pSemi®
A Murata Company

2025–2026
Product Catalog

Empowering a
Smarter World

Contents

Intelligent Electronics

for the Connected World

At pSemi, innovation is at the core of our mission. We explore, discover, and invent new ways to make electronics for the connected world smaller, thinner, and better. We design our industry-leading RF and power management products to push the boundaries of performance, leading the way in connectivity, automotive, wireless infrastructure, test and measurement, and a broad variety of performance-based multi-market applications.

We empower our customers by providing solutions that enable them to make state-of-the-art products. Our relentless pursuit of innovation translates into real-world benefits in the devices and experiences we rely on every day. In fact, pSemi's industry-leading technology has been used in countless ways from space exploration to the depths of the ocean.

pSemi products are everywhere, and we're proud to contribute to the advancement of society by being designed into smartphones and laptops, asset-tracking and test equipment, wearables, optical transceivers, next-generation wireless infrastructure, and so much more.

Design and Application Support

Next-generation RF, mmWave, and power management designs require high-performance products and outstanding support. We work with companies of all sizes throughout the design process, from testing to completion. Our team is committed to providing a complete solution, from engineering excellence and proven manufacturing to global sales and technical support.

Contact Our Support Team

Our global sales, technical support, quality, and customer service teams are available to support you. Scan the QR code to visit our website's support page to submit a request.

Download Our S-parameter Viewer Software

- View/print multiple S-parameter files in various formats: Smith, polar, magnitude, phase, and phase-vs.-amplitude charts
- Perform time-domain analysis
- Build a lookup table of phase/amplitude settings
- Save pivot tables

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Technical Resources

You can find helpful technical resources on our product pages at psemi.com.

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What's Next...

New Products

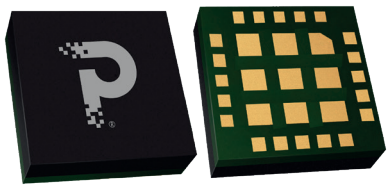
Visit our website to learn more

High-linearity RF Switch

Offering extremely low insertion loss and high linearity with high-input power handling, our RF SOI SP4T switch features broadband frequency coverage from 2.3 to 5 GHz. With an IIP3 of 88.5 dBm, our SP4T switch enables the analog portion of hybrid beamforming in 5G massive multi-input, multi-output (mMIMO) applications.

	Product Description	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	Insertion Loss (dB, typ.)	Isolation (dB, typ.)	V_{DD} Range (V)	Switching Time (µs)	ESD HBM (V)	Package (mm)
			Min	Max								
NEW	SP4T, R[1]	PE42448[2]	2300	5000	88.5	39.5	0.6	24	4.5–5.5	7	1000	20L 4×4 LGA

Note 1: Reflective (R). **Note 2:** Visit our website for the latest information.

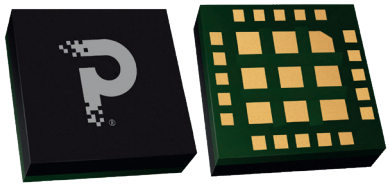


mmWave RF Switch

Our PE42528 RF SOI SPDT switch delivers the RF performance and reliability to meet challenging mmWave system designs, and test and measurement applications, from 9 kHz to 30 GHz.

	Product Description	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (ns)	ESD HBM (V)	Package (mm)
			Min	Max			Min	Max	Min	Max				
NEW	SPDT, R[1]	PE42528[2]	0.009	30000	49	32	1.2	1.8	42	55	2.7–3.3	8	600[3] 2000[4]	20L 3×3 LGA

Note 1: Reflective (R). **Note 2:** Visit our website for the latest information. **Note 3:** All pins except RF. **Note 4:** RF pins.

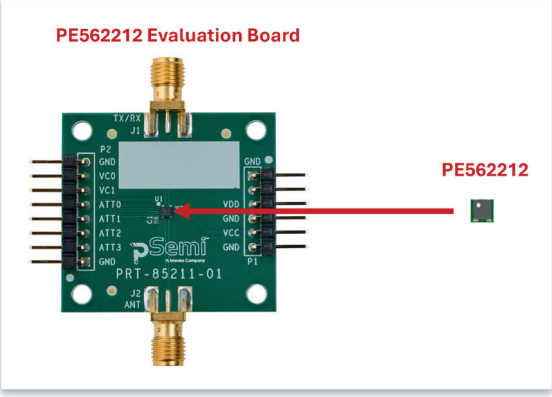


New Products (continued)

2.4 GHz IoT FEM

Our PE562212, built around the fast adoption of the Matter standard, enables connectivity across Thread®, Zigbee®, Bluetooth® BDR/EDR, Bluetooth Low Energy, low-to-medium throughput Wi-Fi® (MCS7), and 2.4 GHz proprietary applications.

