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NTE1057
Integrated Circuit
FM IF Amplifier, AF Pre–Amplifier

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage
- V_{10-14}, V_{11-14}, V_{9-8} 15V
- V_{2-1} . . . . . $3V_{p-p}$
- V_{9-7} 30V

Supply Current
- I_{10}, I_{11} 30mA
- I_9 . . . . . 10mA

Power Dissipation, P_T 375mW
Operating Ambient Temperature, T_{opr} . . . . . –20° to +60°C
Storage Temperature, T_{stg} . . . . . –40° to +150°C

Recommended Operating Characteristics:
Supply Voltage, V_{CC} 12V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Current Consumption	I_{tot}	V_{CC} = 11V, f = 4.5MHz	15	19	25	mA
IF Limiting Voltage	$V_{i(lim)}$		30	43	51	dBμ
AF Voltage Output	$V_{O(AF)}$		250	300	430	mV_{rms}
Voltage Gain	G_V		–	73	–	dB
AM Rejection	AMR		–	45	–	dB
Total Harmonic Distortion	THD		–	0.5	–	%
Input Resistance	R_i		–	2.5	–	kΩ
Input Capacitance	C_i		–	12	–	pF
Output Resistance	R_o		–	100	–	kΩ
Output Capacitance	C_o		–	4	–	pF
Collector Cutoff Current	I_{CBO}	V_{CB} = 30V	–	–	10	μA
	I_{CEO}	V_{CE} = 15V	–	–	10	μA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Current Gain	h_{FE}	V_{CE} = 5V, I_E = −1mA	30	50	120	
Small−Signal Short Circuit Input Impedance	h_{ie}	V_{CE} = 5V, I_E = −1mA, f = 270Hz	–	2	–	kΩ
Small−Signal Output Impedance	h_{oe}		–	6	–	μmhos
Small−Signal Open Circuit Reverse Voltage Transfer Ratio	h_{re}		–	1	–	$_x10^{-4}$
Noise Figure	NF		–	8	–	dB

Pin Connection Diagram
(Front View)