



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

NTE1301 Integrated Circuit AM/FM IF

Description:

The NTE1301 is a silicon monolithic integrated circuit in a 7-Lead SIP type package designed for the AM/FM IF amplifier of a radio receiver. Two differential amplifiers and an AGC circuit perform good limiting quality for FM operation and good AGC characteristics for AM operation.

Features:

- Structure: Silicon Monolithic Integrated Circuit
- Applications: AM-IF, FM-IF, AM-AGC

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Supply Voltage, V_{CC} 5V
Operating Temperature Range, T_{opt} -15° to $+60^\circ\text{C}$
Storage Temperature Range, T_{stg} -50° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 4\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_D	No Signal	6.5	9.5	12.5	mA
Transfer Conductance	g_m	$f = 455\text{kHz}$ (CW), $V_i = 1\text{mV}$	162	260	418	$\text{m}\Omega$
		$f = 455\text{kHz}$ (CW), $V_i = 1\text{mV}$, $V_{CC} = 2.66\text{V}$	90	160	308	$\text{M}\Omega$
		$f = 10.7\text{MHz}$ (CW), $V_i = 1\text{mV}$ (Dev = 22.5kHz, $f_M = 1\text{kHz}$)	162	250	396	$\text{m}\Omega$
Noise Level	V_N	$f = 455\text{kHz}$ (CW), $V_i = 80\text{dB}\mu$, $V_2 = 0\text{V}$	—	-78	-70	dBs
Output Level (FM)	V_O	$f = 10.7\text{MHz}$ (Dev = 22.5kHz, $f_M = 1\text{kHz}$), $V_i = 100\text{dB}$	-29	-26	-23	dBs
Differential Amp 1 Output	V_M	$f = 10.7\text{MHz}$, $V_i = 100\text{dB}$, $V_{CC} = 2.66\text{V}$ (Dev = 22.5kHz, $f_M = 1\text{kHz}$)	252	350	473	mV
Output Level (AM)	AGC	$f = 455\text{kHz}$, $V_i = 53\text{dB}\mu$, $V_2 = 0.8\text{V}$, $R_g = 1\text{k}\Omega$ (MOD 30%, 1kHz)	-32	-28	-23	dBs
		$f = 455\text{kHz}$, $V_i = 53\text{dB}\mu$, $V_2 = 0.8\text{V}$, $V_{CC} = 2.66\text{V}$, $R_g = 1\text{k}\Omega$ (MOD 30%, 1kHz)	-37	-31	-24	dBs
		$f = 455\text{kHz}$, $V_i = 97\text{dB}\mu$, $V_2 = 0\text{V}$, $R_g = 1\text{k}\Omega$ (MOD 30%, 1kHz)	-41	-27	-14	dBs
		$f = 455\text{kHz}$, $V_i = 97\text{dB}\mu$, $V_2 = 0\text{V}$, $V_{CC} = 2.66\text{V}$, $R_g = 1\text{k}\Omega$ (MOD 30%, 1kHz)	—	-32	-19	dBs
Output Level (AM)	V_{Det}	$f = 455\text{kHz}$, $V_i = 67\text{dB}\mu$, $V_{CC} = 1.8\text{V}$ (MOD 30%, 1kHz)	-41	-34	—	dBs



Pin Connection Diagram
(Front View)

