

AN3916

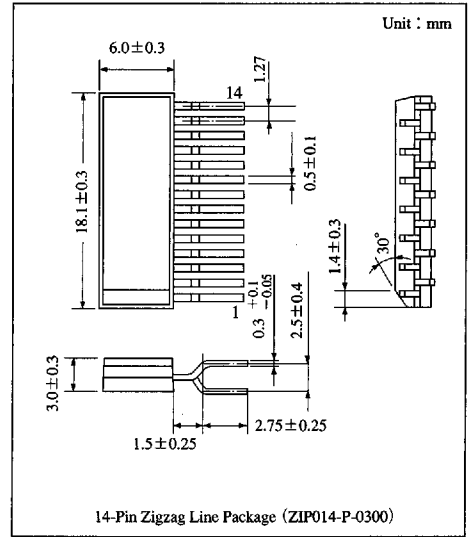
Video AGC IC

Overview

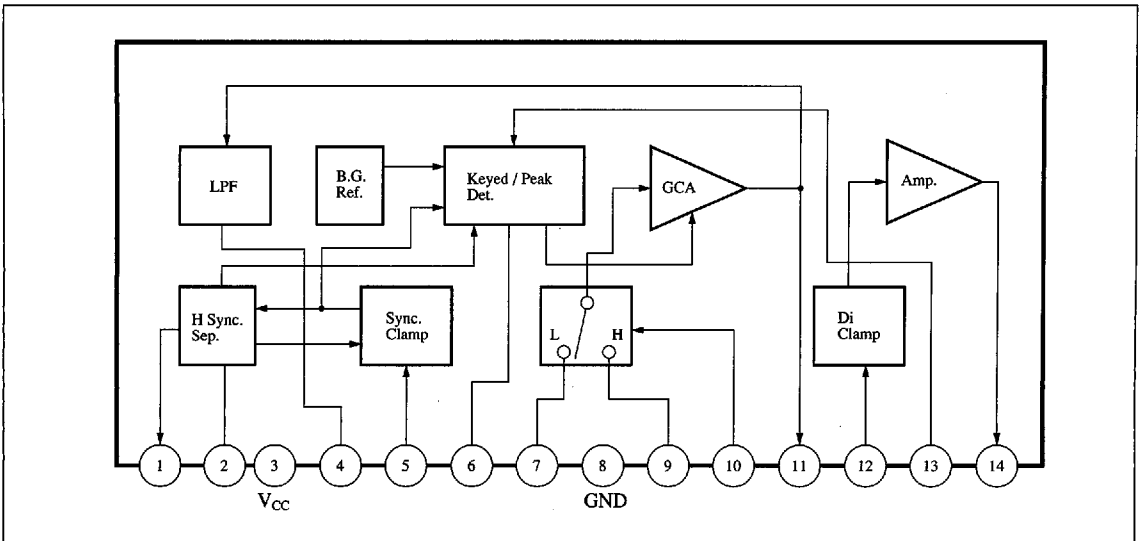
The AN3916 is an IC designed exclusively for the video signal AGC function. In addition to the keyed/peak selection video signal AGC function, it can reduce the number of signal lines and external parts by incorporating the H Sync. separation circuit and luminance signal separating LPF. As it has a built-in 2-input selector switch and a built-in low output impedance circuit, it is also available as a front-stage amplifier which performs A/D conversion of video signals in the digital system. It can be also applied for picture-in-picture using memory or time base correction (TBC) at playback.

Features

- Operating supply voltage 5V (typ.), current consumption 17mA (typ.).
- Exclusive for video signal AGC.
- Keyed/peak select video AGC (conform to VHS-23 specifications).
- Built-in H Sync. separation circuit.
- Built-in luminance signal separation LPF.
- Built-in 2-input selector switch.
- Built-in low output impedance output-amplifier.



