ELECTRONICS, INC.
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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°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

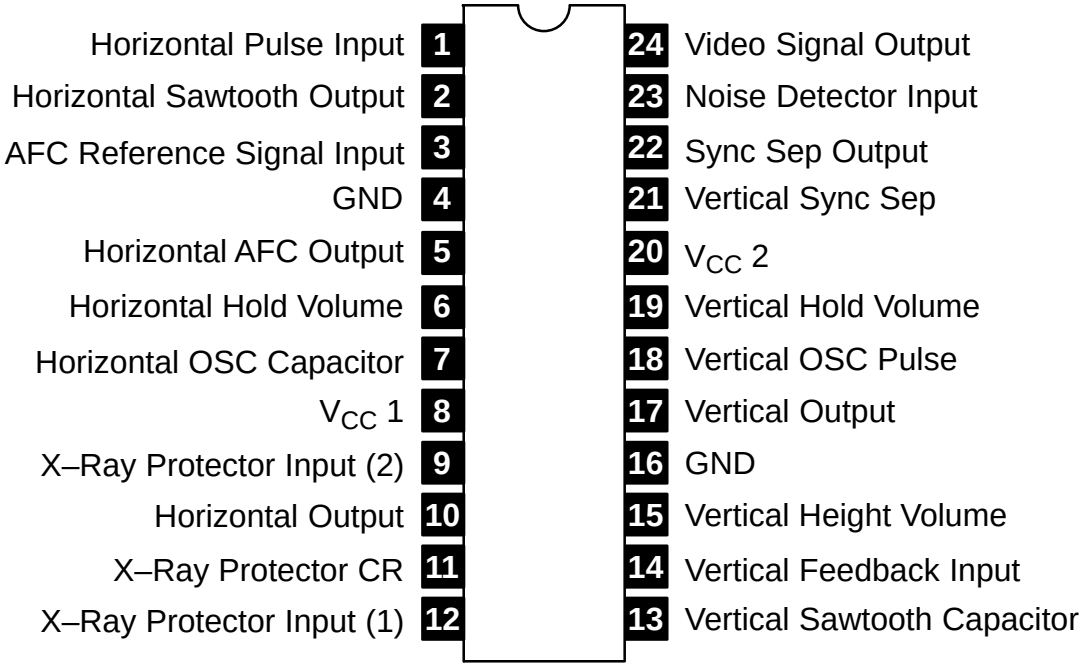
Operating Ambient Temperature Range, T_{opr} . . . . . –20° to +70°C

