

35V MAX 1A Output LDO Regulator **BA□□CC0WFP/WT(-V5)** **BA□□CC0FP/T**

● Description

BA□□CC0WFP/WT(-V5) and BA□□CC0FP/T are PNP output LDO regulator ICs with the output current of 1A and a voltage accuracy of $\pm 2\%$. This IC has incorporated over-current protection circuit, over-voltage protection circuit and thermal protection circuit. BA□□CC0WFP/WT(-V5) also incorporates shutdown switch to control output ON/OFF. This IC is perfect for applications with high-voltage requirements, power supply applications.

[Series line-up]

Part No.	Output Current (A)	Output Voltage(V)										Package
BA□□CC0WFP	1.0	-	3.3	5	6	7	8	9	-	-	-	TO252-5
BA□□CC0WT		3	3.3	5	-	7	8	9	10	12	-	TO220FP-5
BA□□CC0WT(-V5)		-	3.3	5	-	-	8	9	-	12	-	TO220FP-5(V5)
BA□□CC0FP		3	3.3	5	6	7	8	9	10	12	15	TO252-3
BA□□CC0T		3	3.3	5	-	7	8	9	10	12	15	TO220FP

● Features

- 1) Maximum output current : 1A
- 2) Output voltage accuracy : $\pm 2\%$
- 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.
(BA□□CC0WFP/WT(-V5))
- 7) Two types of package (Small mounting type and insertion type)

Applications

Consumer products

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits		Unit
Supply Voltage	VCC	-0.3	~ +35	*1 V
Output Pin Control Voltage	VCTL	-0.3	~ +VCC	V
Power Dissipation	TO252-3	Pd	1200	*2
	TO252-5		1300	*3
	TO220FP-5		2000	*4
	TO220FP		2000	*4
Operating Temperature Range	T _{opr}	-40	~ +125	°C
Storage Temperature Range	T _{stg}	-55	~ +150	°C
Junction Temperature	T _{jmax}	150		°C
Peak Supply Voltage	VCC peak	50	*5	V

*1 Do not however exceed Pd.

*2 Mounted on 70mm x 70mm x 1.6mm glass-epoxy PCB Derating in done at 9.6mW/°C for operating above Ta=25°C

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

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

*5 Bias voltage in 200msec(tr_{on}≥1msec).

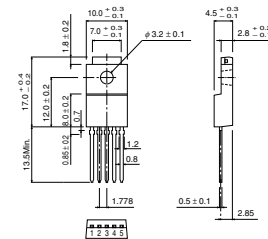
● Dimension (Units :mm)

BA□□CC0WFP



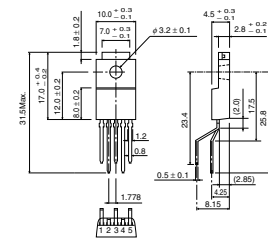
TO252-5

BA□□CC0WT



TO220FP-5

BA□□CC0WT(-V5)



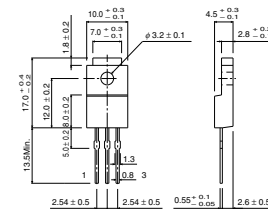
TO220FP-5(V5)

BA□□CC0FP



TO252-3

BA□□CC0T



TO220FP

[BA□□CC0WFP/WT(-V5)]

●Electrical Characteristics (Unless otherwise specified, Ta=25°C, Vcc=(Vo+5)V, Io=500mA)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output voltage	Vo	0.98 x Vo	Vo	1.02 x Vo	V	Vo : Refer to the series line-up
Shut down current	I _{sd}	–	0	10	μA	V _{CTL} =0V
Bias current	I _b	–	2.5	5.0	mA	V _{CTL} =2V, I _o =0mA
Dropout voltage	ΔV _d	–	0.3	0.5	V	V _{cc} =0.95Vo
Peak output current	I _o	1.0	–	–	A	
Ripple rejection	R.R.	45	55	–	dB	f=120Hz, e _{in} =1V _{rms} , I _o =100mA
Line regulation	Reg. _I	–	20	100	mV	V _{cc} =(Vo+1)V → 25V
Load regulation	Reg. _L	–	50	150	mV	I _o =5mA → 1A
Temperature coefficient of output current *	T _{cv}	–	±0.02	–	% / °C	I _o =5mA, T _j =0~125°C
Output short current	I _{os}	–	0.4	–	A	V _{cc} =25V
ON mode voltage	V _{thH}	2.0	–	–	V	ACTIVE MODE, I _o =0mA
OFF mode voltage	V _{thL}	–	–	0.8	V	OFF MODE, I _o =0mA
Input high current	I _{ctl}	100	200	300	μA	V _{CTL} =5V, I _o =0mA

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

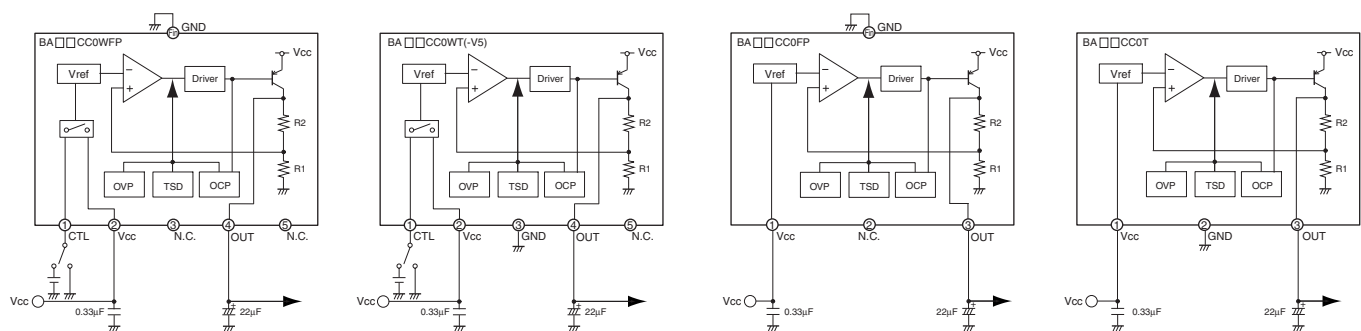
[BA□□CC0FP/T]

●Electrical Characteristics (Unless otherwise specified, Ta=25°C, Vcc=(Vo+5)V, Io=500mA)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output voltage	V _O	0.98 x V _O	V _O	1.02 x V _O	V	V _O : Refer to the series line-up
Bias current	I _b	–	2.5	5.0	mA	ACTIVE MODE, I _O =0mA
Dropout voltage	ΔV _d	–	0.3	0.5	V	V _{CC} =0.95V _O
Peak output current	I _O	1.0	–	–	A	
Ripple rejection	R.R.	45	55	–	dB	f=120Hz, e _{in} =1V _{rms} , I _O =100mA
Line regulation	Reg. _I	–	20	100	mV	V _{CC} =(V _O +1)V → 25V
Load regulation	Reg. _L	–	50	150	mV	I _O =5mA → 1A
Temperature coefficient of output current *	T _{CV_O}	–	±0.02	–	% / °C	I _O =5mA, T _J =0~125°C
Output short current	I _{OS}	–	0.4	–	A	V _{CC} =25V

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

●Application Circuit



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