

AN3125

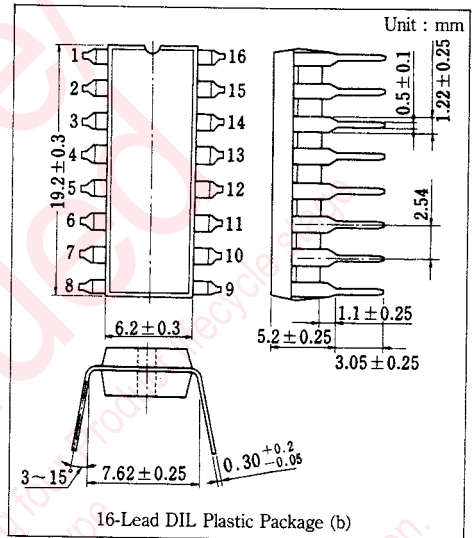
RF Converter Circuit

■ Outline

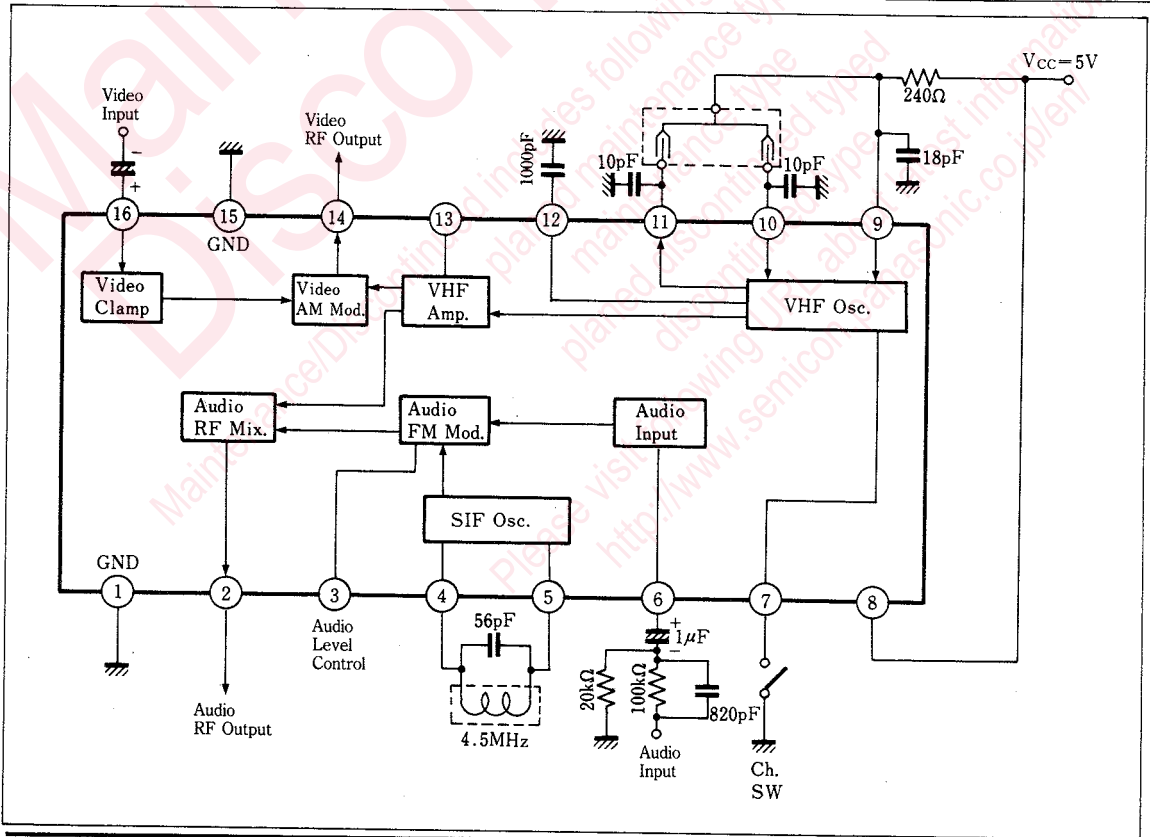
The AN3125 is an integrated circuit designed for VHF band RF converter.

■ Features

- Audio output power increases rapidly.
- Few parts required.
- Incorporates a voltage regulator.



