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NTE7200 Intergrated Circuit FM Stereo Transmitter

Description:

The NTE7200 is a monolithic intergrated circuit in an 18-Lead DIP type package designed for use as a stereo transmitter. This device consists of a stereo modulator that creates stereo composite signals, an FM modulator that creates FM signals, and an RF amplifier. The stereo modulator develops composite signals made up of a MAIN (L+R) signal, a SUB (L-R) signal and a pilot (19kHz) signal using 38kHz crystal oscillators.

The FM modulator has carriers on the FM broadcast band (75 to 108MHz).

The RF amplifier transmits the stereo encoded FM signals and is also a buffer for the FM modulator.

The stereo transmitter is equipped with a constant voltage pin for a variable capacitor that is used to finly adjust the FM frequency.

Features:

- Low Operating Voltage Range (1.0V to 2.0V)
- Low Power Consumption (3mA Typ)
- Few External Components Required

Applications:

- FM Stereo Transmitters
- Wireless Microphones

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

Power Supply Voltage, V_{CC}	2.5V
Power Dissipation, P_d	1200mW
Derate Above 25°C	12mW/ $^\circ\text{C}$
Operating Temperature Range, T_{opr}	-25° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg}	-50° to $+125^\circ\text{C}$

Recommended Operating Conditions: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Power Supply Range	V_{CC}		1.0	1.25	2.0	V

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 1.25\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	I_Q		0.5	3.0	5.0	mA
Input Impedance	Z_{IN}	$f_{IN} = 1\text{kHz}$	360	540	720	Ω
Input/Output Gain	G_V	$V_{IN} = 0.5\text{mV}$	30	37	-	dB
Channel Balance	CB	$V_{IN} = 0.5\text{mV}$	-	-	2	dB
Multiplexer Output Voltage	V_{OM}	THD $\leq 3\%$	200	-	-	$\text{mV}_{\text{pk-pk}}$
Multiplexer 38kHz Leakage	V_{OO}	No Signal	-	1	-	mV
Pilot Output Voltage	V_{OP}	No Load	460	580	-	$\text{mV}_{\text{pk-pk}}$
Channel Separation	Sep	With a Standard Demodulation	25	45	-	dB
Input Conversion Noise Voltage	V_{NIN}	IHF- A when 38kHz is Terminated	-	1	-	μV_{rms}
RF Output Voltage	V_{OSC}		350	600	-	mV_{rms}

Pin Connection Diagram

