

NTE1417 Integrated Circuit Deflection Signal Processor

Description:

The NTE1417 is an integrated circuit in a 24-Lead DIP type package designed for color TV deflection signal processing circuits.

Features:

- High Loop Gain in Vertical Circuit and Non-Adjustment for Vertical Linearity
- Incorporating Vertical and Horizontal Oscillator Circuit. Operations Highly Stable Against Changes in Supply Voltage and Temperature.
- Built-In High Tension Protector Circuit

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

Supply Voltage

$V_{20-16(4)}$	14.4V
$V_{8-4(16)}$	15.0V

Circuit Voltage

$V_{1-4,16}$	-3V to 7V
$V_{12-4,16}$	0V to $V_{8-4,16}$
$V_{14-16,4}$	0V to $V_{20-16,4}$
$V_{15-16,4}$	0V to $V_{20-16,4}$
$V_{23-4,16}$	0V to 6V
$V_{24-4,16}$	-3V to 1V

Circuit Current

I_5	-1.5mA to 1.5mA
I_6	-1.2mA to 0mA
I_7	-1.4mA to 1.2mA
I_{10}	0mA to 10mA
I_{15}	0mA to 3mA
I_{17}	-2mA to 0mA
I_{19}	0mA to 40mA

Power Dissipation, P_D 600mW

Operating Ambient Temperature Range, T_{opr} -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	10.0	12.3	mA
	I_{20}		20.8	26.0	31.2	mA
Oscillation Starting Voltage ($V \bullet O_{SC}$)	$V_{OSC-S(1)}$	$f_{VO} = 40\text{Hz to } 70\text{Hz}$, $0.7V_{P-P}$ or more Output of Amplification	—	—	6.2	V
Vertical Oscillation Frequency	f_{VO}	$V_{CC} = 12\text{V}$	53.0	55.6	58.0	Hz
f_{VO} Change 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 ($V \bullet O_{SC}$)	τ	$V_{CC} = 12\text{V}$	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} Change with Ambient Temperature	$\Delta f_{VO}/T_A$	$V_{CC} 2 = 12\text{V}$, $T_A = -20^{\circ}$ to $+70^{\circ}\text{C}$	0	—	1.0	Hz
Oscillation Starting Voltage ($H \bullet O_{SC}$)	$V_{OSC-S(2)}$	$f_{HO} = 10\text{kHz to } 20\text{kHz}$, $3V_{P-P}$ ($V_{CC} = 6.5\text{V}$)	5.0	—	6.5	V
Horizontal Oscillation Frequency	f_{HO}	$V_{CC} = 12\text{V}$	15.2	—	16.5	kHz
f_{HO} Change with Supply Voltage	$\Delta f_{HO}/V_{CC}$	$f_{HO} _{14.4\text{V}}$ to $f_{HO} _{9.6\text{V}}$	0	—	100	Hz
Pulse Width Duty Ratio ($H \bullet O_{SC}$)	τ	$V_{CC} = 12\text{V}$	37	—	41	%
f_{HO} Control Sensitivity	β	$I_O = \pm 100\mu\text{A}$	17.0	18.9	20.8	$\text{Hz}/\mu\text{A}$
Protector Operating Voltage	V_{12-4}	$V_{12-4} = 6.9\text{V}$	5.98	—	6.18	V
f_{HO} Change with Ambient Temperature	$\Delta f_{HO}/T_A$	$V_{CC} 1 = 12\text{V}$, $T_A = -20^{\circ}$ to $+70^{\circ}\text{C}$	0	—	200	Hz
AFC Loop gain	f_{AFC}	$\mu \times \beta$	4500	6050	7600	Hz/rad

Pin Connection Diagram



