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

NTE708
Integrated Circuit
TV/FM Sound IF Amplifier

Features:
- Greatly Simplifier FM Demodulator Alignment
- Excellent Performance at V+ = 8V

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

Power Supply Voltage 16V
Peak Input Voltage (Pin4) 3.5V
Power Dissipation (T_A = +25°C), P_D 625mW
Derate Above 25°C . . . . . 5mW/°C
Operating Ambient Temperature Range, T_{opr} . . . . . 0° to +75°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C

Electrical Characteristics: (V+ = 12V, T_A = +25°C unless otherwise specified)

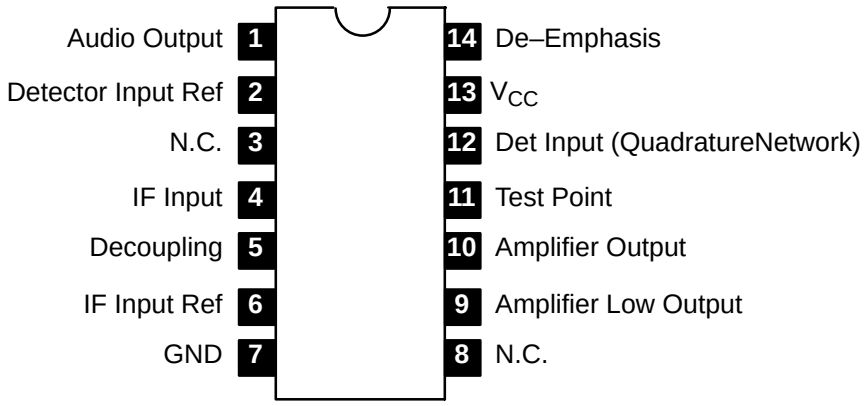
Parameter	Pin	Test Conditions	Min	Typ	Max	Unit
Drain Current	13	V+ = 8V	10	12	19	mA
		V+ = 12V	–	15	21	mA
Amplifier Input Reference Voltage	6		–	1.45	–	V
Detector Input Reference Voltage	2		–	3.65	–	V
Amplifier High Level Output Voltage	10		1.25	1.45	1.65	V
Amplifier Low Level Output Voltage	9		–	0.145	0.2	V
Detector Output Voltage	1	V+ = 8V	–	3.7	–	V
		V+ = 12V	–	5.4	–	V
Amplifier Input Resistance	4		–	5.0	–	kΩ
Amplifier Input Capacitance	4		–	11	–	pF
Detector Input Resistance	12		–	70	–	kΩ
Detector Input Capaciance	12		–	2.7	–	pF
Amplifier Output Resistance	10		–	60	–	Ω
Detector Output Resistance	1		–	200	–	Ω
De–Emphasis Resistance	14		–	8.8	–	kΩ

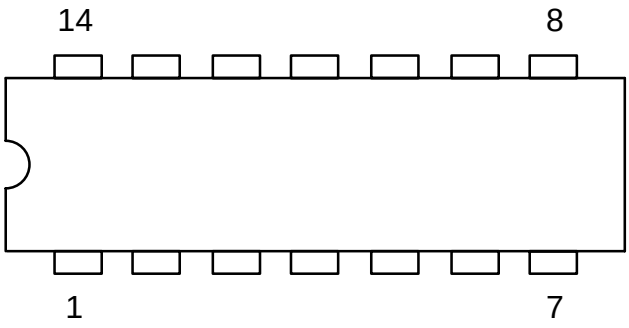
Dynamic Characteristics: (FM Modulation Freq = 1kHz, Source Resistance = 50Ω, T_A = +25°C for all tests)

