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NTE1804
Integrated Circuit
Vertical Deflection Circuit
for Large Screen TV

Description:

The NTE1804 is an integrated circuit in a 13–Lead SIP type package designed for vertical deflection in video monitors and large screen color television receivers, e.g. 30AX and PIL–S4 systems.

Features:

- Oscillator; Switch Capability for 50Hz/60Hz Operation
- Synchronization Circuit
- Blanking Pulse Generator with Guard Circuit
- Sawtooth Generator with Buffer Stage
- Preamplifier with Fed–Out Inputs
- Output Stage with Thermal and Short–Circuit Protection
- Flyback Generator
- Voltage Stabilizer

Absolute Maximum Ratings:

Supply Voltage (V_9), V_{CC} 40V
Supply Voltage Output Stage (Pin5), V_5 . . . . . 58V
Voltages
- Pin3, V_3 . . . . . 7V
- Pin13, V_{13} 7V
- Pin4 & Pin10, V_4, V_{10} 24V
- Pin6, V_6 . . . . . 58V
- Pin6, $–V_6$ 0V
- Pin7 & Pin11, V_7, V_{11} 40V

Currents
- Pin1, I_1 . . . . . 0mA
- Pin1, $–I_1$ 1mA
- Pin2, $\pm I_2$ 10mA
- Pin3, IP_3 . . . . . 0mA
- Pin3, $–I_3$ 5mA
- Pin7, I_7 . . . . . 1.2A
- Pin7, $–I_7$ 1.5A
- Pin11, I_{11} 50mA
- Pin11, $–I_{11}$ 1mA
- Pin12, I_{12} 3mA
- Pin12, $–I_{12}$ 0mA

Operating Ambient Temperature Range, T_A . . . . . –20° to +85°C
Storage Temperature Range, T_{stg} . . . . . –25° to +150°C

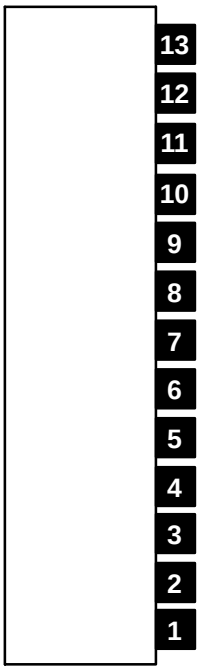
Note 1. Pin5, Pin6, and Pin8: internally limited by the short–circuit protection circuit.

Note 2. Total power dissipation: internally limited by the thermal protection circuit.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		9	–	30	V
Output Voltage	V_6	$-I_6$ = 1.1A	V_5–2.2	V_5–1.9	–	V
		I_6 = 1.1A	–	1.3	1.6	V
Flyback Generator Output Voltage	V_7	$-I_6$ = 1.1A	–	V_{CC}–2.2	–	V
Peak Output Current	$\pm I_6$		–	–	1.2	A
Flyback Generator Peak Current	$\pm I_7$		–	–	1.2	A
Feedback						
Input Quiescent Current	$-I_4$, $-I_{10}$		–	0.1	–	µA
Synchronization						
Sync Input Pulse	V_2		1	–	12	V
Tracking Range			–	28	–	%
Oscillator/Sawtooth Generator						
Oscillator Frequency Control Input Range	V_1		6	–	9	V
Sawtooth Generator Output Voltage	V_3		0	–	V_{CC}–1	V
	V_{11}		0	–	V_{CC}–2	V
Sawtooth Generator Output Current	$-I_3$		0	–	4	mA
	I_{11}		–2	–	–	µA
			–	–	+30	mA
Oscillator Temperature Dependency	$(\Delta f/f)/\Delta T_C$	T_C = +20° to +100°C	–	10^4	–	°C
Oscillator Voltage Dependency	$(\Delta f/f)/\Delta V_S$	V_S = 10V to 30V	–	4×10^4	–	V^{-1}
Blanking Pulse Generator						
Output Voltage	V_2	V_S = 24V, I_2 = 1mA	–	18.5	–	V
Output Current	$-I_2$		–	–	3	mA
Output Resistance	R_2		–	410	–	Ω
Blanking Pulse Duration	t_B	At 50Hz Sync	–	1.4±0.07	–	ms
50Hz/60Hz Switch Capability						
Saturation Voltage, LOW Voltage Level	V_{12}		–	1	–	V
Output Leakage Current	I_{12}		–	1	–	µA

Pin Connection Diagram
(Front View)



13	OSC Capacitor
12	50Hz/60Hz Switching Voltage
11	Sawtooth Capacitor
10	Reference Voltage
9	V_{CC}
8	GND
7	Flyback Generator Output
6	Output
5	Output Stage Supply Input
4	Preamp Input
3	Sawtooth Generator Output
2	Sync Input/Blanking Output
1	OSC Adjust