

Logic Devices Support 43-45 Gbps Data and up to 43 GHz Clock Rate



Hittite Microwave Corporation, a supplier of complete MMIC based solutions for communication & military markets, has launched three new logic devices which support 43-45 Gbps data transmission and clock rates up to 43 GHz. These devices are ideal for a wide range of applications, and support many of the new and emerging optical, networking, and storage area network (SAN) standards including: 100 GbE, 40G (D)QPSK and 100G DP-QPSK.

The HMC841LC4B is a D-Type Flip-Flop which supports single-ended or differential operation, and data transmission rates up to 43 Gbps. The device operates with clock signals up to 43 GHz, and the input is broadband from DC to 43 GHz. During normal operation, data is transferred to the outputs on the positive edge of the clock; reversing the clock inputs accommodates negative-edge triggered applications.

The HMC842LC4B is a 1:2 Fanout Buffer designed to support data transmission rates up to 45 Gbps, and clock signals up to 28 GHz. The HMC843LC4B is easily configured to provide AND/NAND/OR/NOR functions supporting data transmission rates up to 45 Gbps, and clock frequencies as high as 25 GHz. The differential input and output signals of the HMC841LC4B, HMC842LC4B and the HMC843LC4B are terminated with 50 Ohms to ground on-chip, and may be either AC or DC coupled.

Propagation delays are typically 10 ps, while rise and fall times are less than 12 ps. The HMC841LC4B, HMC842LC4B and the HMC843LC4B exhibit only 2 ps p-p of deterministic jitter, and less than 300 fs of additive random jitter. Ideal for for signal loss compensation or signal level optimization, an output level control pin permits the differential output voltage swing to be adjusted.

The HMC841LC4B, HMC842LC4B and the HMC843LC4B are specified for operation from -40 °C to +85 °C and operate from a -3.3 V DC supply, while consuming less than 630 mW. Housed in ceramic, RoHS compliant, 4 x 4 mm SMT packages, these devices are also ideal for high performance broadband test applications.

For more information on:

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