High-performance Video Driver Series

Y/C MIX Circuit built-in

Video Driver

Pb Free
ROHM Electronic Components

RoHS
Directive Compliance

BA7664AFV

No.09065EAT02

●**Description**

BA7664AFV is a 75Ω video driver, packaged in SSOP-B8, incorporating a 6dB amplifier, Y/C MIX circuit, sag compensation, and Mute function. This driver can drive two 75Ω loads. While the composite Y signal input is sync-tip-clamp, the chroma input has an internal termination at 20kΩ. The device also incorporates a power save circuit by activated when the output is under 0.2V.

●**Features**

1) A low consumption electric power movement
2) Built-in output mute circuit
3) Built-in power save circuit
4) Built-in output protection circuit
5) Low output coupling capacitor value can be used due to a built-in sag compensation circuit
6) The driver can have two loads (each channel)
7) Built-in Y/C MIX circuit

●**Applications**

DVD, DVC, DSC, STB, and visual instruments.

●**Absolute maximum ratings** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power Supply Voltage	Vcc	8	V
Power Dissipation	Pd	350 *1	mV
Operating Temperature Range	Topr	-25～+75	°C
Storage Temperature Range	Tstg	-55～+125	°C

*1 At the time of glass epoxy (FR-4) PCB mounting (70mm×70mm×1.6mm).
   Reduce by 3.5 mW/°C over 25°C

●**Operating range** (Ta=25°C)

Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage	Vcc	4.5	5.0	5.5	V

●Electrical characteristics

Electrical characteristics　(unless otherwise specified, Vcc=5V, Ta=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Circuit Current	I_{CC}	6.1	12.2	18.3	mA	No-signal
Maximum Output Level	V_{om}	2.6	3.0	-	V_{P-P}	f=1kHz,THD=1% V_{02}
Voltage Gain	G_V	-1.0	-0.2	0.6	dB	f=4.43MHz,1Vpp/V_{01}
Frequency Characteristics	G_F	-1.5	-0.5	0.5	dB	f=7MHz/1MHz,1V_{P-P}/V_{01}
MUTE Attenuation	M_T	-	-60	-	dB	f=4.43MHz,1V_{P-P}/V_{01}
Mute Threshold "H"	V_{THH}	2.2	-	VCC	V	-
Mute Threshold "L"	V_{THL}	0	-	0.7	V	-
Input Impedance	Z_{IN}	16	20	24	kΩ	Chroma input terminal
Supply Current in Mute	I_{MUTE}	-	1.3	2.6	mA	MUTEA "H"

Guaranteed design parameters　(unless otherwise specified, Vcc=5V, Ta=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Differential Gain	DG	-	1.0	2.0	%	V_{IN}=1V_{P-P} Standard staircase signal
Differential Phase	DP	-	0.5	2.0	DEG	V_{IN}=1V_{P-P} Standard staircase signal

