

# 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.

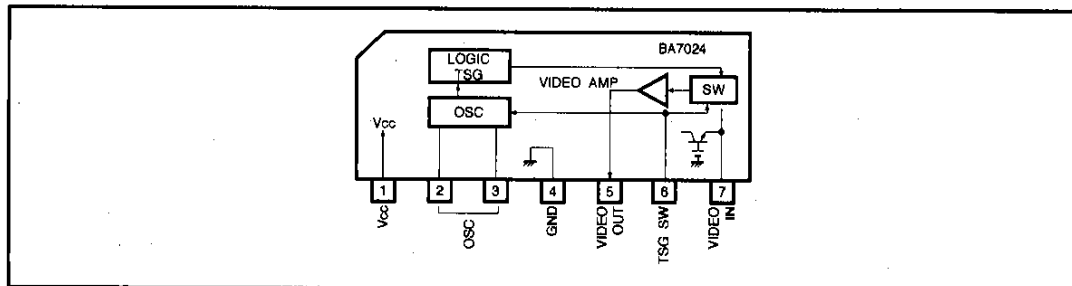
### ● Applications

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	V <sub>cc</sub>	8.0	V
Power dissipation	P <sub>d</sub>	400 *	mW
Operating temperature	T <sub>opr</sub>	-25~60	°C
Storage temperature	T <sub>stg</sub>	-55~125	°C

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

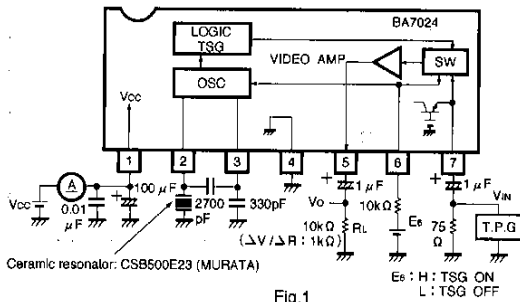
● Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	V <sub>CC</sub>	4.5	5.0	6.0	V

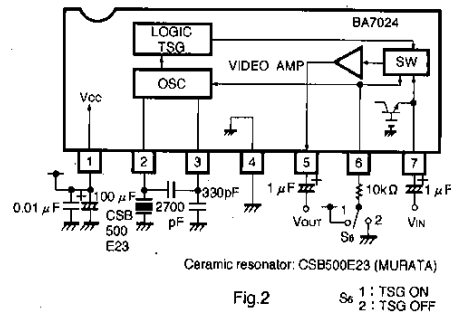
● Electrical characteristics (Unless otherwise specified Ta=25°C and V<sub>CC</sub>=5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	Measurement circuit
Circuit current	I <sub>CC</sub>	—	7.5	11.5	mA	E <sub>b</sub> =3V, TSG operating	Fig.1
<Video amplifier>							
Voltage gain	G <sub>v</sub>	-0.5	0	0.5	dB	f=1MHz, V <sub>IN</sub> =2V <sub>P-P</sub>	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 <sub>b</sub> =3V	Fig.1
<TSG>							
V/S ratio	V / S	7 / 3	6.5 / 3.5	6 / 4	—	E <sub>b</sub> =3V	Fig.1
Peak level	V <sub>TSG</sub>	0.84	0.92	1.04	V	E <sub>b</sub> =3V	Fig.1

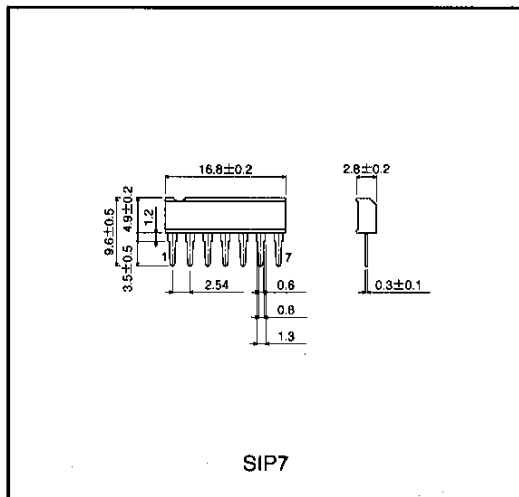
● Measurement circuit



● Application example



## ● External dimensions (Units: mm)



Test pattern generator

VCR components