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NTE1299 Integrated Circuit TV Signal Processor

Features:

- High Loop Gain in Vertical Circuit with Non-Adjustment for Vertical Linearity
- Vertical and Horizontal Oscillator Circuit, Stable Against Changes in Supply Voltage and Temp.
- High Voltage Protection Circuit

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

Supply Voltage, $V_{20-16(4)}$	14.4V
Supply Voltage, $V_{8-4(16)}$	15.0V
Circuit Voltage, $V_{1-4,16}$	0 to 7.0V
Circuit Voltage, $V_{12-4,16}$	0 to $V_{8-4,16}V$
Circuit Voltage, $V_{14-16,4}$	0 to $V_{20-16,4}V$
Circuit Voltage, $V_{15-16,4}$	0 to $V_{20-16,4}V$
Circuit Voltage, $V_{23-4,16}$	0 to 6.0V
Circuit Voltage, $V_{24-4,16}$	-3 to -1V
Circuit Current, I_5	-1.5 to 1.5mA
Circuit Current, I_6	-1.2 to 0mA
Circuit Current, I_7	-1.4 to 1.2mA
Circuit Current, I_{10}	0 to 10mA
Circuit Current, I_{15}	0 to 3mA
Circuit Current, I_{17}	-2 to 0mA
Circuit Current, I_{19}	0 to 40mA
Power Dissipation, P_D	600mW
Operating Temperature Range, T_{opg}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_B	$V_{CC} = 12\text{V}$	7.7	10	12.3	mA
	I_{20}		20.8	26	31.2	mA
Oscillation Starting Voltage	$V_{OSC-S(1)}$	$f_{VO} = 40 \text{ to } 70\text{Hz}, 0.7V_{p-p}$	-	-	6.2	V
Vertical Oscillation Frequency	f_{VO}	$V_{CC} = 12\text{V}$	53	55.6	58	Hz
f_{VO} Drift with Supply Voltage	$\Delta f_{VO}/V_{CC}$	$f_{VO} 9.6\text{V to } f_{VO} 14.4\text{V}$	0	0.84	1.0	Hz
Pulse Width (Vert.)	τ_{VO}	$V_{CC} = 12\text{V}$	500	-	820	μs
Vertical Pull-In Range	f_{VP}	$R_{OSC(V)} = 9.76\text{k}\Omega, f_{VO} = 48\text{Hz}$	-	-	50	Hz
f_{VO} Drift with Ambient Temp.	$\Delta f_{VO}/T_A$	$V_{CC2} = 12\text{V}, T_A = -20 \text{ to } +70^\circ\text{C}$	0	-	1.0	Hz
Oscillation Starting Voltage	$V_{OSC-S(2)}$	$f_{HO} = 10\text{kHz to } 20\text{kHz}, 3.0V_{p-p} (V_{CC} = 6.5\text{V})$	5.0	-	6.5	V
Horizontal Oscillation Frequency	f_{HO}	$V_{CC} = 12\text{V}$	15.2	-	16.5	kHz
f_{HO} Drift with Supply Voltage	$\Delta f_{HO}/V_{CC}$	$f_{HO} 14.4\text{V } f_{HO} 9.6\text{V}$	0	-	100	Hz
Pulse Width (H-OSC)	τ_{ho} Duty	$V_{CC} = 12\text{V}$	37	-	41	%
Control Sensitivity (H-OSC)	β	$I_o = \pm 100\mu\text{A}$	17	18.9	20.8	Hz/ μA
High Voltage Protection	V_{12-4}	$V_{12-4} = 5.7\text{V}$	5.7	-	6.9	V
f_{HO} Drift with Ambient Temp.	$\Delta f_{HO}/T_A$	$V_{CC1} = 12\text{V}, T_A = -20 \text{ to } +70^\circ\text{C}$	0	-	200	Hz
AFC Loop Gain	f_{AFC}	$\mu \times \beta$	4500	6050	7600	Hz/rad

Pin Connection Diagram



