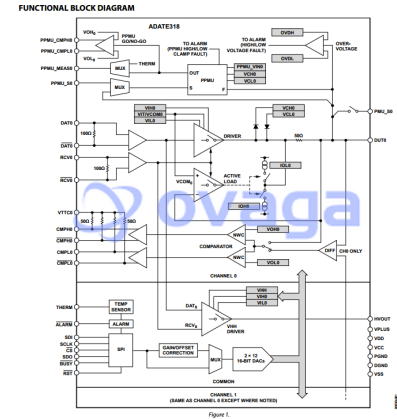


600 MHz Dual Integrated DCL with PPMU, VHH Drive Capability, Level Setting DACs, and On-Chip

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	LFCSP-84
Product Type	Amplifier ICs
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for ADATE318BCPZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The ADATE318 is a complete, single-chip ATE solution that performs the pin electronics functions of driver, comparator, and active load (DCL), four quadrant, per pin, parametric measurement unit (PPMU). It has VHH drive capability per chip to support flash memory testing applications and integrated 16-bit DACs with an on-chip calibration engine to provide all necessary dc levels for operation of the part.

The driver features three active states: data high, data low, and terminate mode, as well as a high impedance inhibit state. The inhibit state, in conjunction with the integrated dynamic clamps, facilitates the implementation of a high speed active termination. The output voltage capability is -1.5 V to +6.5 V to accommodate a wide range of ATE and instrumentation applications.

The ADATE318 can be used as a dual, single-ended drive/ receive channel or as a single differential drive/receive channel. Each channel of the ADATE318 features a high speed window comparator as well as a programmable threshold differential comparator for differential ATE applications. A four quadrant PPMU is also provided per channel.

All dc levels for DCL and PPMU functions are generated by 24 on-chip 16-bit DACs. To facilitate accurate levels programming, the ADATE318 contains an integrated calibration function to correct gain and offset errors for each functional block. Correction coefficients can be stored on chip, and any values written to the DACs are automatically adjusted using the appropriate correction factors.

The ADATE318 uses a serial programmable interface (SPI) bus to program all functional blocks, DACs, and on-chip calibration constants. It also has an on-chip temperature sensor and over/undervoltage fault clamps for monitoring and reporting the device temperature and any output pin or PPMU voltage faults that may occur during operation.

## Features

- 600 MHz/1200 Mbps data rate
- 3-level driver with high-Z and reflection clamps
- Window and differential comparators

## Application

- Automatic test equipment
- Semiconductor test systems
- Board test systems

Per pin PPMU with  $-2.0\text{ V}$  to  $+6.5\text{ V}$  range

Low leakage mode (typically  $4\text{ nA}$ )

Integrated 16-bit DACs with offset and gain correction

High speed operating voltage range:  $-1.5\text{ V}$  to  $+6.5\text{ V}$

Dedicated VHH output pin range:  $0.0\text{ V}$  to  $13.5\text{ V}$

$1.1\text{ W}$  power dissipation per channel

Driver

3-level voltage range:  $-1.5\text{ V}$  to  $+6.5\text{ V}$

Precision trimmed output resistance

Unterminated swing:  $200\text{ mV}$  minimum to  $8\text{ V}$  maximum

$725\text{ ps}$  minimum pulse width,  $V_{IH} \rightarrow$

Comparator

Differential and single-ended window modes

Load

Per pin PPMU (PPMU)

Force voltage/compliance range:  $-2.0\text{ V}$  to  $+6.5\text{ V}$

5 current ranges:  $40\text{ mA}$ ,  $1\text{ mA}$ ,  $100\text{ }\mu\text{A}$ ,  $10\text{ }\mu\text{A}$ ,  $2\text{ }\mu\text{A}$

External sense input for system PMU

Go/no-go comparators

Levels

Fully integrated 16-bit DACs

On-chip gain and offset calibration registers and add/multiply engine

Package

84-lead  $10\text{ mm} \times 10\text{ mm}$  LFCSP ( $0.4\text{ mm}$  pitch)

