



SANYO Semiconductors

DATA SHEET

Monolithic Linear IC

LA7629 — Color TV/Video, Chroma, Deflection Circuit

The LA7629 is a small-sized multifunctional IC containing the "video, chroma, deflection" circuit of NTSC color TV in a DIP30S (equivalent to the DIP22 package heretofore in use) of shrink type. Besides being small-sized, it has such features as greatly reduced number of parts and fewer adjustments required. The LA7629 can be used in conjunction with the LA7520N,7555 for "VIF-SIF" use or the LA7830,7831, 7835,7836 for "vertical output" use to perform all color TV signal processing functions. The polarity of the quadratic differentiation circuit input of the LA7629 is inverted to facilitate easy connection of a Tr,L,C,R-used circuit for higher picture quality to the quadratic differentiation circuit input of the video circuit. The LA7629 containing a wide-band video circuit (10MHz) is suited for use in AV sets or large-sized sets.

Features

- Wide-band video circuit (10MHz)
- Small-sized package
- Minimum number of parts required
- Fewer adjustments required (non-adjusting of functions shown below)
 - Chroma VCO (APC)
 - Horizontal OSC H-Hold
 - Vertical OSC H-Hold
- Multifunction

Maximum Ratings at Ta = 25°C

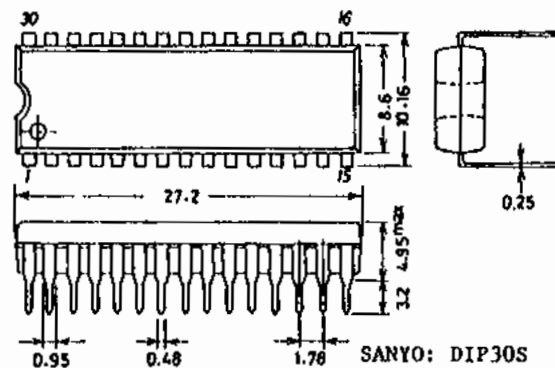
			unit
Maximum Supply Voltage	$V_{16\ max}$	14.0	V
Maximum Supply Current	$I_{22\ max}$	15.0	mA
Allowable Power Dissipation	$P_d\ max$	1100	mW
Operating Temperature	T_{opg}	-20 to +85	°C
Storage Temperature	T_{stg}	-55 to +125	°C

Operating Conditions at Ta = 25°C

			unit
Recommended Supply Voltage	V_{16}	12.0	V
Recommended Supply Current	I_{22}	10.0	mA
Operating Voltage Range	$V_{16\ op}$	9.0 to 14.0	V
Operating Current Range	$I_{22\ op}$	8.5 to 15.0	mA

The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced. The information herein is believed to be accurate and reliable. However, no responsibility is assumed by SANYO for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Case Outline 3061-D30SIC
(unit: mm)



Specifications and information herein are subject to change without notice.

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LA7629

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = V_{16} = 12\text{V}$, $I_{CC} = I_{22} = 10\text{mA}$