	Part Number	Operating Frequency (MHz)		P1.0dB (dBm)	Tx Gain (dB)	Tx Gain Control (dB)	Tx Gain Step (dB)	Rx NF (dB)	Rx Gain (dB)	Bypass Loss (dB)	Supply Voltage (V)	Package (mm)
		Min	Max									
NEW	PE562212	2400	2483.5	21	23	15	1	1.6	15.0	0.6	3.0-3.6	14L 1.8×1.8 LGA

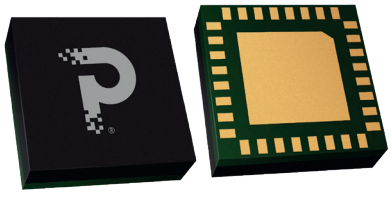


Phase and Amplitude Controller

Our PE44951 is a highly integrated two-way phase shifter with digitally controlled step attenuators for use across the 6.025 to 7.525 GHz frequency range. It is ideal for wireless infrastructure applications, such as mMIMO macro and micro base stations, next-generation 5G solutions, and small-cell applications.

	Part Number	Operating Frequency (GHz)		Phase (deg) (Range/Step/Bits)	Attenuation (dB) (Range/Step/Bits)	Programming Mode	Package (mm)
		Min	Max				
NEW	PE44951*	6.025	7.525	360 / 5.625 / 6	15.75 / 0.125 / 7	Serial	32L 5×5 LGA

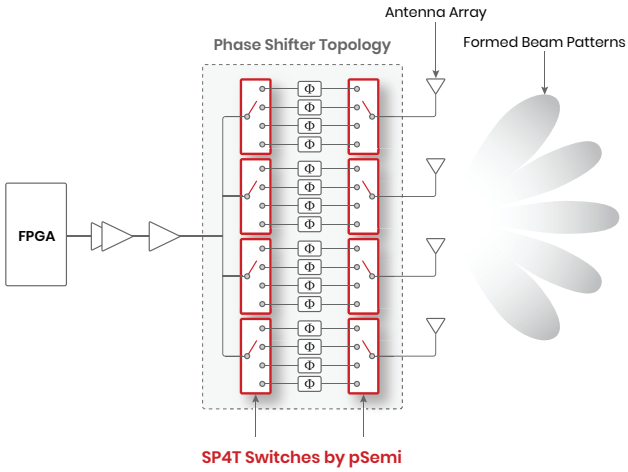
Note: * Visit our website for the latest information.



New Products (continued)

40 dBm High-power RF Switch

Our PE42447 is a HaRP™ technology-enhanced SP4T RF switch that supports a frequency range from 10 MHz to 8 GHz. It delivers extremely low insertion loss and high linearity with high input power handling capability, making this device ideal for implementing the analog portion of hybrid beamforming of 5G massive MIMO applications. No blocking capacitors are required if DC voltage is not present on the RF ports.

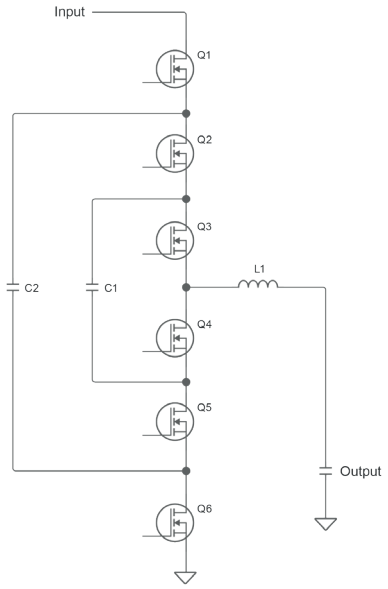


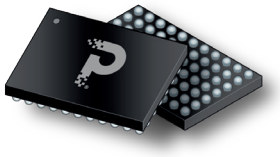
	Product Description	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Settling Time (µs)	ESD HBM (V)	Package (mm)
			Min	Max				Min	Max	Min	Max				
NEW	SP4T, R[1]	PE42447[2]	10	8000	85	40	50.3	0.32	0.62	39	26	4.5-5.5	7	1000	20L 4×4 LGA

Note 1: Reflective (R). **Note 2:** Visit our website for the latest information.

