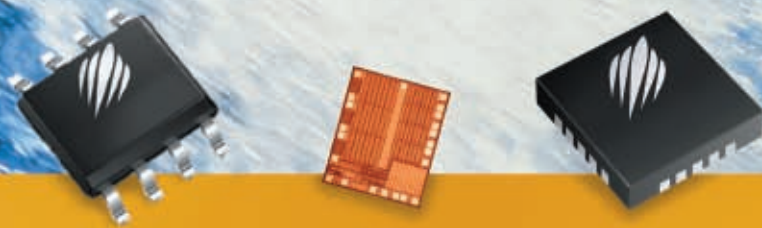


First Edition



Product Selection Guide 2006



Changing how you design RF. Forever.



Welcome to Peregrine Semiconductor

Peregrine Semiconductor is a leading supplier of high-performance RF CMOS and mixed-signal communications ICs which are ideally suited for the wireless infrastructure and mobile wireless; broadband communications; space; defense and avionics markets. Manufactured on the Company's proprietary UltraCMOS™ technology, the Peregrine product portfolio is poised to meet the demands of a global RF design community – in high-growth applications such as WCDMA and GSM digital cellular, broadband, DTV, DVR, and radiation-hard space and defense programs. Peregrine's products feature monolithic integration and ease-of-development, which are essential to timely and cost-effective application design by our customers.

The Company is headquartered in San Diego, California, and employs nearly 200 people worldwide. Peregrine 0.25 μm and 0.5 μm UltraCMOS devices are manufactured in its 150 mm CMOS facility located in Sydney, Australia, and in both Hachioji and Miyazaki, Japan through an alliance with Oki Electric Industry Co., Ltd.

Quality and Reliability

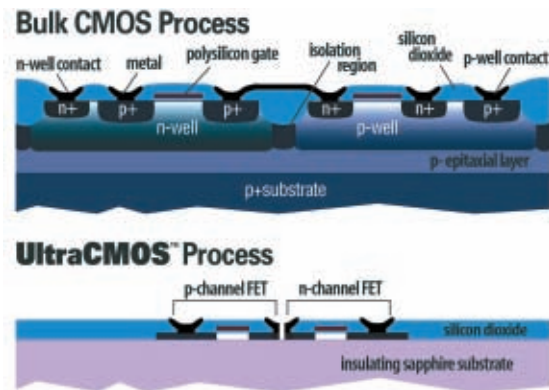
At Peregrine Semiconductor, we are committed to achieving excellence through customer satisfaction in everything we do. Our ISO-9001-2000 and AS9100A certified quality systems, advanced designs, progressive process technology and industry-leading product performance enable us to deliver decidedly superior performance.



UltraCMOS™ RF Process Technology

The environmentally friendly UltraCMOS process is the industry's first and only commercially qualified use of Ultra-Thin-Silicon (UTSi®) on sapphire substrates with high yields and competitive costs.

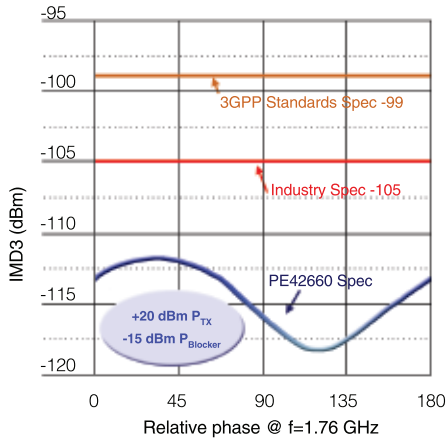
UltraCMOS, a patented variation of silicon-on-insulator (SOI) technology, enables the combination of high-performance RF, mixed-signal, passive elements, nonvolatile memory and digital functions on a single intrinsically hermetic device.



The UltraCMOS sapphire substrate is a near-perfect insulator which enables high-frequency performance and monolithic integration.

This monolithic integration provides 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. Additionally, because UltraCMOS devices are fabricated in standard high-volume CMOS facilities, products benefit from the fundamental reliability, cost effectiveness, high yields, scalability and integration of CMOS, while achieving the peak performance levels historically expected from SiGe and GaAs.

