

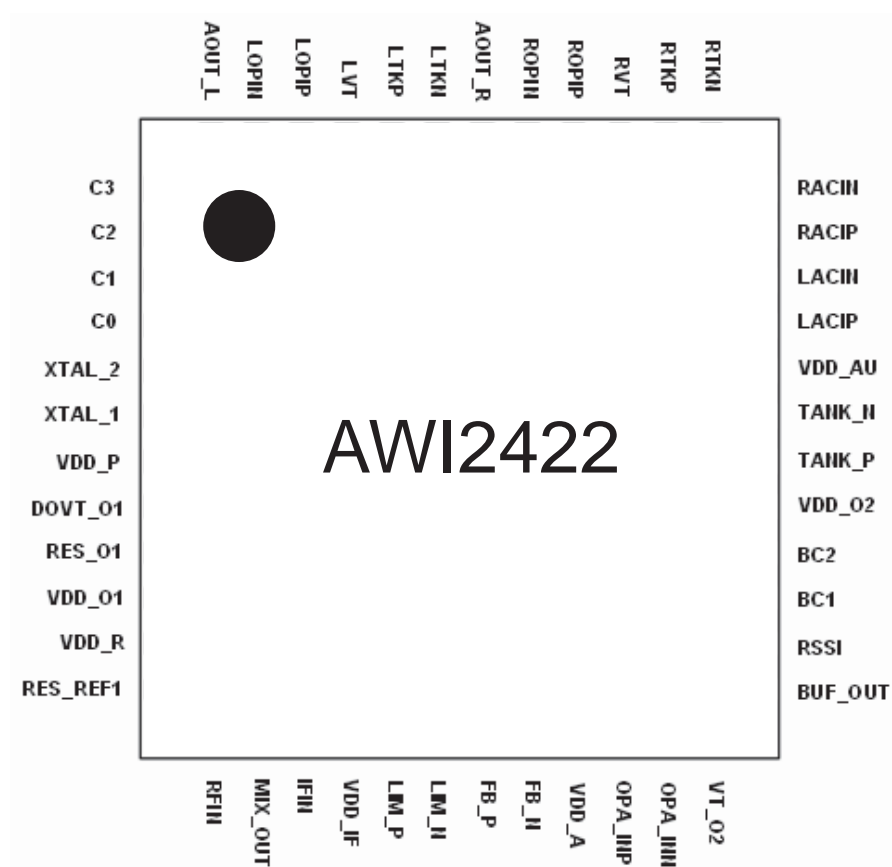
Product Description

The AWI2422 is an integrated single chip receiver designed for analog A/V sender and wideband digital FSK receiver operating in the 2.4GHz ISM band. The receiver IC consists of a fully integrated frequency synthesizer, LNA, Mixer, IF Amplifier, PLL FM Demodulator, Audio Demodulator and Audio OP Amplifier. The IC is provided in 48-lead QFN7X7 package and is designed to provide a fully functional FM/FM receiver.

