



**WIN***SOURCE*  
THE DATA SHEET OF

**BA5810FM-E2**

## 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 more power efficient.

### ● 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

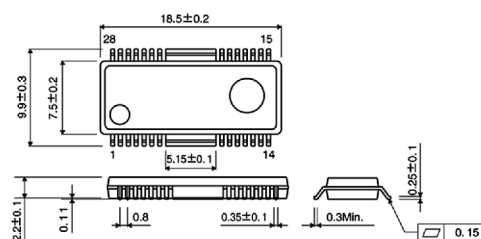
### ● Absolute Maximum Ratings (Ta=25°C)

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 x 70mm, t=1.6mm, glass epoxy mounting.

### ● Dimension (Units : mm)



HSOP-M28

● 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

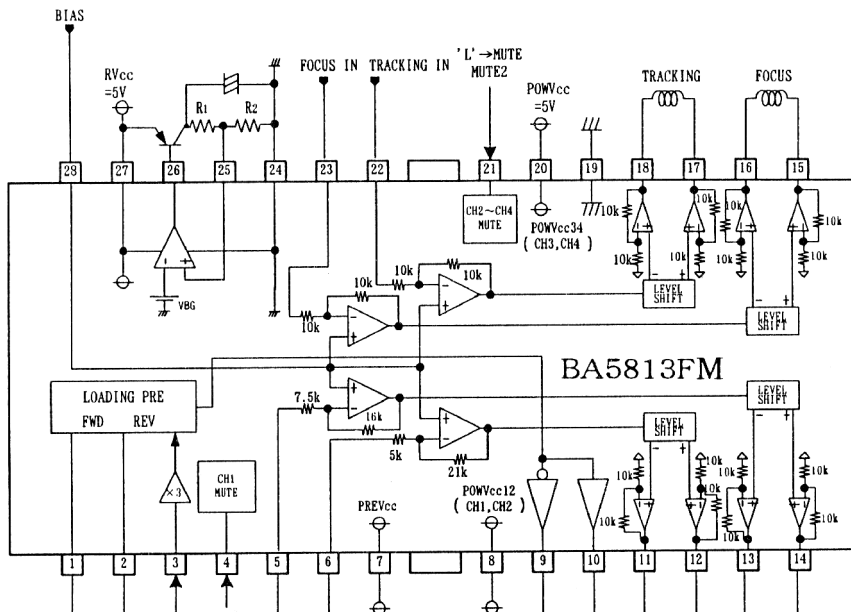
● Electrical characteristics

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

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



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