■ Block Diagram



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	9	VHF Osc. Collector
2	Audio RF Output	10	VHF Osc. Base (1)
3	Audio Level Control	11	VHF Osc. Base (2)
4	SIF Osc. (1)	12	VHF Osc. Emitter
5	SIF Osc. (2)	13	VHF Amp. By-pass
6	Audio Input	14	Video RF Output
7	Ch. SW.	15	GND
8	Vcc	16	Video Input

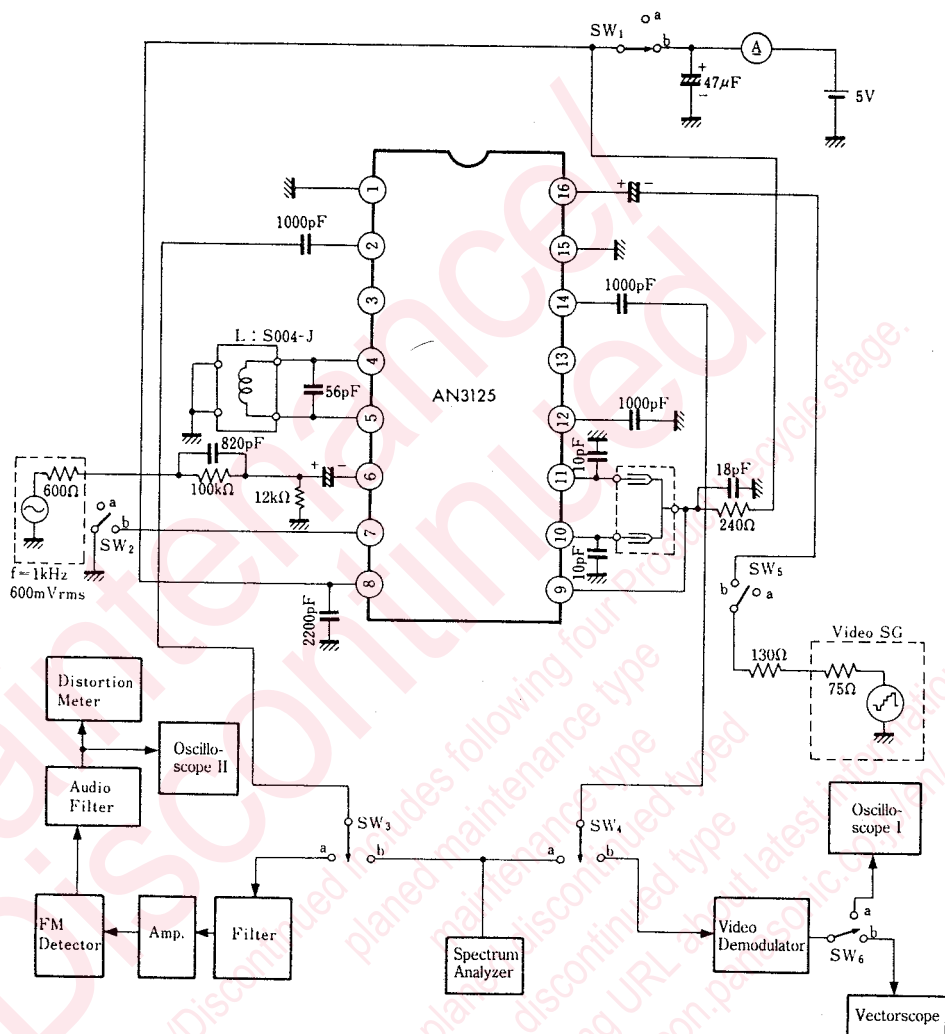
■ Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	6	V
Supply current	I _{CC}	42	mA
Power dissipation	P _D	250	mW
Operating ambient temperature	T _{opr}	-20~+75	°C
Storage temperature	T _{stg}	-55~+150	°C

■ Electrical Characteristics (Ta = 25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Supply current	I _{CC}	1		16	21	27	mA
Video carrier wave output level	V _P	1		84	86	88	dBμ
Max. video modulation degree	m _{max.}	1		90	95		%
Video modulation degree	m	1	V _{in} = 0.6V _{P-P}	63		83	%
Sync. distortion	Sync	1		-8.5		+4	%
Differential gain	DG	1	m = 75%	-5		+5	%
Differential phase	DP	1	m = 75%	-5		+5	deg
Video modulation degree inter-channel difference	Δm	1		-3		+3	%
Sound sub-carrier wave output level	V _S	1	Pin③ Open	82.5		86.5	dBμ
Sound FM modulation sensitivity	Δf _{FM}	1	A _{in} = 600mV _{rms} , 1kHz	±17.5	±22.5	±32.5	kHz
Sound S/N ratio	SN _S	1		55			dB

Test Circuit 1



Measuring Conditions List

Item	Switch Operation						Measuring Instrument
	SW1	SW2	SW3	SW4	SW5	SW6	
I_{CC}	b	a/b	-	-	-	-	DC ammeter
V_P	b	b	a	a	b	-	Spectrum analyzer
m_{max}	b	b	a	a	b	-	Spectrum analyzer
m	b	b	a	a	b	-	Spectrum analyzer
Sync	b	b	-	b	b	a	Oscilloscope I
DG	b	b	-	b	b	b	Vectorscope
DP	b	b	-	b	b	b	Vectorscope
Δm	b	a/b	a	a	b	-	Spectrum analyzer
V_S	b	b	b	a	a	-	Spectrum analyzer
Δf_{FM}	b	b	a	-	a	-	FM linear detector
SN_S	b	b	a	-	-	-	Oscilloscope II

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