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

NTE856
Integrated Circuit
TV Video Modulation Circuit

Description:

The NTE856 is an RF oscillator and dual–input modulator in an 8–Lead DIP type package designed to generate a TV signal from baseband video inputs. Typical applications include video games, home computer display, video recorders, and test equipment.

The very low level of intermodulation products, compact package and small external component count make this device superior to simple discrete circuits.

Features:

- Single 5V Supply
- Channel 3 or 4 Operation
- Excellent Oscillator Stability to 100MHz
- Color and Sound Compatibility
- Dual Input Modulator for Ease of Signal
- Low Intermodulation (–50dB 920kHz Beat)
- Overmodulation Protection

Absolute Maximum Ratings:

Supply Voltage 8V
Power Dissipation Package 1.25W
Derate above 25°C . . . . . 13mW/°C
Junction Temperature . . . . . +150°C
Operating Ambient Temperature Range . . . . . 0° to +70°C
Storage Temperature Range . . . . . –65° to +150°C

Recommended Operating Conditions:

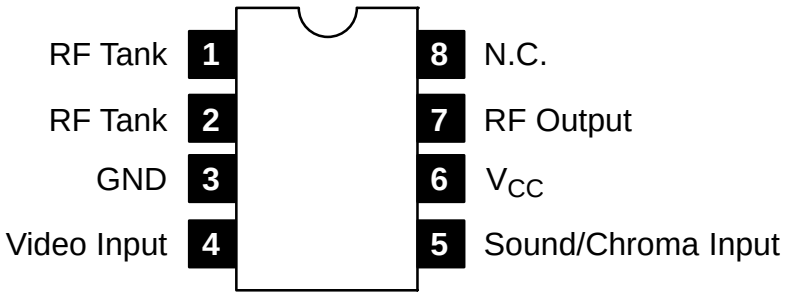
Supply Voltage 5V
Luma Input Voltage
Sync Tip 1V
Peak White 0.35V

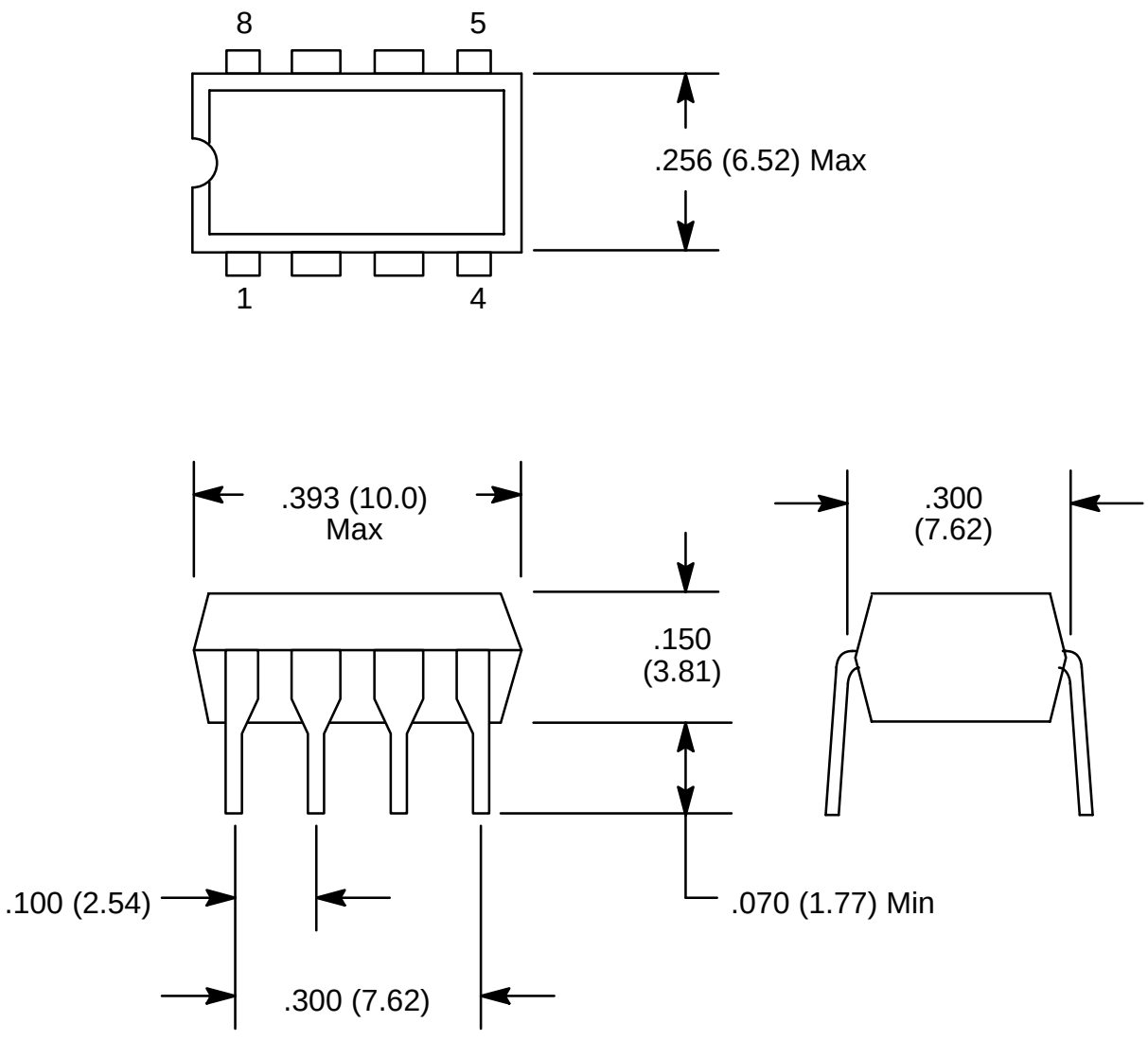
Electrical Characteristics: (V_{CC} = 5V, T_A = +25°C unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
Operating Supply Voltage		4.75	5.0	5.25	V
Supply Current		–	12	–	mA
RF Modultor					
Luma Input Dynamic Range (Pin4)		0	–	1.5	V
RF Output Voltage	f = 67.25MHz, V4 = 1V	–	15	–	mV_{rms}
Luma Conversion Gain	$\Delta V7/\Delta V4$, V4 = 0.1V to 1V	–	0.8	–	V/V
Chroma Conversion Gain	$\Delta V7/\Delta V5$, V5 = $1.5V_{P-P}$, V4 = 1V	–	0.95	–	V/V
Chroma Linearity (Pin7)	V5 = $1.5V_{P-P}$	–	1.0	–	%
Luma Linearity (Pin7)	V4 = 0 to 1.5V	–	2.0	–	%
Input Current (Pin4)		–	–	–20	µA
Input Resistance (Pin5)		–	800	–	Ω
Input Resistance (Pin4)		100	–	–	kΩ
Input Capacitance (Pin4, Pin5)		–	–	5.0	pF
Residual 920kHz	Measured at Pin7, Note 1	–	60	–	dB
Output Current (Pin7)	V4 = 0	–	1.5	–	mA
Temperature Characteristics (V_{CC} = 7V, T_A = 0° to +70°C, IC only)					
RF Oscillator Deviation	f_o = 67.265MHz				

Note 1. RF Reference Level = 6.0mV at Pin7. Load Impedance = 75Ω.
RF + 4.5MHz = –13dB.
RF + 3.58MHz = –20dB.

Pin Connection Diagram




8
5
.256 (6.52) Max
1
4
.393 (10.0)
Max
.300
(7.62)
.150
(3.81)
.100 (2.54)
.070 (1.77) Min
.300 (7.62)