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## NTE1654 Integrated Circuit FM/AM IF System (Low Supply Voltage Use)

**Features:**

- FM IF Amplifier
- FM Quadrature Detector
- AM Mixer
- AM Local Oscillator
- AM IF Amplifier
- AM Detector
- Signal Meter Driver
- Low Supply Voltage Use:  $V_{CC} = 3V$  to  $8V$
- Very Few External Parts

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

Supply Voltage, $V_{CC}$ .....	8V
Power Dissipation, $P_D$ .....	750mW
Derated Above $25^\circ C$ .....	6mW/ $^\circ C$
Operating Temperature Range, $T_{opr}$ .....	$-25^\circ$ to $+75^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ C$

**Electrical Characteristics:** ( $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>FM</b>						
Supply Current	$I_{CC}$	$V_{IN} = 0$ at FM	–	17	31	mA
		$V_{IN} = 0$ at AM	–	15	31	mA
Input Limiting Voltage	$V_{IN(lim)}$	–3dB Limiting	–	34	40	dB $\mu V$
Recovered Output Voltage	$V_{OD(1)}$	$\Delta f = \pm 22.5kHz$ , $V_{IN} = 60dB\mu V$	40	60	80	mV $_{rms}$
Signal to Noise Ratio	S/N(1)	$V_{IN} = 80dB\mu V$	–	70	–	dB
Total Harmonic Distortion	THD(1)	$V_{IN} = 80dB\mu V$	–	0.3	–	%
AM Rejection Ratio	AMR	AM: 1kHz, 30%, FM: $\Delta f = \pm 22.5kHz$ $V_{IN} = 80dB\mu V$	–	50	–	dB
Meter Driver Voltage	$V_{2(FM)}$	$V_{in} = 80dB\mu V$	0.8	1.0	1.2	$V_{(DC)}$
<b>AM</b>						
Recovered Output Voltage	$V_{OD(AM)}$	$V_{IN} = 60dB\mu V$	90	130	180	mV $_{rms}$
Gain	GAIN	$f_{IN} = 455kHz$ , $V_{IN} = 20dB\mu V$	10	24	52	mV $_{rms}$
Meter Driver Voltage	$V_{2(AM)}$	$V_{IN} = 60dB\mu V$	–	1.0	–	$V_{DC}$
Total Harmonic Distortion	THD(AM)	$V_{IN} = 60dB\mu V$	–	1.0	–	%
Signal to Noise Ratio	S/N(AM)	$V_{IN} = 60dB$	–	40	–	dB
Local OSC. Stop Voltage	$V_{stop}$		–	1.5	–	$V_{DC}$

### Pin Connection Diagram

