

SANYO

No.1378B

LA7823

Monolithic Linear IC

Color CRT Display Synchronization,
Deflection Circuit

The LA7823 is an IC that contains a generator of horizontal, vertical blanking pulses as well as the main functions required to provide synchronization and deflection in color CRT displays and also accepts TTL input. It is a multifunctional IC aiming at high-quality picture reproduction.

Functions

- . Sync separation
- . Vertical oscillation
- . Vertical drive
- . Horizontal AFC
- . Horizontal oscillation
- . X-ray protection
- . Composite blanking pulse (vertical + horizontal blanking pulse)
- . Vertical blanking pulse (Vertical blanking pulse only can be taken out.)

Features

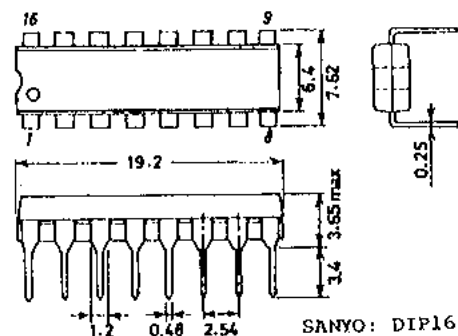
- . Horizontal and vertical oscillations are stable against variations in ambient temperature and supply voltage due to small warm-up drift.
- . Small variation in horizontal oscillation frequency.
- . Good linearity and interlace because DC bias at vertical output stage is subjected to sampling control within retrace time.
- . Any vertical blanking pulse width can be set by peripheral parts.
- . The AFC defeat function is eliminated during vertical trigger period to use the LA7823 as horizontal/vertical sync separate input type only.
- . Multifunctional and small-sized (DIP-16)

Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V _{CC13}	14	V
Maximum Current Dissipation	I _{CC16}	16	mA
Allowable Power Dissipation	P _{max}	570	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 _{CC13}	12	V
Recommended Current Dissipation	I _{CC16}	13	mA

Case Outline 3006B-D16IC
(unit:mm)

Specifications and information herein are subject to change without notice.

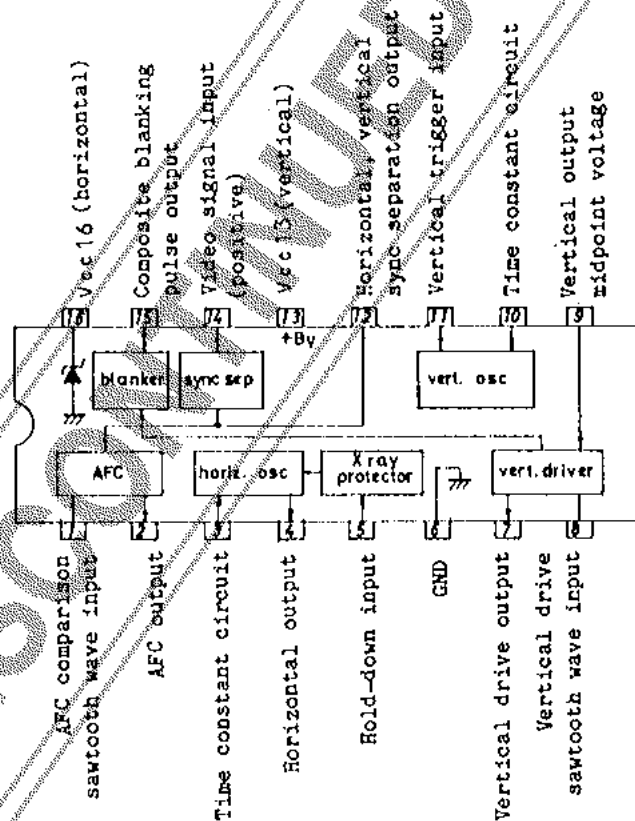
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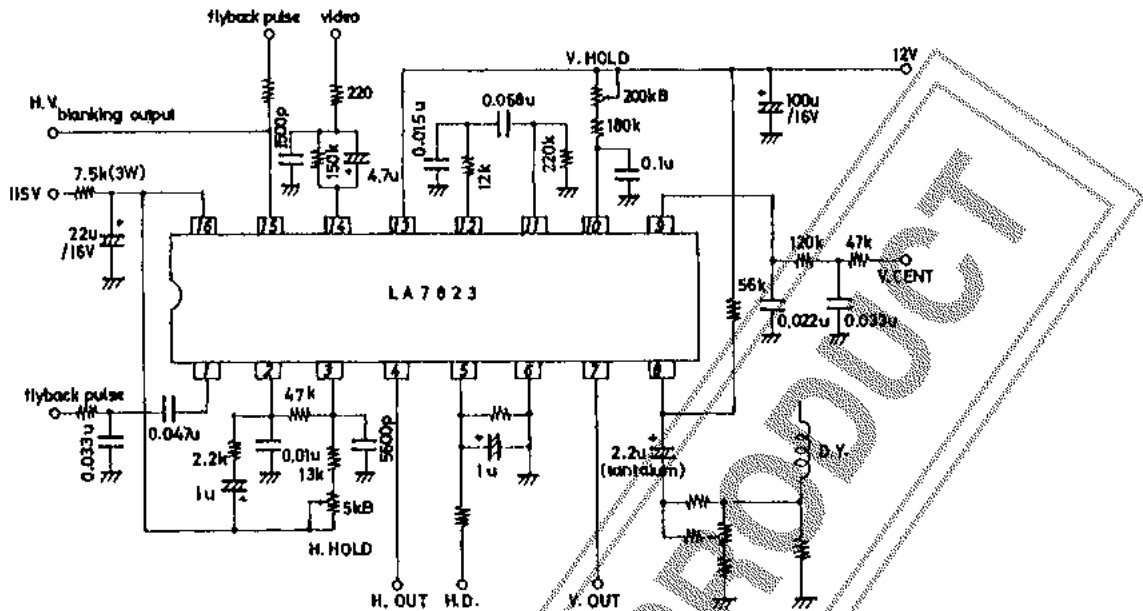
Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{CC13}=12\text{V}$, $I_{CC16}=13\text{mA}$

