

AN3131

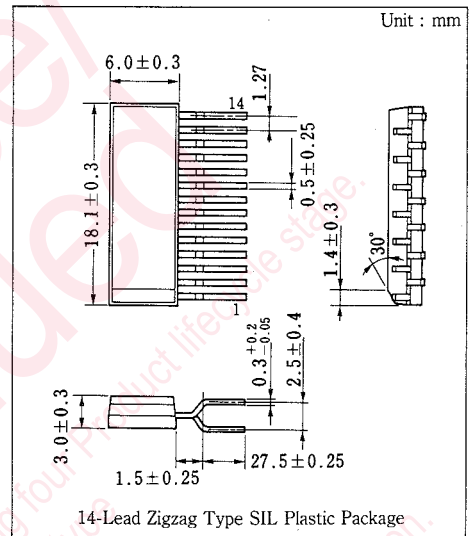
RF Converter Circuit

■ Outline

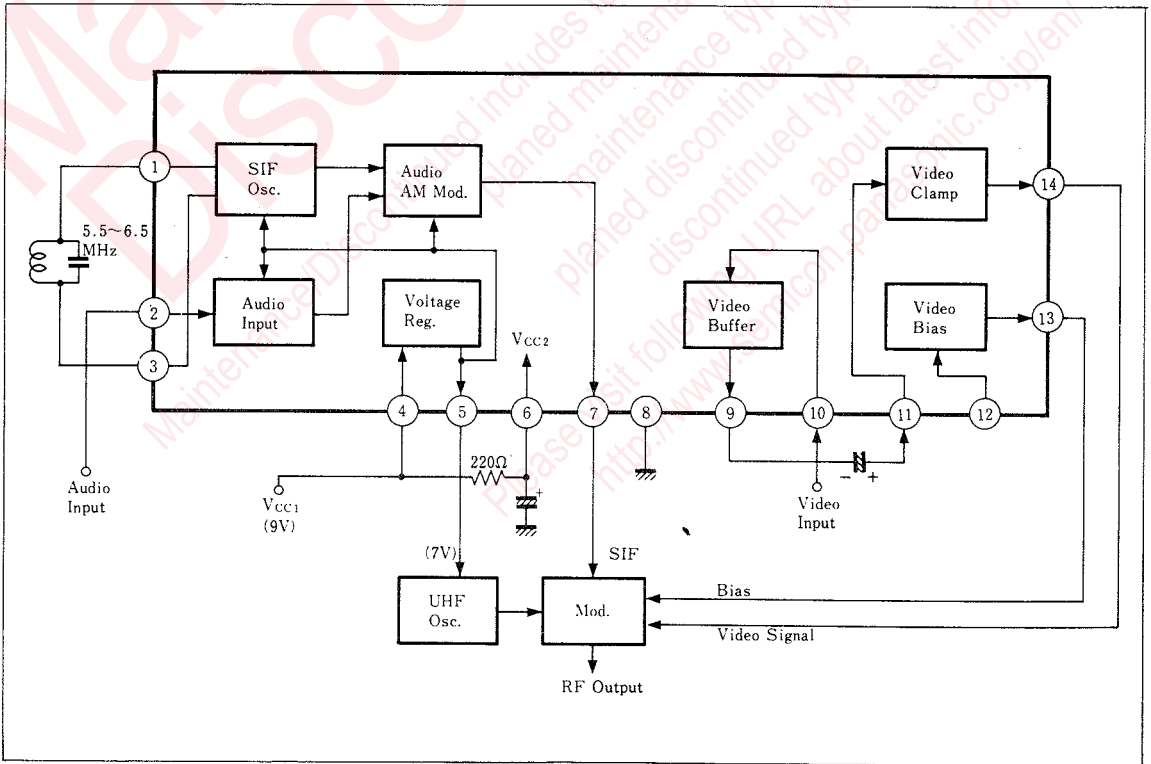
The AN3131 is an integrated circuit designed for an RF converter intended for a SECAM region.

■ Features

- Incorporating a video buffer amp., sync is not shortened.
- Voltage regulator
- Variable video bias is supplied.