Astounding IMD3 performance of HaRP-enhanced switches exceeds 3GPP industry standards



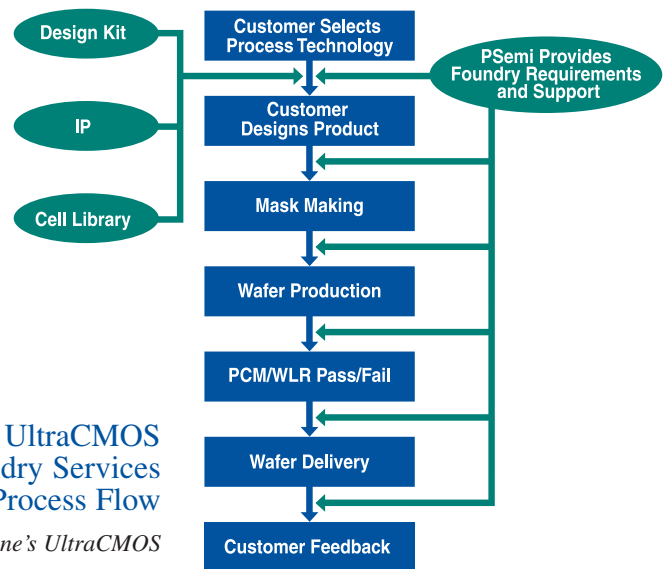
The Revolutionary HaRP™ Technology Invention

Peregrine's HaRP™ technology enhancements provide for new RF architectures and unmatched linearity in the RF front-end. Because UltraCMOS technology is composed of a stack of field effect transistors manufactured on a perfectly insulating sapphire substrate, it has an inherent ability to pass high power RF signals. The HaRP invention allows for extremely linear FETs which when stacked together provide for ultimate linear performance. The first devices to be released on the HaRP-enhanced UltraCMOS process are the PE426xx high-thru, high-power RF Switches for quad-band GSM and GSM/WCDMA handset applications. By providing for an ever-increasing number of RF transmit and receive paths, these new devices have enabled a long-awaited breakthrough in Intermodulation Distortion (IMD) handling, a specification required by the 3GPP standards body for GSM/WCDMA applications.

UltraCMOS™ Foundry Services

Peregrine's UltraCMOS RF and mixed-signal wafer foundry services offer unprecedented benefits in speed, power, integration and cost. Our comprehensive portfolio of Process Design Kits, standard cell libraries, IP offerings and design services delivers leading-edge solutions for today's competitive RF wireless and broadband application challenges. For quick-turn prototyping service, we offer Multi-Project Runs (MPR) on a scheduled basis. This approach enables rapid, low-cost device evolution from design to limited or full production volumes.

At Peregrine Semiconductor, our goal is to ensure customers achieve higher performance integrated circuits without a higher pricetag. Contact us for more information.



UltraCMOS Foundry Services Process Flow

By selecting Peregrine's UltraCMOS technology, you can count on our expertise and outstanding support throughout the entire foundry process.

Wireless and Broadband RF Products

RF Switches - 50 Ω

Product Description	Operating Frequency (MHz)	IIP3 (dBm @ 2 GHz)	P1dB (dBm @ 2 GHz)	Insertion Loss (dB @ 1 GHz)	Isolation (dB @ 1 GHz)	Typical Idd (μA @ 3 V)	Vdd Range (V)	Package
NEW PE4283 - Reflective SPDT	DC-4000	57	32	0.65	33.5	8	2.0-3.3	6L SC70
PE4259 ¹ - Reflective SPDT	DC-3000 ²	55	33 ³	0.35	30	9	2.3-3.3	6L SC70
PE4257 - Absorptive SPDT	DC-3000	55	31 ³	0.75	64	8	2.7-3.3	20L 4x4 QFN
PE4246 - Absorptive SPST	DC-5000	53	33	0.80	55	33	2.7-3.3	6L 3x3 DFN
PE4245 - Reflective SPDT	DC-4000 ²	45	27	0.60	42	0.25	2.7-3.3	6L 3x3 DFN
PE4244 - Reflective SPDT	DC-3000 ²	45	26	0.60	39	0.25	2.7-3.3	8L MSOP
PE4243 - Reflective SPDT	DC-3000	45	27	0.70	30	0.25	2.7-3.3	6L SOT23
PE4242 - Reflective SPDT	DC-3000	45	27	0.70	32	0.25	2.7-3.3	6L SC70
PE4241 - Reflective SPDT	DC-3000	45	27	0.70	30	0.25	2.7-3.3	6L SOT23
PE4239 - Reflective SPDT	DC-3000 ²	45	27	0.70	32	0.25	2.7-3.3	6L SC70, DIE
PE4237 - Reflective SPDT	DC-4000	55	32	0.35	43	29	2.7-3.3	6L 3x3 DFN, DIE
PE4235 - Reflective SPDT	DC-4000	36	15	0.40	40	0.25	2.7-3.3	6L 3x3 DFN
PE4230 - Reflective SPDT	DC-3000	55	32	0.35	39	29	2.7-3.3	8L MSOP
PE4220 - Reflective SPDT	DC-2500	44	23	0.25	37	30	2.7-3.3	8L MSOP
PE4210 - Reflective SPDT	DC-3000	34	15	0.30	36	0.25	2.7-3.3	8L MSOP

