

Video signal switcher with test pattern generator

BA7024

The BA7024 is a switching IC with built-in test-signal generator developed for use in VCRs. A frequency divider is used to divide a 500kHz reference signal and produce the horizontal synchronization signal and white signal. The test pattern image is two white lines on a black background.

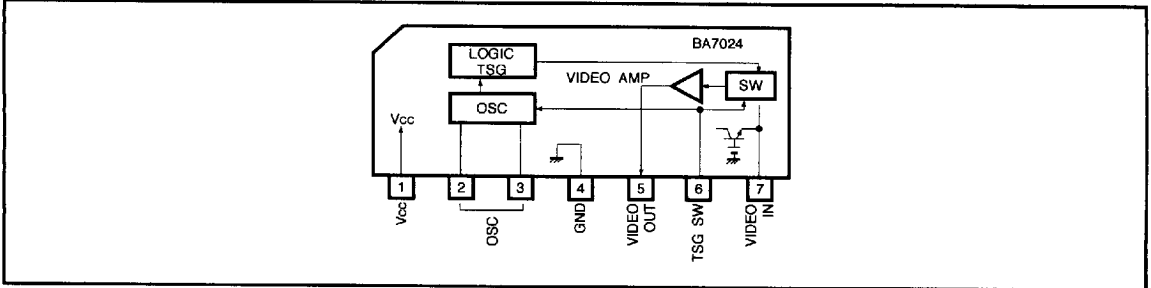
●Applications

Video cassette recorders

●Features

- 1)TSG generator circuit and video signal switch on one chip.
- 2)5V power supply.
- 3)Small 7-pin SIP package.

●Block diagram



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	Vcc	8.0	V
Power dissipation	Pd	400 *	mW
Operating temperature	Topr	-25~60	°C
Storage temperature	Tstg	-55~125	°C

* Reduced by 4.0mW for each increase in Ta of 1°C over 25°C.

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●Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	V _{CC}	4.5	5.0	6.0	V

●Electrical characteristics (Unless otherwise specified Ta=25°C and V_{CC}=5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	Measurement circuit
Circuit current	I _{CC}	—	7.5	11.5	mA	E _b =3V, TSG operating	Fig.1
<Video amplifier>							
Voltage gain	G _v	-0.5	0	0.5	dB	f=1MHz, V _{IN} =2V _{P-P}	Fig.1
Frequency characteristic	F	-0.5	0	0.5	dB	f=1~5MHz	Fig.1
Crosstalk	CT	-40	-55	—	dB	TSG mode, V block oscillation stopped, E _b =3V	Fig.1
<TSG>							
V/S ratio	V / S	7 / 3	6.5 / 3.5	6 / 4	—	E _b =3V	Fig.1
Peak level	V _{TSG}	0.84	0.92	1.04	V	E _b =3V	Fig.1

●Measurement circuit

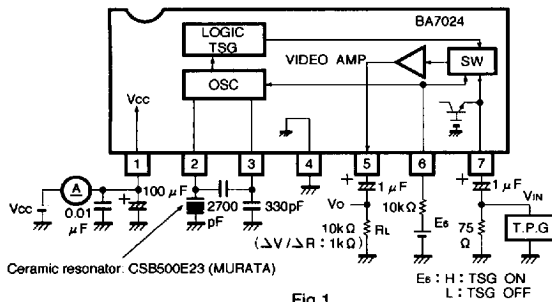


Fig.1

●Application example

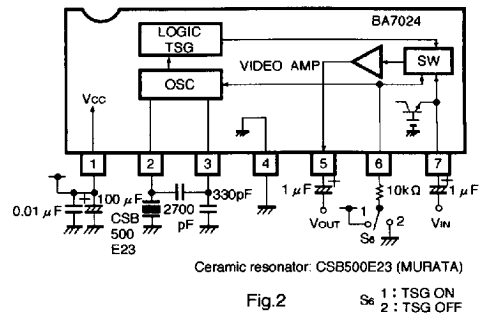
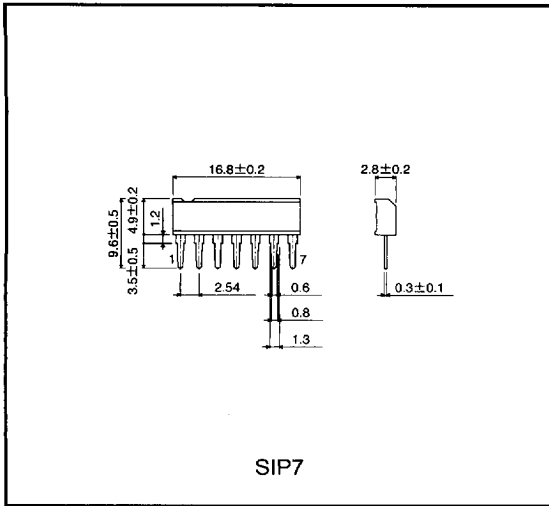


Fig.2

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● External dimensions (Units: mm)



VCR components Test pattern generator