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### **Technical Note**

## High performance video signal switcher Five inputs Dual Circuits Video Signal Switchers

No.11066EAT01

#### BA7626F, BA7626FS

#### Description

The BA7626F/FS is a 5-input video signal switching circuit with a broadband 6 dB amplifier that was developed for AV amplifier input switching. Just by devising a transistor buffer in the output, player switching of two VCR or other videotape players and three DVD players or other playback devices is possible. Moreover, input switching and switching of recording to a VCR or other device also can be performed independently. Since the input circuit of the BA7626F/FS is terminated by  $20k\Omega$  impedance, it is suited to not only video signal but also chroma signal or audio signal switching.

#### Features

- 1) 5 input line, 3 output line switching
- 2) Built-in 6 dB amplifier
- 3) 5V operating voltage
- 4)  $20k\Omega$  input impedance

#### Applications

AV amplifiers, Video selectors, etc.

#### •Line up matrix

Part No.	BA7626F	BA7626FS		
Package	SOP16	SSOP-A16		
Input type	Bias (R	=20kΩ)		

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

Paramete	Parameter		Ratings	Unit	
Supply voltage		Vcc	9	V	
Dowor dissinction	BA7626F	Pd	300 <sup>**1</sup>	mW	
Power dissipation	BA7626FS	Pu	600 <sup>**2</sup>	mvv	
Operating temperature	re	Topr	-25~+70	°C	
Storage temperature		Tstg	-55~+125	°C	

\*1 Derating is done at 3.0mW/°C above Ta=25°C.(BA7626F)

\*2 Derating is done at 6.0mW/°C above Ta=25°C.(BA7626FS)

#### ●Operating Range (Ta=25°C)

Parameter	Symbol		Ratings		Unit	
Falameter	Symbol	Min.	Тур. Мах.	Max.	Unit	
Power supply voltage	Vcc	4.5	5.0	5.5	V	

#### ●Electrical characQteristics (Unless otherwise noted Ta=25°C, Vcc=5.0V)

Deremeter			Limits		Linit	Conditions	
Parameter	Symbol	Min.	Тур.	Max.	Unit		
Circuit current	ICC	—	15.0	20.0	mA	_	
Maximum output level	Vom	2.3	2.5	—	Vp-p	f=1kHz, THD=0.5%	
Voltage gain	Gv	5.7	6.2	6.7	dB	f=1MHz, V <sub>IN</sub> =1Vp-p	
Interchannel crosstalk	GT	—	-65	-45	dB	f=4.43MHz, V <sub>IN</sub> =1Vp-p	
Mute level	СТМ	—	-35	-25	dB	f=4.43MHz, V <sub>IN</sub> =1Vp-p	
Frequency characteristic	G <sub>f</sub>	-3	0	+3	dB	10MHz/1MHz, V <sub>IN</sub> =1Vp-p	
Input inpedance	Z <sub>IN</sub>	16	20	24	kΩ	—	
CTL pin switching level	V <sub>TH</sub>	2.2	—	3.3	V	—	

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

#### •Truth table

	Input		Output	Input			Output	Input			Output
	mpar		Cutput		mput	-	Output		mput	1	Culput
А	В	Е	MONOUT	С	D	Е	VOUT1	С	D	Е	VOUT2
L	L	*	IN1	L	L	*	_	L	L	*	IN1
Н	L	*	IN2	Н	L	*	IN2	Н	L	*	_
L	Н	*	IN3	L	н	*	IN3	L	Н	*	IN3
Н	Н	L	IN4	Н	н	L	IN4	Н	Н	L	IN4
Н	Н	Н	IN5	Н	н	Н	IN5	н	Н	Н	IN5

※ Indicates "don't care"(H or L)

