

**CYPRESS EXPANDS PREMIS™ FAMILY OF EMI-REDUCING  
FREQUENCY TIMING GENERATORS**

**Spread Spectrum Technology Eases the Process of EMI Testing**

SAN JOSE, Calif., June 21, 1999 – Cypress Semiconductor (NYSE:CY) today introduced the core products of its PREMIS™ (Peak Reducing EMI Solutions) frequency timing generators (FTGs). The new products, gained with the recent acquisition of IC WORKS, incorporate market-leading phase-locked loop (PLL) spread spectrum timing technology.

The PREMIS products enable system designers to reduce peak EMI emissions at every harmonic in the system simultaneously by up to 20 dB. By reducing EMI “spikes,” designers of a wide range of electronic systems (from printers to video games) can more quickly and easily pass government-mandated EMI testing. Peak EMI is reduced in the various timing signal lines, and in all signals that are synchronized to the timing signal. Therefore, the benefits increase as the number of address and data lines in the system increases. The PREMIS family expands the market for FTGs and offers a new solution to system designers seeking to improve time to market and lower manufacturing costs.

IC WORKS introduced Spread Aware™ zero delay buffers in September 1998, the company's first standard products developed to support emerging spread spectrum timing technology. Spread Aware zero delay buffers allow the EMI-reducing results of the PREMIS devices to be realized throughout the entire system.

"By offering designers an efficient, cost-effective method for reducing EMI emissions in complex systems, the PREMIS products help speed designs to market while keeping costs down." said Ian Chen, marketing director for Cypress's Timing Technology Division. "This family is an opportunity to broaden our customer base significantly to include manufacturers of all systems that must pass EMI testing."

### **PREMIS Spread Spectrum Frequency Timing Generators**

The PREMIS product family relies on modulating the frequency of output signals with a low-frequency carrier to reduce EMI. This technology enables systems to pass increasingly difficult EMI testing without resorting to costly shielding or redesign.

The spread spectrum FTGs superimpose a modulating waveform at the input to the VCO, causing the VCO output to be slowly swept across a predetermined frequency band. Because the modulating frequency is typically 1000 times slower than the fundamental clock, the spread spectrum process has little impact on system performance.

Every device in the PREMIS product line offers selectable input to output frequency, -1.25 percent to -3.75 percent down spread output, and integrated loop filter components. Designed in low-power CMOS, the devices operate with either a 3.3V or 5V supply.

### **Price and Availability**

The W181, W183, and W185 offer output ranges of 28-75 MHz. The W180, W182, and W184 output frequencies ranging from 8-28 MHz. The W180 and W181 come in 8-pin SOIC packages; the W182 and W183 are offered in 16-pin SOICs; and the W184 and W185 come in 24-pin SSOPs. All of the devices are available today, with pricing ranging from \$2.33 to \$5.94 in 1000-unit quantities.

Cypress Semiconductor Corporation, headquartered in San Jose, California, provides a broad range of integrated circuits for leading computer, networking, and telecommunications companies worldwide. Cypress's products include static RAM and specialty memories, programmable logic devices (PLDs), data communications products, timing devices, and USB microcontrollers. Its shares are listed on the New York Stock Exchange under the symbol CY, and its web site is <http://www.cypress.com>.

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: Statements herein that are not historical facts are "forward-looking statements" involving risks and uncertainties. Please refer to Cypress's Securities and Exchange Commission filings for a discussion of such risks.

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