



# LA7058R

## Video, Audio Signal Processor for UHF Band RF Modulator Use

### Overview

The LA7058R, 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 LA7058R contains a video clamp circuit, a white clip circuit, and an audio FM modulator. The characteristics of the LA7058R are highly stable to supply voltage variations because of the on-chip voltage regulator.

### Functions

- Audio FM modulator.
- Sync pulse peak clamp.
- White clip.
- 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 audio distortion.
- Low current drain :  $-30\%$  (compared with our similar ICs).
- Minimum number of external parts required.
- Small-sized package : 9Z-pin SIP.

### Specifications

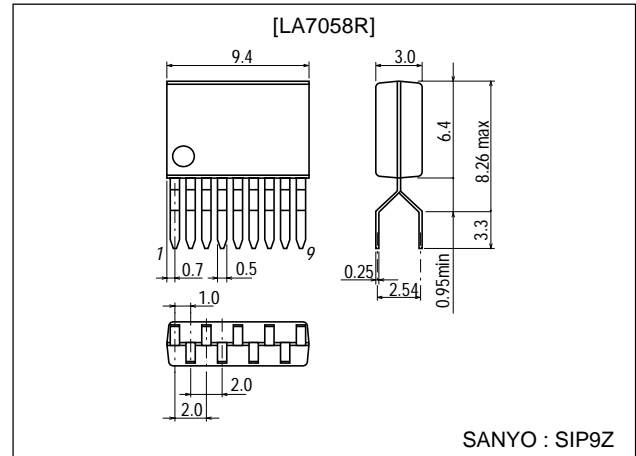
#### Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		9.0	V
Allowable power dissipation	$P_d \text{ max}$	$T_a \leq 60^\circ C$	250	mW
Operating temperature	$T_{opr}$	$V_{CC}=5V$	-20 to +80	$^\circ C$
Storage temperature	$T_{stg}$		-40 to +125	$^\circ C$

### Package Dimensions

unit:mm

3119-SIP9Z



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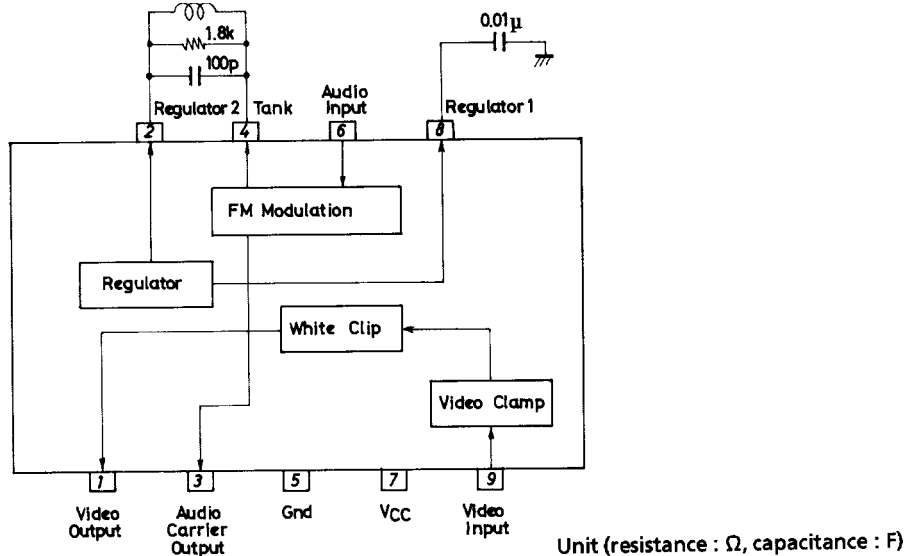
## Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	$V_{CC}$		5.0	V
Operating voltage range	$V_{CC\text{ op}}$		4.25 to 7.00	V

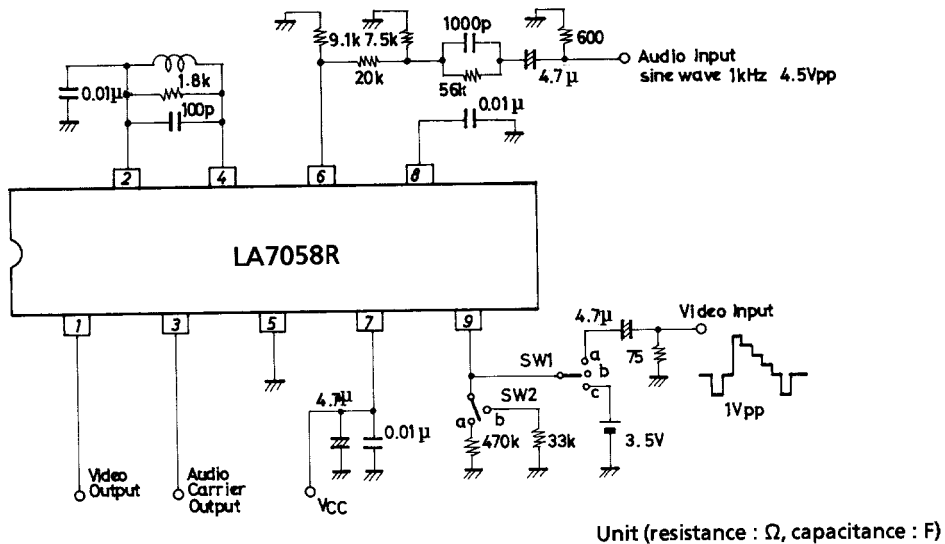
## Operating Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC}=5\text{V}$

Parameter	Symbol	SW1	SW2	SW3	Conditions	Ratings			Unit
						min	typ	max	
Current drain	$I_{CC}$	a	a	a		7	10	13	mA
Video clamp voltage	$V_{CL}$	a	b	a		1.35	1.60	1.85	V
White clip level	$V_{WC}$	c	-	a	$V_{WC}=V_1-V_{CL}$ ; $V_1$ : Output voltage	1.10	1.14	1.18	Vp-p
Audio carrier amplitude	$V_{AO}$	-	-	-		1.05	1.30	1.55	Vp-p
Audio modulation degree A	ms	-	-	-	Input signal : 1kHz, 4.5Vp-p, $\pm 50\text{kHz}$ : 100%	73	81	89	%
Audio modulation degree B	ms	-	-	-		81	90	99	%
Audio modulation degree C	ms	-	-	-		90	100	110	%
Audio modulation degree D	ms	-	-	-		99	110	121	%
Audio modulation degree E	ms	-	-	-		109	121	133	%
Audio distortion	THD	-	-	-		Same as above	-	0.2	1.5

## Equivalent Circuit Block Diagram



## Test Circuit



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