

UltraCMOS™ Phase-Locked Loops, Prescalers and Mixers

RF IC Solutions To Condition The RF Signal Chain

Manufactured on the Company's proprietary UltraCMOS™ silicon-on-sapphire process technology, these products draw from many years of high-performance RF CMOS and mixed-signal IC experience. UltraCMOS enables the combination of high-performance RF, mixed-signal, passive elements, nonvolatile memory and digital functions on a single device, offering high performance, low power, and monolithic integration.

INTEGER-N AND FRACTIONAL-N PLLS

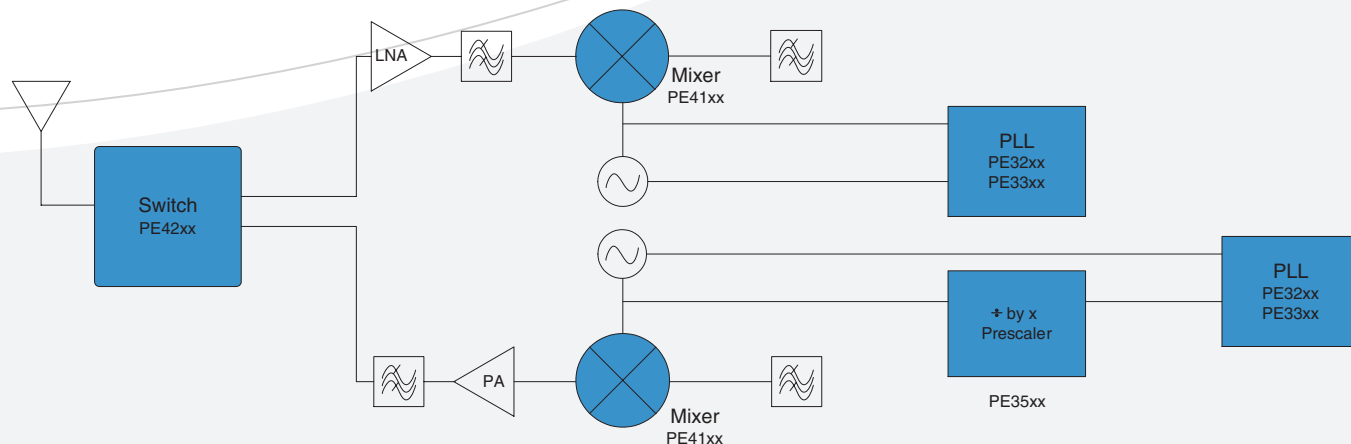
Get maximum signal clarity with our ultra-low phase noise PLL synthesizers: the Integer-N family for demanding LMDS, MMDS, WLL and other base station systems, and our Fractional-N family for handheld and mobile wireless devices. UltraCMOS technology allows monolithic integration and a variety of programming options including embedded field-programmable EEPROM in the PE3341 and PE3342, which are capable of frequency synthesis up to 2.7 GHz and permanent store of control bits.

PRESCALERS

The high-performance UltraCMOS™ RF Prescaler family offers a fixed divide ratio of 2, 4, or 8 and an operating frequency ranging from DC to 3.5 GHz on a nominal 3 V supply while drawing only 12 mA. Packaged in small 8-lead TSSOP, 8-lead MSOP, or 6-lead SC70, these devices are ideal for microwave PLL synthesis solutions.

RF Transceiver Front End

Designed with UltraCMOS RF ICs



PASSIVE MIXERS

Extend the reach of your base stations with Peregrine integrated receive mixers. High linearity and remarkable input IP3 performance will isolate signals in even the most crowded spectrum. Integrated matching RF and LO networks and tiny package options eliminate the need for bulky mixer modules or external RF baluns.

TECHNICAL SUPPORT AND ORDER INFORMATION

Products samples, unit pricing and volume production are available now through Peregrine and its worldwide distributors. Visit us online to find a sales office near you.

PRESCALERS

Product Description	Input Operating Frequency (MHz)	Divide Ratio	Typical I _{dd} (mA @ 3 V)	V _{dd} Range (V)	Package
PE3501,02,03 - Divide-by-2,4,8	400-3500	2,4,8	12	2.85-3.15	8L TSSOP, 8L MSOP
PE3511,12,13 - Divide-by-2,4,8	DC - 1500	2,4,8	8	2.85-3.15	6L SC70

INTEGER-N PHASE LOCKED-LOOP (PLL) FREQUENCY SYNTHESIZERS

Product Description	Det Type	Programming Mode	Max Input Operating Freq (GHz)			Prescaler	Main Counters M, A	Reference Counters	Typical I _{dd} (mA @ 3 V)	V _{dd} Range (V)	Package Types
			RF PLL	(MHz) Ref.	(MHz) Compare						
PE3236,38	PD	Par, Ser, Hardwire	2.2, 1.5	100	20	10/11	9bit, 4bit	6bit	22, 20	2.85-3.15	44L PLCC
PE3239,40	CP, PD	Serial	2.2	100	20	10/11	9bit, 4bit	6bit	20, 15	2.85-3.15	20L TSSOP
PE3335,36	CP, PD	Par, Ser, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	24, 19	2.85-3.15	44L PLCC, 48L QFN
PE3339,40	CP, PD	Serial	3.0	100	20	10/11	9bit, 4bit	6bit	23, 20	2.85-3.15	24L TSSOP
PE3341,42	CP, PD	Serial, EEPROM ¹	2.7 ²	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	24L TSSOP, 20L QFN

Note 1: Programming Kit available-contains 10 samples. Note 2: 3 GHz available. See datasheet.

