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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°C
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): ($T_A = 25^\circ\text{C}$, $V_+ = 12\text{V}$ 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

Pin Connection Diagram

(Top View)

