

AD12b80M18

12-Bit 40/80MSPS 1.8V Analog-to-Digital Converter



PERFORMANCE HIGHLIGHTS

- Sample Rate, fs: 1 - 160MSPS
- 80/160mW @ 40/ MspS
- SNDR: 63 dB ($F_{IN} = fs/4$)
- SFDR: 78 dB ($F_{IN} = fs/4$)
- DNL: < 1 LSB
- INL: < 2 LSB
- Area: 0.35mm²

FEATURES

- 1.8V Power Supply
- 0.18µM Standard CMOS 6LM
- On-Chip Voltage/Current References
- AC or DC Input Coupling; Programmable
- 2 Vpp Differential Input Range
- Single-Ended or Differential Clock Input

APPLICATIONS

- 802.11 WLAN
- Wired and Wireless
- Cable Modems
- Ultra Sound
- Imaging
- Video

GENERAL DESCRIPTION

AD12b80M18 is an 12-bit low power fully-differential pipelined, analog-to-digital converter with a differential input range of 2 Vpp. Robust architecture and digital error correction enable stable performance across process and environmental variations. No trimming or calibration is required. Fast, low-jitter sampling enables both Nyquist and under-sampling applications.

Designed for single-poly 6 layer metal standard CMOS, the AD12b80M18 is readily portable across foundries without the requirement of special analog mask options such as dual-poly, MIM caps, or resistors.

The AD12b80M18 input mode is user programmable for either AC or DC coupled applications. A high bandwidth track and hold enables high signal bandwidth as well as under-sampled applications.

Supply current is programmable using to control bits allowing reduced power dissipation for lower frequency applications, while also providing best-of-class power performance at high sampling rates.

