

UltraCMOS™ Phase-Locked Loops, Prescalers and MOSFET Quad Array 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 PLL SYNTHESIZERS

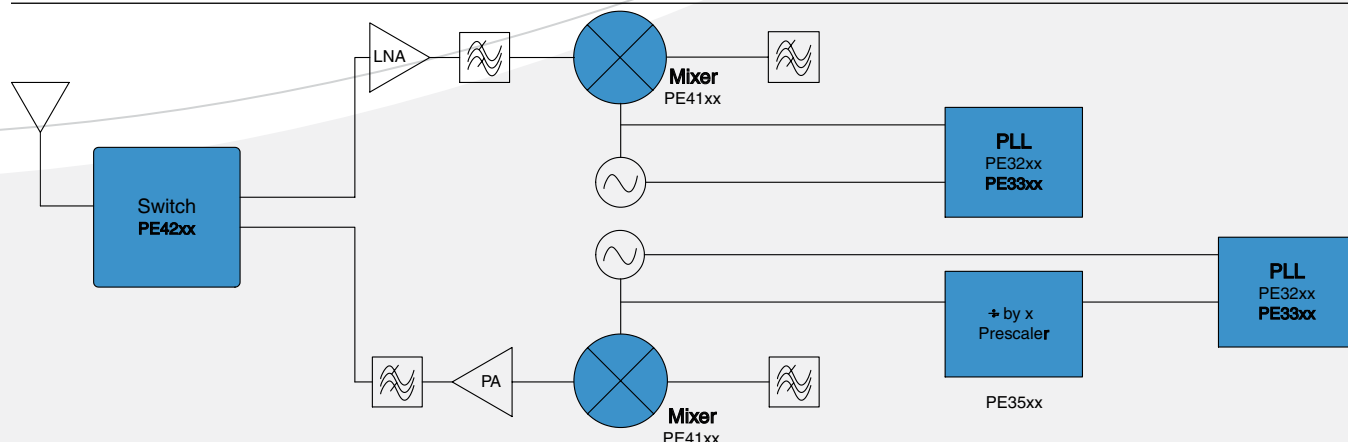
Get maximum signal clarity with our ultra-low phase noise PLL synthesizers, including the Integer-N family for demanding LMDS, MMDS, WLL and other base station systems. UltraCMOS technology allows monolithic integration and a variety of programming options including embedded field-programmable EEPROM 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 or 6-lead SC70, these devices are ideal for microwave PLL synthesis solutions.

RF TRANSCEIVER FRONT END

Designed with UltraCMOS RF ICs



MOSFET QUAD ARRAY and MIXER CORE

Extend the reach of your base stations with Peregrine's MOSFET Quad Array for receive mixer applications. High linearity and remarkable input IP3 performance will isolate signals in even the most crowded spectrum. The new PE4150 Mixer Core features an integrated LO amplifier that allows for LO drive levels of less than 0dBm to produce IIP3 values similar to a Quad MOSFET Array driven with a 15dBm LO drive. It can be used as an upconverter or a downconverter.

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 - Divide-by-2	400-3500	2	12	2.85-3.15	8L TSSOP
PE3511 - Divide-by-2	DC - 1500	2	8	2.85-3.15	6L SC70
PE3512 - Divide-by-4	DC - 1500	4	8	2.85-3.15	6L SC70
PE3513 - Divide-by-8	DC - 1500	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) RF PLL	(MHz) Ref.	(MHz) Compare	Prescaler	Main Counters M, A	Reference Counters	Typical I _{dd} (mA @ 3 V)	V _{dd} Range (V)	Package Types
PE3236	PD	Par, Ser, Hardwire	2.2, 1.5	100	20	10/11	9bit, 4bit	6bit	22, 20	2.85-3.15	44L PLCC
PE3336	PD	Par, Ser, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	24, 19	2.85-3.15	44L PLCC, 48L QFN
PE3339	CP	Serial	3.0	100	20	10/11	9bit, 4bit	6bit	23, 20	2.85-3.15	24L TSSOP
PE3341	CP	Serial, EEPROM ¹	2.7 ²	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	24L TSSOP, 20L QFN
PE3342	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.

MOSFET QUAD ARRAY MIXER CORE

Product Description	Operating Frequency (MHz) LO	RF	IF, Nom	LO Drive (dBm)	Conv. Loss (dB)	Isolation (dB, typ.) LO-RF	LO-IF	Input IP3 (dBm, typ.)	Package
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
PE4150 - Buffered Quad FET Core	245.65-885.65	136-941	44.85-109.65	-10 to -6	6.5-8.7	25-30	20-30	25	20L 4x4 QFN

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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