Note 1: Power handling varies over frequency. See datasheet.

Note 2: Can be used in a 75 ohm environment.

Note 3: Measured at 1 GHz.

Note: To view S-parameter data for 50 Ω switches,

visit the product section of our website at: www.psemi.com.

Cellular Handset Switches - 50 Ω

Product Description	Operating Frequency (MHz)	2nd Harmonic		3rd Harmonic		Insertion Loss (dB @ 1 GHz)	Isolation (dB @ 1 GHz)	Typical Idd (μA @ 2.6 V)	Vdd Range (V)	Package
		35 dBm TX Input 850/900 MHz	33 dBm TX Input 1800/1900 MHz	35 dBm TX Input 850/900 MHz	33 dBm TX Input 1800/1900 MHz					
PE4268 SP6T - 2Tx/4Rx	100-3000	-84	-80	-70	-66	0.60	50	13	2.4-2.8	20L 4x4 QFN
NEW *PE42672 SP7T - 3Tx/4Rx	100-3000	-85	-84	-78	-77	0.55	44	13 ¹	2.65-2.85	DIE
NEW *PE42671 SP7T - 4Tx/3Rx	100-3000	-88	-84	-80	-76	0.65	47	13 ¹	2.65-2.85	DIE
NEW *PE42660 SP6T - 2Tx/4Rx	100-3000	-85.5	-84	-83	-82	0.55	48	13 ¹	2.65-2.85	DIE
*PE4263 SP6T - 2Tx/4Rx	100-3000	-85	-81	-72	-66	0.55	48	13	2.4-2.8	DIE
*PE4261 SP4T - 2Tx/2Rx	100-3000	-82	-89	-74	-68	0.55	39	13	2.4-2.8	Flip Chip

Note 1: Measured at 2.75 V

* Contact factory for pricing and availability.

Broadband Switches - 75 Ω

Product Description	Operating Frequency (MHz)	IIP2 ¹ (dBm)	CTB ² (dBc)	P1dB ³ (dBm)	Insertion Loss (dB @ 1 GHz)	Isolation (dB @ 50 MHz)	Isolation (dB @ 1 GHz)	Typical Idd (μA @ 3 V)	Vdd Range (V)	Package
PE4280 - Absorptive SPDT	DC-3000	75	-85	26	1.10	72	60	8	2.7-3.3	20L 4x4 QFN
NEW PE4273 - Reflective SPDT	DC-3000	80	-90	32	0.50	63	34.5	8	2.7-3.3	6L SC70
NEW PE4272 - Reflective SPDT	DC-3000	80	-90	32	0.50	70	43	8	2.7-3.3	8L MSOP
PE4271 - Absorptive SPST	DC-3000	80	-90	33	0.80	85	60	8	2.7-3.3	6L 3x3 DFN
PE4270 - Absorptive SPST	DC-3000	80	-90	30	0.75	90	63	8	2.7-3.3	6L 3x3 DFN
PE4256 - Absorptive SPDT	DC-3000	80	-90	31	0.90	80	65	8	2.7-3.3	20L 4x4 QFN
PE4240 - Absorptive SPDT	DC-3000	80	-90	31	0.90	80	65	8	2.7-3.3	20L 4x4 QFN
PE4232 - Absorptive SPST	DC-1300	80	-100	33	0.75	90	53	33	2.7-3.3	6L 3x3 DFN
PE4231 - Reflective SPDT	DC-1300	80	-90	32	0.80	75	42	29	2.7-3.3	8L MSOP

