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NTE1295 Integrated Circuit TV Signal Processor

Description:

The NTE1295 is an integrated circuit in an 18-Lead DIP type package designed for color TV deflection signal processing circuit. It can be operated with 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: ($T_A = +25^\circ\text{C}$, Note 1 unless otherwise specified)

Supply Voltage

V_{7-8}	10.5V
V_{15-8}	14.4V

Circuit Voltage

V_{1-8}	0 to 10V
V_{10-8}	0 to V_{15-8}
V_{12-8}	0 to V_{15-8}
V_{17-8}	-0.6 to 6.0V
V_{18-8}	-3 to +2V

Supply Current

I_7	15mA
I_{15}	20mA

Circuit Current

I_2	-3 to +3mA
I_3	-5 to 0mA
I_4	-5 to +5mA
I_5	-1 to +1mA
I_6	-20 to 0mA
I_9	-15 to 0mA
I_{12}	-1 to +150mA
I_{13}	0 to 40mA

Power Dissipation, P_D 450mW

Operating Ambient Temperature Range, T_{opr} -20° to $+70^\circ\text{C}$

Storage Temperature Range, T_{stg} -55° to $+150^\circ\text{C}$

Note 1. $\oplus$ and $\ominus$ 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 240Ω to Pin7	7.5	11.2	15.0	mA
	I_{15}	$V_{15-8} = 12\text{V}$	15.5	23.0	32.0	mA
Protector Operating Voltage	V_{5-8}	Apply 12V with 240Ω to Pin7	0.64	0.70	0.76	V
Oscillation Starting Voltage ($V \bullet O_{sc}$)	V_{OSC-S}	$f_{VO} = 40$ to 70Hz , $1.0V_{P-P}$ or More	—	—	6.2	V
Vertical Oscillation Frequency	f_{VO}	$V_{CC1} = 12\text{V}$	53	55	58	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	0.93	1.3	Hz
Pulse Width ($V \bullet O_{sc}$)	τ	$V_{CC1} = 12\text{V}$	500	600	820	μs
Vertical Pull-In Range	f_{VP}	$R_{OSC} = 10.93\text{k}\Omega$, ($f_{VO} = 48 \pm 1.5\text{Hz}$)	—	—	50	Hz
Vertical Sawtooth Wave Amplification	$V_{(saw)}$	$R_{SAW} = 26.4\text{k}\Omega$	1.8	2.0	2.2	V_{P-P}
f_{VO} Change with Ambient Temperature	$\Delta f_{VO}/T_A$	$T_A = -20^{\circ}$ to $+70^{\circ}\text{C}$, Note 2	-220	-170	0	ppm/ $^{\circ}\text{C}$
$V_{(saw)}$ Change with Ambient Temperature	$\Delta V_{(saw)}/T_A$	$T_A = -20^{\circ}$ to $+70^{\circ}\text{C}$, Note 2	—	—	30	mV $_{P-P}/^{\circ}\text{C}$
Vertical Output Tr Drive Current	I_9		—	—	7.5	mA
Oscillation Starting Voltage ($H \bullet O_{sc}$)	V_{OSC-S}	$f_{HO} = 10$ to 20kHz , $1.4V_{P-P}$ or More ($V_{CC2} = 6.5\text{V}$)	—	—	6	V
Horizontal Oscillation Frequency	f_{HO}	$V_{CC2} = 12\text{V}$	15.0	15.6	16.25	kHz
f_{HO} Change with Supply Voltage	$\Delta f_{HO}/V_{CC}$	$f_{HO} _{13\text{V}}$ to $f_{HO} _{10\text{V}}$	0	25	45	Hz
Pulse Width Duty Ratio ($H \bullet O_{sc}$)	τ	$V_{CC2} = 12\text{V}$	32.0	36.0	39.5	%
f_{HO} Control Sensitivity	β	$I_O = \pm 100\text{mA}$	19	21	23	Hz/ μA
f_{HO} Change with Ambient Temperature	$\Delta f_{HO}/T_A$	$T_A = -20^{\circ}$ to $+70^{\circ}\text{C}$, Note 2	-210	-100	0	ppm/ $^{\circ}\text{C}$
AFC Loop Gain	f_{AFC}	$\mu \times \beta$	5800	7700	9600	Hz/rad

Note 2. Design reference value.

Pin Connection Diagram



