NTE ELECTRONICS, INC.
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NTE7045
Integrated Circuit
Horizontal Signal Processing Circuit for CRT Displays

Features:

- Processing for both Negative and Positive Sync. Signal
- Wide Horizontal Oscillation Frequency Range: 14kHz to 60kHz
- Wide Output Pulse Width Selection: 2µs to 40µs

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage, V_{CC} 13.2V
Supply Current, I_{CC} 50mA
Power Dissipation, P_D 1140mW
Operating Ambient Temperature Range, T_{opr} . . . . . –20° to +70°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Circuit Current	I_{tot}	V_{CC} = 11V	30	45	60	mA
Polarity Changeover Voltage	$V_{2–7}$	Positive Polarity Signal Input	0	–	0.4	V
		Negative Polarity Signal Input	2.5	–	5.5	V
Horizontal OSC Starting Voltage	$V_{osc–s\ (H)}$	f_{HO} = 12kHz to 19kHz	7.5	–	–	V
Horizontal OSC Frequency	$f_{HO(1)}$	V_{CC} = 11V, C = 4400pf	15.0	15.75	16.5	kHz
Horizontal OSC Enable Frequency	$f_{HO(2)}$	V_{CC} = 11V, C = 820pf, 5600pf	14	–	60	kHz
f_{HO} Change with Supply Voltage	$\Delta f_{HO}/V_{CC}$	f_{HO} = 15.75kHz, f_{HO} |9.9V – f_{HC}| 12.1V	–	40	130	Hz
f_{HO} Change with Ambient Temperature	$\Delta f_{HO}/T_A$	f_{HO} = 15.75kHz, f_{HO} |–20°C – f_{HO}| +60°C	–	–	260	Hz
OSC Frequency Control Sensitivity	β	ΔI_O = ±25µA	16.0	17.6	19.3	Hz/µA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Loop Gain	f_{DC}	$\mu \times \beta$	–	700	–	Hz/µs
Output Pulse Width	$\tau_{HO(1)}$	V_{CC} = 11V, R = 20kΩ, C = 6800pf	17.8	19.4	21.2	µs
Output Enable Pulse Width	$\tau_{HO(2)}$	V_{CC} = 11V, R = 20kΩ, C = 330pf, 18000pf	2	–	40	µs
Output Pulse Width Supply Voltage Change	$\Delta\tau_{HO}/V_{CC}$	V_{CC} = 9.9V to 12.1V	–	–	5	%
Output Pulse Width Temperature Change	$\Delta\tau_{HO}/T_A$	V_{CC} = 11V, T_A = –20° to +60°C	–	–	5	%
OSC Output Saturation Voltage	V_{8-7}	V_{CC} = 11V, V_{10-7} = 1V	–	–	2	V
OSC Output Driving Current	V_{8-7}	V_{CC} = 11V, V_{10-7} = 1V	300	–	–	mA
X–Ray Protection Circuit Operation Starting Voltage	V_{6-7}	V_{CC} = 11V	0.5	0.64	0.75	V

Pin Connection Diagram
(Front View)