#### Block diagram

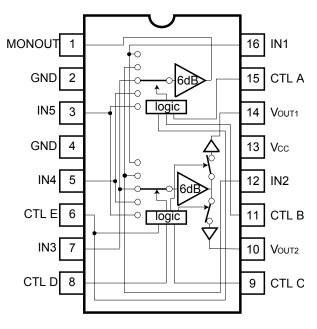
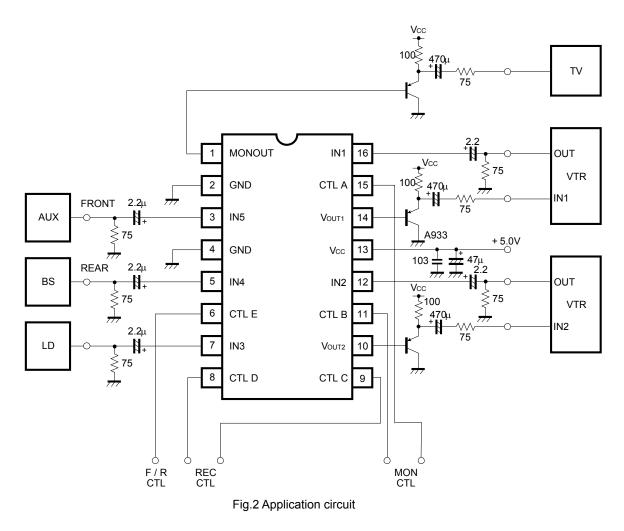


Fig.1 Block diagram

Application circuit



#### ●Pin descriptions (Ta=25°C, VCC=5V)

Pin No.	Pin name	Equivalent circuit
1 <sup>-</sup> 111 INU.		BA7626F/FS
3 5 7 12 16	IN5 IN4 IN3 IN2 IN1	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
6 8 9 11 15	CTL E CTL D CTL C CTL B CTL A	
1	MONOUT	Vcc
10 14	VOUT2 VOUT1	$V_{OC}$ $V_{OC}$ $V_{OC}$ $V_{OC}$ $V_{OC}$ $V_{OUT}$ $V_{OU}$ $V_{O$

#### Notes for use

- 1) Numbers and data in entries are representative design values and are not guaranteed values of the items.
- 2) Although we are confident in recommending the sample application circuits, carefully check their characteristics further when using them. When modifying externally attached component constants before use, determine them so that they have sufficient margins by taking into account variations in externally attached components and the Rohm LSI, not only for static characteristics but also including transient characteristics.
- 3) 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 exceed 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.

4) GND potential

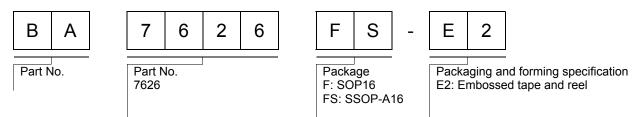
Make the GND pin voltage such that it is the lowest voltage even when operating below it. Actually confirm that the voltage of each pin does not become a lower voltage than the GND pin, including transient phenomena.

5) Thermal design

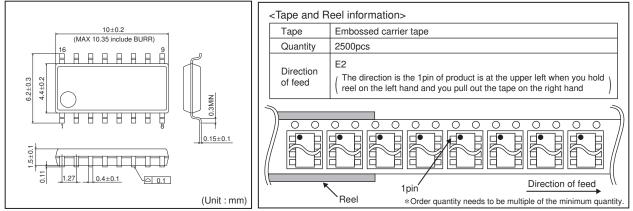
Perform thermal design in which there are adequate margins by taking into account the allowable power dissipation in actual states of use.

- 6) 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.
- 7) Operation in strong magnetic fields Adequately evaluate use in a strong magnetic field, since there is a possibility of malfunction.

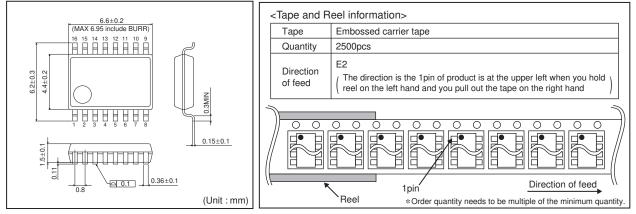
#### Ordering part number



#### SOP16



#### SSOP-A16



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