

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 $\pm 5.0V$
Internal Power Dissipation 500mW
Operating Temperature Range, T_{opr} 0° to $+70^\circ C$
Storage Temperature Range, T_{stg} -65° to $+150^\circ$
Lead Temperature (Soldering, 60 seconds), T_L $+300^\circ C$

Electrical Characteristics: ($T_A = +25^\circ C$, $V_+ = 12V$ 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	$f = 30MHz$, $R_S = 500\Omega$	—	6.5	—	dB
	$f = 100MHz$, $R_S = 500\Omega$	—	8.0	—	

Electrical Characteristics (Cont'd): ($T_A = +25^{\circ}\text{C}$, $V_+ = 12\text{V}$ unless otherwise specified)

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

