

JXD2641PE

16-Bit, Quad-Channel, 2.4GSPS High-Speed DAC

Pin-Compatible Alternative to AD9154

2.4 GSPS DAC Rate	16 Bit Resolution	4 Channels	>70 dBc SFDR (typ.)
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Product Overview

The JXD2641PE is a 16-bit, quad-channel, 2.4GSPS-per-channel high-speed digital-to-analog converter with integrated JESD204B interface and on-chip digital up-conversion (DUC). Each channel integrates independent interpolation filters, digital modulators, and NCOS, supporting flexible frequency planning and up-conversion schemes. The JESD204B interface supports Subclass 1 deterministic latency and multi-chip synchronization.

Key Features

- 16-bit resolution, 4 DAC channels
- 2.4 GSPS update rate per channel, current-steering architecture
- Independent DUC/NCO per channel with 2x/4x/8x programmable interpolation
- JESD204B interface (Subclass 1), 8 SerDes lanes @ up to 12.5 Gbps
- Pin-to-pin compatible with AD9154 — direct drop-in replacement
- ACLR >65 dBc, SFDR >70 dBc typical
- 144-pin BGA package, <2.0 W typical power

Key Specifications

Parameter	Value
Resolution	16 Bit
Number of Channels	4
Update Rate (per channel)	2.4 GSPS
DAC Architecture	Current Steering
SFDR (typical)	>70 dBc
ACLR (typical)	>65 dBc
Digital Up-Conversion	Independent DUC/NCO per channel
Interpolation	2x/4x/8x programmable
Interface Type	JESD204B (Subclass 1)
SerDes Lanes	8
SerDes Line Rate	Up to 12.5 Gbps
Supply Voltage	1.8V / 2.5V
Power Consumption	<2.0 W (typical)
Operating Temperature	-40°C to +85°C
Package	144-Pin BGA
Lead Time	~6 Weeks

Applications

- 5G Massive MIMO — Active antenna systems, beamforming
 - Phased Array Radar — T/R module transmit channels, digital beamforming
 - Arbitrary Waveform Generators — High-end test instruments
 - Wireless Infrastructure — Multi-carrier transmitters, remote radio units
- Satellite Communications — Uplink transmitters, portable terminals
 - Software Defined Radio — Multi-standard transmitters
 - Scientific Instruments — Quantum computing, magnetic resonance imaging
 - Industrial Testing — Ultrasonic excitation sources, NDT

Ordering Information

Attribute	Details
Part Number	JXD2641PE
Package	144-Pin BGA
Temperature Range	-40°C to +85°C
Compatible Device	AD9154 (pin-to-pin)