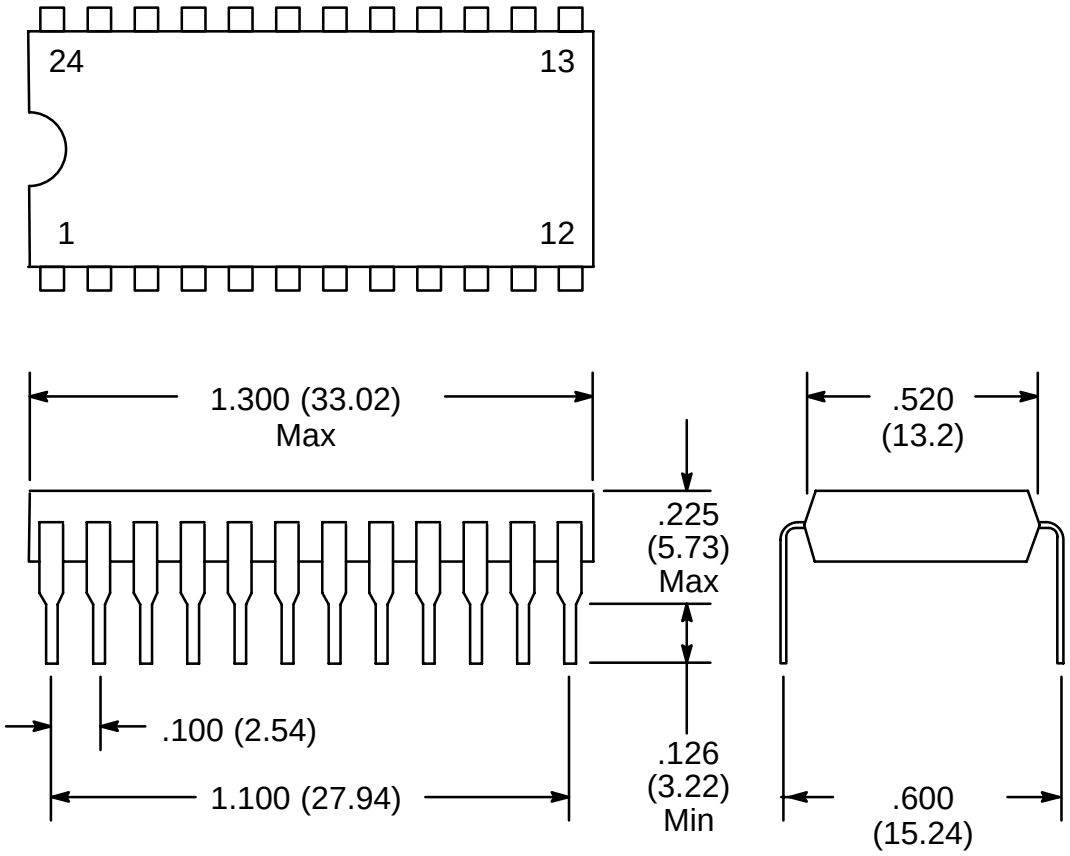
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_8	V_{CC} = 12V	7.7	10.0	12.3	mA
	I_{20}		20.8	26.0	31.2	mA
Oscillation Starting Voltage (V • O_{SC})	$V_{OSC–S(1)}$	f_{VO} = 40Hz to 70Hz, 0.7$V_{P–P}$ or more Output of Amplification	–	–	6.2	V
Vertical Oscillation Frequency	f_{VO}	V_{CC} = 12V	53.0	55.6	58.0	Hz
f_{VO} Change with Supply Voltage	$\Delta f_{VO}/V_{CC}$	$f_{VO}\|_{9.6V}$ to $f_{VO}\|_{14.4V}$	0	0.84	1.0	Hz
Pulse Width (V • O_{SC})	τ	V_{CC} = 12V	500	–	820	µs
Vertical Pull–In Range	f_{VP}	$R_{OSC(V)}$ = 9.76kΩ, f_{VO} = 48Hz	–	–	50	Hz
f_{VO} Change with Ambient Temperature	$\Delta f_{VO}/T_A$	V_{CC} 2 = 12V, T_A = –20° to +70°C	0	–	1.0	Hz
Oscillation Starting Voltage (H • O_{SC})	$V_{OSC–S(2)}$	f_{HO} = 10kHz to 20kHz, 3$V_{P–P}$ (V_{CC} = 6.5V)	5.0	–	6.5	V
Horizontal Oscillation Frequency	f_{HO}	V_{CC} = 12V	15.2	–	16.5	kHz
f_{HO} Change with Supply Voltage	$\Delta f_{HO}/V_{CC}$	$f_{HO}\|_{14.4V}$ to $f_{HO}\|_{9.6V}$	0	–	100	Hz
Pulse Width Duty Ratio (H • O_{SC})	τ	V_{CC} = 12V	37	–	41	%
f_{HO} Control Sensitivity	β	I_O = ±100µA	17.0	18.9	20.8	Hz/µA
Protector Operating Voltage	$V_{12–4}$	$V_{12–4}$ = 6.9V	5.98	–	6.18	V
f_{HO} Change with Ambient Temperature	$\Delta f_{HO}/T_A$	V_{CC} 1 = 12V, T_A = –20° to +70°C	0	–	200	Hz
AFC Loop gain	f_{AFC}	μ x β	4500	6050	7600	Hz/rad

Pin Connection Diagram




24
13
1
12
1.300 (33.02)
Max
.225
(5.73)
Max
.100 (2.54)
1.100 (27.94)
.126
(3.22)
Min
.520
(13.2)
.600
(15.24)