	min	typ	max	unit
V_{CC13} Current Dissipation I_{CC13}	14.7		22.2	mA
V_{CC16} Supply Voltage V_{CC16}	11.8		13.2	V
Vertical Frequency Pull-in Range	9.0		11.0	Hz
Vertical Free-Running Frequency	f_V center 55Hz	50	60	Hz
Supply Voltage Dependence of Vertical Frequency	$V_V=12\pm 1\text{V}$, 55Hz at 12V	-0.5	0.5	Hz
Temperature Characteristic of Vertical Frequency	$T_a=-10$ to $+60^{\circ}\text{C}$	-0.028	0.028	Hz/ $^{\circ}\text{C}$
Vertical Driver Amplification Factor		12	17	dB
Horizontal Free-Running Frequency	f_H center 15.734kHz	-750	750	Hz
Reduced Voltage Characteristic of Horizontal Frequency	$V_Z-V_Z\times 90\%$	-50	50	Hz
Temperature Characteristic of Horizontal Frequency	$T_a=-10$ to $+60^{\circ}\text{C}$ (IC alone)	+3.4	3.4	Hz/ $^{\circ}\text{C}$
Horizontal Output Pulse Width	$f_H=15.734\text{kHz}$	21.5	26.5	us
Horizontal Output Drive Current		6.6	10.0	mA

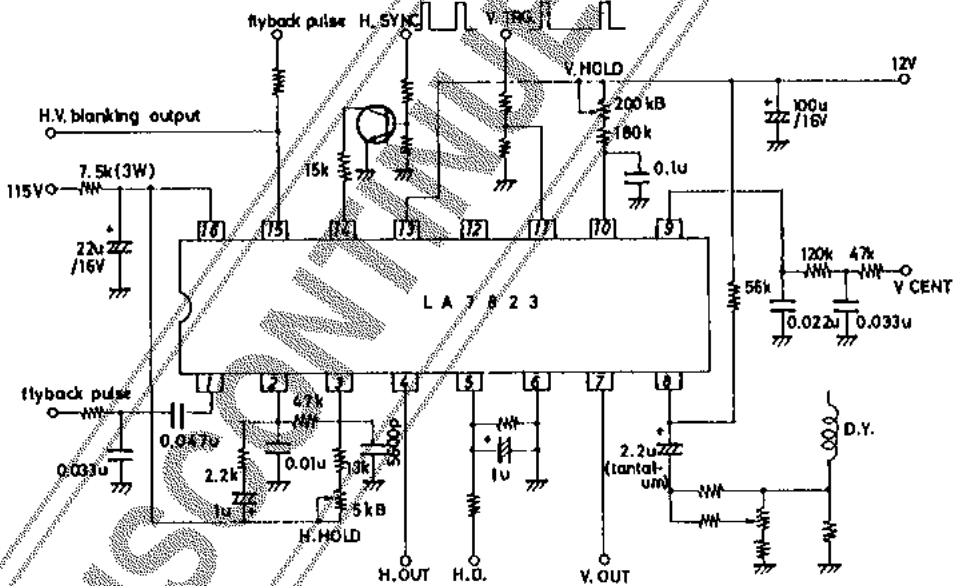
Equivalent Circuit and Block Diagram



Sample Application Circuit 1
(Composite video signal input mode)



Sample Application Circuit 2
(TTL input mode)



The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced. This 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.