

# PE44951

Document Category: Product Brief



*Monolithic Phase and Amplitude Controller,  
6.025–7.525 GHz*

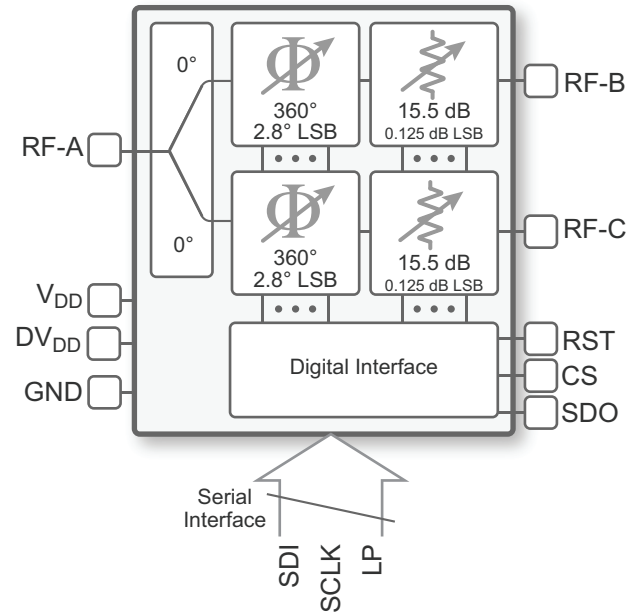
## Features

- Highly integrated two-way splitter, phase shift with digital step attenuation
- 7-bit digital phase shifter, phase shift range of 360°, 2.8° resolution
- 7-bit digital step attenuator, 15.5-dB range, 0.125-dB resolution
- Low insertion loss
- High channel isolation
- Fast switching time of 320 ns
- Input IP3 +55 dBm
- +115 °C operating temperature
- Packaging: 32-lead 5 × 5 × 0.7 mm FCLGA

## Applications

- Input signals phase and magnitude control for power amplifier
- 4G macro/micro cells/small cells (micro, pico)
- 5G massive MIMO system
- Distributed antenna systems (DAS)
- Precision phase shifter
- Dual polarization antenna alignment
- Analog linearization techniques

Figure 1 • PE44951 Functional Diagram



## Product Description

The PE44951 includes highly integrated phase shifters with digitally controlled step attenuators for use across the 6.025 to 7.525 GHz frequency range. Each RF path is independently controlled through the SPI control interface. The PE44951 is ideal for wireless infrastructure applications, such as massive MIMO (mMIMO) macro and micro base stations, next-generation 5G solutions, and small cell applications.

This monolithic phase and amplitude controller is manufactured on the pSemi UltraCMOS® process, a patented variation of silicon-on-insulator (SOI) technology on a sapphire substrate, which features high compactness, excellent isolation and low insertion loss.

## Ordering Information

Table 1 • PE44951 Order Codes and Shipping Methods

Order codes	Description	Packaging	Shipping method
PE44951A-Z	Monolithic Phase and Amplitude Controller	32-lead 5 × 5 × 0.7 mm FCLGA	3000 units/tape and reel
EK44951-01	PE44951 Evaluation kit	Evaluation kit	1/box

## Document Categories

### Advance Information

The product is in a formative or design stage. The datasheet contains design target specifications for product development. Specifications and features may change in any manner without notice.

### Preliminary Specification

The datasheet contains preliminary data. Additional data may be added at a later date. pSemi reserves the right to change specifications at any time without notice in order to supply the best possible product.

### Product Specification

The datasheet contains final data. In the event pSemi decides to change the specifications, pSemi will notify customers of the intended changes by issuing a CNF (Customer Notification Form).

### Product Brief

This document contains a shortened version of the datasheet. For the full datasheet, contact [sales@psemi.com](mailto:sales@psemi.com).

## Sales Contact

For additional information, contact Sales at [sales@psemi.com](mailto:sales@psemi.com).

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