			min	typ	max	unit
Circuit Current	I_{16}	Quiescent	40	53	75	mA
[Deflection Block]						
Horizontal Supply Voltage	V_{Z22}		8.2	8.7	9.2	V
Sync Separation Input DC Level	$V_{S.S}$		9.0	9.3	9.6	V
Vertical Free-Running Frequency 1	f_{v1}		$f_{H1}/296.5$			Hz
Vertical Free-Running Frequency 2	f_{v2}		$f_{H1}/224.5$			Hz
Vertical Blanking Pulse Width	PW V.blk		19.25/ f_{H1}			sec
Vertical Output Pulse Width	PW V.out		10.25/ f_{H1}			sec
Vertical Drive Stage Voltage Gain	G _v		13	16.2	19	dB
Vertical Output Pulse Start Voltage	V _{cds}		4.0			V
Vertical Pull-in Start Voltage	V _{yps}		4.0			V
Vertical Blanking Pulse Peak Value	V _{V.blk}		10			V
Horizontal Free-Running Frequency	f_H	Diff. bet. 15.734kHz and hor. output freq.	-70	30	130	Hz
Horizontal OSC Frequency Change with Line Regulation	$\Delta f_H(V)$	$f_H(8V) - f_H(7V)$	-10	0	10	Hz
Horizontal OSC Frequency Change with Ambient Temperature	$\Delta f_H/\Delta T$	$T_a = -10 \text{ to } 60^\circ\text{C}$	-1.5	1.5		Hz/°C
Horizontal Output Pulse Width	PW H.out		23.5	24.5	25.5	μs
Horizontal Sync Pull-in Range	f_H pull	Deviation from 15.734kHz	± 400			Hz
Horizontal Output Pulse Start Voltage	V _{H pos}		5.5			V
Horizontal Free-Running Frequency Secular Drift	Δf_{HT}	5sec to 30min after power ON	-50	-10	30	Hz
Horizontal Blanking Threshold Level	V _{H blk}		11			V
Horizontal Output Drive Current	I _{H.O}		2.0		4.5	mA
Horizontal OSC Control Sensitivity	B _{H1}	Reference value	236			Hz/ μs
Hold-down Start Input Voltage	V _{HD}		0.55	0.65	0.75	V
[Video Block]						
Video Tone Voltage Gain	G _{tone}	$f = 2\text{MHz}$, video tone VR:12V	7	9.6	12	dB
Video Voltage Gain	A _V	$f = 100\text{kHz}$, video tone VR:12V	12	15	18	dB
Contrast Control Center	eo	$f = 100\text{kHz}$, input: 100mVp-p	0.2	0.3	0.4	Vp-p
Contrast Variable Range	Δeo	$f = 100\text{kHz}$	16	18	20	dB
Bright Control Characteristic 1	BR1	Quiescent, bright VR:3V	8			V
Bright Control Characteristic 2	BR2	Quiescent, bright VR:6V	5.8	6.3	6.8	V
Bright Control Characteristic 3	BR3	Quiescent, bright VR:9V	4.5			V
Frequency Characteristic	f		10			MHz
DC Transmission	R _{DC}	Stair step signal	100			%

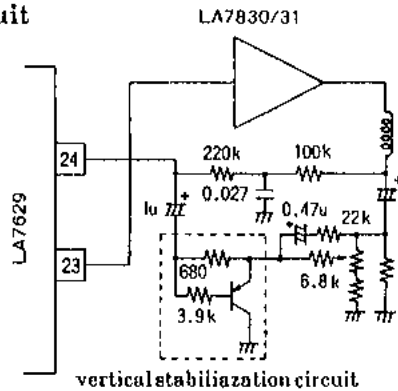
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LA7629

Sample Application

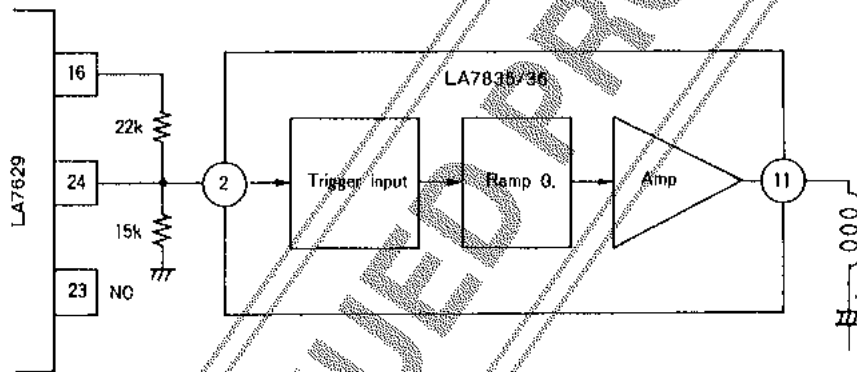
where the LA7629 is used in conjunction with a vertical output IC (LA7830, 7831)

With vertical stabilization circuit



Sample Application

where the LA7629 is used in conjunction with a vertical output IC (LA7835, 7836)



For "Y.Chroma.Def." ICs for CTV NTSC use, the following types are available.
Select the IC most suited for your intended CTV set.

Type No.	Peak clip	DC restoration	Quadratic differentiation circuit input polarity	Video tone		Remarks
				Soft	Sharp	
LA7620	○	70%	Positive	○	○	
LA7621	×	70%	Positive	○	○	
LA7625	○	100%	Positive	○	○	
LA7626	×	100%	Positive	○	○	
LA7629	×	100%	*Negative	×	○	Video band 10MHz

* Inverting amp required