

AN6327, AN6327S

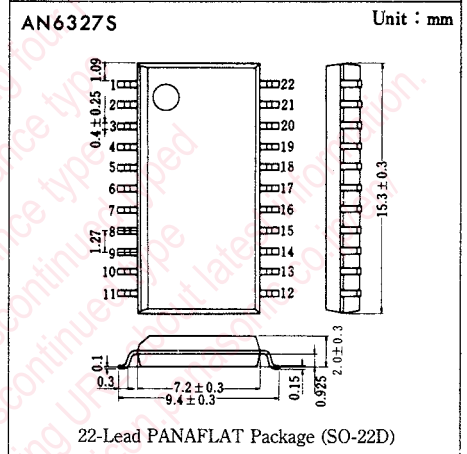
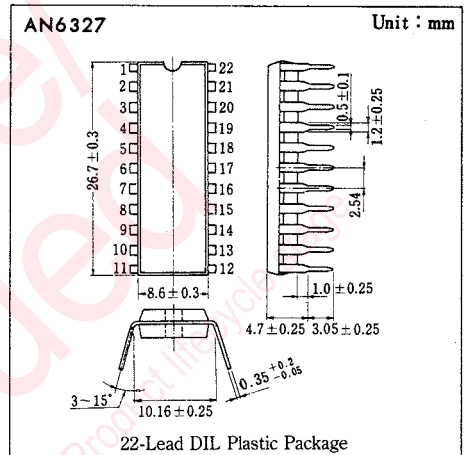
VTR Playback Video Signal Processing

■ Outline

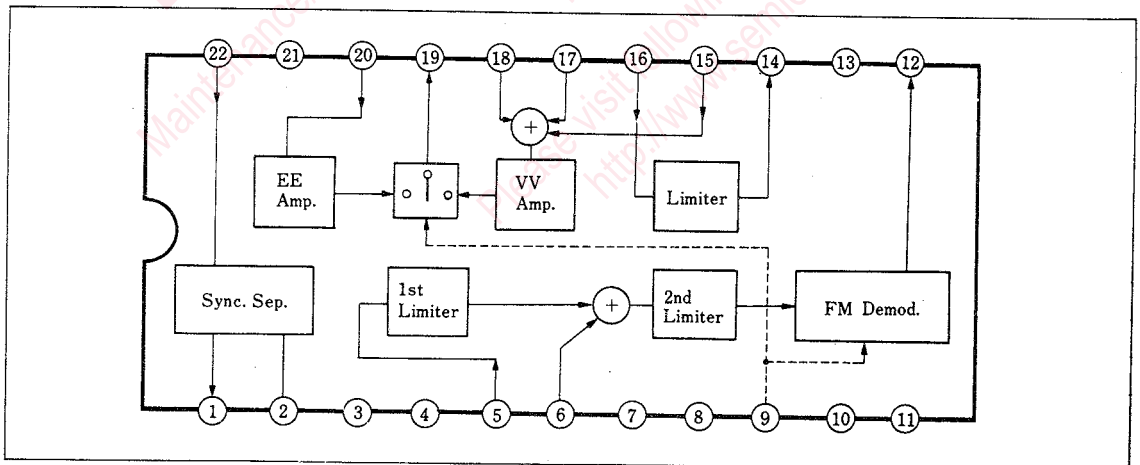
The AN6327 and the AN6327S are integrated circuits designed for Playback Video Signal processing.

■ Features

- The functions consist of :
 - FM demodulator
 - Noise-canceller circuit
 - Mixer-amplifier circuit
 - Syncho signal separator
- Supply voltage : 5V



■ Block Diagram



■ Pin


Pin No.	Pin Name	Pin No.	Pin Name
1	Sync. Sep. Output	12	FM-Demod. Output
2	Sync. Sep. Peak Det.	13	V _{cc}
3	FM-Sub Limiter	(1) 14	Noise Canceller Output
4	Capacitance	(2) 15	Noise Canceller Mix. Amp.
5	FM-Sub Limiter Input	16	Noise Canceller Input
6	FM-Main Limiter Input	17	Video Amp. Color Input
7	FM-Main Limiter	(1) 18	Video Amp. Y Input
8	Capacitance	(2) 19	Video Output
9	Mode Select	20	E-EAmp. Input
10	FM-Demod.	(1) 21	GND
11	Capacitance	(2) 22	Sync. Sep. Input.