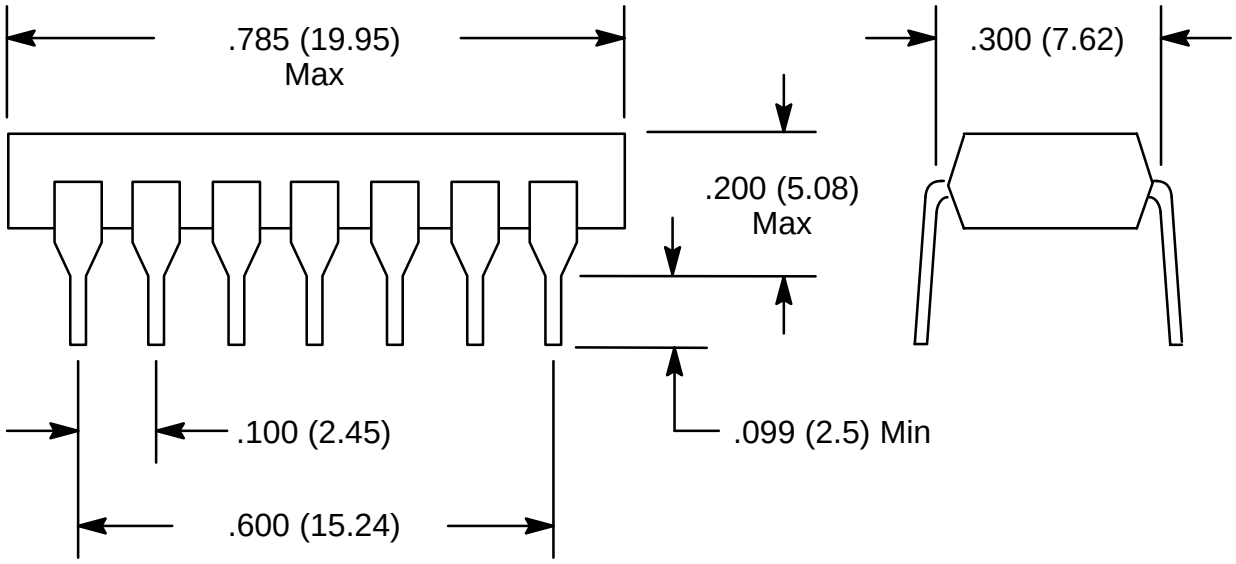
Parameter	Pin	Test Conditions	Min	Typ	Max	Unit
(V+ = 12V, f_o = 4.5MHz, Δf = ±25kHz, Peak Separation = 150kHz)						
Amplifier Voltage Gain	10	$V_{in} \leq 50\mu V_{rms}$	–	60	–	dB
AM Rejection	1	V_{in} = 10mV_{rms}, Note 1	–	36	–	dB
Input Limiting Threshold Voltage	4		–	250	–	μV_{rms}
Recovered Audio Output Voltage	1	V_{in} = 10mV_{rms}	–	0.72	–	V_{rms}
Output Distortion	1	V_{in} = 10mV_{rms}	–	3	–	%
(V+ = 12V, f_o = 5.5MHz, Δf = ±50kHz, Peak Separation = 260kHz)						
Amplifier Voltage Gain	10	$V_{in} \leq 50\mu V_{rms}$	–	60	–	dB
AM Rejection	1	V_{in} = 10mV_{rms}, Note 1	–	40	–	dB
Input Limiting Threshold Voltage	4		–	250	–	μV_{rms}
Recovered Audio Output Voltage	1	V_{in} = 10mV_{rms}	–	1.2	–	V_{rms}
Output Distortion	1	V_{in} = 10mV_{rms}	–	5	–	%
(V+ = 8V, f_o = 10.7MHz, Δf = ±75kHz, Peak Separation = 550kHz)						
Amplifier Voltage Gain	10	$V_{in} \leq 50\mu V_{rms}$	–	53	–	dB
AM Rejection	1	V_{in} = 10mV_{rms}, Note 1	–	37	–	dB
Input Limiting Threshold Voltage	4		–	600	–	μV_{rms}
Recovered Audio Output Voltage	1	V_{in} = 10mV_{rms}	–	0.3	–	V_{rms}
Output Distortion	1	V_{in} = 10mV_{rms}	–	1.4	–	%
(V+ = 12V, f_o = 10.7MHz, Δf = ±75kHz, Peak Separation = 550kHz)						
Amplifier Voltage Gain	10	$V_{in} \leq 50\mu V_{rms}$	–	53	–	dB
AM Rejection	1	V_{in} = 10mV_{rms}, Note 1	–	45	–	dB
Input Limiting Threshold Voltage	4		–	600	–	μV_{rms}
Recovered Audio Output Voltage	1	V_{in} = 10mV_{rms}	–	0.48	–	V_{rms}
Output Distortion	1	V_{in} = 10mV_{rms}	–	1.4	–	%

Note 1. 100% FM, 30% AM Modulation.

Pin Connection Diagram




14
8
1
7


.785 (19.95)
Max
.300 (7.62)
.200 (5.08)
Max
.100 (2.45)
.099 (2.5) Min
.600 (15.24)