Broadband Switches - 75 Ω - with Unpowered Operation

Product Description	Operating Frequency (MHz)	IIP2 ¹ (dBm)	CTB ² (dBc)	P1dB ³ pwr/unpwr (dBm)	Insertion Loss pwr/unpwr (dB @ 1 GHz)	Isolation pwr/unpwr (dB @ 50 MHz)	Isolation pwr/unpwr (dB @ 1 GHz)	Typical Idd (μA @ 3 V)	Vdd Range (V)	Package
PE4274 - Absorptive SPDT	DC-3000	90	-90	30/24	1.00/2.20	97/95	65/64	8	2.7-3.3	20L 4x4 QFN

Note 1: Measurement is limited by test equipment

Note 2: CTB/CSO measured with 77 and 110 channels; PO=44 dBmV

Note 3: Measured at 1 GHz

Peregrine's innovative UltraCMOS™ RF ICs deliver unprecedented linearity, excellent ESD tolerance and monolithic integration ideally suited for next-generation wireless and broadband applications.

RF Digital Step Attenuators (Monolithic) - 50 Ω

Product Description	Attenuation (dB)	Programming Mode	Operating Freq. (MHz)	Insertion Loss (dB)	Input IP3 (dBm)	Attenuation Accuracy (1 GHz)	Switching Speed (μs)	Package
PE4306 - 5-bit, 50 Ω	31 range / 1.0 steps	Parallel, Serial, Direct	DC - 4000	1.5	52	±(0.30+3% of setting)	1	20L 4x4 QFN
PE4305 - 5-bit, 50 Ω	15.5 range / 0.5 steps	Parallel, Serial, Direct	DC - 4000	1.5	52	±(0.25+3% of setting)	1	20L 4x4 QFN
PE4302 - 6-bit, 50 Ω	31.5 range / 0.5 steps	Parallel, Serial, Direct	DC - 4000	1.5	52	±(0.10+3% of setting)	1	20L 4x4 QFN

Broadband Digital Step Attenuators (Monolithic) - 75 Ω

Product Description	Attenuation (dB)	Programming Mode	Operating Freq. (MHz)	Insertion Loss (dB @ 2 GHz)	Input IP3 (dBm)	Attenuation Accuracy (1 GHz)	Switching Speed (μs)	Package
PE4308 - 5-bit, 75 Ω	31 range / 1.0 steps	Parallel, Serial, Direct	DC - 2000	1.4	52	±(0.20+4% of setting)	1	20L 4x4 QFN
PE4307 - 5-bit, 75 Ω	15.5 range / 0.5 steps	Parallel, Serial, Direct	DC - 2000	1.4	52	±(0.15+4% of setting)	1	20L 4x4 QFN
PE4304 - 6-bit, 75 Ω	31.5 range / 0.5 steps	Parallel, Serial, Direct	DC - 2000	1.4	52	±(0.15+4% of setting)	1	20L 4x4 QFN

Integer-N Phase Locked-Loop (PLL) Frequency Synthesizers

Product Description	Det Type	Programming Mode	Max Input Operating Freq				Main Counters M, A	Reference Counters	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
			(GHz) RF PLL	(MHz) Ref.	(MHz) Compare	Prescaler					
PE3342	PD	Serial, EEPROM ¹	2.7 ²	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	24L TSSOP, 20L QFN
PE3341	CP	Serial, EEPROM ¹	2.7 ²	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	24L TSSOP, 20L QFN
PE3340	PD	Serial	3.0	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	20L TSSOP
PE3339	CP	Serial	3.0	100	20	10/11	9bit, 4bit	6bit	23	2.85-3.15	20L TSSOP
PE3336	PD	Parallel, Serial, Hardware	3.0	100	20	10/11	9bit, 4bit	6bit	19	2.85-3.15	44L PLCC, 48L QFN
PE3335	CP	Parallel, Serial, Hardware	3.0	100	20	10/11	9bit, 4bit	6bit	24	2.85-3.15	44L PLCC, 48L QFN
PE3240	PD	Serial	2.2	100	20	10/11	9bit, 4bit	6bit	15	2.85-3.15	20L TSSOP
PE3239	CP	Serial	2.2	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	20L TSSOP
PE3238	PD	Parallel, Serial, Hardware	1.5	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	44L PLCC
PE3236	PD	Parallel, Serial, Hardware	2.2	100	20	10/11	9bit, 4bit	6bit	22	2.85-3.15	44L PLCC

