ROHM

STRUCTURE	Silicon Monolithic Integrated Circuit
PRODUCTS	3ch Video driver for digital STB
TYPE	B H 7 6 0 0 A F S
PACKAGE	S S O P － A 2 4

FEATURES

1) Pedestal clamp input with sync mix
2) Built in 3ch Inside DC output circuit for D connector control line
3) Built in inside D connector connection detect
4) I^2C-BUS control
5) Inside output mute circuit

■ Absolute Maximum Ratings （Ta=25℃）

Parameter	Symbol	Rating	Unit
Power supply Voltage	VCC	7．0	V
Power Dissipation	Pd	8 0 0	mW
Input Voltage Range	Vin	0 ~VCC	V
Operating Temperature Range	Topr	－ 2 5 ～＋7 5	℃
Storage Temperature Range	Tstg	－ 5 5 ～＋1 2 5	℃

※When absolute temperature exceeds Ta=25℃, the rated value is reduced by 8.0mW/℃.

■ Operating Voltage Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operation power supply　Voltage	VCC	4．5	5．0	5．5	V

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

Status of this document
The Japanese version of this document is the formal specification.
A customer may use this translation version only for a reference to help reading the formal version.
If there are any differences in translation version of this document, formal version takes priority.

Application example
・ ROHM cannot provide adequate confirmation of patents.
・ The product described in this specification is 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).
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representations that the circuits are free from patent infringement.

■ Electrical characteristics 【Unless otherwise specified, Ta=25℃, VCC=5V】

| Parameter	Symbol	Limit			Unit	Conditions
		Min	Typ	Max		
《All Circuits》						
Circuit Current	I_{CC}	10.8	21.5	32.3	mA	No signal
LINEOUT 「H」 Voltage	V_{LOH}	4.0	4.9	5.0	V	
LINEOUT 「M」 Voltage	V_{LOM}	1.5	1.9	2.3	V	
LINEOUT 「L」 Voltage	V_{LOL}	0.0	0.2	0.5	V	
LINEOUT Impedance	Z_{LO}	1.3	1.8	2.3	kΩ	
《Video Driver Parts》						
Voltage Gain	G_V	−1	−0.5	0	dB	V_{IN}=1Vp-p, f=1MHz
Frequency Characteristics	V_{F1}	−1	0	1	dB	V_{IN}=1Vp-p, f=1M/10MHz
MUTE Input Impedance	Z_{IN}	75	100	125	kΩ	
MUTE 「H」 Level Input Voltage	V_{MH}	2.0	−	VCC	V	
MUTE 「L」 Level Input Voltage	V_{ML}	0	−	1.0	V	
《SYNC》						
SYNC1, 2 「H」 Level Input Voltage	V_{SYNH}	2.0	−	VCC	V	
SYNC1, 2 「L」 Level Input Voltage	V_{SYNL}	0	−	−	V	
SYNC Input Bias Current	I_{SYN}	−20	−2.0	0	uA	
SYNC Mix Level	V_{SYL}	270	300	330	mV	
《Control Part》						
「H」 Level Input Voltage	V_H	2.0	−	VCC	V	
「L」 Level Input Voltage	V_L	0	−	1.0	V	
SDA 「L」 Sync Current	I_{SIN}	4.0	−	−	mA	
DET Detection Level 「H」	V_{DH}	2.0	−	VCC	V	
DET Detection Level 「L」	V_{DL}	0	−	1.0	V	
DET Input Bias Current	I_{DET}	−20	−2.0	0	uA	

■ Outer Dimensions

B H 7 6 0 0 A F S

LOT NO.

