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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, $T_{opr}$ .....	$-25^\circ$ to $+75^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ 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 $\mu$
Quiescent Sensitivity	$Q_S$		-	11	-	dB $\mu$
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	-	$\Omega$
Parallel Output Resistance (Pin3 Impedance)	$r_{op3}$	$f = 83MHz$	-	25	-	k $\Omega$
Parallel Output Capacitance (Pin3 Impedance)	$C_{op3}$		-	2.0	-	pF
Parallel Input Resistance (Pin4 Impedance)	$r_{ip4}$		-	2.7	-	k $\Omega$
Parallel Input Capacitance (Pin4 Impedance)	$C_{ip4}$		-	3.3	-	pF
Parallel Output Resistance (Pin6 Impedance)	$r_{op6}$	$f = 10.7MHz$	-	100	0	k $\Omega$
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)