Multi-level Buck Regulators for Fast Battery Charging

Our PE26xxx product series presents an industry-first, 4- and 3-level buck regulator targeting low-profile (≤ 1 mm) applications, such as battery-powered mobile devices. This revolutionary architecture can be reconfigured to operate in charge pump capacitor divider mode and provides best-in-class efficiency, resulting in fast charging speeds for lithium battery applications. The devices operate from a fixed USB power delivery (USB_PD) or wireless Rx input in multi-level regulation mode, and from an unregulated USB programmable power supply (USB_PPS) input in charge pump mode, supporting up to 6A delivery to the battery per device.





pSemi®
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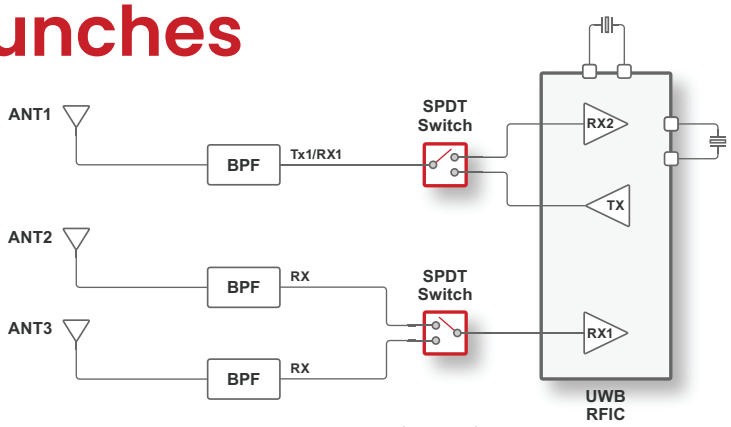
Just Launched...

Recent Product Launches

Wideband RF Switch



Our PE423211 is a HaRP™ technology-enhanced SPDT RF switch designed for use in high-performance ISM, WLAN 802.11 ax/be/bn, Bluetooth, and UWB applications. The PE423211 is AEC-Q100 Grade-2 certified and supports frequencies up to 10.6 GHz, including secure car access, telematics, sensing, infotainment, in-cabin monitoring systems (ICMS), and general-purpose switching.

Product Description	Part Number	Operating Frequency (MHz)		Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Supply Current (nA)	Switching Time (ns)	ESD HBM (V)	Package (mm)
		Min	Max	Min	Max	Min	Max					
SPDT, R*	PE423211	300	10600	0.4	0.7	18	27	2.7–3.6	90	100	2000	6L 1.6×1.6 DFN

Note: * Reflective (R).

mmWave RF Switch

Our PE42548 switch delivers RF performance and reliability to best meet challenging mmWave system designs and test and measurement applications from 9 kHz to 30 GHz in a compact 20-lead 3 × 3 LGA package.

Product Description	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (ns)	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SP4T, R[1]	PE42548	0.009	30000	52	35	31	1.1	2.3	33	41	3.15–3.45	60	600[2] 2000[3]	20L 3x3 LGA

Note 1: Reflective (R). **Note 2:** All pins except RF. **Note 3**: RF pins.

Switch + LNA Module

pSemi's dual-channel switch + LNA module incorporates high-power fail-safe switches and low-noise amplifiers with a bypass function. This receiver front-end module features low noise, excellent linearity, and very low power consumption in a compact size, and is ideally suited to 5G mMIMO applications.

Part Number	Operating Frequency (MHz)		OIP3 (dBm)	P_{MAX} Avg (dBm)	Noise Figure (dB)	Isolation (dB, typ)	V_{DD} Range (V)	Switching Time (µs)*	Package (mm)
	Min	Max							
PE53231	3300	4200	32	43	1.0	47	4.75–5.25	0.5	40L 6×6 LGA

Note: * 50% CTRL to 90% or 10% RF.

Recent Product Launches (continued)

Charge Pump Capacitor Divider

Our PE25213 expands pSemi's portfolio of adiabatic or lossless switching capacitor dividers. The device provides high-efficiency (up to 99%) intermediate power conversion by stepping down the input voltage by ratios of 2 or 3. The PE25213 is ideal for 12V input systems or 2/3 cell battery-powered systems. The device can deliver up to 7A continuous current and up to 10A pulse current with the ability to change the division ratio dynamically.

Part Number	V_{IN} (V)	V_{OUT} (V)	I_{OUT} (A)	Efficiency (%)	Package
PE25213	5.7–15	$V_{IN}/2$ & $V_{IN}/3$	10	99	WLCSP*

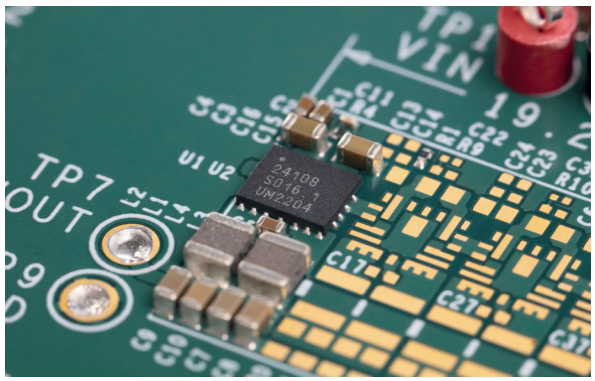
Note: * Type III PCB-compatible.

