ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE1538
Integrated Circuit
TV Horizontal/Vertical OSC Driver

Description:

The NTE1538 is a multifunctional integrated circuit in a 16–Lead DIP type package containing various functions required for synchronization, deflection of color television sets. This device has been developed under the design concept that the basic characteristics should be made more complete and the television sets incorporating the NTE1538 should be streamlined by making the device compact and by minimizing the number of parts required.

Functions:

- Synchronizing Separation
- Horizontal Oscillation
- Vertical Drive
- Vertical Blanking
- Horizontal AFC
- Vertical Oscillation
- X–Ray Protection

Features:

- Multifunctional and Compact
- Minimum Number of Parts Required
- Horizontal, Vertical Oscillators are Stable Against Variations in Ambient Temperature and Supply Voltage due to Small Warm–Up Drift.
- Small Variation in Horizontal Oscillation Frequency
- Good Linearity and Interlace because DC Bias at Vertical Output Stage is Subjected to Sampling Control within Retrace Time.
- Vertical Blanking Pulse Width can be Set Freely According to Peripheral Parts

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

Maximum Supply Voltage, V_{12} 14V
Maximum Supply Current, I_{15} 16mA
Allowable Power Dissipation (T_A = +60°C), $P_D$max 450mW
Operating Temperature Range, T_{opg} . . . . . –20° to +85°C
Storage Temperature Range, T_{stg} . . . . . –55 to +125°C

Recommended Operating Condition: (T_A = +25°C unless otherwise specified)

Recommended Supply voltage, V_{12} 12V

Electrical Characteristics: (T_A = +25°C, V_{12} = 12V, I_{CC15} = 13mA unless otherwiss specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
V_{CC12} Current Dissipation	I_{CC12}		13.0	–	20.0	mA
V_{CC15} Supply Voltage	V_{CC15}		11.8	–	13.2	V
Vertical Frequency Pull–In Range			9.0	–	11.0	Hz
Vertical Free–Running Frequency	f_V	f_V center 55Hz	50	–	60	Hz
Supply Voltage Dependence of Vertical Frequency		V_{12} = 12 ±1V, 55Hz at 12V	–0.5	–	0.5	Hz
Temperature Characteristic of Vertical Frequency		T_A = –10° to +60°C	–0.028	–	–0.028	Hz/°C
Vertical Driver Amplification Factor			12	–	17	dB
Horizontal Free–Running Frequency	f_H	f_H center 15.734kHz	–750	–	750	Hz
Supply Voltage Dependence Horizontal Frequency		V_Z – V_Z X 90%	–50	–	50	Hz
Temperature Characteristic of Horizontal Frequency		T_A = –10° to +60°C	–3.4	–	3.4	Hz/°C
Horizontal Output Pulse Width		f_H = 15.734kHz	21.5	–	26.5	µs
Horizontal Output Drive Current			3.8	–	7.2	mA

Pin Connection Diagram