

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 black background.

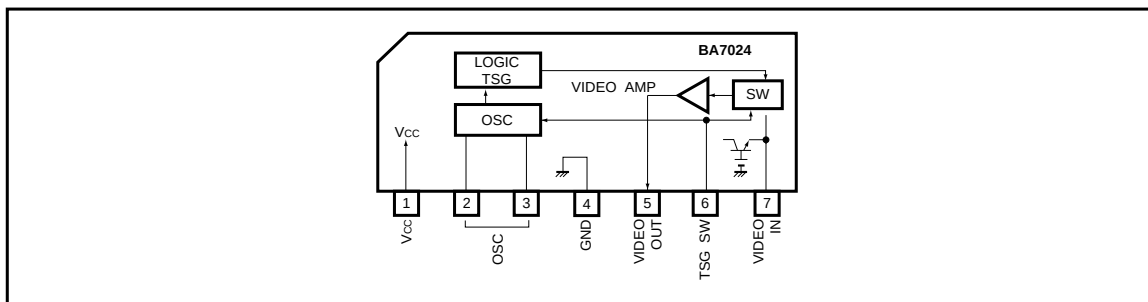
●Applications

Video cassette recorders

●Features

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

●Block diagram



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V _{CC}	8.0	V
Power dissipation	P _d	400*	mW
Operating temperature	T _{opr}	- 25 ~ + 60	°C
Storage temperature	T _{stg}	- 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 _{CC}	4.5	5.0	6.0	V

●Electrical characteristics (unless otherwise noted, Ta = 25°C and V_{CC} = 5V)

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

●Measurement circuit

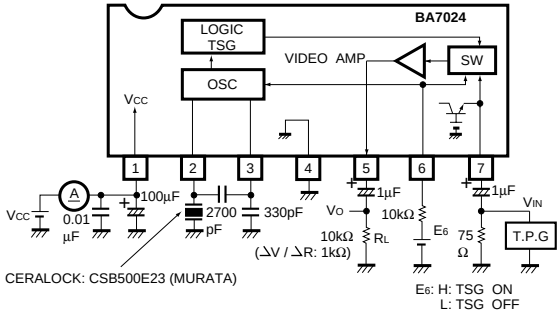


Fig.1

●Application example

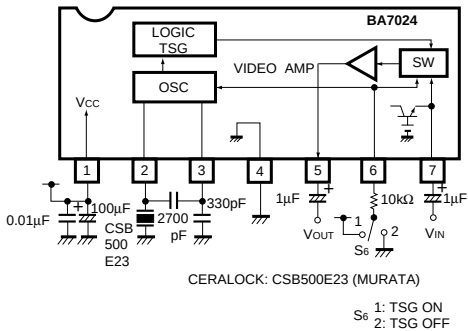
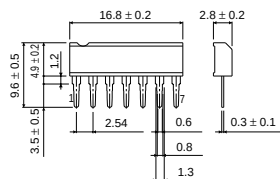


Fig.2

● External dimensions (Units: mm)



SIP7