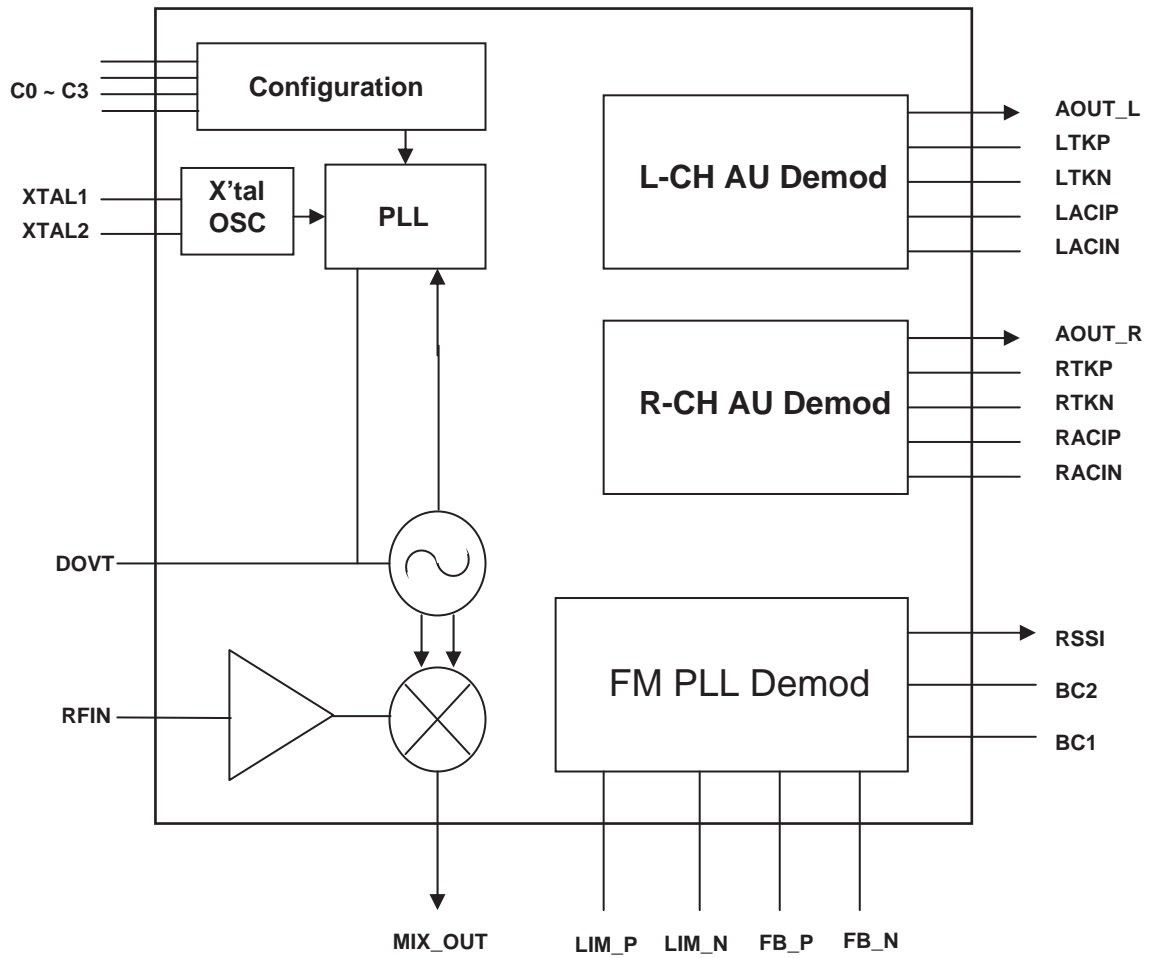
Main Features

- Low cost , single chip FM/FSK receiver IC
- 3.6V power Supply
- 4 channels operation for analog A/V sender and digital FSK transmission applications
- Channel select by use of c0,c1,c2 and c3 pins
- Integrated stereo Sound Demodulator and Audio OP Amplifiers

Pin Configurations




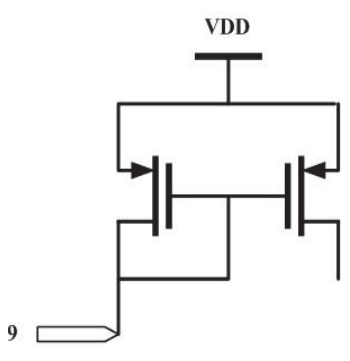
Receiver Block Diagram



Pin Descriptions

Pin No.	Name	Description	Equivalent Schematic
1	C3	<p>PMOS</p> <p>Output</p>	
2	C2	<p>PMOS</p> <p>Output</p>	
3	C1	<p>PMOS</p> <p>Output</p>	

Pin No.	Name	Description	Equivalent Schematic
4	C0	Power Mode enable/disable control	
	XTAL_2	Crystal Input 2	
	XTAL_1	Crystal Input 1	

Pin No.	Name	Description	Equivalent Schematic
	VDD_P	Power supply pin	
	DOVT_O1	Output of the DOVT (Digital Output Voltage Threshold) block	
	RES_O1	Resistor value for the output stage, measured in Ohms (Ω)	
10	VDD_O1	Power supply pin for the output stage	
11	VDD_R	Power supply pin for the receiver core	

Pin No.	Name	Description	Equivalent Schematic
12	RES_REF1	Reference resistor	
13	RFIN	RF input	
14	MIX_OUT	Mixer output	