FRACTIONAL-N PHASE LOCKED-LOOP (PLL) FREQUENCY SYNTHESIZERS

Product Description	Max Input Operating Freq (GHz)			Dual-Mod Prescaler RF, IF	Main Counters RF, IF	Reference Counters RF, IF	Typical I _{dd} (mA @ 3 V)	V _{dd} Range (V)	Package
	RF PLL	(MHz) IF PLL	(MHz) Ref.						
PE3291,93	1.2, 1.8	500	50	32/33, 16/17	19bit, 18bit	6bit	22, 20	2.85-3.15	20L TSSOP

PASSIVE MIXERS

Product Description	Operating Frequency (MHz)			LO Drive (dBm)	Conv. Loss (dB)	Isolation (dB, typ.)		Input IP ₃ (dBm, typ.)	Package
	LO	RF	IF, Nom			LO-RF	LO-IF		
PE4122,34 - PCS / 3G	1540-1740	1800-2000	60-460	10-20	7.4	34, 31	38, 33	33	8L TSSOP, 6L 3x3 DFN
PE4126 - DCS1800	1450-1550	1700-1800	30-170	10-20	7.9	36	37	32	8L TSSOP
PE4124,25,35 - GSM / Cellular	750-990	820-920	30-170	10-20	6.9, 7.0, 6.8	31, 32, 32	43, 40, 42	33, 32, 32	8L TSSOP, 6L 3x3 DFN
PE4140 - MOSFET Quad Array	0.01-6000	0.01-6000	0.01-6000	0-20	6.5-7.5	25-40	25-40	36	6L 3x3 DFN, DIE

About UltraCMOS™ Technology

UltraCMOS™ mixed-signal process technology is a patented variation of silicon-on-insulator (SOI) technology. It is the first commercially qualified use of Ultra-Thin-Silicon (UTSi®) on sapphire substrates with high yields and competitive costs. Since sapphire is a near perfect insulator, UltraCMOS products can integrate high-quality passive devices directly into the IC, combining high-performance RF, mixed-signal, passive elements, nonvolatile memory and digital functions in a single device. UltraCMOS products are fabricated in standard high-volume CMOS facilities, achieving the economy, scalability and integration of CMOS, while enabling significant performance advantages over competing mixed-signal processes such as GaAs, SiGe BiCMOS and bulk silicon CMOS in applications where RF performance, low power and integration are paramount.

About Peregrine Semiconductor

Peregrine Semiconductor Corporation designs, manufactures, and markets high-performance RF ICs ideally suited for mobile wireless and wireless infrastructure; broadband communications; space; defense and avionics applications. Manufactured on the Company's proprietary UltraCMOS™ mixed-signal process technology, Peregrine products offer unprecedented levels of monolithic integration, and are uniquely poised to meet the needs of a global RF design community in high-growth applications such as WCDMA and GSM digital cellular, broadband, DTV, DVR and rad-hard space and defense programs. The Company, headquartered in San Diego, California, maintains global sales support operations and a worldwide technical distribution network.



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微波光电部专业代理经销高频、微波、光纤、光电元器件、组件、部件、模块、整机；电磁兼容元器件、材料、设备；微波 CAD、EDA 软件、开发测试仿真工具；微波、光纤仪器仪表。欢迎国外高科技微波、光纤厂商将优秀产品介绍到中国、共同开拓市场。长期大量现货专业批发高频、微波、卫星、光纤、电视、CATV 器件：晶振、VCO、连接器、PIN 开关、变容二极管、开关二极管、低噪晶体管、功率电阻及电容、放大器、功率管、MMIC、混频器、耦合器、功分器、振荡器、合成器、衰减器、滤波器、隔离器、环行器、移相器、调制解调器；光电子元件和组件：红外发射管、红外接收管、光电开关、光敏管、发光二极管和发光二极管组件、半导体激光二极管和激光器组件、光电探测器和光接收组件、光发射接收模块、光纤激光器和光放大器、光调制器、光开关、DWDM 用光发射和接收器件、用户接入系统光收发器件与模块、光纤连接器、光纤跳线/尾纤、光衰减器、光纤适配器、光隔离器、光耦合器、光环行器、光复用器/转换器；无线收发芯片和模组、蓝牙芯片和模组。

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