

The LA7217 and 7217M are synchronizing signal separator ICs with AFC and AFC Lock detector designed to be used in video equipments such as VCR and TV sets. VCO with ceramic oscillator and PLL horizontal sync detector provide an adjust-free, precision sync detection system.

Functions

- Horizontal sync separation
- Vertical sync separation
- VCO (32f_H)
- AFC
- Sync signal detection

Features

- Use of a ceramic oscillator requires no adjustment
- Negative polarity output
- High impedance video signal input pin
- 5 V supply voltage

Maximum Ratings at Ta = 25°C

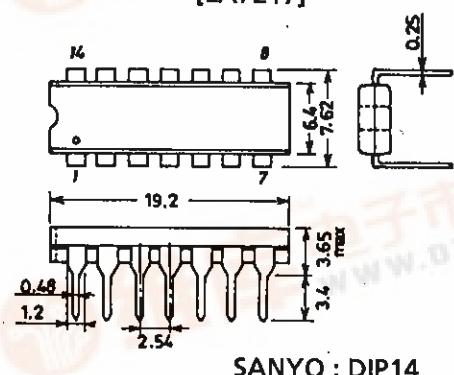
		unit
Maximum Supply Voltage	V _{CC} max	7 V
Allowable Power Dissipation	P _d max	150 mW
Operating Temperature	T _{opr}	-15 to +65 °C
Storage Temperature	T _{stg}	-40 to +125 °C

Operating Conditions at Ta = 25°C

		unit
Recommended Supply Voltage	V _{CC}	5.0 V
Operating Voltage Range	V _{CC} op	4.5 to 5.5 V

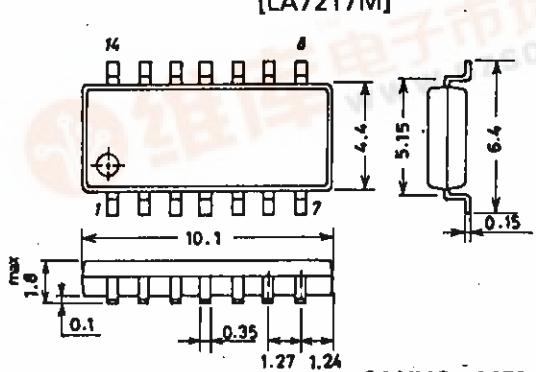
Package Dimensions 3003A

(unit: mm) [LA7217]



Package Dimensions 3034A

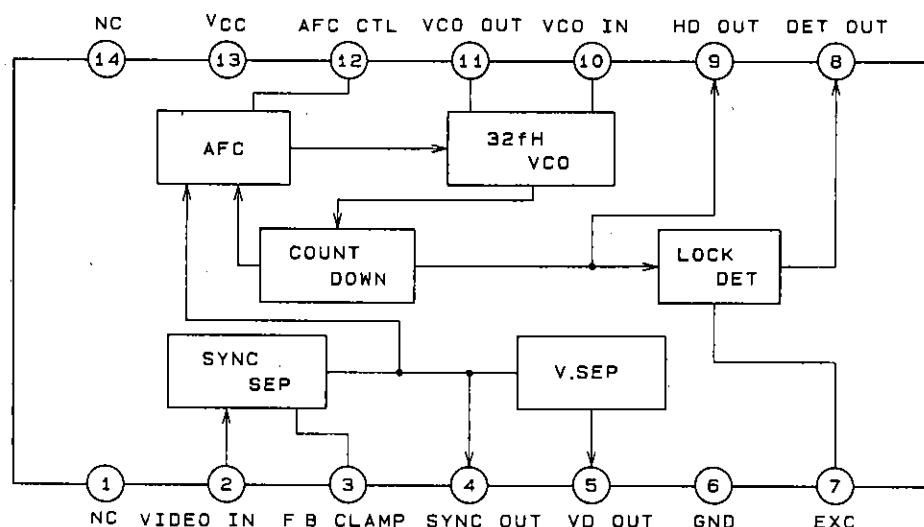
(unit: mm) [LA7217M]



Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 5\text{ V}$

			min	typ	max	unit
Current Dissipation	I_{CC}	Standard color bar input	4.9	7	9.1	mA
Minimum Separable Input Voltage	V_I min		-15	-11	-8	dB
HD Output Delay Time	T_{HD}	From pin 2 to pin 9	0.1	0.5	0.9	μs
HD Output Pulse Width	T_{HW}		3.6	4.0	4.4	μs
VD Output Delay Time	T_{VD}	From pin 2 to pin 5	9	13	17	μs
VD Output Pulse Width	T_{VW}		0.16	0.21	0.26	ms
Free-running Frequency	F_O	SW1 off	15.4	15.75	16.1	kHz
Capture Range 1	F_{CH}	Judgment by comparison of pin 9 with pin 2	300	500		Hz
Capture Range 2	F_{CL}	Judgment by comparison of pin 9 with pin 2	1000	1500		Hz
SYNC Out, H Voltage	V_{SH}	Level on pin 4	3.9	4.2		V
SYNC Out, L Voltage	V_{SL}	Level on pin 4		0.8	1.0	V
HD Out, H Voltage	V_{HH}	Level on pin 9	3.9	4.2		V
HD Out, L Voltage	V_{HL}	Level on pin 9		0.8	1.0	V
VD Out, H Voltage	V_{VH}	Level on pin 5	3.9	4.2		V
VD Out, L Voltage	V_{VL}	Level on pin 5		0.8	1.0	V
DET Out, H Voltage	V_{DH}		4.8	5.0		V
DET Out, L Voltage	V_{DL}	SW1 off		0.1	0.3	V
Comparator Threshold H Voltage	V_{TH}	SW2-a	2.7	2.95	3.2	V
Comparator Threshold L Voltage	V_{TL}	SW2-a	2.4	2.7	3.0	V
Threshold Width	V_{TW}	$V_{TH}-V_{TL}$	0.10	0.22	0.40	V
DET Operating Current, H	I_{DH}	SW2-b	40	65	90	μA
DET Operating Current, L	I_{DL}	SW2-b	40	65	90	μA

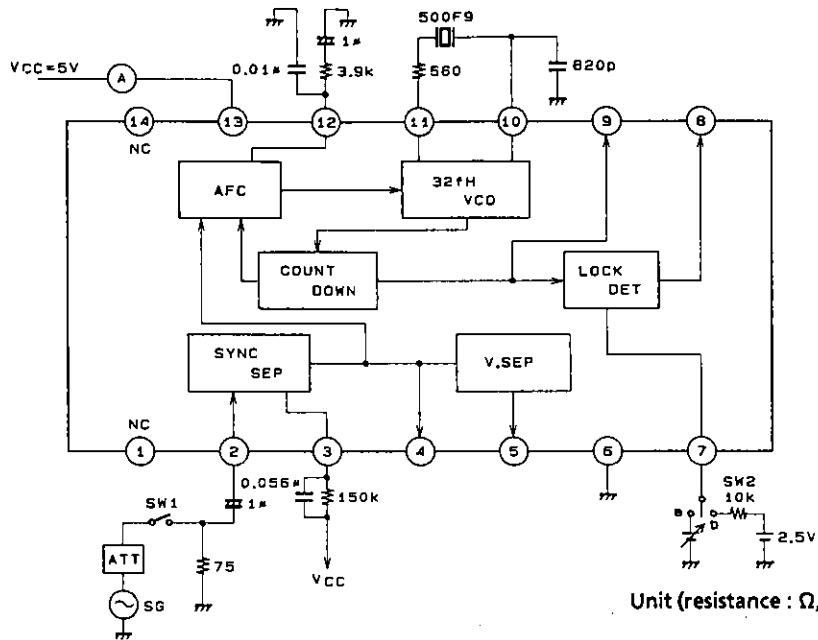
Block Diagram



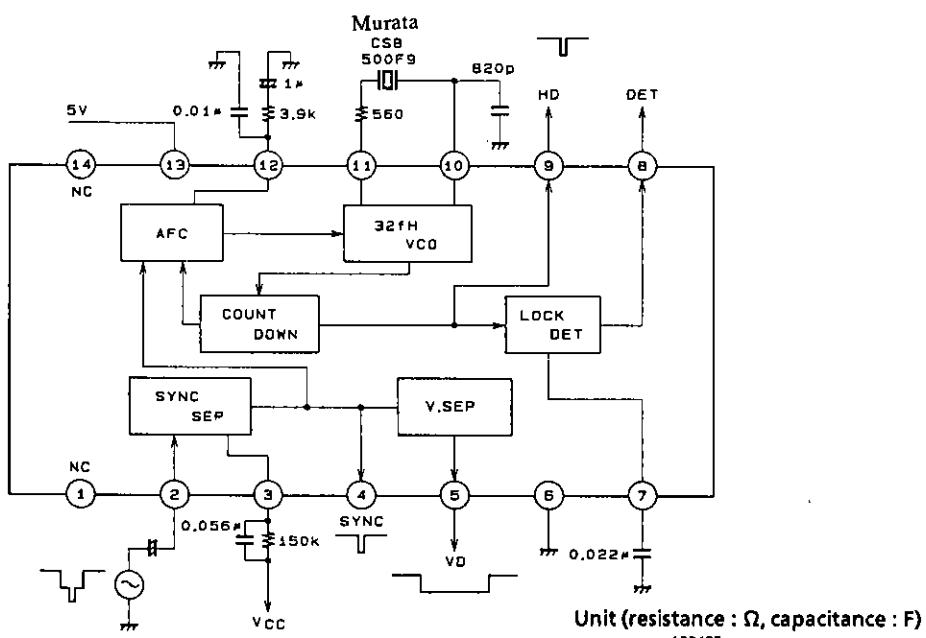
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LA7217, 7217M

Test Circuit



Typical Application



- DET OUT becomes H upon lock
- When feeding video signal to the input pin directly, keep DC level between 2 and 3.5 volts.
- Standard video input is 1 Vp-p

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