Two-stage Buck Regulator

Our PE24111 buck regulator expands the range of 3.3V-input, two-stage regulators targeting high-efficiency, low-profile applications. The two-stage architecture consists of a first-stage charge pump capacitor divider followed by a buck regulator, resulting in smaller, low-profile output inductors. Targeting long-haul optical networks and other low-profile applications, this device is ideal for mounting on the underside of the PCB, directly below the ASIC/FPGA load, for high-current delivery to low-voltage core applications.

Part Number	V_{IN} (V)	V_{OUT} (V)	I_{OUT} (A)	Efficiency (%)	Package
PE24111*	3.0–3.6	0.35–0.7	20	90 (V_{OUT} = 0.5V)	QFN

Note: * Solution height 1.2 mm.




pSemi®
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RF Products

RF Switch Portfolio

Visit our website to learn more

Our broadband and general-purpose RF switches deliver an industry-leading combination of insertion loss, isolation, linearity, and settling time, while routing RF signals to the selected RF port. Our RF switch portfolio on pages 12 and 13 is sorted by product description and maximum operating frequency.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)	Product Notes
		Min	Max				Min	Max	Min	Max					
SPST, OR	PE613010	100	3000	70	–	32	0.20	0.80	4	11	2.3–5.5	7	2000	10L 2×2 QFN	Tuning control
SPDT, A/OR	PE42020	0 Hz	8000	62	37	38	0.6	1.1	34	56	11–15[3]	10	1000	20L 4×4 QFN	True DC
SPDT, A	PE42721	5	2200	60	18	27	0.4	0.65	53	85	2.3–5.5	1	2000	12L 3×3 QFN	75Ω switch
SPDT, A	PE42742[4]	5	2200	53	33	32[6]	0.45	1.7	53.6	94	2.7–3.3	3	3500	20L 4×4 QFN	75Ω switch
SPDT, A	PE42750[4]	5	2200	47.5	26	23.5[6]	0.7	1.7	57	84	2.7–3.6	2	2000	12L 3×3 QFN	75Ω switch
SPDT, A	PE4256	5	3000	55	24	31	0.50	1.1	52	80	2.7–3.3	2	1000	20L 4×4 QFN	Low insertion loss
SPDT, A	PE4257	10	3000	55	33	31	0.75	1.2	44	64	2.7–3.3	2	1000	20L 4×4 QFN	High isolation
SPDT, A	PE4251	10	4000	59	27	30.5	0.55	1.0	37	62	3.0–5.5	0.15	4000	8L MSOP	High iso, low IL
SPDT, A	PE42420[7]	20	6000	65	23	28	0.95	1.6	50	69	2.7–5.5	0.3	4000	20L 4×4 LGA	High iso, low IL
SPDT, A	PE42423	100	8500	65	39	39.5	0.8	1.1	35	51	2.3–5.5	0.5	3000	16L 3×3 QFN	High iso, low IL
SPDT, A	PE42553	0.009	8000	66	36	39	0.6	0.85	36	90	2.3–5.5	5.5	4000	16L 3×3 QFN	Broadband
SPDT, A	PE42520	0.009	13000	66	36	39	0.6	2.0	18	90	2.3–5.5	5.5	4000	16L 3×3 QFN	Broadband
SPDT, A	PE42521	0.009	13000	65	36	38	0.6	1.85	17	90	2.3–5.5	0.5	3000	16L 3×3 QFN	Broadband
SPDT, A	PE42522	0.009	26500	59	30	33	0.7	5.3	20	80	2.3–5.5	3	3500	29L 4×4 LGA	Broadband
SPDT, R	PE42722	5	1794	–	87.5[8]	88[8]	0.2	0.85	29	50	2.3-5.5	15	1500	32L 5×5 QFN	75Ω switch
SPDT, R	PE42723	5	1794	-	86[8]	87[8]	0.1	0.4	34	54	2.3-5.5	35	3000	12L 3×3 QFN	75Ω switch
SPDT, R	PE42724	5	1794	-	86[8]	87[8]	0.1	0.4	19	39	2.3-5.5	35	2000	12L 3×3 QFN	75Ω switch
SPDT, R	PE42726	5	1794	-	86[8]	87[8]	0.1	0.4	21	39	2.3-5.5	38	2000	12L 3×3 QFN	75Ω switch
SPDT, R	PE42820	30	2700	85	45.5	45.5	0.3	0.7	24	35	2.3–5.5	15	1500	32L 5×5 QFN	High linearity
SPDT, R	PE42359[7]	10	3000	55	34	33.5[6]	0.35	1.1	14	35	1.8–3.3	2	2000	6L SC70	Automotive
SPDT, R	PE4239	10	3000	45	30	27	0.7	0.9	23	32	2.7-3.3	0.3	1000	6L SC70	Low insertion loss
SPDT, R	PE42421	10	3000	55	35	30.5	0.35	0.5	20	30	1.8–3.3	1.5	2000	6L SC70	Low insertion loss
SPDT, R	PE4250	10	3000	59	27	30.5	0.6	0.75	40	51	3.0–5.5	0.15	4000	8L MSOP	High iso, low IL
SPDT, R	PE4259	10	3000	55	34	33.5	0.35	0.5	20	30	1.8–3.3	1.5	2000	6L SC70	Low insertion loss
SPDT, R	PE4245	10	4000	45	30	27	0.6	0.7	32	42	2.7–3.3	0.2	1000	6L 3×3 DFN	Low insertion loss
SPDT, R	PE423422[7]	100	6000	73.5	32	34	0.25	0.9	16	41	2.3–5.5	2	1000	12L 2×2 QFN	Automotive
SPDT, R	PE42422	5	6000	81	34	34	0.23	0.9	17	68	2.3–5.5	2	4000	12L 2×2 QFN	High linearity
SPDT, R	PE42426	5	6000	83	38	40	0.3	0.75	20	33	2.3–5.5	35	3000	12L 3×3 QFN	High linearity
SPDT, R	PE42427	5	6000	75	34	34	0.23	0.9	17	68	2.3–5.5	2	4000	12L 2×2 QFN	Low insertion loss
SPDT, R	PE42823	700	6000	70	43	46	0.25	0.53	23	59	2.3–5.5	0.84	4500	16L 3×3 QFN	High linearity
SPDT, R	PE42424[7]	100	8500	60	39	39.5	0.8	1.08	35	51	2.3–5.5	0.145	2500	6L 1.5×1.5 DFN	High iso, low IL, FS[9]