## FUNCTIONAL BLOCK DIAGRAM

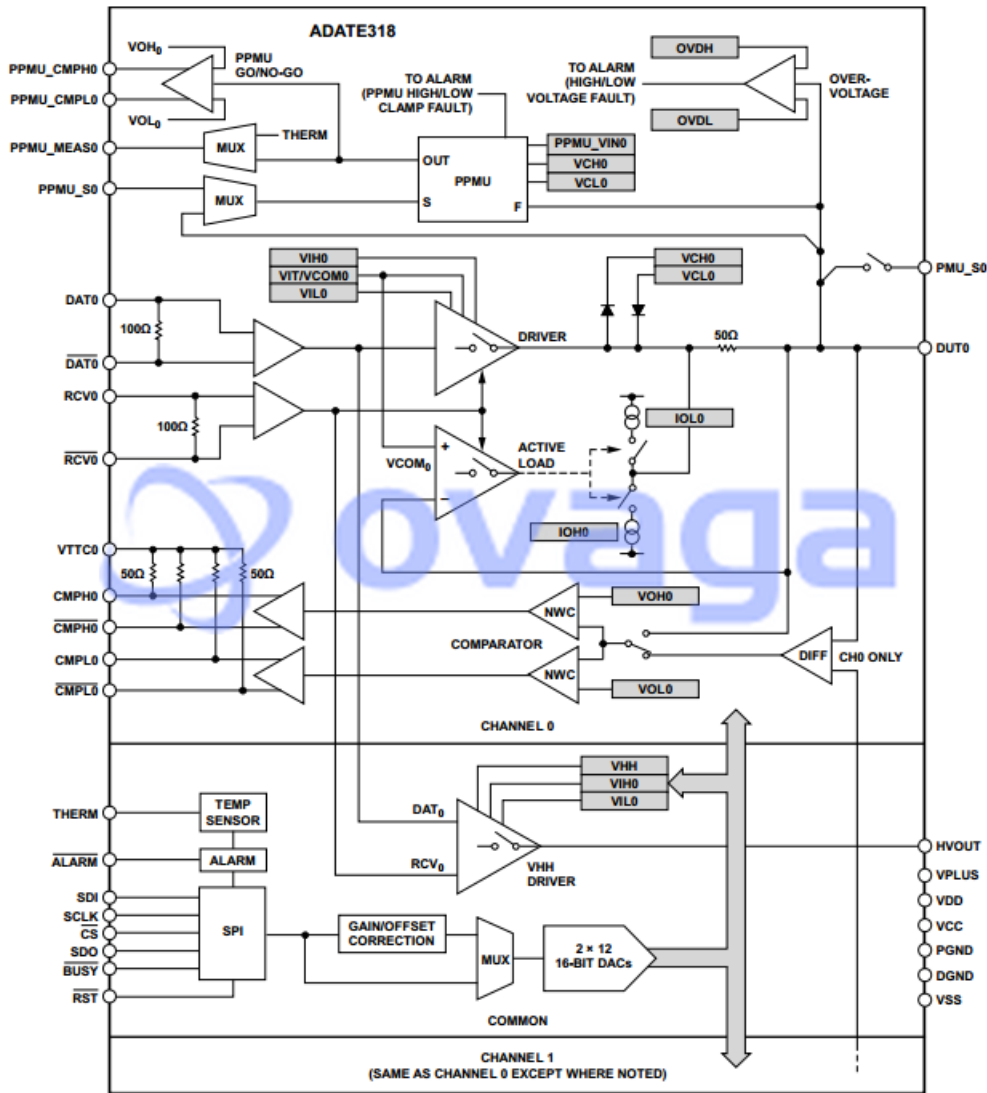


Figure 1.

## Related Products



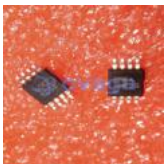
[AD8418BRMZ-RL](#)

Analog Devices, Inc  
MSOP-8



[ADA4528-2ARMZ-R7](#)

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[ADA4084-2ARMZ](#)

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