



44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748-5089

NTE1727 Integrated Circuit TV Signal Processor

Description:

The NTE1727 is an integrated circuit designed for color TV deflection signal processing circuits. It can be operated with a 12V power supply and is suitable for compact and medium-sized color TV sets.

Features:

- Built-In Vertical Deflection Driver Circuit
- Incorporating Vertical and Horizontal Oscillator Circuit, Operations Highly Stable Against Changes in Supply Voltage and Temperature.
- Highly Stable Synchronous Separation Circuit Against Noise
- Built-In High Tension Protector Circuit (X-Ray Protection)
- 12V Supply Voltage Operation

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

Supply Voltage

V_{7-9}	.....	10.5V
V_{15-9}	.....	14.4V

Circuit Voltage

V_{1-9}, V_{12-9}	.....	0 to 10V
V_{10-9}	.....	0 to V_{15-9}
V_{17-9}	.....	0 to 6V
V_{18-9}	.....	-3V to 2V

Supply Current

I_7	.....	16mA
I_{15}	.....	23mA

Circuit Current

I_2, I_4	.....	-3mA to 3mA
I_3	.....	-5mA to 0mA
I_5	.....	-1mA to 1mA
I_6, I_8	.....	-30mA to 0mA
I_{12}	.....	-2mA to 1mA
I_{13}	.....	0mA to 30mA

Power Dissipation, P_D 500mW

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

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

Note 1. + and - are flow-in and flow-out currents to/from the circuit, respectively.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I ₇	Apply 12V with 200 to Pin7	7.5	12.0	15.5	mA
	I ₁₅	V ₁₅₋₉ = 12V	18	25	33	mA
Protector Operating Voltage	V ₅₋₉	Apply 12V with 200 to pin7	0.73	—	0.86	V
Oscillation Starting Voltage (V • Osc)	V _{OSC-s(1)}	f _{VO} = 40Hz to 60Hz, 0.7V _{P-P} or more	—	—	6	V
Vertical Oscillation Frequency	f _{VO}	V _{CC} 1 = 12V, R _{OSC(V)} = 9.5kΩ	47	50	53	Hz
f _{VO} Change with Supply Voltage	Δf _{VO} /V _{CC}	f _{VO} |9.6V to f _{VO}| 14.4V	0	1.0	1.3	Hz
Pulse Width (V • Osc)	τ	V _{CC} 1 = 12V, R _{OSC(V)} = 9.5kΩ	420	600	780	μs
Vertical Pull-In Range	f _{VP}	V _{CC} 1 = 12V, R _{OSC(V)} = 9.5kΩ	—	43	47	Hz
Vertical Sawtooth Wave Amplification	V _(saw)	V _{CC} 1 = 12V, R _{OSC(V)} = 9.5kΩ	0.9	1.2	1.5	V _{P-P}
f _{VO} Change with Ambient Temperature	Δf _{VO} /T _A	T _A = -20° to +70°C	—	0.8	—	Hz/°C
V _(saw) Change with Ambient Temperature	ΔV _(saw) /T _A	T _A = -20° to +70°C	—	—	30	mV _{P-P} /°C
Oscillation Starting Voltage	V _{OSC-s(2)}	f _{VO} = 10kHz to 20kHz, 1V _{P-P} or more	—	—	6	V
Horizontal Oscillation Frequency	f _{HO}	V _{CC} 2 = 12V, R _{OSC(H)} = 2.95kΩ	15.0	15.75	16.25	kHz
f _{HO} Change with Supply Voltage	Δf _{HO} /V _{CC}	f _{HO} |9.6V to f _{HO}| 14.4V	0	100	200	Hz
Pulse Width Duty Ratio (H • Osc)	τ	V _{CC} 2 = 12V	31.5	35.4	38.9	&
f _{HO} Control Sensitivity	β	I _O = ±100μA	19	21	23	Hz/μA
f _{HO} Change with Ambient Temperature	Δf _{HO} /T _A	T _A = -20° to +70°C	-1.67	—	+1.67	Hz/°C
AFC Loop Gain	f _{AFC}	μ × β	5800	7700	9600	Hz/rad

Pin Connection Diagram