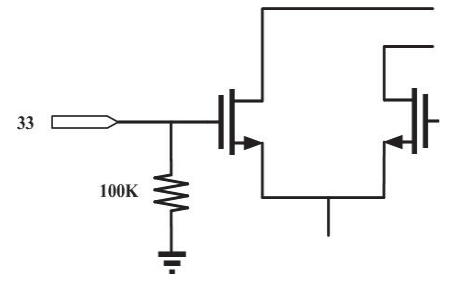
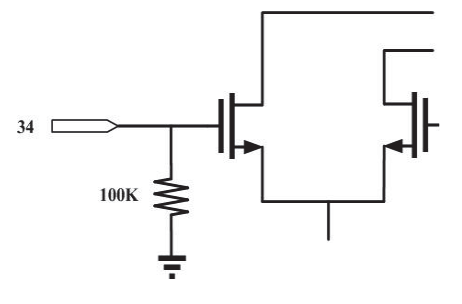
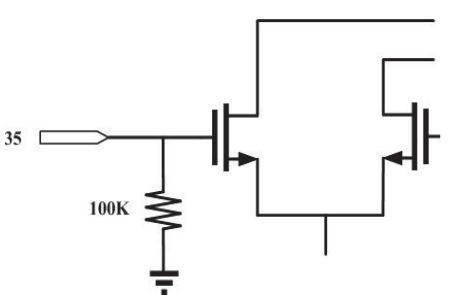
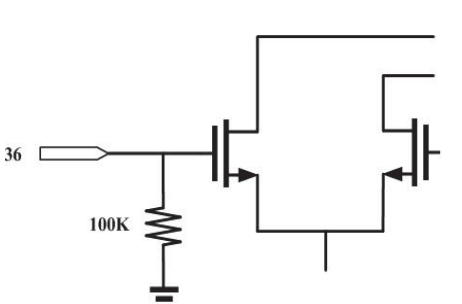
Pin No.	Name	Description	Equivalent Schematic
1	IFIN	Formed feedforward	
1	VDD_IF	Formed feedforward	
1	LIM_P	Limiting	
1	LIM_N	Limiting	

Pin No.	Name	Description	Equivalent Schematic
1	FB_P	Local Feedback	
20	FB_N	Local Feedback	
21	VDD_A	Demodulator Power	
22	OPA_INP	Power	

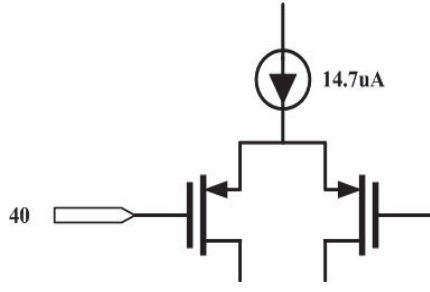
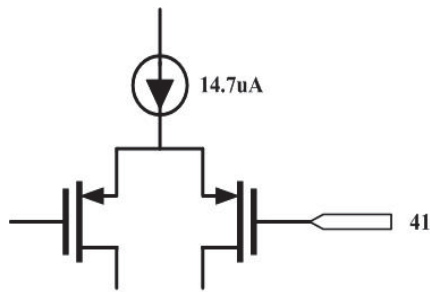
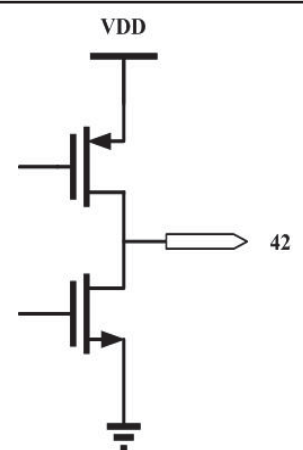
Pin No.	Name	Description	Equivalent Schematic
23	OPA_INN	Pre-amp	
24	VT_O2	Modulator	
25	BUF_OUT	Demodulated	

Pin No.	Name	Description	Equivalent Schematic
2	RSSI		
2	BC1	Matched Load	
2	BC2	Matched Load	
2	VDD_O2	Matched Load	