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			Dual-Mod Prescaler RF,IF	Main Counters RF,IF	Reference Counters RF,IF	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
	(GHz) RF PLL	(MHz) IF PLL	(MHz) Ref.						
PE3293 - Dual RF / IF	1.8	550	50	32/33, 16/17	19bit, 18bit	9bit, 9bit	4.0	2.7-3.3	20L TSSOP
PE3291 - Dual RF / IF	1.2	550	50	32/33, 16/17	19bit, 18bit	9bit, 9bit	3.1	2.7-3.3	20L TSSOP

Prescalers

Product Description	Input Operating Frequency (MHz)	Divide Ratio	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
PE3513 - Divide-by-8	DC - 1500	8	8	2.85-3.15	6L SC70
PE3512 - Divide-by-4	DC - 1500	4	8	2.85-3.15	6L SC70
PE3511 - Divide-by-2	DC - 1500	2	8	2.85-3.15	6L SC70
PE3503 - Divide-by-8	1500 - 3500	8	12	2.85-3.15	8L MSOP
PE3502 - Divide-by-4	1500 - 3500	4	12	2.85-3.15	8L MSOP
PE3501 - Divide-by-2	400 - 3500	2	12	2.85-3.15	8L TSSOP

Wireless and Broadband RF Products (continued)

Passive Mixers

Product Description	Operating Frequency (MHz)			LO Drive (dBm)	Conv. Loss (dB)	Isolation (dB, typ.)		Input IP3 (dBm, typ.)	Package
	LO	RF	IF, Nom.			LO-RF	LO-IF		
PE4135 - GSM / Cellular	750-850	820-920	30-170	10-20	6.8	32	42	32	6L 3x3 DFN
PE4134 - PCS / 3G	1540-1740	1800-2000	60-460	10-20	7.4	31	33	33	6L 3x3 DFN
PE4126 - DCS1800	1450-1550	1700-1800	30-170	10-20	7.9	36	37	32	8L TSSOP
PE4125 - GSM / Cellular	890-990	820-920	30-170	10-20	7.0	32	40	32	8L TSSOP
PE4124 - GSM / Cellular	750-850	820-920	50-450	10-20	6.9	31	43	33	8L TSSOP
PE4122 - PCS / 3G	1540-1740	1800-2000	60-460	10-20	7.4	34	38	33	8L TSSOP

Note: The IF frequency is derived from the possible RF/LO combinations that fall within the LO & RF operating frequencies.

DC - 6 GHz Broadband MOSFET Quad Array

Product Description	Operating Frequency (MHz)			LO Drive (dBm)	Conv. Loss (dB)	Isolation (dB, typ.)		Input IP3 (dBm, typ.)	Package
	LO	RF	IF, Nom.			LO-RF	LO-IF		
PE4140	0.01-6000	0.01-6000	0.01-6000	0-20	6.5-7.5	25-40	25-40	36	6L 3x3 DFN, DIE

Note: Fully differential DC coupled ports. External baluns required.

Defense & Avionics Products

Mil Flow reliability testing and extended temperature ranges make Peregrine products ideal for this demanding market.

