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NTE703A
Linear Integrated Circuit
RF–IF Amplifier

Description:

The NTE703A is an RF–IF amplifier constructed on a single silicon chip and i 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 than that available from conventional circuitry. Including the biasing network in the same package reduces the number of external components required, thereby increasing the reliability and versatility of the device.

Absolute Maximum Ratings:

Supply Voltage, V+ 20V
Output Collector Voltage 24V
Voltage Between Input Pins . . . . . ±5.0V
Internal Power Dissipation (Note 1) 200mW
Operating Temperature Range, T_{opr} . . . . . 0° to +70°C
Storage Temperature Range , T_{stg} . . . . . –65° to +150°C
Lead Temperature (Soldering, 60 seconds), T_L . . . . . +300°C

Note 1. Rating applies for ambient temperature to +70°C.

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

Parameter	Test Conditions	Min	Typ	Max	Unit
Supply Current	e_{in} = 0	–	9	14	mA
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	I_7 = 2.5mA	–	–	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	18	pF
Output Capacitance	e_o = 100mV$_{rms}$, f = 10.7MHz	–	2.0	4.0	pF
Output Conductance	e_o = 100mV$_{rms}$, f = 10.7MHz	–	0.03	0.05	mmho
Noise Figure	f = 10.7MHz, R_S = 500Ω	–	6	–	dB
	f = 100MHz, R_S = 500Ω	–	8	–	

Pin Connection Diagram
(Top View)