



ELECTRONICS, INC.
 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 sSupply 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}	$V_{15-9} = 12\text{V}$	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)	$V_{\text{OSC-s}(1)}$	$f_{\text{VO}} = 40\text{Hz to } 60\text{Hz}, 0.7V_{\text{P-P}}$ or more	–	–	6	V
Vertical Oscillation Frequency	f_{VO}	$V_{\text{CC } 1} = 12\text{V}, R_{\text{OSC}(V)} = 9.5\text{k}\Omega$	47	50	53	Hz
f_{VO} Change with Supply Voltage	$\Delta f_{\text{VO}}/V_{\text{CC}}$	$f_{\text{VO}} 9.6\text{V to } f_{\text{VO}} 14.4\text{V}$	0	1.0	1.3	Hz
Pulse Width (V • Osc)	τ	$V_{\text{CC } 1} = 12\text{V}, R_{\text{OSC}(V)} = 9.5\text{k}\Omega$	420	600	780	μs
Vertical Pull-In Range	f_{VP}	$V_{\text{CC } 1} = 12\text{V}, R_{\text{OSC}(V)} = 9.5\text{k}\Omega$	–	43	47	Hz
Vertical Sawtooth Wave Amplification	$V_{(\text{saw})}$	$V_{\text{CC } 1} = 12\text{V}, R_{\text{OSC}(V)} = 9.5\text{k}\Omega$	0.9	1.2	1.5	$V_{\text{P-P}}$
f_{VO} Change with Ambient Temperature	$\Delta f_{\text{VO}}/T_A$	$T_A = -20^\circ\text{ to } +70^\circ\text{C}$	–	0.8	–	$\text{Hz}/^\circ\text{C}$
$V_{(\text{saw})}$ Change with Ambient Temperature	$\Delta V_{(\text{saw})}/T_A$	$T_A = -20^\circ\text{ to } +70^\circ\text{C}$	–	–	30	$\text{mV}_{\text{P-P}}/^\circ\text{C}$
Oscillation Starting Voltage	$V_{\text{OSC-s}(2)}$	$f_{\text{VO}} = 10\text{kHz to } 20\text{kHz}, 1V_{\text{P-P}}$ or more	–	–	6	V
Horizontal Oscillation Frequency	f_{HO}	$V_{\text{CC } 2} = 12\text{V}, R_{\text{OSC}(H)} = 2.95\text{k}\Omega$	15.0	15.75	16.25	kHz
f_{HO} Change with Supply Voltage	$\Delta f_{\text{HO}}/V_{\text{CC}}$	$f_{\text{HO}} 9.6\text{V to } f_{\text{HO}} 14.4\text{V}$	0	100	200	Hz
Pulse Width Duty Ratio (H • Osc)	τ	$V_{\text{CC } 2} = 12\text{V}$	31.5	35.4	38.9	&
f_{HO} Control Sensitivity	β	$I_O = \pm 100\mu\text{A}$	19	21	23	$\text{Hz}/\mu\text{A}$
f_{HO} Change with Ambient Temperature	$\Delta f_{\text{HO}}/T_A$	$T_A = -20^\circ\text{ to } +70^\circ\text{C}$	-1.67	–	+1.67	$\text{Hz}/^\circ\text{C}$
AFC Loop Gain	f_{AFC}	$\mu \times \beta$	5800	7700	9600	Hz/rad

Pin Connection Diagram