Note 1: Absorptive (A), Reflective (R) or Open Reflective (OR). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Requires external negative voltage (V_{SS}, –11V to –15V) for operation.
Note 4: Unpowered state: PE42742: RFC–RF1 ON; PE42750: All ports terminated. **Note 5:** Peak power with LTE modulation. **Note 6:** P1dB levels measured in 50Ω system.
Note 7: Operating temperature up to +125 °C. **Note 8:** dBmV levels. **Note 9:** Fast switching (FS). **Note 10:** Visit our website for the latest information.
Note 11: Extended temperature (ET) range, –55 °C to +125 °C. **Note 12:** Settling time.

RF Switch Portfolio (continued)

	Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)	Product Notes
			Min	Max				Min	Max	Min	Max					
	SPDT, R	PE423211[10]	300	10600	–	25	24[6]	0.4	0.7	18	27	2.7–3.6	0.1	2000	6L 1.6×1.6 DFN	Automotive
NEW	SPDT, R	PE42528	0.009	30000	49	29	32	1.2	1.8	42	55	2.7–3.3	0.008	1000	20L 3×3 LGA	Broadband
	SPDT, R	PE42524	10	40000	52	27	32.5	0.6	5.5	33	84	3.1–3.15	0.225	2000	Flip Chip	Broadband
	SPDT, R	PE42525	0.009	60000	48	29	35	0.9	2.7	36	80	2.7–3.3	0.008	1000	Flip Chip	Broadband, FS[9]
	SPDT, R	PE426525	0.009	60000	48	27	35	0.9	2.7	36	80	2.7–3.3	0.008	1000	Flip Chip	Broadband, FS[9], ET[11]
	SP3T, R	PE42430	100	3000	66	30	30	0.45	0.55	30	40	3.0–5.5	0.5	4500	8L 1.5×1.5 DFN	High iso, low IL
	SP4T, A	PE42442	30	6000	58	33	33	0.85	2.35	32	67	2.3–5.5	0.255	2000	24L 4×4 QFN	High isolation
	SP4T, A	PE42441	10	8000	58	31	31	0.8	1.2	31	45	3.0–3.55	5	2000	32L 5×5 LGA	High iso, low IL
	SP4T, A	PE42445	10	8500	65.5	34	37	0.57	1	46	72	2.3–5.5	0.2	2000	20L 3×3 LGA	High iso, low IL
	SP4T, A	PE42446	10	8500	65.5	34	36.8	0.6	1.27	38	82	2.3–5.5	0.2	2000	24L 4×4 LGA	High iso, low IL
	SP4T, A	PE42540	0.00001	8000	58	30	33	0.7	1.2	27	84	3.0–3.6	5	2000	32L 5×5 LGA	Broadband
	SP4T, A	PE42542	0.009	18000	58	30	33	0.7	3.9	27	90	2.3–5.5	3	2500	29L 4×4 LGA	Broadband
	SP4T, A	PE42543	0.009	18000	59	30	33	0.7	4.1	29	90	2.3–5.5	0.5	2000	29L 4×4 LGA	Broadband
	SP4T, OR	PE613050	5	3000	80	–	35.1	0.20	0.55	17	28	2.3–5.5	2	2000	12L 2×2 QFN	Tuning control
	SP4T, R	PE423641[7]	50	3000	68	35	37	0.5	0.95	22	32	2.65–3.3	1	2000	16L 3×3 QFN	Automotive
	SP4T, R	PE42440	50	3000	67	33	41.5	0.45	0.85	22	34	2.7–3.3	2	2000	16L 3×3 QFN	Low insertion loss
	SP4T, R	PE42641	100	3000	68	38	–	0.45	0.55	27.5	35	2.65–2.85	2	2000	16L 3×3 QFN	Low insertion loss
NEW	SP4T, R	PE42443	1800	5000	85	50[5]	50.5	0.33	0.74	26	33	4.5-5.5	0.82	1000	20L 4×4 LGA	High power & lin.
