

August 1997

12-Bit, Multiplying D/A Converter

Features

- 12-Bit Linearity 0.01%
- Pretrimmed Gain
- Low Gain and Linearity Tempcos
- Full Temperature Range Operation
- Full Input Static Protection
- TTL/CMOS Compatible
- +5V to +15V Supply Range
- 20mW Low Power Dissipation
- Current Settling Time $1\mu\text{s}$ to 0.01% of FSR
- Four Quadrant Multiplication

Description

The AD7541 is a monolithic, low cost, high performance, 12-bit accurate, multiplying digital-to-analog converter (DAC).

Harris' wafer level laser-trimmed thin-film resistors on CMOS circuitry provide true 12-bit linearity with TTL/CMOS compatible operation.

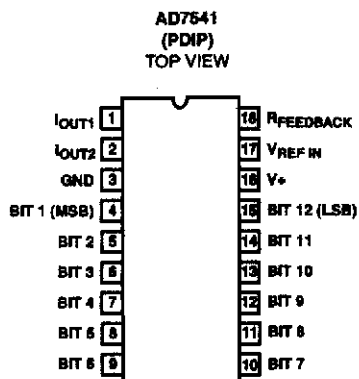
Special tabbed-resistor geometries (improving time stability), full input protection from damage due to static discharge by diode clamps to $V+$ and ground, large I_{OUT1} and I_{OUT2} bus lines (improving superposition errors) are some of the features offered by Harris AD7541.

Pin compatible with AD7521, this DAC provides accurate four quadrant multiplication over the full military temperature range.

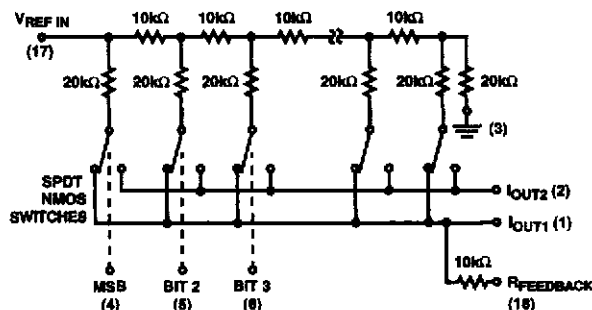
Ordering Information

PART NUMBER	NONLINEARITY	TEMP. RANGE ($^{\circ}\text{C}$)	PACKAGE	PKG. NO.
AD7541JN	0.02% (11-Bit)	0 to 70	18 Ld PDIP	E18.3
AD7541KN	0.01% (12-Bit)	0 to 70	18 Ld PDIP	E18.3
AD7541LN	0.01% (12-Bit) Guaranteed Monotonic	0 to 70	18 Ld PDIP	E18.3

Pinout



Functional Block Diagram



NOTE: Switches shown for digital inputs "High".

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D/A CONVERTERS