

ADP1821ARQZ-R7  
1k units from:  
**€ 1.07**

ADP1823ACPZ-R7  
1k units from:  
**€ 1.50**

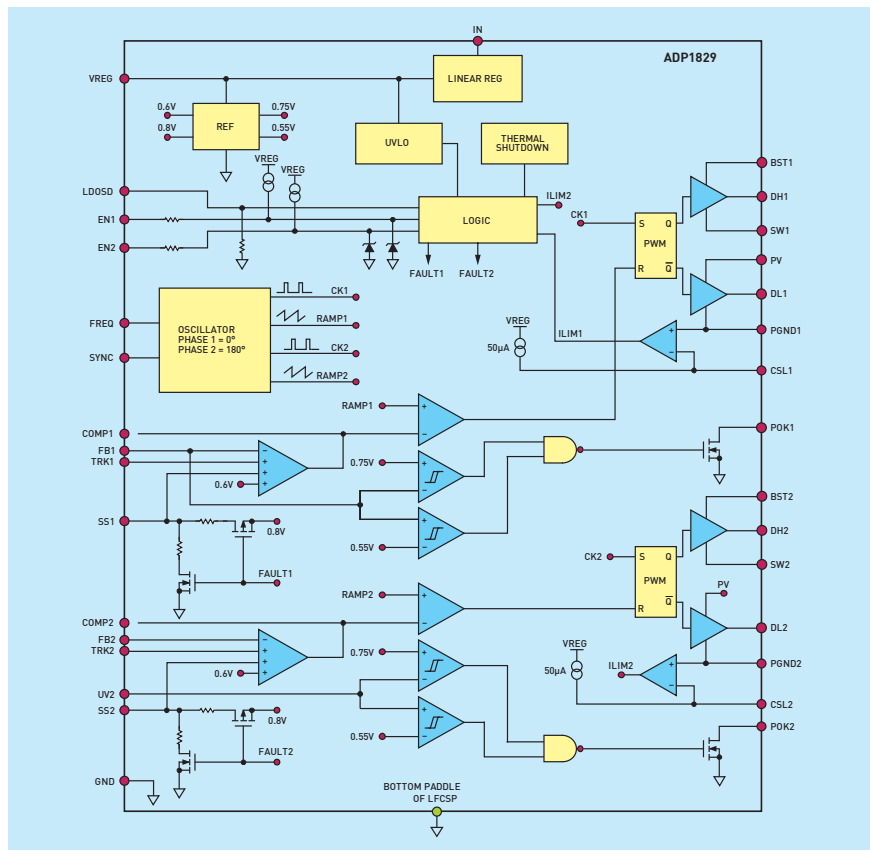
ADP1829ACPZ-R7  
1k units from:  
**€ 1.50**

ADP1829-EVAL  
Evaluation Board  
**€ 42.85**

# ADP182x

## Sync. PWM, Step-down, DC/DC Controllers

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Analog Devices introduces a new family of DC/DC buck converter that operates with an input voltage for the power stage of up to 24V. The new ADP182x is a versatile and inexpensive, synchronous PWM step-down controller. It drives an all N-channel power stage to regulate an output voltage as low as 0.6V with up to a 20A load current. The ADP182x is well suited for a wide range of high power applications, such as DSP and processor core power in telecom, medical imaging, high performance servers, and industrial applications. The DC/DC-converter family can run with a pin selectable fixed internal frequency of 300kHz or 600kHz. In addition to that all parts can be synchronized with an external source up to a

frequency of 1MHz or more depending on the device that is used. It includes an adjustable soft start to minimize and limit inrush current from the input supply during start-up. The AD182x also includes thermal overload protection, current-limit protection and output reverse-current protection at start-up to prevent excessive output voltage excursions. All devices of that family use the  $RDS_{on}$  of the low side MOSFET for current measurement to avoid additional losses at an external shunt resistor and to minimise board space and cost as well. The AD1823/29 is a dual synchronous interleaved buck converter that provides two

independent output voltages between 0.6V and 85% of the input voltage. The devices are available in a 5x5mm 32-lead LFCSP. AD1821/22/28 are single output voltage devices that differ in additional features like voltage tracking for sequencing and output voltage margining control. Because of these additional features the devices have a different pin count between 16 and 24 pins in a QSOP package. All parts can operate in an extended temperature range between -40...+125°C.

### Key Features

- Wide power-input voltage range: 1V...24V
- Wide output voltage range: 0.6V to 85% of input voltage
- All N-channel MOSFET design for low cost
- Fixed-frequency operation 300kHz, 600kHz, or synchronized operation up to 1.0MHz
- No current sense resistor required
- Soft start, thermal overload, current-limit protection
- Undervoltage lockout
- Low shutdown supply current ADP1822: 1µA shutdown supply current

### Key Applications

- Telecom and networking systems
- Medical imaging systems
- Microprocessor core power supplies
- DSP core power supplies
- Set-top-boxes

### Key Design Tips

Evaluation Boards available for all devices

Service available or already delivered T&R from Manufacturer.  
Tapes are available, but not stocked at Avnet Logistics due to low demand.  
Device supported by or programming equipment, but the socket for this package must be provided by customer.

P/N	Package	Programming	Taping & Reeling	Marking
ADP1821ARQZ-R7	16-lead QSOP			
ADP1822ARQZ-R7	24-lead QSOP			
ADP1823ACPZ-R7	32-ball LFCSP			
ADP1828YRQZ-R7	20-lead QSOP			
ADP1829ACPZ-R7	16-ball LFCSP			
ADP1829-EVAL		Tool		

AMPLIFIERS  
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