RF Switches - 50 Ω

Product Description	Operating Frequency (MHz)	IIP3 (dBm @ 2 GHz)	P1dB (dBm @ 2 GHz)	Insertion Loss (dB @ 2 GHz)	Isolation (dB @ 2 GHz)	Typical Idd (μA @ 3 V)	Vdd Range (V)	Package
PE84244 - Reflective SPDT	DC-3000	42	27	0.70	28	0.25	2.7-3.3	8L MSOP

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	Dual-mod Prescaler	Main Counters M, A	Reference Counters	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
PE83336	PD	Parallel, Serial, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	20	2.85-3.15	44L CQFJ

DC-6 GHz Broadband MOSFET Quad Array

Product Description	Operating Frequency (MHz)			LO Drive (dBm)	Conv. Loss (dB @ 1 GHz)	Isolation (dB, typ.)		Input IP3 (dBm, typ.)	Package
	LO	RF	IF, Nom.			LO-RF	LO-IF		
PE84140	0.01-6000	0.01-6000	0.01-6000	0-20	7.5-6.5	25-40	25-40	10-40	8L MSOP

Note: Fully differential DC coupled ports. External baluns required.

Precalers

Product Description	Input Operating Frequency (MHz)	Divide Ratio	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
PE83513 - Divide-by-8	DC - 1500	8	7 ¹	2.85-3.15	8L MSOP
PE83512 - Divide-by-4	DC - 1500	4	7 ¹	2.85-3.15	8L MSOP
PE83511 - Divide-by-2	DC - 1500	2	7 ¹	2.85-3.15	8L MSOP
PE83503 - Divide-by-8	1500 - 3500	8	13	2.85-3.15	8L MSOP
PE83502 - Divide-by-4	1500 - 3500	4	13	2.85-3.15	8L MSOP
PE83501 - Divide-by-2	400 - 3500	2	13	2.85-3.15	8L MSOP

Note 1: Single-ended output enabled.

Space Products

The UltraCMOS™ process technology is fully space qualified, offering immunity to single event latch-up (SEL), superior resistance to single event upset (SEU) of less than 10E-9 errors per bit-day, and tolerance to total dose radiation of 100-300Krad (Si).

Rad-Hard Switches

Product Description	Operating Frequency (MHz)	IIP3 (dBm @ 2 GHz)	P1dB (dBm @ 2 GHz)	Insertion Loss (dB @ 1 GHz)	Isolation (dB @ 1 GHz)	Typical Idd (µA @ 3 V)	Vdd Range (V)	Package
PE9354 - SPDT	DC-3000	55	31	0.55	32	28	2.7-3.3	8L CSOIC

Rad-Hard 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 Idd (mA @ 3 V)	Vdd Range (V)	Package
			RF PLL	Ref.	Compare						
PE9704	PD	Serial, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	24	2.85-3.15	44L CQFJ, DIE
PE9702	PD	Parallel, Serial, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	24	2.85-3.15	44L CQFJ
PE9701	CP	Parallel, Serial, Hardwire	3.0	100	20	10/11	9bit, 4bit	6bit	24	2.85-3.15	44L CQFJ, DIE
PE9601	CP	Parallel, Serial, Hardwire	2.2	100	20	10/11	9bit, 4bit	6bit	24	2.85-3.15	44L CQFJ

Rad-Hard Delta-Sigma Modulated Fractional-N Frequency Synthesizer

Product Description	Programming Mode	Max Input Operating Freq (GHz)			Prescaler	Main Counters M, A	Reference Counters	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
		RF PLL	Ref.	Compare						
PE9763 - Low Phase Noise 3rd order DSM	Serial, Hardwire	3.2	100	50	10/11	9b, 4b, 18b	6bit	30	2.85-3.15	68L CQFJ, DIE

Rad-Hard RF Digital Step Attenuators (Monolithic) - 50 Ω

Product Description	Attenuation (dB)	Programming Mode	Operating Freq. (MHz)	Insertion Loss (dB)	Input IP3 (dBm)	Attenuation Accuracy (800 MHz)	Switching Speed (µs)	Package
NEW PE94302 - 6-bit, 50 Ω	31.5	Parallel, Serial	800	1.7	52	±(0.2dB+3% of setting)	2	28L CQFP

