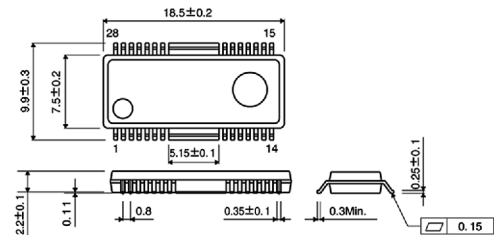


## 5 Channel Drivers/Regulator for car Mini Disk BA5813FM

### ● Description

The BA5813FM is a 5-channel driver including a 4-channel BTL driver and a 1-channel reversible motor driver and regulator for car applications. Separating the Vcc into Pre and Pow can make the unit morepower efficient.

### ● Dimension (Units : mm)



HSOP-M28

### ● Features

- 1) Wide dynamic range  
(4.0V typical at PreVcc=8V, PowVcc=5V)
- 2) The loading output voltage is adjustable by the voltage control terminal.
- 3) Variable regulator built-in
- 4) Thermal shut down circuit built-in
- 5) Small surface mount power package HSOP-M28

### ● Applications

MD

### ● Absolute Maximum Ratings (Ta=25 °C)

Parameter	Symbol	Limits	Unit
Power supply voltage	PREVcc, POWVcc	13.5	V
Power dissipation	Pd	2.2	W
Operating temperature range	Topr	-40 ~ +85	°C
Storage temperature range	Tstg	-55 ~ +150	°C

Derating : 17.6mV/°C for operation above Ta=25 °C.

On less than 3% (percentage occupied by copper foil), 70mm 70mm, t=1.6mm, glass epoxy mounting.

● Guaranteed operating ranges (Ta=25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	PREVcc	4.3	—	13.2	V
	POWVcc	4.3	—	PREVcc	V

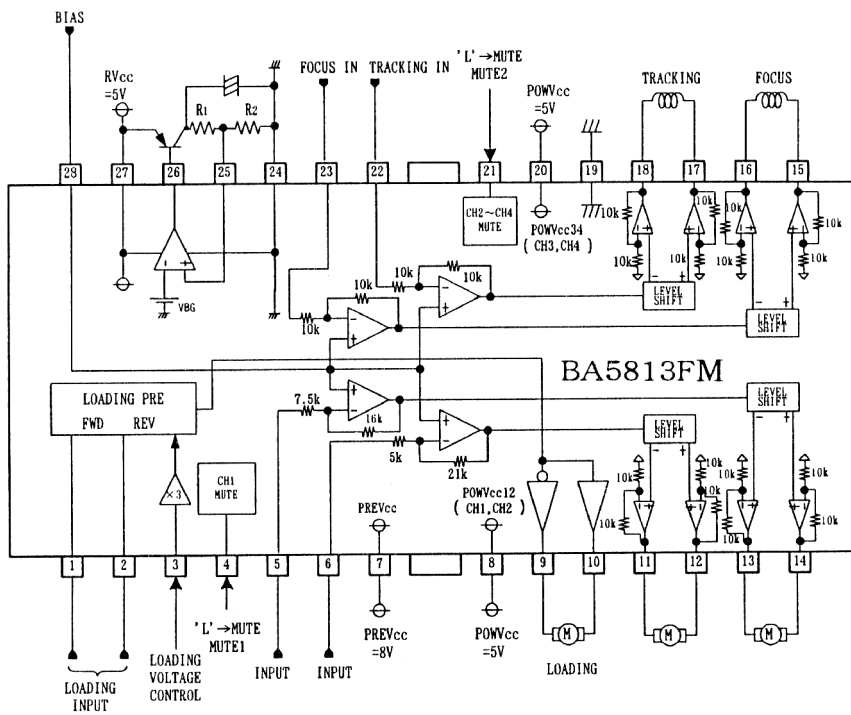
● Electrical characteristics

(Unless otherwise noted, Ta=25 °C, PREVcc=RVcc=8V, POWVcc1,2=5V, BIAS=1.65V, RL=8 Ω)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Quiescent current	Icc	—	17	23	mA	No load
<BTL driver>						
Output offset voltage	Voo	-50	0	50	mV	
Maximum output voltage	VOM	3.6	4.0	—	V	
Closed loop voltage gain (CH1)	GVC1	16.2	18.0	19.8	dB	
Closed loop voltage gain (CH2)	GVC2	22.7	24.5	26.3	dB	
Closed loop voltage gain (CH3, 4)	GVC3	10.5	12.0	13.5	dB	
<Regulator>						
Threshold voltage of REG-P pin	VREGPTH	1.14	1.20	1.26	V	
Output sink current of REG-B pin	ISIN	10	—	—	mA	
Input bias current of REG-P pin	IBOP	—	20	300	nA	
<Loading driver>						
Output saturation voltage 1	VSAT1	0.7	1.1	1.5	V	IL=200mA (Upper + Lower)
Output adjustable gain on "H" side voltage	GVH	7.4	9.2	11.0	dB	"H" side output for GND

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

● Application circuit



### Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document use silicon as a basic material.  
Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

#### About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.