NEW	SP4T, R	PE42444	1800	5000	85	51[5]	50.3	0.32	0.62	26	39	4.5-5.5	0.86	1000	20L 4×4 LGA	High power & lin.
	SP4T, R	PE42448	2300	5000	88.5	39.5	-	-	-	-	-	4.5–5.5	7	1000	20L 4×4 LGA	High power & lin.
	SP4T, R	PE42447[10]	10	8000	85	40	50.3	0.32	0.62	26	39	4.5-5.5	7[12]	1000	20L 4×4 LGA	High power & lin.
	SP4T, R	PE42548[10]	0.009	30000	52	35	31	1.1	2.3	33	41	3.15-3.45	0.06	2000	20L 3×3 LGA	Broadband
	SP4T, R	PE42546	0.009	52000	52–53	29	27	1.1	3.7	23	41	3.15-3.45	0.06	2000	20L 3×3 LGA	Broadband
	SP4T, R	PE42545	0.009	67000	50–52	30	28	1	4.5	22.5	46	3.15-3.45	0.075	2000	Flip Chip	Broadband
	SP5T, A	PE42451	450	5000	58	33	35	1.6	2.5	43	68	2.7–3.3	0.2	3500	24L 4×4 QFN	High isolation
	SP5T, A	PE42452	450	4000	57	33	35	0.95	1.6	44	61	2.3–5.5	0.265	1500	24L 4×4 QFN	High isolation
	SP6T, A	PE42462[7]	10	8000	60	33	37.5	0.7	1.6	30	68	2.3–5.5	0.21	1000	24L 4x4 QFN	Broadband, high isolation
	SP6T, A	PE42562[7]	0.009	8000	60	33	37.5	0.7	1.6	30	68	2.3–5.5	0.210	1000	24L 4x4 QFN	Broadband, low IL
	SP6T, A	PE426462	10	8000	60	31	37.5	0.7	1.6	30	68	2.3–5.5	0.210	1000	24L 4x4 QFN	Broadband, ET[11]
	SPDT, A	PE4256	5	3000	55	24	31	0.50	1.10	52	80	2.7-3.3	2	1000	20L 4×4 QFN	Low insertion loss
	SP8T, A	PE42482[7]	10	8000	60	33	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN	Broadband, high isolation
	SP8T, A	PE42582[7]	0.009	8000	60	33	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN	Broadband, low IL
	SP8T, A	PE426482	10	8000	60	31	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN	Broadband, ET[11]
	SP12T, A	PE42412[7]	10	8000	60	35	37.5	0.7	2.4	22	69	2.3–5.5	0.232	1000	32L 5x5 QFN	Broadband, high isolation
	SP12T, A	PE42512[7]	0.009	8000	60	33	37.5	0.7	2.4	22	69	2.3–5.5	0.232	1000	32L 5x5 QFN	Broadband, low IL
	SP(3/5)T, R	PE42850	30	1000	42	42.5	45.5	0.25	0.35	30	36	2.3–5.5	15	1500	32L 5×5 QFN	High linearity

Note 1: Absorptive (A), Reflective (R) or Open Reflective (OR). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Requires external negative voltage (V_{SS}, –11V to –15V) for operation.
Note 4: Unpowered state: PE42742: RFC–RF1 ON; PE42750: All ports terminated. **Note 5:** Peak power with LTE modulation. **Note 6:** P1dB levels measured in 50Ω system.
Note 7: Operating temperature up to +125 °C. **Note 8:** dBmV levels. **Note 9:** Fast switching (FS). **Note 10:** Visit our website for the latest information.
Note 11: Extended temperature (ET) range, –55 °C to +125 °C. **Note 12:** Settling time.

