Monolithic Linear IC



LA7051

Video, Audio Signal Processor for UHF Band RF Modulator

Overview

The LA7051 is a video, audio signal processor IC for UHF band RF modulator. It performs the functions of audio FM modulator, video clamp circuit, white clip circuit.

- **Applications**
- VCRs.

Features

- 5.5MHz/6.0MHz audio modulation frequency selectable with control pin.
- Contains white clip circuit.
- Minimum number of external parts required.

Specifications

Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max	V8	12	V
Allowable power dissipation	Pd max	Ta≤60°C	250	mW
Operating temperature	Topr		-20 to +85	°C
Storage temperature	Tstg		-55 to +125	°C

Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V _{CC}	V8	7.5	V
Operating voltage range	V _{CC} op		7.0 to 8.0	V

Operating Characteristics at Ta=25°C, V_{CC} (V8)=7.5V

Parameter	Symbol	Conditions		Llnit			
i didificter	Gynibol	Conditions	min	typ	max		
V _{CC} 8 current drain	I _{CC} 8		9.5	14.5	19.5	mA	
Video clamp voltage	V _{VC}		3.6	3.8	4.0	V	
Audio FM sensitivity	∆f _{fm} 6	f _m : 1kHz, 4.5Vp-p input,	900	1250	1600	Hz/mV	
		f _C : 5.5MHz					
	$\Delta f_{fm} 7$	f _m : 1kHz, 4.5Vp-p input,	900	1250	1600	Hz/mV	
		f _C : 5.5MHz, R* : 15kΩ					
Audio distortion	THD6	At deviation width ±50kHz		1.6	2.5	%	
	THD7	f _m : 1kHz, f _C : 5.5MHz		1.6	2.5	%	
Video clamp output amplitude		At 1Vp-p stair step signal input	-5		+5	%	
deviation							
Audio output amplitude	V _O 6	f _C : 5.5MHz	0.79	1.0	1.26	Vp-p	
	V ₀ 7		0.79	1.0	1.26	Vp-p	
White clip level	V _{WC}	At 1.5Vp-p stair step signal input	1.100		1.189	Vp-p	
*Note : Resistance value of 50kQ variable resistor in Test Circuit							

SANYO Electric Co., Ltd. Semiconductor Bussiness Headquarters TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Package Dimensions

unit: mm

3017C-SIP9



LA7051 Test Condition

Baramotor	Symbol	SW Mode					Test point	Pomarka	
Falameter	Symbol	SW1	SW2	SW3	SW4	SW5	rest point	Remarks	
V _{CC} 8 current drain	I _{CC} 8	OFF	С	а	OFF	ON	Pin 8		
Video clamp voltage	V _{VC}	ON	С	а	OFF	OFF	Pin 1		
Audio FM sensitivity	$\Delta f_{fm} 6$	OFF	С	а	ON	ON	Pin 3		
	$\Delta f_{fm}7$	OFF	С	а	ON	OFF	Pin 3		
Audio distortion	THD6	OFF	С	а	ON	ON	pin 3		
	THD7	OFF	С	а	ON	OFF	pin 3		
Video clamp output amplitude deviation		OFF	а	а	OFF	OFF	Pin 1		
Audio output amplitude	V _O 6	OFF	С	а	OFF	ON	Pin 3		
	V ₀ 7	OFF	С	а	OFF	OFF	pin 3		
White clip level	V _{WC} 1	ON	b	а	OFF	OFF	Pin 1	V _{WC} =V _{WC} 1-V _{WC} 2	
	V _{WC} 2	ON	С	b	OFF	OFF	Pin 1		

Test Circuit



Unit (resistance : Ω , Capacitance : F)

Equivalent Circuit Block Diagram



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property lose.

Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of July, 1997. Specifications and information herein are subject to change without notice.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.