

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

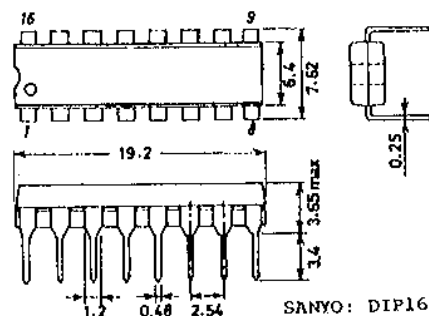
- . Horizontal and vertical oscillations are stable against variations in ambient temperature and supply voltage due to small warm-up drift.
- . Small variation in horizontal oscillation frequency.
- . Good linearity and interlace because DC bias at vertical output stage is subjected to sampling control 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 _{DMAX} Ta=65°C	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)

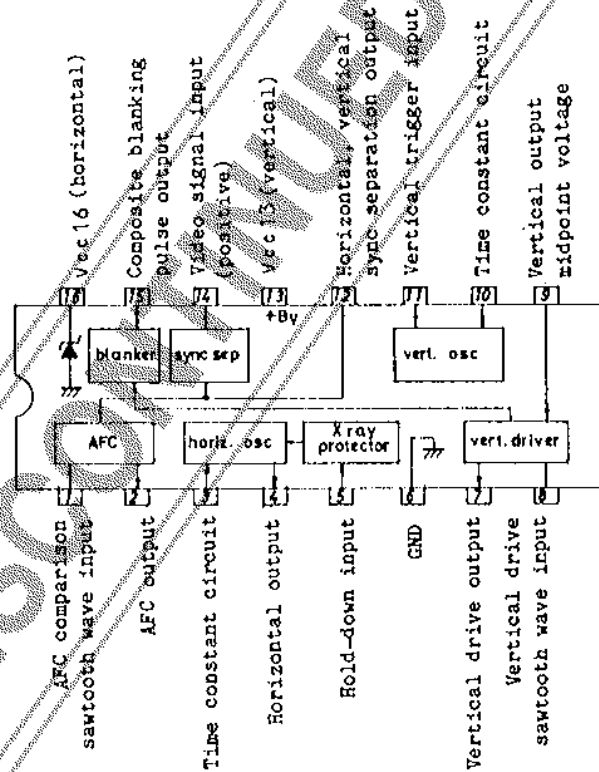
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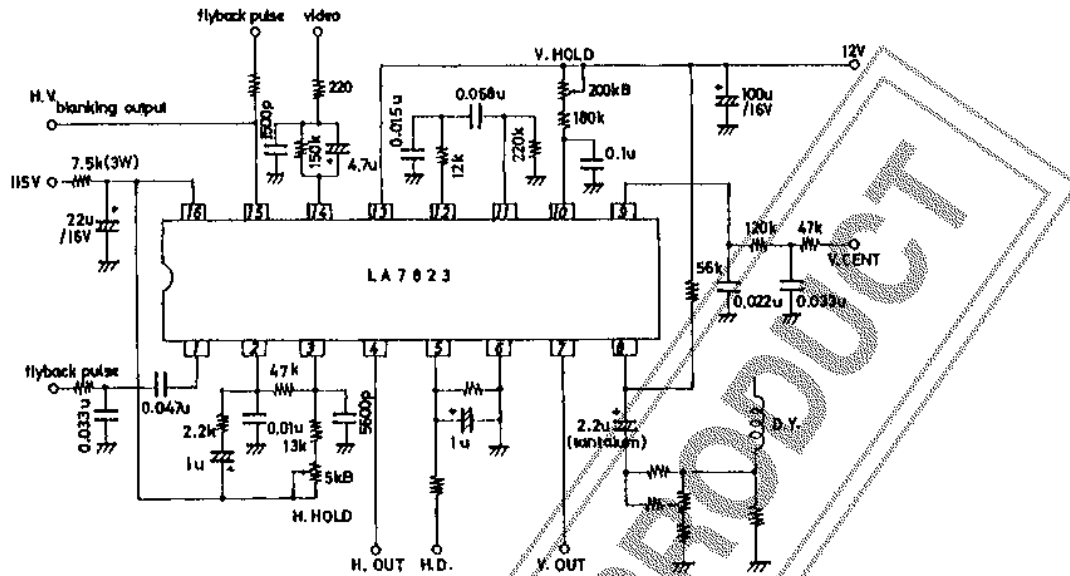
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Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{CC13}=12\text{V}$, $I_{CC16}=13\text{mA}$		min	typ	max	unit
V_{CC13} Current Dissipation	I_{CC13}	14.7		22.2	mA
V_{CC16} Supply Voltage	V_{CC16}	11.8		13.2	V
Vertical Frequency Pull-in Range		9.0		11.0	Hz
Vertical Free-Running Frequency	f_V center	50		60	Hz
Supply Voltage Dependence of Vertical Frequency	$V_{13}=12\pm 1\text{V}$, 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	15.734		15.734	kHz
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

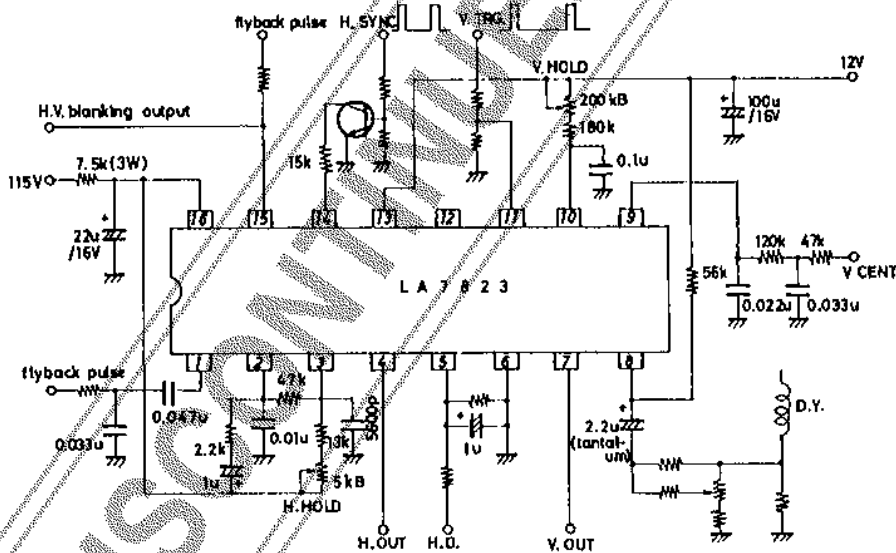
Equivalent Circuit and Block Diagram



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.
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