AN3133K

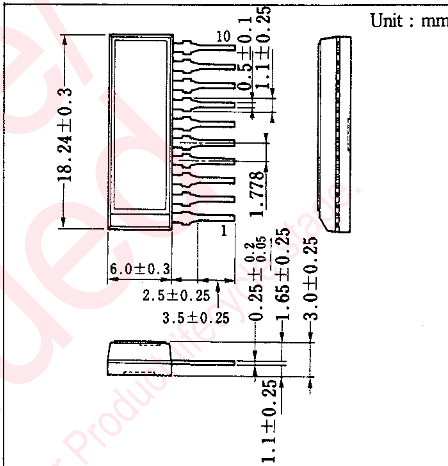
RF Converter Circuit

■ Outline

The AN3133K is an integrated circuit designed for an RF converter intended for a PAL region.

■ Features

- Supply voltage : 5V
- White clip circuit.
- Variable video bias is supplied from outside the IC.

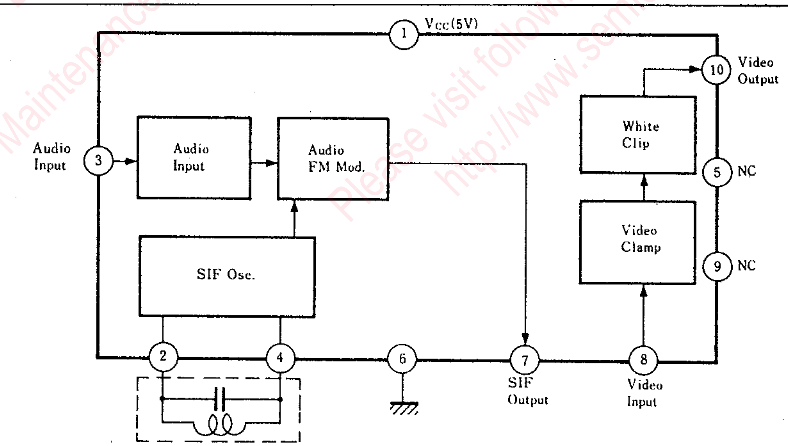


10-Lead Shrunk SIL Plastic Package

■ Pin

Pin No.	Pin Name
1	Vcc
2	SIF Osc. (1)
3	Audio Input
4	SIF Osc. (2)
5	NC
6	GND
7	SIF Output
8	Video Input
9	NC
10	Video Output

■ Block Diagram



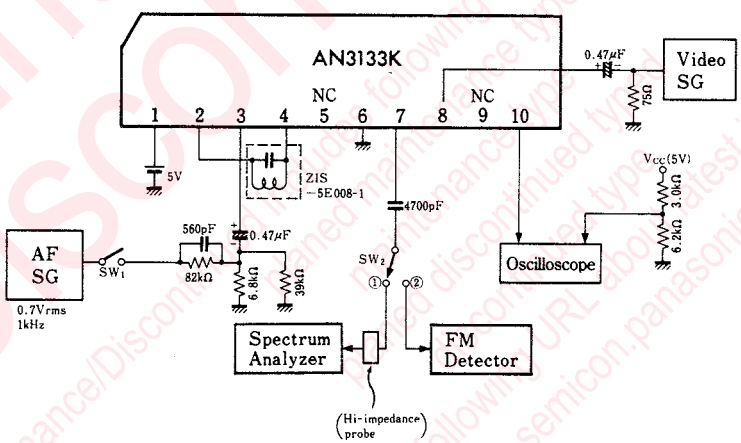
■ Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Rating	Unit
Supply voltage	V_{CC}	6	V
Supply current	I_{CC}	20	mA
Power dissipation	P_D	120	mW
Operating ambient temperature	T_{opr}	−20~+70	℃
Storage temperature	T_{stg}	−55~+150	℃

■ Electrical Characteristics (Ta=25℃)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Supply current	I_{CC}	1		9.5	12.5	16.5	mA
Video output amplitude	v_O	1	$V_{in}=1V_{p-p}$	0.96	1.0	1.03	V_{p-p}
Max. video output amplitude	$v_{Omax.}$	1	$V_{in}=2V_{p-p}$	1.19	1.23	1.29	V_{p-p}
Differential gain	DG	1	$V_{in}=1V_{p-p}$	−3		+3	%
Differential phase	DP	1	$V_{in}=1V_{p-p}$	−3		+3	deg
Video clamp voltage	V_C	1	$V_{in}=1V_{p-p}$	2.04	2.24	2.44	V
SIF frequency	f_S	1		5.40	5.50	5.60	MHz
SIF output level	V_S	1	Pin⑦ Open	108	109	110	dBμ
Sound FM modulation sensitivity	Δf_{FM}	1	Ain 0.7V_{rms}, 1kHz	±35	±50	±65	kHz

Test Circuit 1



Measuring Conditions List

Item	Input Condition		Measuring Method	SW	
	Video SG	AF SG		1	2
Vo	10-step wave, 1 V_{P-P}	—	Measure with an oscilloscope.	—	—
Vo_{max}	10-step wave, 2 V_{P-P}	—	Measure with an oscilloscope.	—	—
DG	10-step wave, 1 V_{P-P}	—	Read with a vectorscope.	—	—
DP	10-step wave, 1 V_{P-P}	—	Read with a vectorscope.	—	—
Vc	10-step wave, 1 V_{P-P}	—	Measure with an oscilloscope.	—	—
fs	—	—	Measure with a spectrum analyzer.	—	①
Vs	—	—	Measure with a spectrum analyzer.	—	①
Δf_{FM}	—	0.7Vrms, 1 kHz	Read a modulation degree.	ON	②

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