

# AN3916

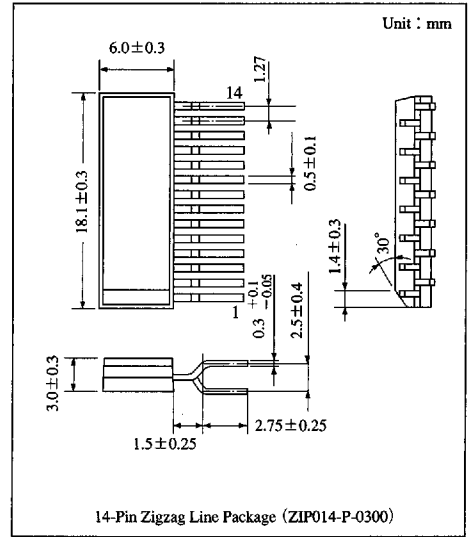
## Video AGC IC

### Overview

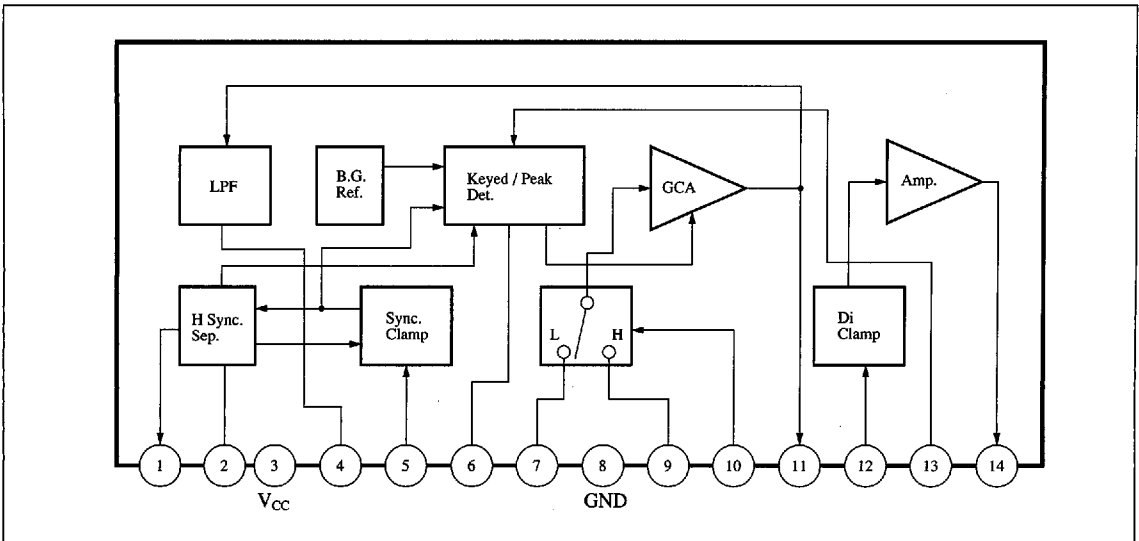
The AN3916 is an IC designed exclusively for the video signal AGC function. In addition to the keyed/peak selection video signal AGC function, it can reduce the number of signal lines and external parts by incorporating the H Sync. separation circuit and luminance signal separating LPF. As it has a built-in 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 <sub>CC</sub>	6	V
Power dissipation	P <sub>D</sub>	170	mW
Operating ambient temperature	T <sub>opr</sub>	-20 to +75	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

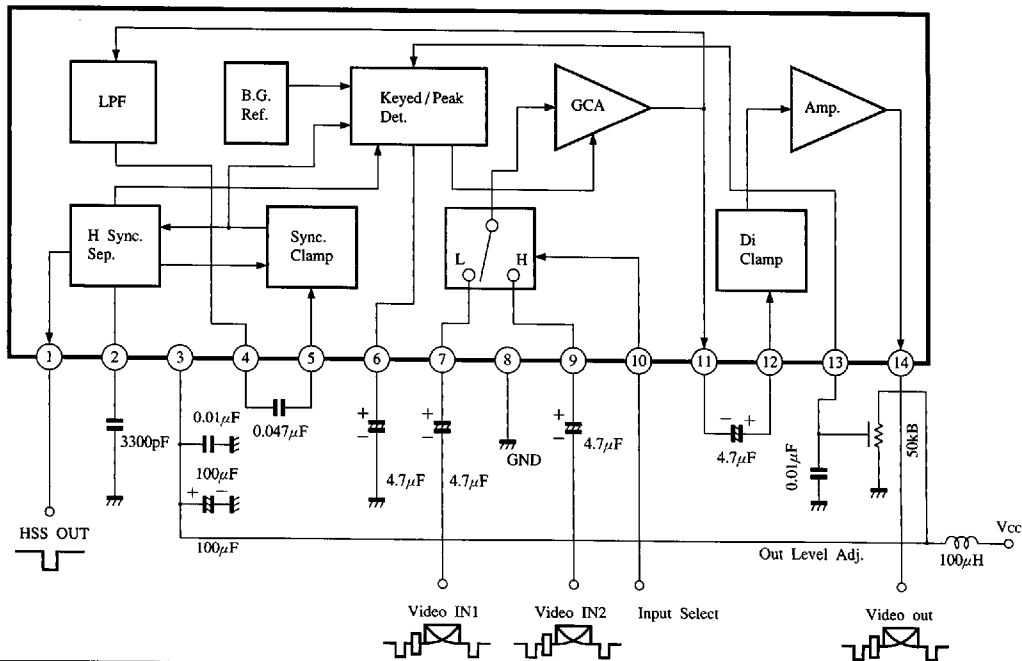
**Recommended Operating Range** (Ta=25°C)

Parameter	Symbol	Range
Operating supply voltage range	V <sub>CC</sub>	4.5V to 5.5V

**Electrical Characteristics** (Ta=25°C)

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

**Application Circuit**



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ICs for VCR