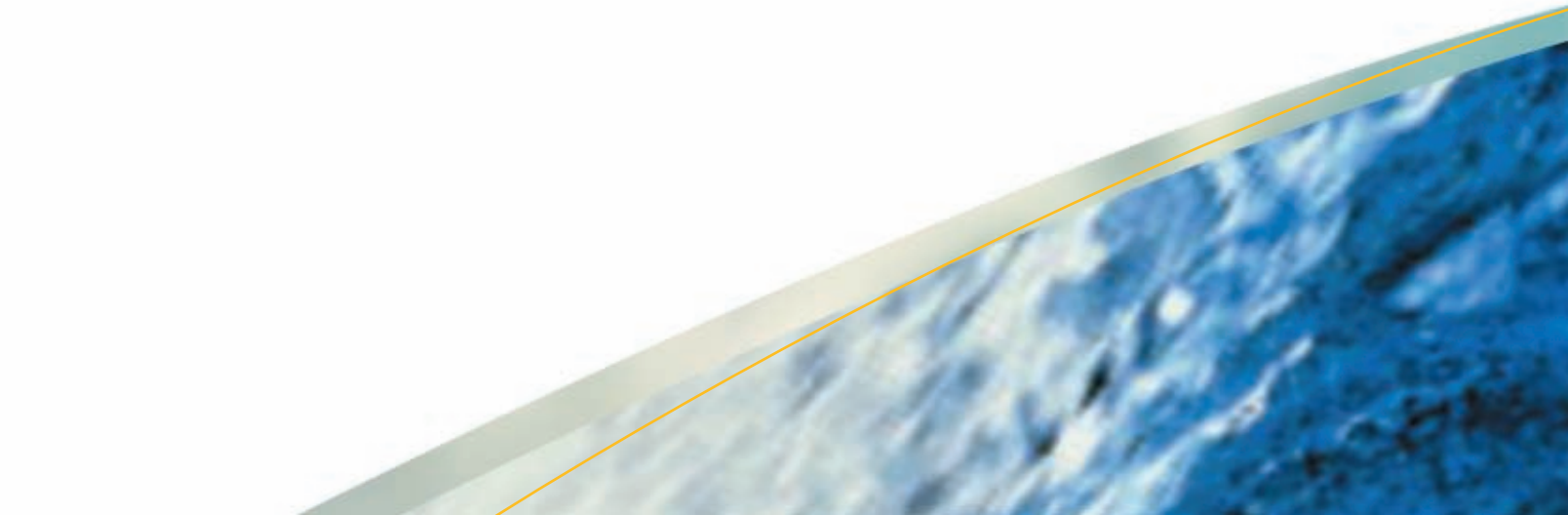
Rad-Hard Prescalers

Product Description	Input Operating Frequency (MHz)	Divide Ratio	Typical Idd (mA @ 3 V)	Vdd Range (V)	Package
PE9313 - Divide-by-8	DC - 1500	8	6.5	2.85-3.15	8L CSOIC
PE9312 - Divide-by-4	DC - 1500	4	6.5	2.85-3.15	8L CSOIC
PE9311 - Divide-by-2	DC - 1500	2	6.5	2.85-3.15	8L CSOIC
NEW PE9308 - Divide-by-4	5800-13200	4	14 @ 2.6 V	2.45 - 2.75	8L CSOIC, DIE
PE9304 - Divide-by-2	1000 - 7000	2	14	2.85-3.15	8L CSOIC, DIE
PE9303 - Divide-by-8	1500 - 3500	8	14	2.85-3.15	8L CSOIC
PE9301 - Divide-by-2	1500 - 3500	2	13	2.85-3.15	8L CSOIC

Rad-Hard Line Drivers and Receivers

Product Description	Vdd (Vnom)	Typical Idd (mA)	Tpd max (ns)	VOD min	Rin max (K Ω)	Vin (mV)	Package
NEW PE926C32 - RS-422 Receiver	3.3	5	25	—	25	+/- 200	16L CFP
NEW PE926C31 - RS-422 Driver	3.3	0.120 (quiescent)	15	1.9	—	—	16L CFP

UltraCMOS
Tops 10 GHz



Design and Application Support

Designing for tomorrow's challenging RF applications requires great products *and* great technical support. From our engineering excellence, to streamlined manufacturing and technical sales and applications support, Peregrine Semiconductor is committed

to a complete product solution. Choose among comprehensive datasheets, application notes, tutorials, reference designs and other engineering resources, all developed to help get your design to market on time.

