



ON Semiconductor®

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# LC898212XD

CMOS LSI

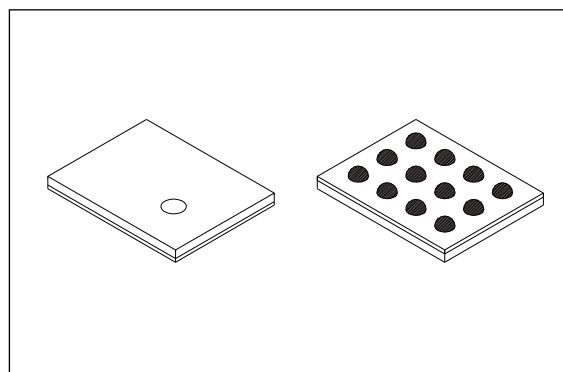
## AF Controller

### Overview

This LSI is AF control LSI. It consists of 1 system of feed back circuit for AF control.

### Features

- Built-in equalizer circuit using digital operation
  - AF control equalize circuit
  - Any coefficient can be specified by I<sup>2</sup>C I/F
- I<sup>2</sup>C Interface
- Built-in A/D converter
  - Maximum 10-bit
  - Input 2 channel
- Built-in D/A converter
  - 8-bit
  - Output 2-channel (Hall offset, Constant current Bias)
- Built-in OP Amp
  - 1 channel
  - Hall Amp
- Built-in OSC
  - 48MHz (Frequency adjustment function)
- Built-in PWM pulse generator circuit
  - PWM circuit for AF control
- 1-chip motor driver
  - Saturation drive H bridge 1 channel
- Package
  - WL-CSP 12-pin
  - Lead-free, halogen-free
- Supply voltage
  - Logic unit : Internal core typ 1.2V, AVDD (2.6V to 3.6V)
  - Driver unit : VM (2.6V to 3.6V)



WLP12J(1.77X1.37)

\* I<sup>2</sup>C Bus is a trademark of Philips Corporation.

### ORDERING INFORMATION

See detailed ordering and shipping information on page 4 of this data sheet.

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## Pin Description

TYPE					
I	INPUT	P	Power supply, GND	NC	NOT CONNECT
O	OUTPUT				
B	BIDIRECTION				

- I<sup>2</sup>C interface
 

I2CCK	B	I <sup>2</sup> C Clock pin
I2CDT	B	I <sup>2</sup> C Data pin
  
- D/A interface
 

BIASO	O	D/A output (Hall bias input)
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- Op-Amp interface
 

OPINP	I	Op-Amp input
OPINM	I	Op-Amp input
  
- Driver interface
 

OUT1	O	Actuator output pin
OUT2	O	Actuator output pin
  
- Power supply pin
 

VDD	P	Digital power supply
VSS	P	Digital GND
VDDO	P	LDO power supply out
VM	P	Motor power supply
PGND	P	Power GND

PIN TYPE “O” – Ensure that it is set to OPEN.

PIN TYPE “I” – OPEN is inhibited. Ensure that it is connected to the VDD or VSS even when it is unused.

(Please contact our company for more information about selection of VDD or VSS.)

PIN TYPE “B” – If you are unsure about processing method on the pin description of pin layout table, please contact us.

Note that incorrect processing of unused pins may result in defects.

If you have any question, please feel free to contact us.

