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NTE7123 Integrated Circuit Sync Deflection Circuit for Color TV

Description:

The NTE7123 is an integrated circuit that has a wide vertical pull-in range of 20Hz and contains a generator of horizontal, vertical blanking 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.

Features:

- Non-adjusting at vertical sync 50Hz/60Hz due to vertical pull-in range of 20Hz.
- 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 NTE7123 as horizontal/vertical sync separate input type only.
- Multifunctional and small-sized 6 Pin Dual-In-Line Package.

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Maximum Supply Voltage, V_{CC13}	14V
Maximum Current Dissipation, I_{CC16}	16mA
Allowable Power Dissipation ($T_A = +65^\circ\text{C}$), P_{Dmax}	570mW
Operating Temperature Range, T_{opr}	-20° to $+85^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC13} = 12\text{V}$, $I_{CC16} = 13\text{mA}$ unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
V_{CC13} Current Dissipation	I_{CC13}	14.7	–	22.2	mA
V_{CC16} Supply Voltage		11.8	–	13.2	V
Vertical Frequency Pull-In Range		19.0	–	23.0	Hz
Vertical Free-Running Frequency	f_v center 55Hz	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 Characteristics of Vertical Frequency	$T_A = -10^\circ$ to 60°C	-0.028	–	0.028	Hz/ $^\circ\text{C}$
Vertical Driver Amplification Factor		12	–	17	dB
Horizontal Free-Running Frequency	f_H center 15.73kHz	-750	–	750	Hz
Reduced Voltage Characteristic of Horizontal Frequency	$V_Z - V_Z \times 90\%$	-50	–	50	Hz
Temperature Characteristic of Horizontal Frequency	$T_A = -10^\circ$ to $+60^\circ\text{C}$ (IC Alone)	-3.4	–	3.4	Hz/ $^\circ\text{C}$
Horizontal Output Pulse Width	$f_H = 15.73\text{kHz}$	21.5	–	26.5	μs
Horizontal Output Drive Current		6.6	–	10.0	mA

Pin Connection Diagram