Block Diagram



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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	6	V
Power dissipation	P _D	170	mW
Operating ambient temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +150	°C

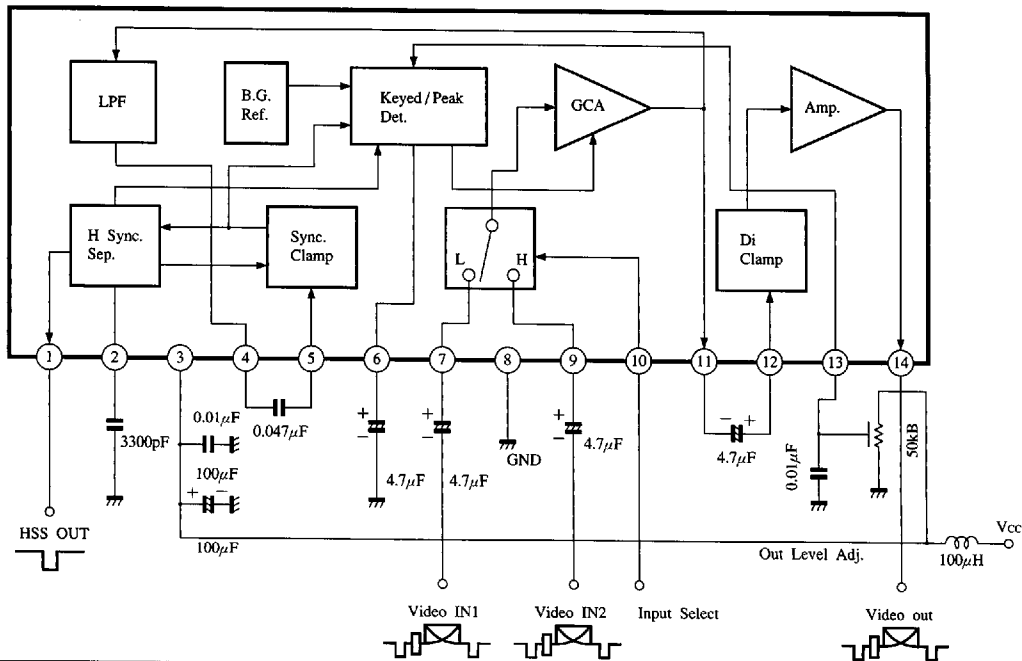
Recommended Operating Range (Ta=25°C)

Parameter	Symbol	Range
Operating supply voltage range	V _{CC}	4.5V to 5.5V

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Circuit current	I _{CC}	V _{CC} =5V	10	17	25	mA
Video AGC output amplitude (1)	V ₁₄₋₇	Pin⑩ : Lo, Pin⑦ : 1V _{PP} Pin⑬ : Adjust to Pin⑫=2V _{PP} .	—	2	—	V _{PP}
Video AGC output amplitude (2)	V ₁₄₋₉	Pin⑩ : Hi, Pin⑨ : 1V _{PP}	1.8	2	2.2	V _{PP}
Video AGC control sensitivity	ΔV ₁₄₋₇	Pin⑩ : Lo, Pin⑦ : 0.5V _{PP} to 2V _{PP}	-1	—	1	dB
Video input crosstalk (1)	CT ₁₁₋₇	Pin⑩ : Hi, Pin⑨ : 75 Ω Pin⑦ : 3.58MHz, 1V _{PP}	—	—	-45	dB
Video input crosstalk (2)	CT ₁₁₋₉	Pin⑩ : Lo, Pin⑦ : 75 Ω Pin⑨ : 3.58MHz, 1V _{PP}	—	—	-45	dB
Input select High level	V _{IH10}	Pin⑨ : 1V _{P-P} , Pin⑬ output limit	3.5	—	—	V
Input select Low level	V _{IL10}	Pin⑦ : 1V _{P-P} , Pin⑬ output limit	—	—	1	V
LPF freq. characteristic	ΔG ₄₋₇	Pin⑩ : Lo, Pin⑦ : 250mV _{PP} 3.58MHz, /100kHz	-26	-30	-34	dB
Sync. Sep. sensitivity	S ₁₋₅	Pin⑦ : Min. input level which enables Sync. Sep	—	18	30	%
Sync. Sep. output delay	T _{d1-5}	Pin⑩ : Lo, Pin⑤ : 0.5V _{PP} Pin① : Output delay time	0.5	0.7	0.9	μs
Sync. Sep. output High level	V _{OH1}	Pin⑤ : 500mV _{PP}	4.6	—	—	V
Sync. Sep. output Low level	V _{OL1}	Pin⑤ : 500mV _{PP}	—	—	0.4	V

Application Circuit



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ICs for VCR