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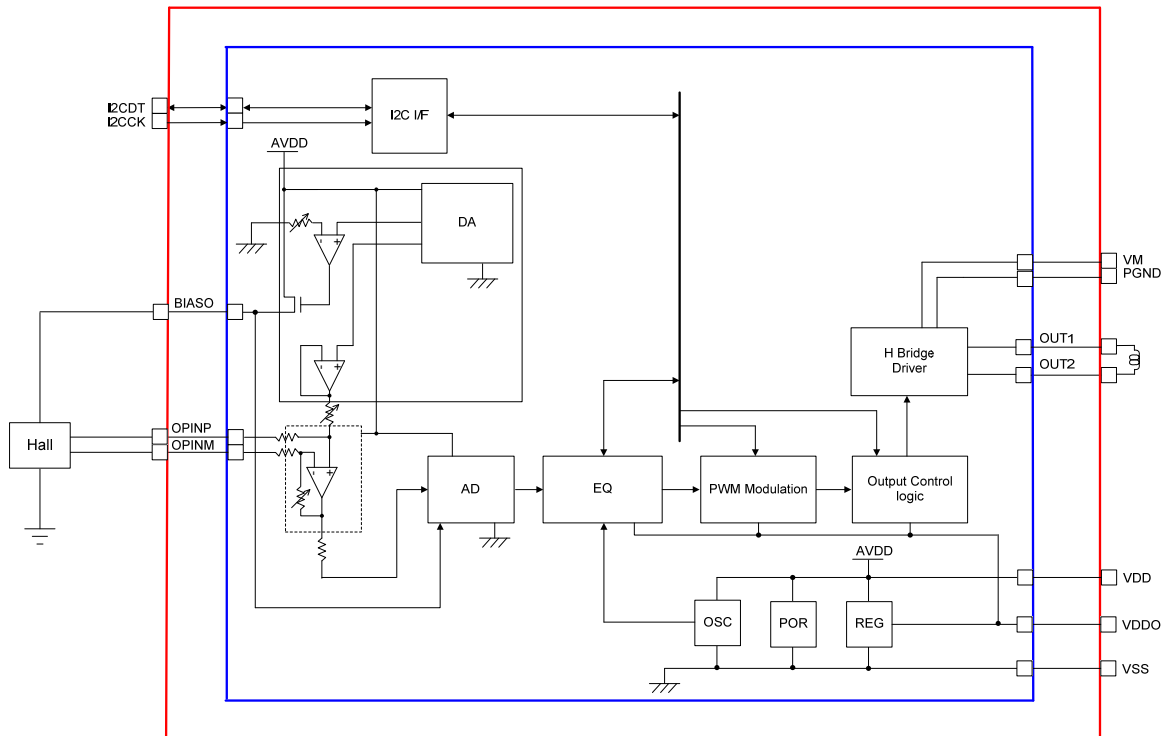
## Pin Layout

Circuit Name	Number of Pins	Circuit Name	Number of Pins
Analog	4	Driver	4
Logic	4		

Backside pin layout diagram (Top View from the mold side)

4	VDDO	VM	PGND
3	AVDD	I2CDT	OUT1
2	OPINP	I2CCK	OUT2
1	VSS	OPINM	BIASO
	A	B	C

## Block Diagram



# LC898212XD

## Package Dimensions

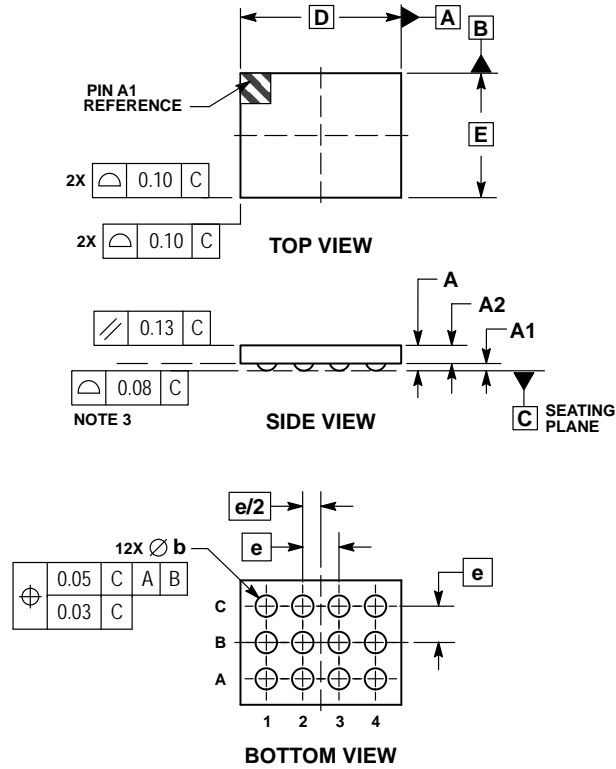
WLP12J(1.77X1.37)

unit : mm

WLCSP12, 1.77x1.37

CASE 567GH

ISSUE O

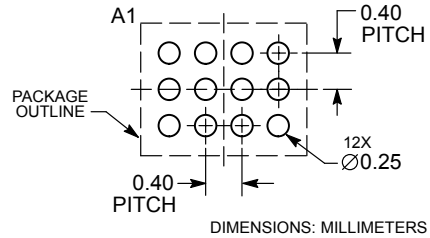


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. COPLANARITY APPLIES TO THE SPHERICAL CROWNS OF THE SOLDER BALLS.

DIM	MILLIMETERS	
	MIN	MAX
A	---	0.33
A1	0.03	0.13
A2	0.20 REF	
b	0.15	0.25
D	1.77 BSC	
E	1.37 BSC	
e	0.40 BSC	

### RECOMMENDED SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

## ORDERING INFORMATION

Device	Package	Shipping (Qty / Packing)
LC898212XD-SH	WLP12J(1.77X1.37) (Pb-Free / Halogen Free)	5000 / Tape & Reel

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- Изготовление тестовой платы монтаж и пусконаладочные работы.



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