

**FM/AM STEREO RADIORECEIVER**

**INA1238NS**

**DESCRIPTION**

ILA1238NS is a high performance one - chip bipolar ICS designed for FM/AM stereo radios. These include an FM/AM front end, FM/AM IF amplifier, FM/AM detection output and FM stereo demodulator output. Bipolar silicon monolithic IC.

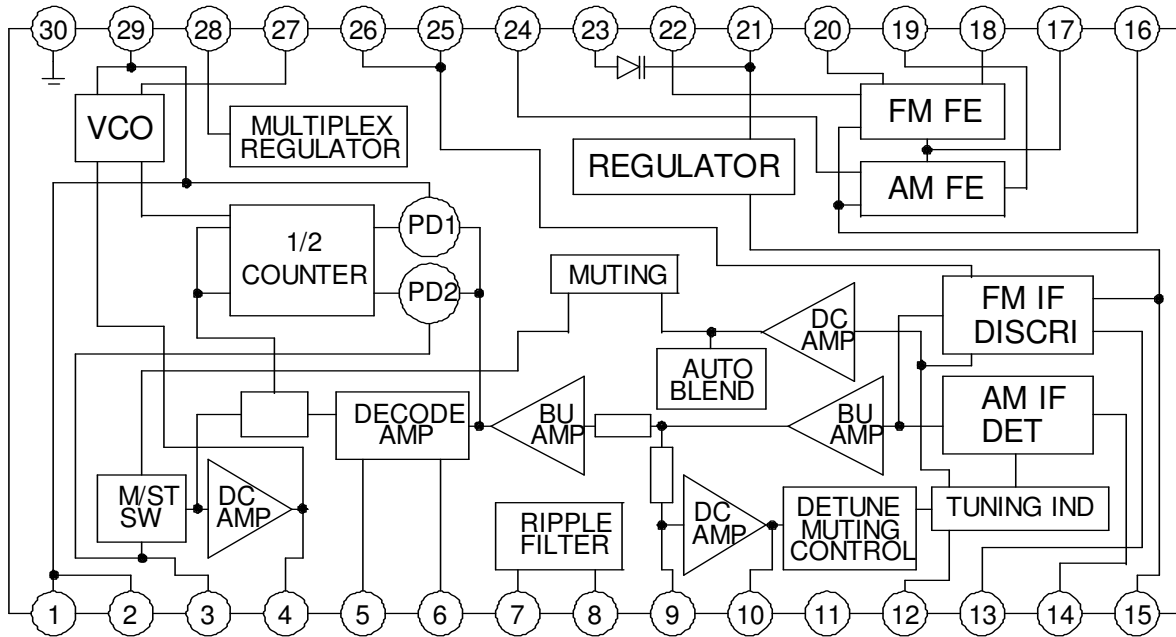
**FEATURES**

- Low current consumption  
(In FM mode  $I_D = 11.0$  mA, in AM mode 8.5 mA,  $V_{CC} = 6.0V$ ).
- Built - in LED drive circuit for tuning.
- Built - in LED drive circuit for stereo indicator.
- Built - in detune muting circuit for the FM band.
- Few external parts.

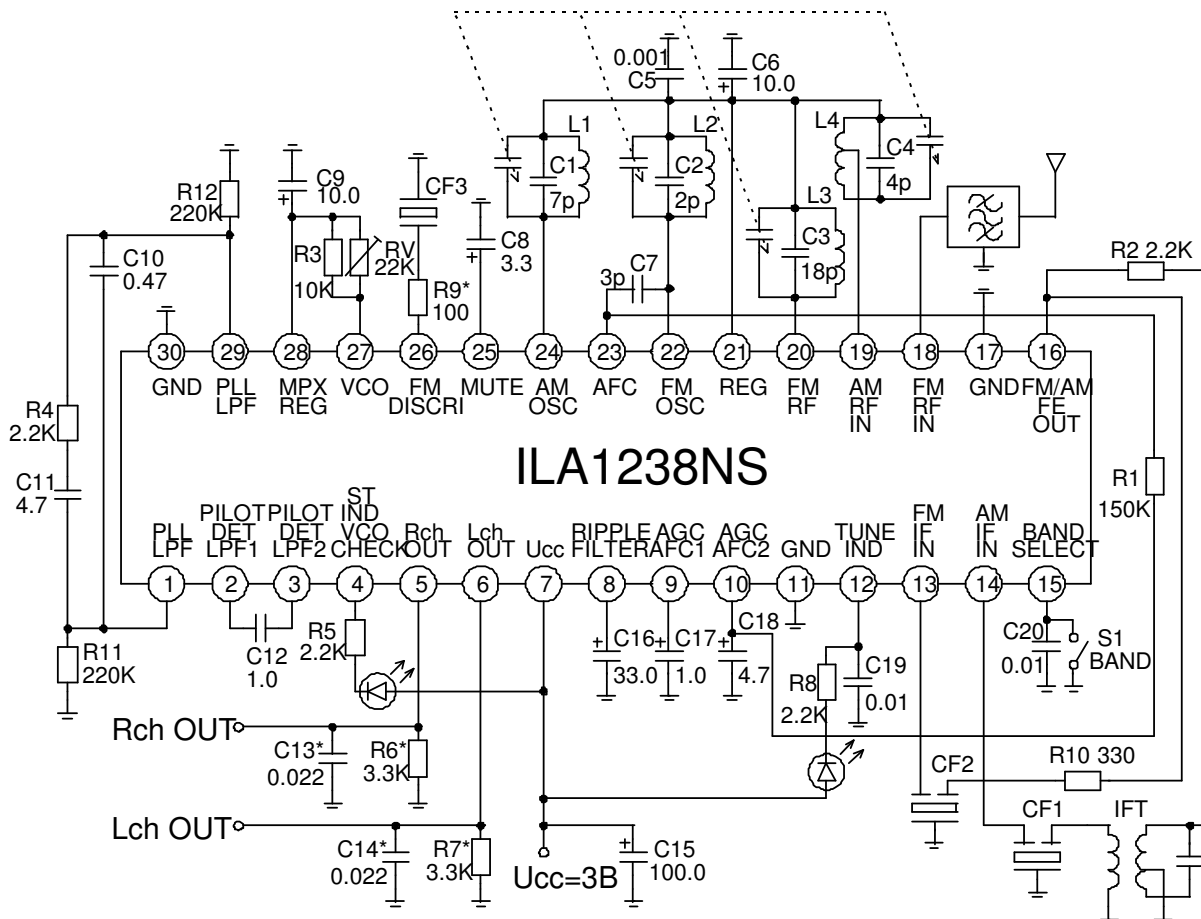
**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ C$ )