■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply voltage	V _{cc}	6.0	V
Power dissipation (Ta=70°C)	AN6327 AN6327S P _D	380 270*	mW
Operating ambient temperature	T _{opr}	-20~+70	°C
Storage temperature	AN6327 AN6327S T _{stg}	-55~+150 -40~+125	°C

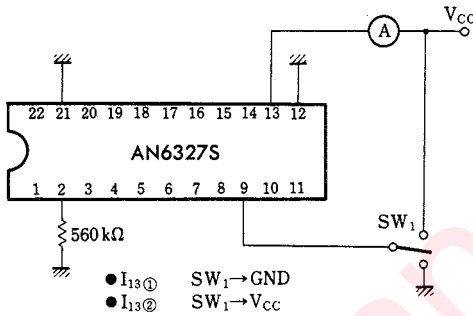
* Indicates a package capability.

■ Electrical Characteristics (V_{cc}=5V, Ta=25°C±2°C)

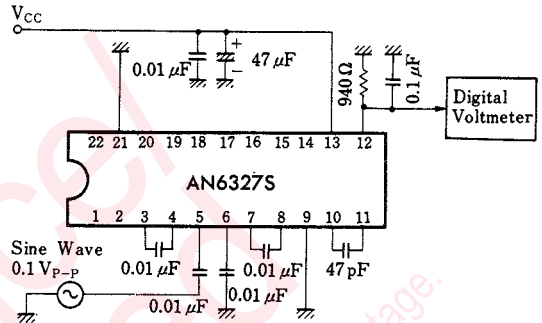
Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Circuit current(1)	I _{13①}	1	Pin⑨GND (V-V mode)	35		65	mA
Circuit current(2)	I _{13②}	1	Pin⑨V _{cc} (E-E mode)	20		40	mA
Demodulator detection sensitivity	S ₁₂	2	C=47pF, R ₁₂ =900Ω, f=3.5~4.5MHz	80		140	mV/MHz
Demodulator detection limit	f _(lim)	2	C=47pF, 0.1V _{P-P} input	7.0			dB
Demodulator carrier leak(1)	CL ₁₂₋₁	3	C=47pF, 4MHz, 0.1V _{P-P} input			-30	dB
Demodulator carrier leak(2)	CL ₁₂₋₂	4	C=47pF, 4MHz, 0.2V _{P-P} input			-30	dB
Video amplifier gain	G _{V18-18}	5	100kHz, 1.2V _{P-P} input	3.2		6.4	dB
Chroma amplifier gain	G _{V17-18}	6	3.6MHz, 0.4V _{P-P} input	7.7		10.8	dB
Noise canceller mix amp. gain	G _{V15-18}	7	1MHz, 0.7V _{P-P} input	-10.8		-7.2	dB
Noise canceller amp. gain	G _{V16-14}	7	1MHz, 30mV _{P-P} input	18.2		21.8	dB
Noise canceller output amplitude	v _{O14}	7	1MHz, 0.7V _{P-P} input	0.5		0.83	V _{P-P}
E-E amp. gain	G _{V20-19}	6	100kHz, 0.7V _{P-P} input	7.9		11.5	dB
Sync. sep. input sensitivity	S ₂₂	8	Video input V/S ratio 5:2	0.4			V _{P-P}
Sync. sep. output amplitude	v _{O1}	8		3.0		4.6	V _{P-P}
E-E/V-V select sensitivity	S ₉₋₁	9	STB>V-V			0.8	V
Input sensitivity (STB)	S ₉₋₂	9		2.2		2.8	V
Muting sensitivity	S ₁₇	10				0.8	V
E-E/V-V cross talk	CT ₁₉₋₁	9	Pin⑩input, 3MHz, 0.7V _{P-P}			-40	dB
Muting cross talk	CT ₁₉₋₂	10	Pin⑩input, 1MHz, 1.2V _{P-P}			-40	dB

Note) Operating supply voltage range

Test Circuit 1 ($I_{13①}$, $I_{13②}$)

