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Digital to Analog Converters

D/A Converters

AD9736

AD9736: 14-BIT, 1200 MSPS D/A CONVERTER

The AD9736, AD9735, and AD9734 are high performance, high frequency DACs that provide sample rates of up to 1200 MSPS, permitting multicarrier generation up to their Nyquist frequency. The AD9736 is the 14-bit member of the family, while the AD9735 and the AD9734 are the 12-bit and 10-bit members, respectively. They include a serial peripheral interface (SPI) port that provides for programming of ...[More](#)

DATA SHEET

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FEATURES

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Pin-compatible family	Low power: 380 mW (IFS = 20 mA; f _{OUT} = 330 MHz)
Excellent dynamic performance AD9736: SFDR = 82 dBc at f _{OUT} = 30 MHz AD9736: SFDR = 69 dBc at f _{OUT} = 130 MHz AD9736: IMD = 87 dBc at f _{OUT} = 30 MHz AD9736: IMD = 82 dBc at f _{OUT} = 130 MHz	1.8/3.3 V dual-supply operation Adjustable analog output 8.66 mA to 31.66 mA (RL = 25 Ω to 50 Ω) On-chip 1.2 V reference
LVDS data interface with on-chip 100 Ω terminations	160-lead chip scale ball grid array (CSP_BGA) package
Built-in self test LVDS sampling integrity LVDS to DAC data transfer	

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FUNCTIONAL BLOCK DIAGRAM FOR AD9736

The diagram illustrates the internal architecture of the AD9736. It features a central 14-, 12-, or 10-bit DAC CORE. Data is received via an LVDS RECEIVER (DB[13:0]+, DB[13:0]-) and sent via an LVDS DRIVER (DATACLK_OUT+, DATACLK_OUT-). A Synchronizer and Clock Distribution block manage the timing. The Controller handles SPI (S1, S2, S3), RESET, and IRQ signals. A BAND GAP and REFERENCE CURRENT block provide a stable VREF and I120. The DAC CORE outputs are IOUTA and IOUTB. DACCLK- and DACCLK+ pins are also shown. Various capacitors (C1, C2, C3, C1S1, C2S1) are indicated for proper operation.

Other Diagrams | Symbols and Footprints

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Part#	Bits	Update Rate	Settling Time	# Outputs
AD9789	14	2.4GSPS	13ns	1
AD9739	14	2.5GSPS	-	1
AD9736	14	1.2GSPS	-	1
AD9735	12	1.2GSPS	-	1
AD9734	10	1.2GSPS	-	1
AD9755	14	300MSPS	11ns	1
AD9744	14	210MSPS	11ns	1
AD9707	14	175MSPS	11ns	1
AD9772A	14	160MSPS	11ns	1
AD9764	14	125MSPS	35ns	1
AD9754	14	125MSPS	35ns	1

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AD9736 MODEL OPTIONS

Model	Status	Package	Pins	Temp. Range	Price* (1000 pcs.)	Production** Availability	ROHS Compliant	View PCN	Samples Cart	Purchase Cart
AD9736-DPG2-EBZ	Prodn	EVALUATION BOARDS	160	Ind	\$303.60	01/01/2010	Y	-	Contact ADI	Add To Cart
AD9736-EBZ	Prodn	EVALUATION BOARDS	160	Ind	\$303.60	01/01/2010	Y	-	Contact ADI	Add To Cart
AD9736BBC	Prodn	160 ball CSPBGA (12x12x1.4mm)	160	Ind	\$38.91	01/01/2010	N Material Declaration	-	Contact ADI	Add To Cart
AD9736BBCRL	Prodn	160 ball CSPBGA (12x12x1.4mm)	160	Ind	\$38.91	02/19/2010	N Material Declaration	-	Contact ADI	Add To Cart
AD9736BBCZ	Prodn	160 ball CSPBGA (12x12x1.4mm)	160	Ind	\$35.37	01/01/2010	E Material Declaration	-	Contact ADI	Add To Cart
AD9736BBCZRL	Prodn	160 ball CSPBGA (12x12x1.4mm)	160	Ind	\$35.37	03/26/2010	E Material Declaration	-	Contact ADI	Add To Cart

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