No.2682

LA7058

Monolithic Linear IC

Video / Audio Signal Processor for UHF Band RF Modulator Use

The LA7058, being a video/audio signal processor IC for UHF band RF modulator use, is suited for RF modulators that require no TSG (test signal generator).
The LA7058 contains a video clamp circuit, a white clip circuit, and an audio FM modulator. The characteristics of the LA7058 are highly stable to supply voltage variations because the LA7058 has an internal voltage ragulator.

Functions

- Audio FM modulator
- White clip
- Sync pulse peak clamp
- Voltage regulator

Features

- Capable of being operated from low supply voltage (V_{CC}=5V)
- Highly stable to supply voltage variations because of on-chip voltage regulator
- Excellent frequency characteristic of white clip
- Large amplitude of audio carrier and less high-frequency spurious radiation
- Low current dissipation (30% less compared with our similar ICs)
- Minimum number of external parts required
- Low audio distortion

Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V_{CC} max	9.0	V
Allowable Power Dissipation	Pd max Ta≦70°C	250	mW
Operating Temperature	Topg V_{CC}=5V	-20 to +80	°C
Storage Temperature	Tstg	-40 to +150	°C

Operating Conditions at Ta=25°C

			unit
Recommended Supply Voltage	V_{CC}	5.0	V
Operating Voltage Range	V_{CC} op	4.25 to 7.00	V

Operating Characteristics at Ta=25°C, V_{CC}=5.0V

			min	typ	max	unit
Current Dissipation	I_{CC}	SW1,2:A	7	10	13	mA
Video Clamp Voltage	V_{CL}	SW1→A,SW2→B	1.35	1.60	1.85	V
White Clip Level	V_{WC}	Output voltage at SW1:C is taken as V_1. $V_{WC}=V_1-V_{CL}$	1.10	1.14	1.18	Vp-p
Video Output Amplitude	V_{VO}	SW1,2:A, 1Vp-p stair step signal is input.	0.95	0.995	1.05	Vp-p

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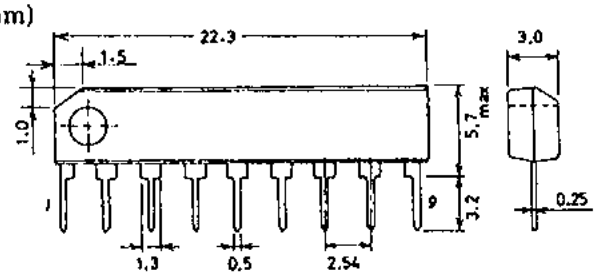
Case Outline 3017B-S91C

(unit:mm)



SANYO: SEP9

Specifications and information herein are subject to change without notice.

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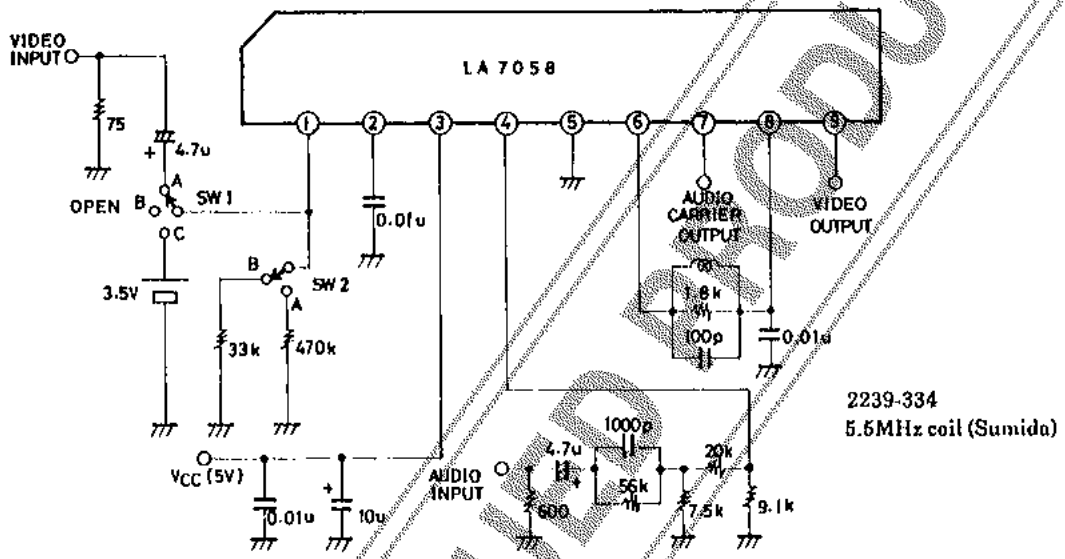
			min	typ	max	unit
Audio Carrier Amplitude	V_{AO}		1.05	1.30	1.55	Vp-p
Audio Modulation A	ms	1kHz,4.5Vp-p signal is input. ±50kHz is taken as 100%	73	81	89	%
B			81	90	99	%
C			90	100	110	%
D			99	110	121	%
E			109	121	133	%
Audio Distortion	THD	1kHz,4.5Vp-p signal is input. ±50kHz is taken as 100%.		0.2	1.5	%

Test Circuit



Equivalent Circuit Block Diagram