

NTE1843 Integrated Circuit FM Front End

Description:

The NTE1843 is an integrated circuit in a 9-Lead SIP type package designed for use in FM front-end applications. Typical applications include portable radio and radio cassettes.

Compared with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

Features:

- Wide Supply Voltage Range: $V_{CC} = 1.6V$ to $6.0V$
- Excellent Supply Voltage Dependence of Local Oscillator: Oscillator Stop $V_{CC} = 0.9V$ Typ
- Improved Inter-Modulation Characteristics by Double Balanced Type Mixer Circuit
- Low Spurious Radiation
- Built-In Clamping Diode for the Local Oscillator Output

Absolute Maximum Ratings: ($T_A = +25^\circ C$ unless otherwise specified)

Supply Voltage, V_{CC} 8V
 Power Dissipation, P_D 500mW
 Derate Above $25^\circ C$ 4mW/ $^\circ C$
 Operating Temperature Range, T_{opr} -25° to $+75^\circ C$
 Storage Temperature Range, T_{stg} -55° to $+150^\circ C$

Electrical Characteristics: ($T_A = +25^\circ C$, $V_{CC} = 5V$, $f = 83MHz$, $f_m = 1kHz$, $\Delta f = 22.5kHz$ dev. unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC}	$V_{IN} = 0$	—	5.2	8.0	mA
-3dB Limiting Sensitivity	$V_{in(lim)}$		—	3.0	7.0	dB μ
Quiescent Sensitivity	Q_S		—	11	—	dB μ
Conversion Gain	G_C		—	31	—	dB
Local OSC Voltage	V_{OSC}	$f_{OSC} = 60MHz$	150	230	350	mV _{rms}
Parallel Input Resistance (Pin1 Impedance)	r_{ip1}	$f = 83MHz$	—	57	—	Ω
Parallel Output Resistance (Pin3 Impedance)	r_{op3}		—	25	—	k Ω
Parallel Output Capacitance (Pin3 Impedance)	C_{op3}		—	2.0	—	pF
Parallel Input Resistance (Pin4 Impedance)	r_{ip4}		—	2.7	—	k Ω
Parallel Input Capacitance (Pin4 Impedance)	C_{ip4}		—	3.3	—	pF
Parallel Output Resistance (Pin6 Impedance)	r_{op6}	$f = 10.7MHz$	—	100	0	k Ω
Parallel Output Capacitance (Pin6 Impedance)	C_{op6}		—	4.8	—	pF
Local OSC Stop Voltage	V_{stop}		—	0.9	1.3	V

Pin Connection Diagram
(Front View)