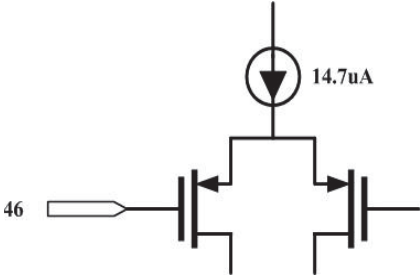
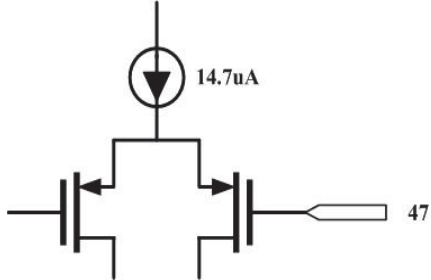
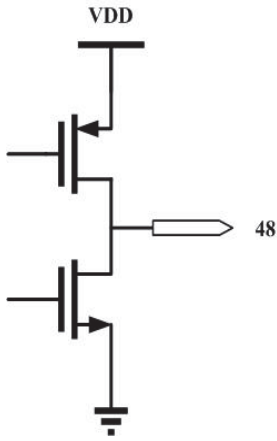
Pin No.	Name	Description	Equivalent Schematic
30	TANK_P	<p> e o e o o e o o e e om o e o M </p> <p> o e e o e e o e o o L d e e omme ded </p> <p> e o e o L d e d F </p>	
31	TANK_N	<p> e o e o o e o o e e om o e o M </p> <p> o e e o e e o e o o L d e e omme ded </p> <p> e o e o L d e d F </p>	
32	VDD_AU	<p>do Po e</p> <p>e o eo</p> <p>F o</p>	

Pin No.	Name	Description	Equivalent Schematic
33	LACIP	Matched Load Input	
34	LACIN	Matched Load Input	
3	RACIP	Matched Load Input	
3	RACIN	Matched Load Input	

Pin No.	Name	Description	Equivalent Schematic
3	RTKN	<p>o e o</p> <p>o e o o</p> <p>e e</p> <p>om o e o M</p> <p>o e e o e</p> <p>e o e o o L d</p> <p>e e omme ded</p> <p>e o e o L</p> <p>d e d</p> <p>F</p>	
3	RTKP	<p>o e o</p> <p>o e o o</p> <p>e e</p> <p>om o e o M</p> <p>o e e o e</p> <p>e o e o o L d</p> <p>e e omme ded</p> <p>e o e o L</p> <p>d e d</p> <p>F</p>	
3	RVT	<p>M</p> <p>o e o o</p> <p>e e o</p>	

Pin No.	Name	Description	Equivalent Schematic
40	ROPIP	Positive Output	
41	ROPIN	Positive Input	
42	AOUT_R	Output	

Pin No.	Name	Description	Equivalent Schematic
43	LTKN	<p>o e o</p> <p>o e o o</p> <p>e e</p> <p>om o e o M</p> <p>o e e o e</p> <p>e o e o o L d</p> <p>e e omme ded</p> <p>e o e o L</p> <p>d e d</p> <p>F</p>	
44	LTKP	<p>o e o</p> <p>o e o o</p> <p>e e</p> <p>om o e o M</p> <p>o e e o e</p> <p>e o e o o L d</p> <p>e e omme ded</p> <p>e o e o L</p> <p>d e d</p> <p>F</p>	
4	LVT	<p>M</p> <p>o e o o</p> <p>eo</p>	

Pin No.	Name	Description	Equivalent Schematic
4	LOPIP	Power Output	
4	LOPIN	Power Input	
4	AOUT_L	Output	