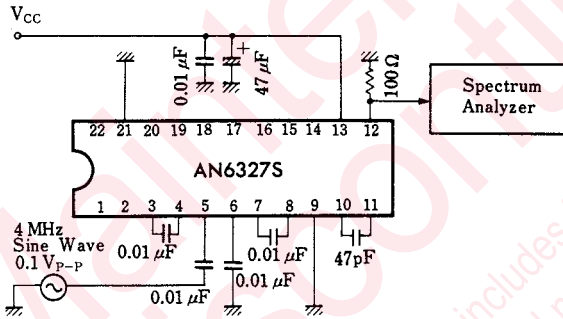


Test Circuit 2 (S_{12} , $f_{(lim)}$)



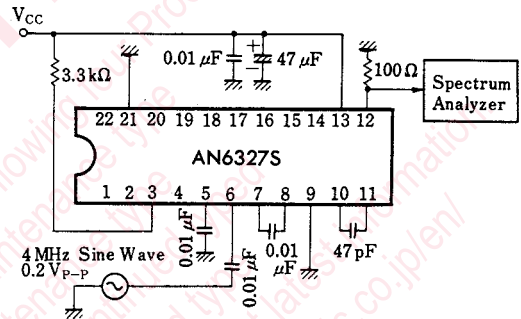
- S_{12} Pin⑫ output difference between Pin⑤ input of 3.5MHz and 4.5MHz
- $f_{(lim)12}$ Pin⑤ input frequency at which Pin⑫ output is turned linear

Test Circuit 3 (CL_{12-1})



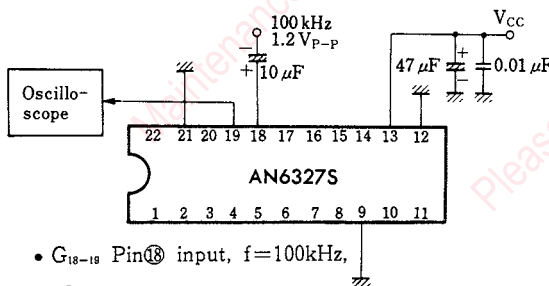
- CL_{12-1} 4 MHz to Pin⑫ 8MHz

Test Circuit 4 (CL_{12-2})



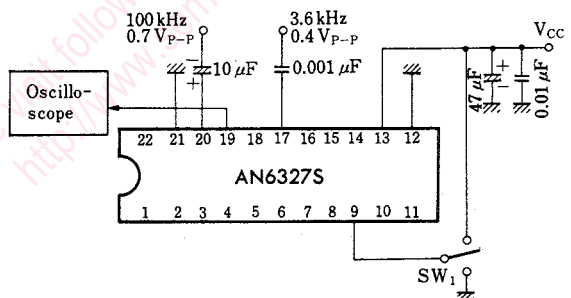
- CL_{12-2} Measure a 4MHz component to 8MHz.

Test Circuit 5 (G_{V18-19})



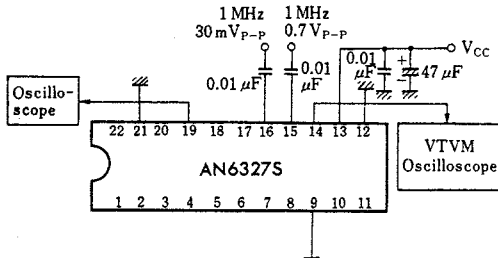
- G_{V18-19} Pin⑱ input, $f=100kHz$, 1.2Vp-p

Test Circuit 6 (G_{V17-19} , G_{V20-19})



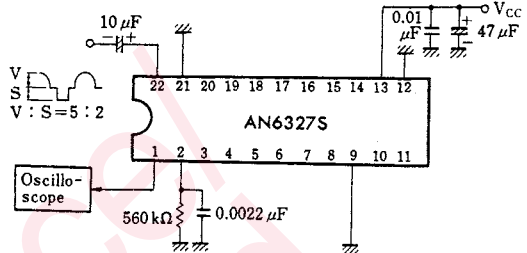
- G_{V17-19} Pin⑰ input $f=3.6MHz$, 0.4Vp-p (SW₁ → GND)
- G_{V20-19} Pin⑳ input $f=100kHz$, 0.7Vp-p (SW₁ → V_{CC})

Test Circuit 7 (G_{V15-19}, G_{V16-14}, v₀₁₄)