RF Switches by Application

Visit our website to learn more

High-linearity RF Switches

Our high-linearity switches use HaRP™ technology to deliver unmatched linearity and excellent harmonics performance with best-in-class ESD and reliability for a wide variety of switching applications.

	Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
			Min	Max				Min	Max	Min	Max				
	SPDT, R	PE42422	5	6000	81	34	34	0.23	0.9	17	68	2.3–5.5	2	4000	12L 2×2 QFN
	SPDT, R	PE42426	5	6000	83	38	40	0.3	0.75	20	33	2.3–5.5	35	3000	12L 3×3 QFN
	SPDT, R	PE42427	5	6000	75	34	34	0.23	0.9	17	68	2.3–5.5	2	4000	12L 2×2 QFN
	SP4T, R	PE42443	1800	5000	85	50[3]	50	0.33	0.74	26	33	4.5-5.5	0.82	1000	20L 4×4 LGA
	SP4T, R	PE42444	1800	5000	85	50[3]	50	0.32	0.68	25	38	4.5-5.5	0.86	1000	20L 4×4 LGA
NEW	SP4T, R	PE42447[4]	2300	5000	85	40	50.3	0.32	0.62	39	26	4.5-5.5	7[5]	1000	20L 4x4 LGA
NEW	SP4T, R	PE42448	2300	5000	88.5	39.5	-	-	-	-	-	4.5–5.5	7	1000	20L 4x4 LGA

Note 1: Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Peak power with LTE modulation. **Note 4:** Visit our website for the latest information.
Note 5: Settling time.

High-isolation RF Switches

Our high-isolation switches feature exceptional port-to-port isolation, insertion loss, and switching time from SPDT to SP12T configurations, ideal for filter bank switching and wireless signal routing applications supporting frequencies up to 8.5 GHz.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, A	PE42420[3]	20	6000	65	30	28	0.95	1.6	50	69	2.7–5.5	0.3	4000	20L 4×4 LGA
SPDT, A	PE42423	100	8500	65	39	39.5	0.8	1.10	35	51	2.3–5.5	0.5	3000	16L 3×3 QFN
SPDT, A	PE4257	10	3000	55	33	31	0.75	1.2	44	64	2.7–3.3	2	1000	20L 4×4 QFN
SPDT, R	PE42424[3]	100	8500	60	41	41[4]	0.8	0.95	45	47	2.3–5.5	0.145	2500	6L 1.5×1.5 DFN
SP4T, A	PE42442[3]	30	6000	58	33	33	0.85	2.35	32	67	2.3–5.5	0.255	2000	24L 4×4 QFN
SP4T, A	PE42445	10	8000	60	34	37	0.7	1	52	64	2.3-5.5	0.25	2000	20L 3×3 LGA
SP4T, A	PE42446	10	8000	64	34	36.4	0.7	1	52	64	2.3-5.5	0.25	2000	24L 4×4 LGA
SP5T, A	PE42451	450	4000	58	33	35	1.6	2.25	50	68	2.7–3.3	0.200	3500	24L 4×4 QFN
SP5T, A	PE42452[3]	450	4000	57	33	35	0.95	1.6	44	61	2.3–5.5	0.265	1500	24L 4×4 QFN
SP6T, A	PE42462[3]	10	8000	60	33	37.5	0.7	1.6	30	68	2.3–5.5	0.210	1000	24L 4x4 QFN
SP8T, A	PE42482[3]	10	8000	60	33	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN
SP12T, A	PE42412[3]	10	8000	60	35	37.5	0.7	2.4	22	69	2.3–5.5	0.232	1000	32L 5x5 QFN

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Operating temperature up to +105 °C. **Note 4:** P1dB levels.

