ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE703
Linear Integrated Circuit
RF–IF Amplifier

Description:

The NTE703 is an RF–IF amplifier intended for use as a limiting or non–limiting amplifier, harmonic mixer, or oscillator to 150MHz. The low internal feedback of the device insures a higher stability–limited gain.

Features:

- Few external components

Absolute Maximum Ratings:

Supply Voltage, V+ 20V
Output Collector Voltage 24V
Voltage Between Input Pins . . . . . ±5.0V
Internal Power Dissipation 500mW
Operating Temperature Range, T_{opr} . . . . . 0°C to +70°C
Storage Temperature Range , T_{stg} . . . . . –65°C to +150°
Lead Temperature (Soldering, 60 seconds), T_L . . . . . 300°C

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

Parameter	Test Conditions	Min	Typ	Max	Unit
Power Consumption	e_{in} = 0	–	110	170	mW
Quiescent Output Current	e_{in} = 0	1.5	2.5	3.3	mA
Peak–to–Peak Output Current	e_{in} = 400mV$_{rms}$, f = 1kHz	3.0	–	–	mA
Output Saturation Voltage		–	–	1.7	V
Forward Transadmittance	e_{in} = 10mV$_{rms}$, f = 1kHz	29	33	–	mmho
Input Conductance	e_{in} < 10mV$_{rms}$, f = 10.7MHz	–	0.35	1.0	mmho
Input Capacitance	e_{in} < 10mV$_{rms}$, f = 10.7MHz	–	9.0	12.5	pF
Output Capacitance	e_o = 100mV$_{rms}$, f = 10.7MHz	–	2.0	4.0	pF
Output Conductance	e_o = 100mV$_{rms}$, f = 10.7MHz	–	–	0.05	mmho
Noise Figure	f = 30MHz, R_S = 500Ω	–	6.5	–	dB
	f = 100MHz, R_S = 500Ω	–	8.0	–	

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

Parameter	Test Conditions	Min	Typ	Max	Unit
The following specifications apply for 0°C ≤ T_A ≤ 70°C					
Quiescent Output Current	e_{in} = 0	1.7	–	3.5	mA
Peak–to–Peak Output Current	e_{in} = 400mV_{rms}, f = 1kHz	3.2	–	–	mA
Output Saturation Voltage		–	–	1.8	V
Forward Transadmittance	e_{in} = 10mV_{rms}, f = 1kHz	22	–	–	mmho
Input Conductance	e_{in} < 10mV_{rms}, f = 1kHz	–	–	0.71	mmho
Output Conductance	e_o = 100mV_{rms}, f ≤ 5MHz	–	–	0.06	mmho

Pin Connection Diagram
(Top View)