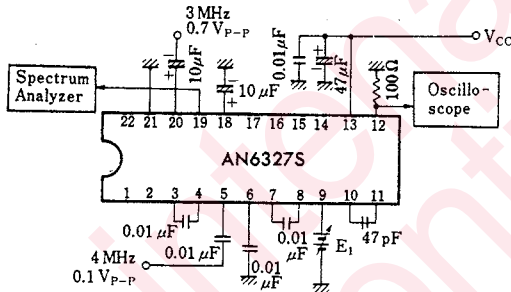
- G_{V15-14} Pin 15 input f=1MHz, 0.7V_{p-p}
- G_{V16-14} Pin 16 input f=1MHz, 30mV_{p-p}
- v₀ Pin 16 input f=1MHz, 0.7V_{p-p}

Test Circuit 8 (S₂₂, v₀₁)



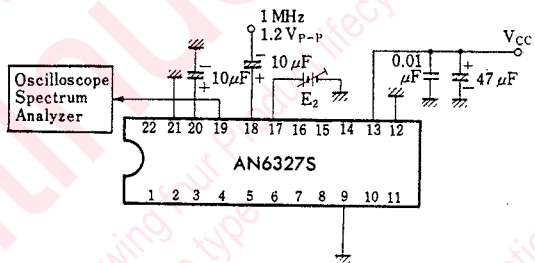
- S₂₂ Lowest input level at which V-Sync. can be separated with Pin 1 output (Pin 2)
- v₀₁ Input a video signal of 1.2 V_{p-p} to the Pin 2.

Test Circuit 9 (S₉₋₁, S₉₋₂, CT₁₉₋₁)



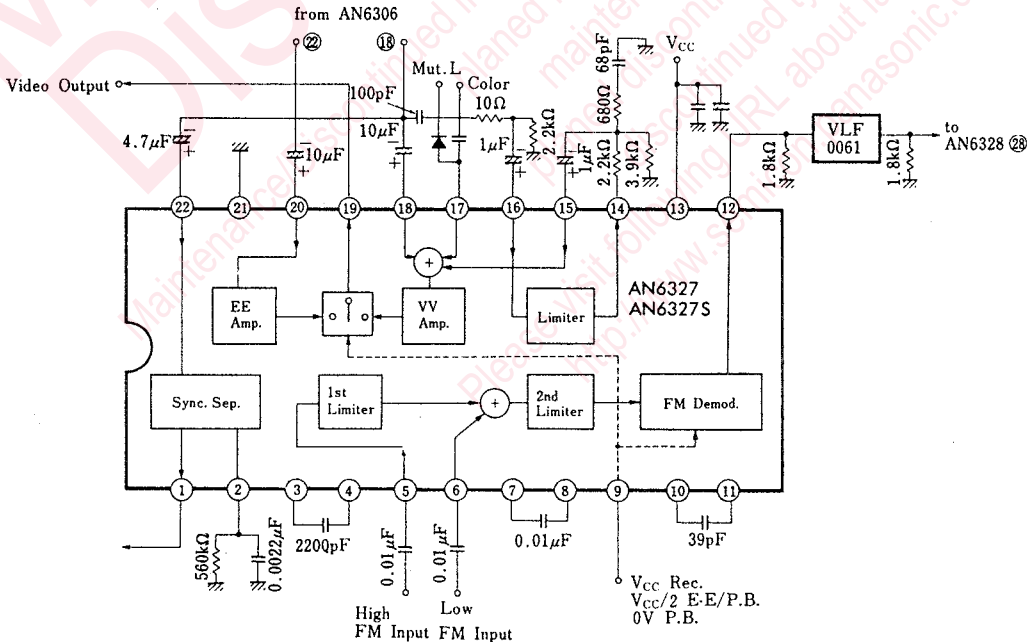
- S₉₋₁ Pin 9 voltage when Pin 19 output goes off
- S₉₋₂ Pin 9 voltage range when a signal is output to the Pins 19 and 12
- CT₁₉₋₁ Pin 9 output level when Pin 9 is GND

Test Circuit 10 (S₁₇, CT₁₉₋₂)



- S₁₇ Pin 17 voltage when Pin 19 output goes off
- CT₁₉₋₂ Pin 19 output level when Pin 17 is GND

Application Circuit



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