Symbol	Parameter	Test Conditions	Guaranteed Limits			Unit
			Min	Typ	Max	
$I_{D1/D2}$	AM/FM circuit current	No signal AM/FM		8.5/11	12.0/ 15.0	mA
$G_{V1}$	FM front end voltage gain	$V_{IN1} = 40dBmV, 100MHz$	28	35	42	dB
$V_{D1/D3}$	FM/AM detection output level		35	77.5	138	$V_{RMS}$
$V_{D2}$	FM IF knee level			25	31	dBmV
$T_{HD1/HD2}$	FM/AM detection output distortion factor			0.3/0.6	2.0	%
$G_{V2}$	AM front end voltage gain	$V_{IN2} = 60dBmV, 1660kHz$	19	24	28	dB
$G_{V3}$	AM IF voltage gain		15	21	29	dB
SEP	Separation		30	40		dB
$V_{I1}$	M/ST switching level by IF input		38	43	48	dBmV
$A_1$	FM Mute	$V_{in5}=245mV_{rms},$ MONO, 1kHz ATT	16	23	30	dB

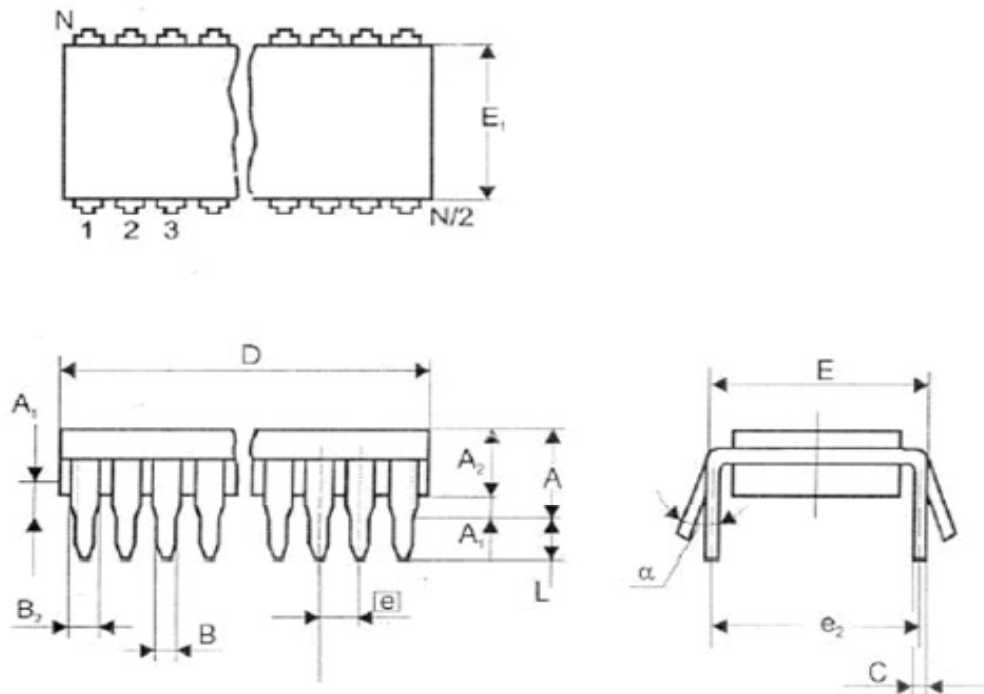
BLOCK-SCHEME



APPLICATION CIRCUIT



### 30-Pin Plastic Dual-in-Line (NS)



Dimension, mm		
A	max	5.08
A <sub>1</sub>	min	0.51
A <sub>2</sub>	min	3.05
	max	4.57
B	min	0.36
	max	0.58
B <sub>2</sub>	min	0.76
	max	1.40
C	min	0.20
	max	0.36
D	min	26.67
	max	28.49
E	min	9.91
	max	11.05
E <sub>1</sub>	min	7.62
	max	9.40
e	nom	1.778
e <sub>2</sub>	nom	10.16
L	min	2.54
	max	3.81
α	min	0°
	max	10°