13 GHz High Speed Logic Ideal for High Volume, Low Jitter Communications, Test & Networking Applications

Hittite Microwave Corporation has released four new high speed logic products to complement its growing high speed logic product line. Operating with clock rates up to 13 GHz, and housed in plastic SMT packages, the HMC720LP3E, HMC721LP3E, HMC722LP3E, and the HMC723LP3E are ideal for deployment in high volume applications ranging from bench test equipment, ATE, optical communications, medical and industrial systems to networking and military communications systems.

The HMC720LP3E is a 1:2 Fanout Buffer, the HMC721LP3E provides an XOR/XNOR gate function, and the HMC722LP3E may be configured as an AND, NAND, OR or NOR gate. The HMC723LP3E is a D-Type Flip-Flop which transfers data to its outputs on the positive edge of the clock during normal operation. All four logic devices support single-ended or differential operation, provide data transmission/clock rates up to 13 Gbps/13 GHz, and feature an output level control pin which allows for signal loss compensation or signal level optimization.

The differential input and output signals of the HMC720LP3E, HMC721LP3E, HMC722LP3E, and the HMC723LP3E are terminated on chip with 50 Ohm resistors to ground, and may be either AC or DC coupled. These logic devices are also optimized for fast rise and fall times, low jitter and low DC power requirements.

Typical deterministic jitter is 2 ps, while random jitter is less than 0.2 ps rms. Typical rise and fall times are 19 ps or less, while DC power consumption is less than 300 mW.

The HMC720LP3E, HMC721LP3E, HMC722LP3E, and the HMC723LP3E operate from a -3.3 V DC supply, are specified for operation from -40 °C to +85 °C, and are housed in RoHS compliant, 3 x 3 mm plastic SMT packages.

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