●Block diagram / Application circuit
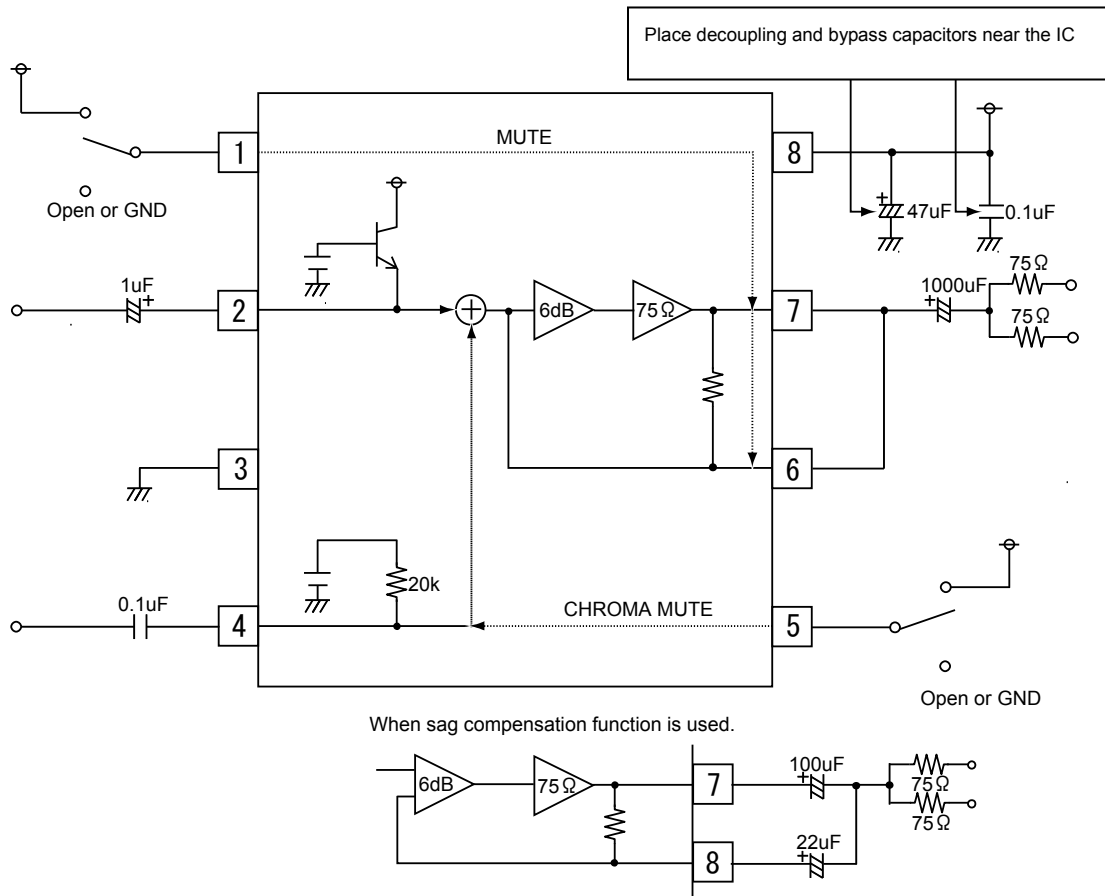
Fig.1

※ Make sure to take into account the tolerance characteristics of
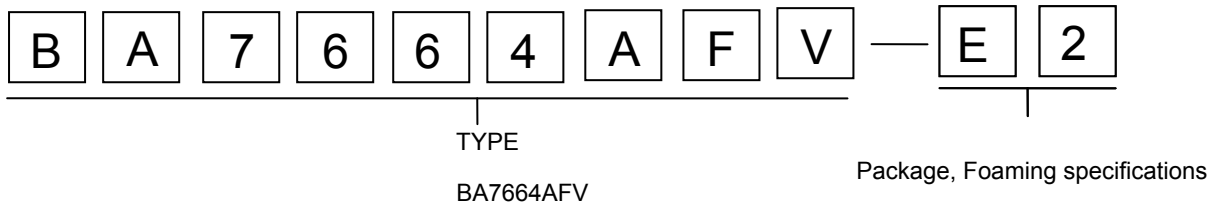the external components, as well as the IC power dissipation limits.

