00CC0WFP



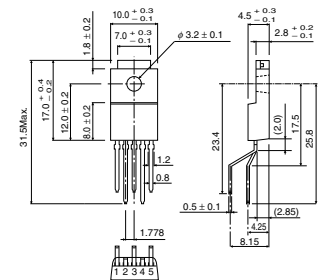
TO252-5

BA00CC0WT



TO220FP-5

BA00CC0WT(-V5)



TO220FP-5(-V5)

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	-0.3 ~ +35 <sup>*1</sup>	V
V <sub>c</sub> Pin voltage	V <sub>CTL</sub>	-0.3 ~ V <sub>CC</sub>	V
Power dissipation	Pd	1300 <sup>*2</sup>	mW
		2000 <sup>*3</sup>	
Operating temperature range	T <sub>opr</sub>	-40 ~ +125	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ +150	°C
Junction temperature	T <sub>jmax</sub>	150	°C
Peak supply voltage	V <sub>CCPeak</sub>	50 <sup>*4</sup>	V

\*1 Do not however exceed Pd.

\*2 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

\*4 Bias voltage in 200msec(tr≥1msec).

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input voltage	V <sub>CC</sub>	4.0	-	25.0	V
Output current	I <sub>o</sub>	-	-	1.0	A
Output voltage	V <sub>OUT</sub>	3.0	-	15	V

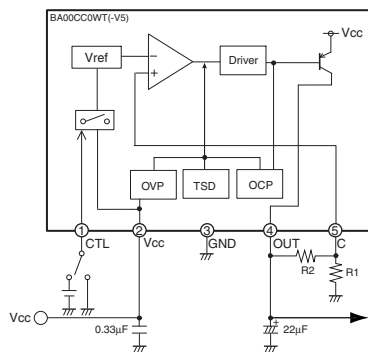
## Electrical Characteristics (Unless otherwise specified, Ta=25°C, V<sub>CC</sub>=10V, I<sub>o</sub>=500mA, R<sub>1</sub>=2.2kΩ, R<sub>2</sub>=6.8kΩ)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Shut down current	I <sub>sd</sub>	-	0	10	μA	V <sub>CTL</sub> =0V
Bias current	I <sub>b</sub>	-	2.5	5.0	mA	V <sub>CTL</sub> =2V, I <sub>o</sub> =0mA
C pin voltage	V <sub>c</sub>	1.200	1.225	1.250	V	I <sub>o</sub> =50mA
Output voltage	V <sub>o</sub>	-	5.00	-	V	
Dropout voltage	ΔV <sub>d</sub>	-	0.3	0.5	V	V <sub>CC</sub> =0.95V <sub>o</sub>
Peak output current	I <sub>o</sub>	1.0	-	-	A	
Ripple rejection	R.R.	45	55	-	dB	f=120Hz, e <sub>in</sub> =1V <sub>rms</sub> , I <sub>o</sub> =100mA
Line regulation	Reg.I	-	20	100	mV	V <sub>CC</sub> =6 → 25V
Load regulation	Reg.L	-	50	150	mV	I <sub>o</sub> =5mA → 1A
Temperature coefficient of output voltage <sup>*</sup>	T <sub>cvo</sub>	-	±0.02	-	% / °C	I <sub>o</sub> =5mA, T <sub>j</sub> =0~125°C
Short circuit output current	I <sub>os</sub>	-	0.40	-	A	V <sub>CC</sub> =25V
ON mode level	V <sub>thH</sub>	2.0	-	-	V	ACTIVE MODE, I <sub>o</sub> =0mA
OFF mode level	V <sub>thL</sub>	-	-	0.8	V	OFF MODE, I <sub>o</sub> =0mA
Input high current	I <sub>CTL</sub>	100	200	300	μA	V <sub>CTL</sub> =5V, I <sub>o</sub> =0mA

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

## Application Circuit

[BA00CC0WT(-V5)]



[BA00CC0WFP]