■ Block Diagram



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	SIF Osc. (1)	8	GND
2	Audio Input	9	Video Buffer Output
3	SIF Osc. (2)	10	Video Input
4	Vcc1	11	Video Clamp Input
5	Voltage Reg. Output	12	Video Bias. Adj.
6	Vcc2	13	Video Bias Output
7	SIF Output	14	Video Output

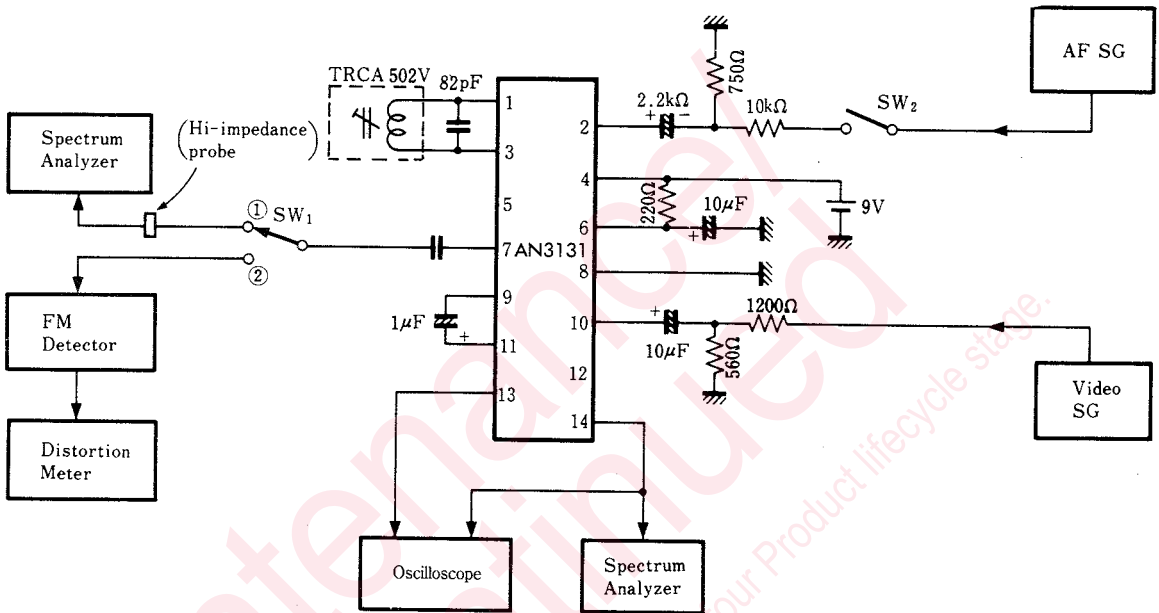
■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	12	V
Supply current	I _{CC}	50	mA
Power dissipation	P _D	600	mW
Operating ambient temperature	T _{opr}	-20~+70	°C
Storage temperature	T _{stg}	-55~+150	°C

■ Electrical Characteristics (Vcc=9V, Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Supply current	I _{CC}	1		13	17	22	mA
Stabilized power output	V ₅	1		6.5	7.0	7.5	V
Stabilized power stability	ΔV ₅	1	V _{CC} =8.0~10.0V	-0.2		+0.2	V
Video modulation degree	m	1	Pin② pin Open	82.5	87.5	92.5	%
Video output amplitude	v _O	1	V _{in} =0.6V _{p-p}	0.58	0.60	0.62	V _{p-p}
Sync. distortion	Sync	1		-3.0		0	%
Sag	Sug	1		-4		+4	%
SIF frequency	f _S	1		6.40	6.50	6.60	MHz
SIF output level	V _{SIF}	1	Pin⑦ Open	107	109	111	dBμ
Sound AM modulation sensitivity	m _S	1		45	50	55	%
Sound AM modulation distortion	THD	1	m _S =50%			1.0	%

Test Circuit 1



Measuring Conditions List

Item	Input Condition		Measuring Method	SW	
	Video SG	AF SG		1	2
m	10-step wave 2V _{P-P}	—	$m = b/a \times 100$ $V_O = b$	—	—
V _O	10-step wave 2V _{P-P}	—		—	—
Sync	S/V=3/7 2V _{P-P}	—	Sync. distortion = $\frac{1}{3} (7 \cdot \frac{\text{Sync.}}{\text{Video}} - 3) \times 100$	—	—
Sug	Square wave 2V _{P-P}	—	Sag = $\frac{\text{Sag}}{\text{Total amplitude}} \times 100$	—	—
f _s	—	—	Measure the output signal frequency of the Pin ⑦.	①	—
V _{SIF}	—	—	Measure a 6.5 MHz output level with a spectrum analyzer.	①	—
m _s	—	400Hz 0.5V _{rms}	Read a modulation degree.	②	ON
THD	—	400Hz 0.5V _{rms}	Measure with a distortion gauge.	②	ON

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