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## NTE7235 Integrated Circuit AM Tuner & Stereo Decoder for Car Audio

**Description:**

The NTE7235 is an integrated circuit in a 16-Lead staggered SIP type package designed for use as an AM tuner and stereo decoder in car radio applications.

**Function:**

- RF Amplifier
- Mixer
- Local OSG
- IF Amplifier
- Detector
- AGC

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

Supply Voltage, $V_{CC}$ .....	16V
Power Dissipation, $P_D$ .....	675mW
Derate Above $25^\circ\text{C}$ .....	5.4mW/ $^\circ\text{C}$
Operating Temperature Range, $T_{opr}$ .....	$-30^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

**Electrical Characteristics:** ( $V_{CC} = 9V$ ,  $f_S = 1\text{Mhz}$ ,  $f_M = 400\text{Hz}$ , Mode = 30%, IF = 455kHz,  $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Supply Current	$I_{CC}$	Pin6 Open	9	13	20	mA	
Recovered Output Voltage	$V_{OD}$	$V_N = 74\text{dB V}$	65	90	115	$\text{mV}_{\text{rms}}$	
Maximum Sensitivity	MS	$V_{OD} = 20\text{mV}_{\text{rms}}$	-	9	-	dB V	
Quieting Sensitivity	QS	S/N = 20dB	-	24	30	dB V	
Signal-to-Noise Ratio	S/N	$V_N = 74\text{dB V}$	46.0	52.5	-	dB	
Total Harmonic Distortion	THD	$V_N = 74\text{dB V}$	-	0.3	3.0	%	
		Mod = 80%	-	0.6	-	%	
		$V_N = 120\text{dB V}$	-	0.5	-	%	
Tweet	Tweet	$V_N = 74\text{dB V}$ , Max. Point	2IF	-	-37	-	dB
		3IF	-	-50	-	dB	

**Electrical Characteristics (Cont'd):** ( $V_{CC} = 9V$ ,  $f_S = 1MHz$ ,  $f_M = 400Hz$ , Mode = 30%, IF = 455kHz,  $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Pin15 Input Impedance Parallel Input Resistance	$R_{ip15}$	f – 1000kHz	–	6.6	–	$k^\circ$
Parallel Input Capacitance	$C_{ip15}$		–	3	–	pF
Pin13 Output Impedance Parallel Output Resistance	$R_{op13}$	f – 1000kHz	–	100	–	$k^\circ$
Parallel Output Capacitance	$C_{op13}$		–	1.4	–	pF
Pin11 Input Impedance Parallel Input Resistance	$R_{ip11}$	f – 1000kHz	–	1.1	–	$k^\circ$
Parallel Input Capacitance	$C_{ip11}$		–	7.5	–	pF
Pin9 Output Impedance Parallel Output Resistance	$R_{op9}$	f – 455kHz	–	100	–	$k^\circ$
Parallel Output Capacitance	$C_{op9}$		–	3.5	–	pF
Pin7 Input Impedance Parallel Input Resistance	$R_{ip7}$	f – 455kHz	–	3.5	–	$k^\circ$
Parallel Input Capacitance	$C_{ip7}$		–	8.0	–	pF
IF Output Voltage	$V_{IF}$	$V_N = 34dB V$	–	14	–	mV <sub>rms</sub>
		$V_N = 74dB V$	–	76	–	mV <sub>rms</sub>

**Pin Connection Diagram**  
(Front View)