●**Equivalent circuit**

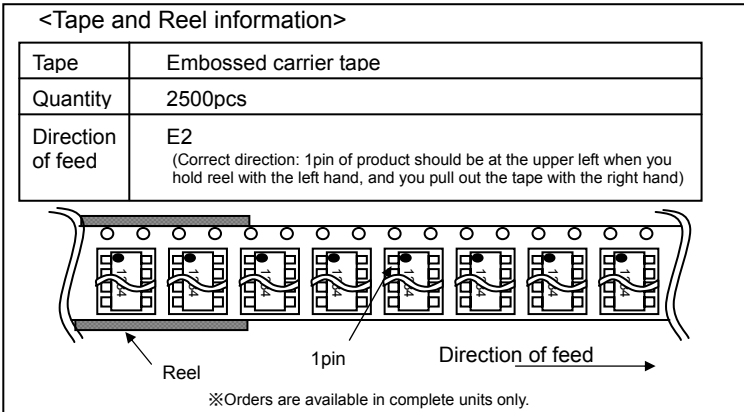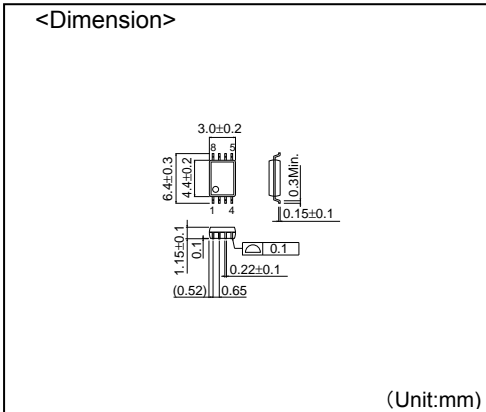| Pin.No	Pin name	IN	OUT	Voltage	Equivalent circuit	Function
1 5	MUTEA MUTEB	○	—	—		Mute control terminal Pin1 MUTEA - "H" = mute on Pin5 MUTEB - "H" = only chroma mute on
2	Y$_{IN}$	○	—	2.0V		Signal input terminal Sync-tip-clamp input for the composite Y signal.
3	GND	—	—	0V		Ground terminal
4	C$_{IN}$	○	—	2.0V		Signal input terminal This pin is a chroma signal input. Input terminal is 20kΩ.
6 7	MIXOUT2 MIXOUT1	—	○	0.9V 0.95V		Signal output terminal Pin7 is Y/C MIX signal output terminal. Power save mode is active when output is set under 0.2V. Pin6 is a sag compensator input.
8	V$_{CC}$	—	—	5.0V		Power supply terminal

●**Cautions on use**

1. Numbers and data in entries are representative design values and are not guaranteed values of the items.
2. Although ROHM is confident that the example application circuit reflects the best possible recommendations, be sure to verify circuit characteristics for your particular application. Modification of constants for other externally connected circuits may cause variations in both static and transient characteristics for external components as well as this ROHM IC. Allow for sufficient margins when determining circuit constants.
3. Absolute maximum ratings
   Use of the IC in excess of absolute maximum ratings, such as the applied voltage or operating temperature range (Topr), may result in IC damage. Assumptions should not be made regarding the state of the IC (short mode or open mode) when such damage is suffered. A physical safety measure, such as a fuse, should be implemented when using the IC at times where the absolute maximum ratings may be exceeded.
4. GND potential
   Ensure a minimum GND pin potential in all operating conditions. Make sure that no pins are at a voltage below the GND at any time, regardless of whether it is a transient signal or not.
5. Thermal design
   Perform thermal design, in which there are adequate margins, by taking into account the permissible dissipation (Pd) in actual states of use.
6. Short circuit between terminals and erroneous mounting
   Pay attention to the assembly direction of the ICs. Wrong mounting direction or shorts between terminals, GND, or other components on the circuits, can damage the IC.
7. Operation in strong electromagnetic field
   Using the ICs in a strong electromagnetic field can cause operation malfunction.

●**Selection of order type**

| B | A | 7 | 6 | 6 | 4 | A | F | V | ― | E | 2 |

TYPE

BA7664AFV

Package, Foaming specifications

SSOP-B8

<Dimension>	<Tape and Reel information>

<Tape and Reel information>

Tape	Embossed carrier tape
Quantity	2500pcs
Direction of feed	E2 (Correct direction: 1pin of product should be at the upper left when you hold reel with the left hand, and you pull out the tape with the right hand)

<Dimension> (Unit:mm)

3.0±0.2
6.4±0.3
4.4±0.2
0.3Min.
0.15±0.1
1.15±0.1
0.1
0.1
0.22±0.1
(0.52)
0.65

Reel   1pin   Direction of feed

※Orders are available in complete units only.

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