[UNIT:mm]
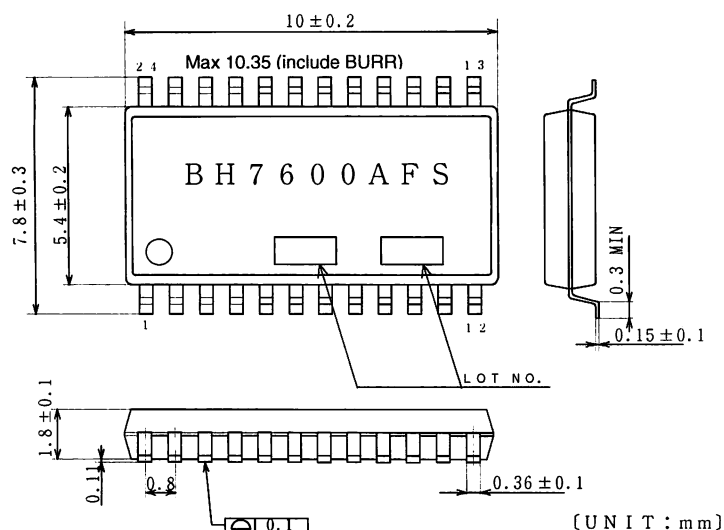
PKG : SSOP-A24

■ Block Diagram
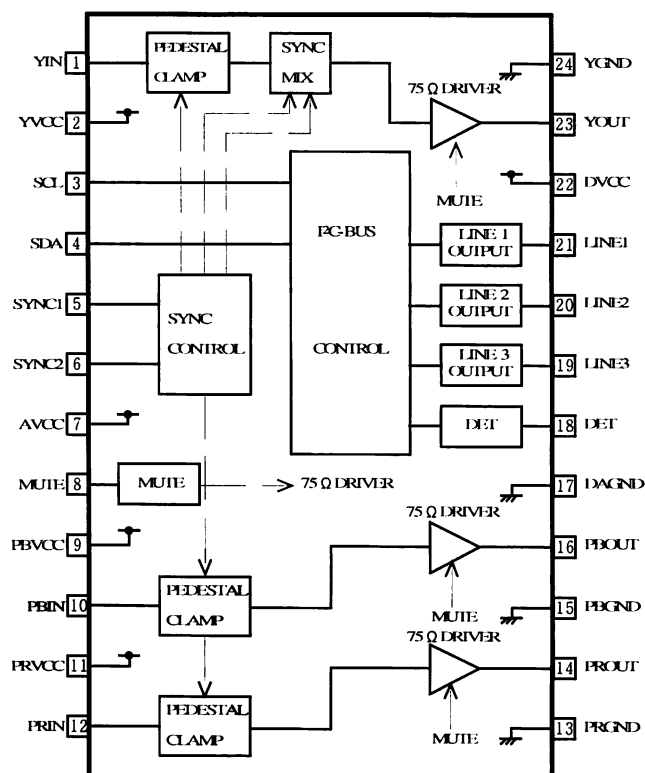
■ PIN number and Pin name

Pin No.	Pin Name	Pin No.	Pin Name
1	YIN	13	PRGND
2	YVCC	14	PROUT
3	SCL	15	PBGND
4	SDA	16	PBOUT
5	SYNC1	17	DAGND
6	SYNC2	18	DET
7	AVCC	19	LINE3
8	MUTE	20	LINE2
9	PBVCC	21	LINE1
10	PBIN	22	DVCC
11	PRVCC	23	YOUT
12	PRIN	24	YGND

■ Caution On Use

(1) Numbers and data in entries are representative design values and are not guaranteed values of the items.

(2) Absolute maximum ratings

If applied voltage, operating temperature range, or other absolute maximum ratings are exceeded, the LSI may be damaged. Do not apply voltages or temperatures that exceeded the absolute maximum ratings. If you think of a case in which absolute maximum ratings are exceeded, enforce fuses or other physical safety measures and investigate how not to apply the conditions under which absolute maximum ratings are exceeded to the LSI.

(3) GND potential

Make the GND pin voltage such that it is the lowest voltage even when operating below it. Actually confirm that the voltage of each pin does not become a lower voltage than the GND pin, including transient phenomena.

(4) Thermal design

Perform thermal design in which there are adequate margins by taking into account the allowable power dissipation in actual states of use.

(5) Shorts between pins and misinstallation

When mounting the LSI on a board, pay adequate attention to orientation and placement discrepancies of the LSI. If it is misinstalled and the power is turned on, the LSI may be damaged. It also may be damaged if it is shorted by a foreign substance coming between pins of the LSI or between a pin and a power supply or a pin and a GND.

(6) Operation in strong magnetic fields

Adequately evaluate use in a strong magnetic, since there is a possibility of malfunction.

(7) Supply voltage of operation

Although proper operation is guaranteed within the range of supply voltage (4.5V~5.5V) provided that each element functions properly and applied parameters are correct.

(8) Place the first resistor near the driver output of the IC.

(9) Place coupling capacitor near the pins as possible.

(10) VCC for this IC should use the same power source. And impedance should connect as well as possible for each VCC pin, for each GND pin.

Notes

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As of 18th. April 2005