Maximum Rating

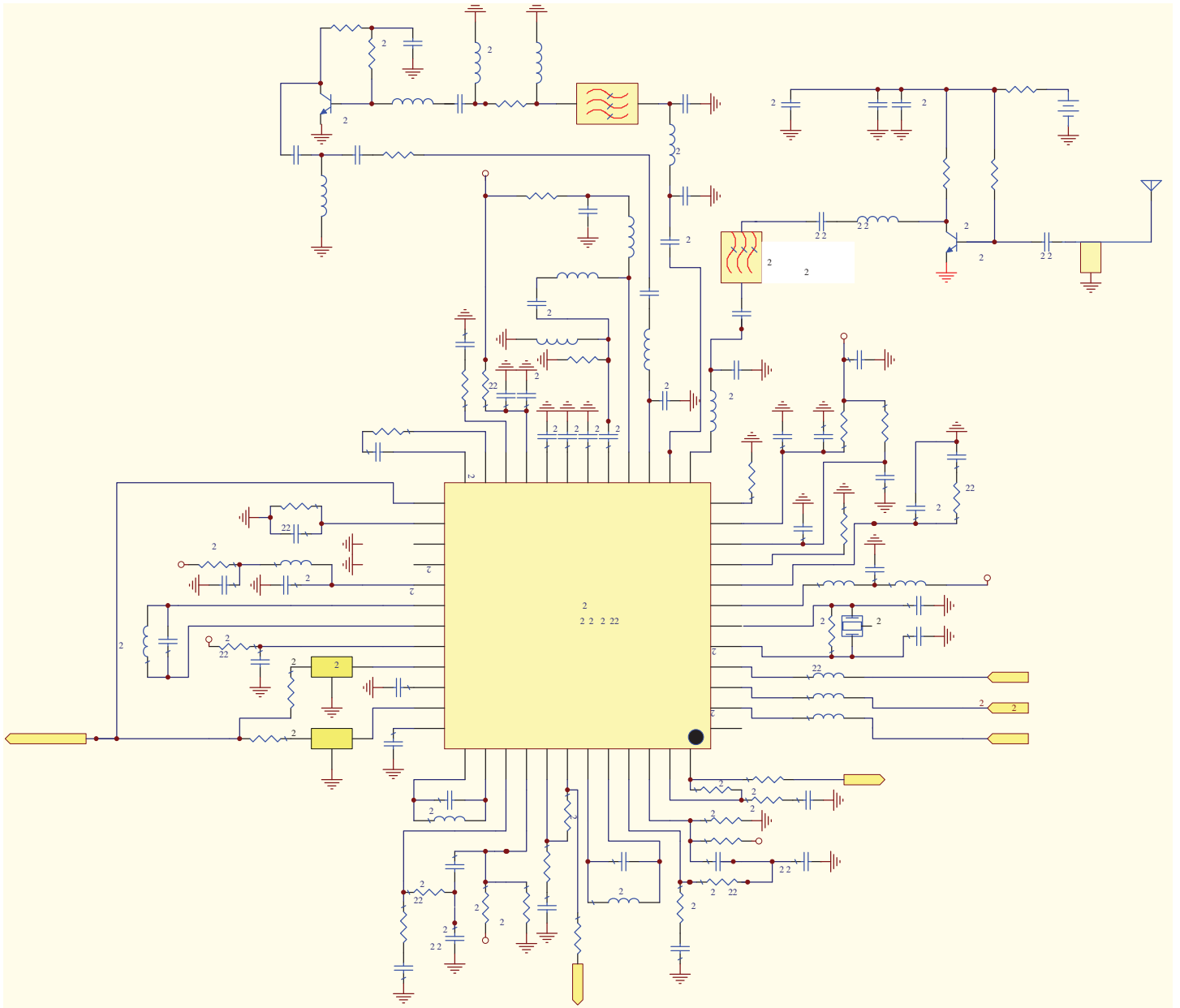
Parameter	Maximum Rating	Units
Operating Temperature		
Operating Temperature		°C