Application Notes

AN3 Using the PE3291 in Narrow Band/Paging Applications

AN4 Using the PE3291/ 92 in CDMA Applications

AN5 Using the PE329x Series Fractional-N PLLs

AN6 Minimizing Phase Noise, Spurs, Lock Time and IDD for CDMA Applications

AN7 Using the PE3293 Fractional-N PLL in Single-Band 1800 and Dual-Band CDMA Solutions

AN8 Design Considerations for Using the PE3236 in the Qualcomm Q0420 Evaluation Kit

AN9 Performance Advantages of the PE3236 Compared to the Q3236

AN10 Connecting the PE9601 and PE3236 Serial Bus Interface

AN11 Replacing Qualcomm's Q3236 with Peregrine Semiconductor's PE3236

AN12 Considerations for Using the PE323x / PE333x in Fractional-N or Sigma-Delta Designs

AN14 Using the PE3501 Prescaler with the PE3236 PLL to Synthesize Frequencies up to 3.5 GHz

AN15 Impedance Matching the PE4210 / 20 / 30 RF Switches for 75 Ω Applications

AN16 Using Peregrine PLL in System Clock Applications

AN17 OC-12 622.08 MHz Reference Clock Design

AN18 Performance Benefits of UltraCMOS™ RF Switch Technology Compared to GaAs Based RF Switches

AN33 5-bit and 6-bit RF Digital Step Attenuator Compatibility

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Visit our website for the most current list of technical resources.



Changing how you design RF. Forever.









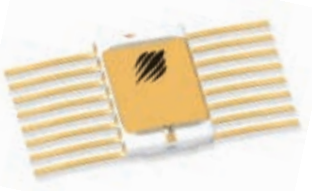



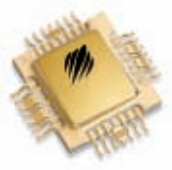

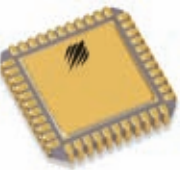

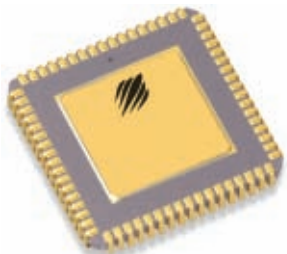
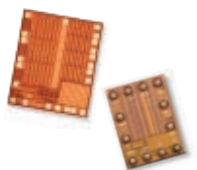
Environmentally-Friendly Packaging Options.

Peregrine Semiconductor is proud to offer Lead-free (Pb-free) versions of the most popular packages for its UltraCMOS™ products (indicated below in green) in order to reduce hazardous substances.

All Pb-free products use matte tin plating (Sn) onto copper lead frames, rather than tin-lead (PbSn) solder that is used on standard products. The electronics industry has considerable experience with matte Sn finishes, which have been widely used. The reliability aspects of matte Sn plating have been well-researched including solderability with both Pb-free and standard SnPb solders, and low whisker growth even in accelerated temperature/humidity conditions.

New Pb-free products are developed and released on a regular basis depending upon market demand and other factors. As new products are introduced and regulatory conditions change, Peregrine will maintain its commitment to doing its part to preserve our environment. If the Pb-free solution that you need is not shown, please consult with Peregrine or any of its worldwide sales representatives for solutions to your specific requirements.

Choose from a variety of packaging options to design-in the device that suits your application.

					
6L SC70 1.3x2.0x1.0	6L SOT23 1.3x3.0x1.1	6L DFN 3.0x3.0x0.9	8L MSOP 3.0x3.0x1.1	8L TSSOP 3.0x4.4x1.1	8L CSOIC 1.8x1.8x0.7
					
16L CFP 7.0x9.9x1.8	20L TSSOP 4.4x6.5x1.1	20L 4x4 QFN 4.0x4.0x0.9	24L TSSOP 4.4x7.8x1.1	28L CQFP 9.1x9.9x1.3	
					
44L PLCC 16.6x16.6x4.6	44L CQFJ 16.5x16.5x2.9	48L QFN 7.0x7.0x0.9	68L CQFJ 24.1x24.1x3.1	Wire-bond Die and Flip Chip	

All dimensions are listed in millimeters (width x length x height) and are approximate. See product datasheets for exact dimensions.

Available Lead-free (Pb-free) versions are indicated in **green**.

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