

System regulator for car stereo

BA4911

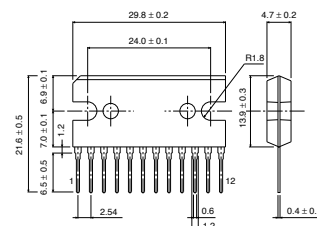
● Description

BA4911 is a system regulator IC for car stereo.
 This IC incorporates 1 channel of 5.0V output,
 2 channels of 8.12V output, 1 channel of 7.9V
 output, 1 channel of 10.3V output and 2 channels
 of high side switch.

● Features

- 1) PNP output and low drop out type
- 2) Built-in output current limits circuit to protect IC from destruction by short
- 3) Built-in over-voltage protection circuit to deliver strong design for surge input to BACK UP and Vcc
- 4) 12pin power package perfect for space saving design
- 5) Built-in thermal protection circuit to protect IC from thermal destruction
- 6) Strong design against instant power failure of battery because VDD can be driven by load stored in BACK UP capacitor.

● Dimension (Unit : mm)



SIP-M12

● Applications

Car stereo

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	Vcc	36	V
Power dissipation	Pd	3000 *	mW
Operating temperature range	Topr	-30 ~ +85	°C
Storage temperature range	Tstg	-55 ~ +150	°C
Peak applied voltage	Vcc PEAK	50 *1	V

* Derating : 27.2mW/°C for operation above Ta=25°C

*1 tr ≥ 1msec Applied time within 200msec

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Recommended supply voltage 1	Vcc1	10	14.4	18	V	Except VDD output, ILM output
Recommended supply voltage 2	Vcc2	8.2	14.4	18	V	VDD output
Recommended supply voltage 3	Vcc3	11.4	14.4	18	V	ILM output

*Electric characteristic is not guaranteed. (Especially at low input voltage)

● Electrical characteristics (Unless otherwise noted; Ta=25°C, Vcc=14.4V)

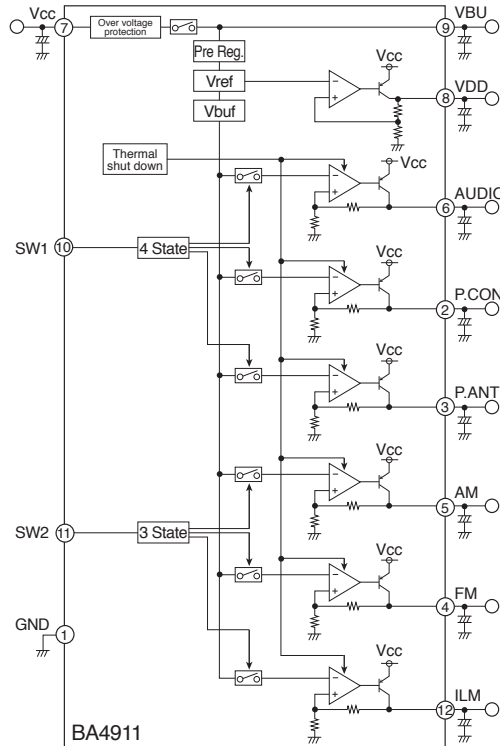
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Standby circuit current 1	I _{ST1}	—	100	150	μA	V _{CC} =13.2V
Standby circuit current 2	I _{ST2}	—	100	150	μA	
Output voltage (VDD) 1	V _{O1}	4.80	5.00	5.20	V	I _O =300mA, V _{CC} =10~18V
Min. I/O voltage difference 1	ΔV _{O1}	—	0.4	0.7	V	I _O =300mA, V _B U-V _{O1}
Min. I/O voltage difference 2	ΔV _{O1'}	—	2.5	3.0	V	I _O =300mA, V _{CC} -V _{O1}
Output current capacity	I _{O1}	300	—	—	mA	V _{O1} ≥4.8V
Output voltage (AUDIO) 2	V _{O2}	7.80	8.12	8.30	V	I _{O2} =200mA, V _{CC} =10~18V, -30°C~80°C *1
Min. I/O voltage difference	ΔV _{O2}	—	0.4	0.7	V	I _{O2} =200mA, V _{CC} -V _{O2}
Output current capacity	I _{O2}	200	—	—	mA	V _{O2} ≥7.8V
I/O voltage difference (P.COM) 3	ΔV _{O3}	—	0.4	0.7	V	I _{O3} =200mA
Output current capacity	I _{O3}	300	—	—	mA	V _{O3} ≥13.7V
I/O voltage difference (P.ANT) 4	ΔV _{O4}	—	0.4	0.7	V	I _{O4} =200mA
Output current capacity	I _{O4}	300	—	—	mA	V _{O4} ≥13.7V
Output voltage (AM) 5	V _{O5}	7.5	7.9	8.3	V	I _{O5} =50mA, V _{CC} =10~18V, -30°C~80°C *1
Min. I/O voltage difference	ΔV _{O5}	—	0.4	0.7	V	I _{O5} =50mA
Output current capacity	I _{O5}	50	—	—	mA	V _{O5} ≥7.5V
Output voltage (FM) 6	V _{O6}	7.8	8.12	8.3	V	I _{O6} =50mA, V _{CC} =10~18V, -30°C~80°C *1
Min. I/O voltage difference	ΔV _{O6}	—	0.4	0.7	V	I _{O6} =50mA, V _{CC} -V _{O6}
Output current capacity	I _{O6}	50	—	—	mA	V _{O6} ≥7.8V
Output voltage (ILM) 7	V _{O7}	9.9	10.3	10.7	V	I _{O7} =250mA, V _{CC} =10~18V
Min. I/O voltage difference	ΔV _{O7}	—	0.4	0.7	V	I _{O7} =250mA, V _{CC} -V _{O7}
Output current capacity	I _{O7}	250	—	—	mA	V _{O7} ≥9.9V

*1 Design guaranteed

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

*Output current capacity must be set below MINIMUM.

● Block Diagram



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