Operating Temperature: -10 to 60 °C

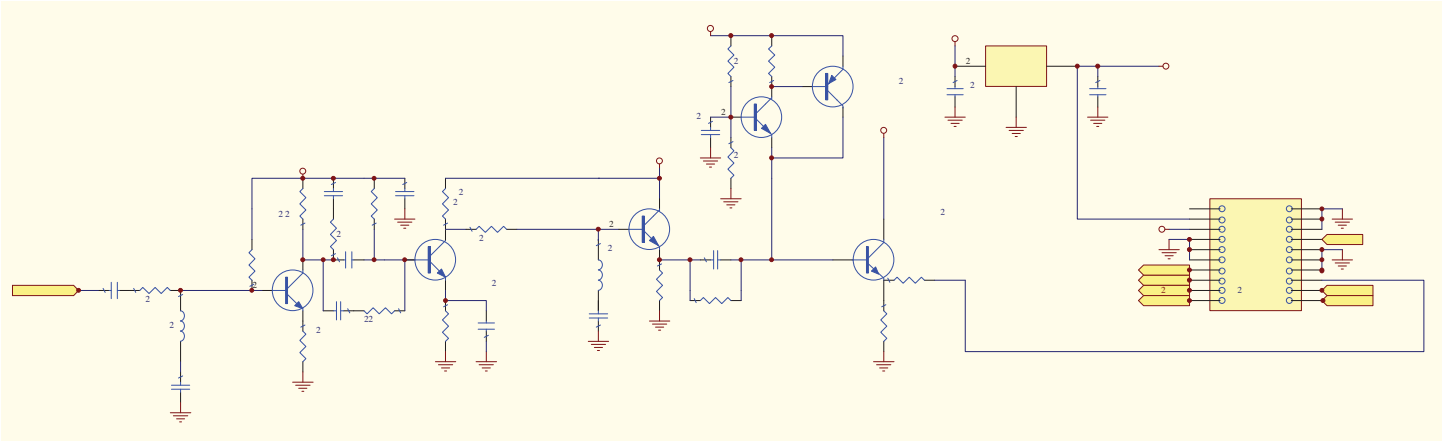
Electrical Characteristics

Parameter	Description	Min.	Typ.	Max.	Unit
Operation Temperature		-10		60	°C
Supply Voltage			3.6		V
Current Consumption			110		mA
RF Frequency		CH1: 2414, CH2: 2432, CH3: 2450, CH4: 2468			MHz
LO Frequency		CH1:1934.5, CH2: 1952.5, CH3: 1970.5, CH4: 1988.5			MHz
Sensitivity			-80		dBm
IF Frequency			479.5		dBm
RF Gain(IF Amp. Include)			35		dB
Reference Frequency			8		MHz
Crystal Accuracy			30		ppm
RSSI Voltage	@ RFIN : -80~-10 dBm	0.19		2.1	V
Demodulation			FM		
Demodulator Input Sensitivity			-50		dBm
Demodulator Output Level			150		mVp-p
Audio Demodulator Input Level (LOPIP)			100		mVp-p
Audio Demodulator input Level (ROPIP)			100		mVp-p

A Application Circuit AWM 3 RX-1

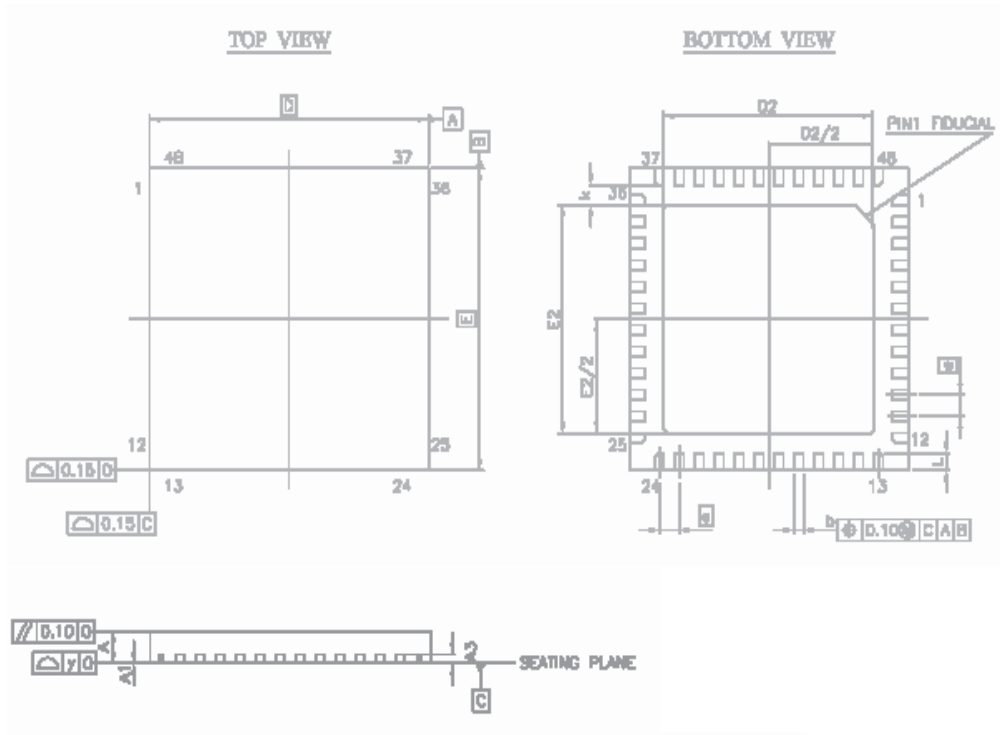


A Application Circuit AWM 3 RX-2



Package Information

FN 4 Outline Dimensions



SYMBOL	DIMENSION (MM)			DIMENSION (MIL)		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.70	0.75	0.80	27.6	29.5	31.5
A1	0	0.02	0.03	0	0.79	1.97
A3	0.203 REF			8 REF		
b	0.38	0.25	0.30	7.1	9.8	11.8
D	7.00 BSC			276 BSC		
D2	5.10	5.20	5.30	201	205	209
E	7.00 BSC			276 BSC		
E2	5.10	5.20	5.30	201	205	209
a	0.50 BSC			19.7 BSC		
k	0.20			7.9		
L	0.30	0.40	0.50	11.8	15.7	19.7
y	0.08			3.15		