

## 12-bit, 100kHz Digital to Analog Converter

### Description

The HX11DA is a 12-bit digital to analog converter that can accept an input frequency bandwidth of 100kHz. Suitable in environments up to 125°C, the DAC is optimized to provide high accuracy conversion of low bandwidth digital signals into the analog domain. Includes an output buffer capable of driving loads up to 100pF.

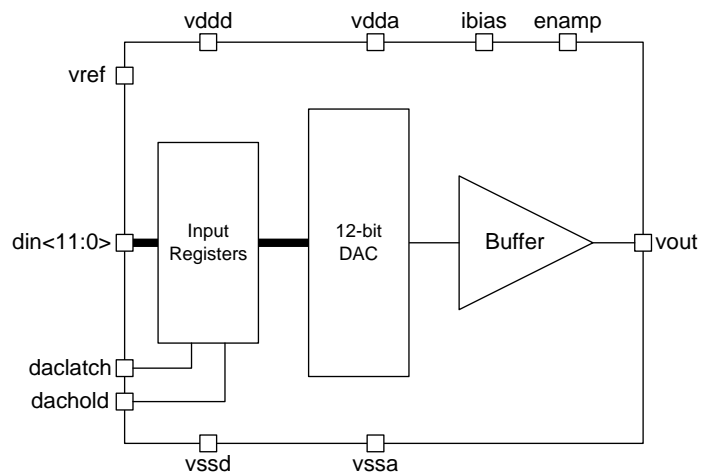
### Features

- 12-bit accuracy:  $\pm 0.6$  LSB maximum DNL
- Output range of 0.3V to 2.9V
- 3.3V analog supply, 1.8V digital supply
- Extended temperature range: -40°C to 125°C
- Dimensions: 195um x 312um (0.061mm<sup>2</sup>)

### Applications

- Calibration & tuning functions
- Control loops

### Block Diagram



### Specifications

Parameter	Conditions	Min	Typ	Max	Unit
Analog Supply Voltage	$\pm 10\%$	2.97	3.3	3.63	V
Digital Supply Voltage	$\pm 10\%$	1.62	1.8	1.98	V
Temperature Range		-40	27	125	°C
Monotonicity		12			Bits
Resolution		12			Bits
Voltage Reference				2.9	V
Least Significant Bit	Reference voltage of 2.9V		0.708		mV
Differential Non-Linearity		-1	$\pm 0.5$	+1	LSB
Integral Non-Linearity		-4	$\pm 2$	+4	LSB
Input Range	Reference voltage of 2.9V	0		2.9	V
Output Range	Reference voltage of 2.9V	0.3		2.9	V
Zero Code Error		-7	14	28	Bits
Gain Error		-2	0	+2	% of FS
Full -Scale Error		-2	0	+2	% of FS
Load Capacitance	with optional buffer			100	pF

For more information about all of products, please visit our website at

[www.hexiussemi.com](http://www.hexiussemi.com)