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)

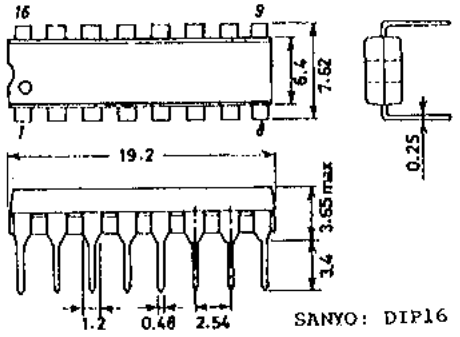
Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	V_{CC}13		14	V
Maximum Current Dissipation	I_{CC}16		16	mA
Allowable Power Dissipation	Pdmax	Ta=65°C	570	mW
Operating Temperature	Topg		-20 to +85	°C
Storage Temperature	Tstg		-55 to +125	°C

Operating Conditions at Ta=25°C

			unit
Recommended Supply Voltage	V_{CC}13	12	V
Recommended Current Dissipation	I_{CC}16	13	mA

Case Outline 3006B-D16IC
(unit:mm)



Specifications and information herein are subject to change without notice.

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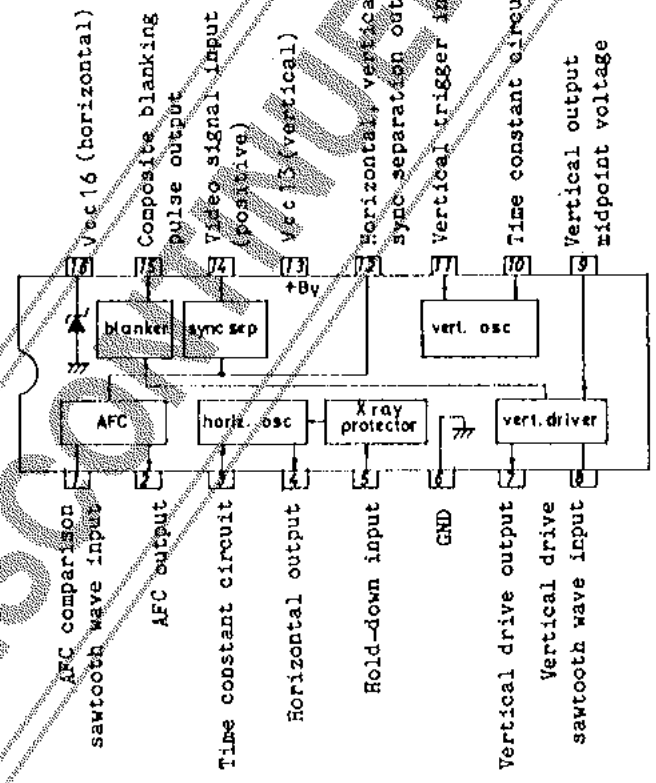
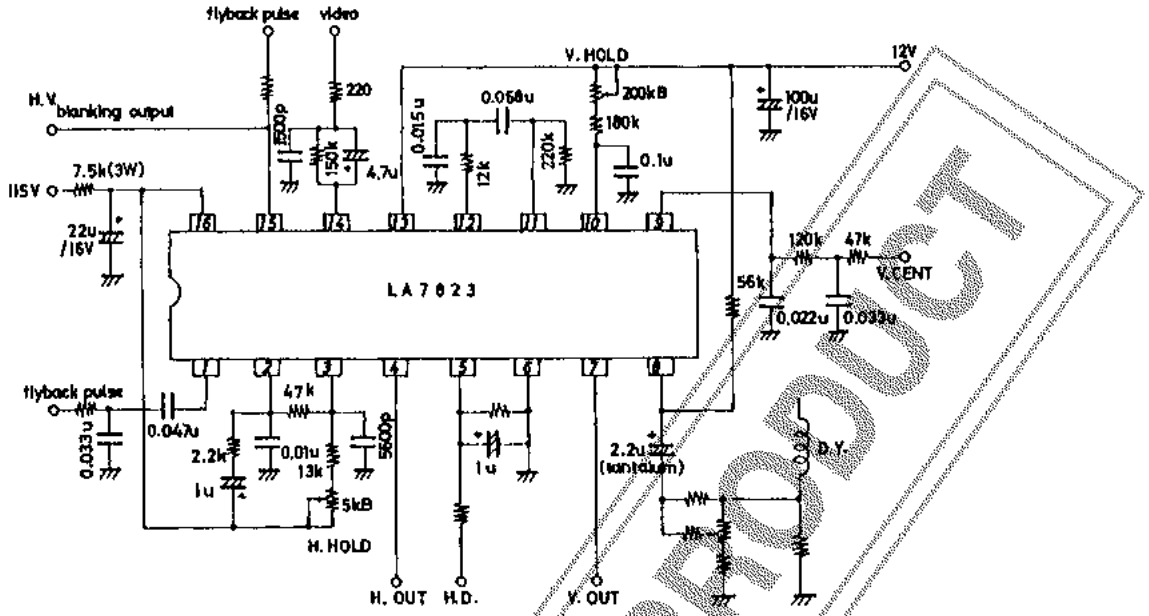
Operating Characteristics at Ta=25°C, $V_{CC}13$=12V, $I_{CC}16$=13mA		min	typ	max	unit
$V_{CC}13$ Current Dissipation	$I_{CC}13$	14.7		22.2	mA
$V_{CC}16$ Supply Voltage	$V_{CC}16$	11.8		13.2	V
Vertical Frequency Pull-in Range		9.0		11.0	Hz
Vertical Free-Running Frequency	f_V center 55Hz	50		60	Hz
Supply Voltage Dependence of Vertical Frequency	V13=12±1V,55Hz at 12V	-0.5		0.5	Hz
Temperature Characteristic of Vertical Frequency	Ta=-10 to +60°C	-0.028		0.028	Hz/°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_Zx90%	-50		50	Hz
Temperature Characteristic of Horizontal Frequency	Ta=-10 to +60°C (IC alone)	-3.4		3.4	Hz/°C
Horizontal Output Pulse Width	f_H=15.734kHz	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)