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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} | | - | 57 | - | Ω |
| Parallel Output Resistance (Pin3 Impedance) | r_{op3} | $f = 83MHz$ | - | 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)

