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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 $25^\circ\text{C}$ .....	12mW/ $^\circ\text{C}$
Operating Temperature Range, $T_{opr}$ .....	$-25^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-50^\circ$ 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	$\Omega$
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	-	$\mu\text{V}_{\text{rms}}$
RF Output Voltage	$V_{OSC}$		350	600	-	$\text{mV}_{\text{rms}}$

**Pin Connection Diagram**