Low Insertion Loss RF Switches

Our low insertion loss switches use HaRP™ technology to reduce gate lag and insertion loss drift, delivering industry-leading insertion loss and RF performance to wireless infrastructure, broadband, and test and measurement applications.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, A	PE4251	10	4000	59	27	30.5	0.55	1.0	37	62	3.0–3.6	0.15	4000	8L MSOP
SPDT, A	PE4256	5	3000	55	24	31	0.50	1.10	52	80	2.7–3.3	2	1000	20L 4×4 QFN
SPDT, R	PE4239	10	3000	45	30	27	0.7	0.9	23	32	2.7–3.3	0.3	1500	6L SC70
SPDT, R	PE42421	10	3000	55	35	30.5	0.35	0.5	20	30	1.8–3.3	1.5	2000	6L SC70
SPDT, R	PE4245	10	4000	45	30	27	0.6	0.7	32	42	2.7–3.3	0.2	1500	6L 3×3 DFN
SPDT, R	PE4250	10	3000	59	27	30.5	0.6	0.75	40	51	3.0–3.6	0.15	4000	8L MSOP
SPDT, R	PE4259	10	3000	55	34	34	0.35	0.5	20	30	1.8–3.3	1.5	2000	6L SC70
SP3T, R	PE42430	100	3000	66	30	30	0.45	0.55	30	40	3.0–5.5	0.5	4500	8L 1.5×1.5 DFN
SP4T, R	PE42440	50	3000	67	33	41.5	0.45	0.85	22	34	2.7–3.3	2	2000	16L 3×3 QFN
SP4T, A	PE42441	10	8000	58	31	31	0.8	1.2	31	45	3.0–3.55	5	2000	32L 5×5 LGA
SP4T, R	PE42641	100	3000	68	38	–	0.45	0.55	27.5	35	2.65–2.85	2	2000	16L 3×3 QFN

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF.

75Ω Broadband Switches

Our high-performance 75Ω switches simplify your next RF design by providing ruggedness, high isolation, low insertion loss, and high linearity switch solutions for a wide range of CATV and broadband RF applications.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, A	PE42721	5	2200	60	18	27	0.4	0.65	53	85	2.3–5.5	1	2000	12L 3x3 QFN
SPDT, A	PE42742[3]	5	2200	53	33	32[4]	0.45	1.7	53.6	94	2.3–5.5	3	3500	20L 4x4 QFN
SPDT, A	PE42750[3]	5	2200	47.5	27.8	23.5[4]	0.7	1.7	57	84	2.7-3.6	2	2000	12L 3x3 QFN
SPDT, A	**PE4280**	5	2200	50	25.8	26[4]	0.5	1.1	47	72	2.7-3.3	2	1000	20L 4x4 QFN
SPDT, R	PE42722	5	1794	–	33	41	0.2	0.85	29	50	2.3-5.5	15	1500	32L 5x5 QFN
SPDT, R	PE42723	5	1794	-	39	38	0.1	0.4	34	54	2.3-5.5	35	3000	12L 3x3 QFN
SPDT, R	PE42724	5	1794	-	39	38	0.1	0.4	19	39	2.3-5.5	35	2000	12L 3x3 QFN
SPDT, R	PE42726	5	1794	-	39	38	0.1	0.4	19	39	2.3-5.5	38	2000	12L 3x3 QFN

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Unpowered state: PE42742: RFC–RF1 ON; PE42750: All ports terminated.
Note 4: P1dB levels.

50Ω Broadband RF Switches

Our broadband 50Ω RF switches offer patented technology enhancements that reduce gate lag and insertion loss drift, while increasing linearity and isolation over an extended frequency range up to 67 GHz.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3/IIP2 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, A	PE42520	0.009	13000	66/120	36	39	0.6	2.0	18	90	2.3–5.5	5.5	4000	16L 3×3 QFN
SPDT, A	PE42521	0.009	13000	65 / 120	36	38	0.6	1.85	17	90	2.3–5.5	0.5	3000	16L 3×3 QFN
SPDT, A	PE42522	0.009	26500	59 / 121	30	33	0.7	5.3	20	80	2.3–5.5	3	3500	29L 4×4 LGA
SPDT, A	PE42553	0.009	8000	66 / 120	36	39	0.6	0.85	36	90	2.3–5.5	5.5	4000	16L 3×3 QFN
NEW SPDT, R	PE42528[3]	0.009	30000	48 / 112	32	35	1.2	1.8	42	55	2.7–3.3	0.008	1000	20L 3×3 LGA
SPDT, R	PE42524	10	40000	52 / –	27	32.5	0.6	5.5	33	84	3.1–3.15	0.225	2000	Flip Chip
SPDT, R	PE42525	0.009	60000	48 / 112	32	35	0.9	2.7	36	80	2.7–3.3	0.008	1000	Flip Chip
SP4T, A	PE42540	.00001	8000	58 / 100	30	33	0.7	1.2	27	84	3.0–3.6	5	2000	32L 5×5 LGA
SP4T, A	PE42542	0.009	18000	58 / 118	30	33	0.7	3.9	27	90	2.3–5.5	3	3500	29L 4×4 LGA
SP4T, A	PE42543	0.009	18000	59 / 113	30	33	0.7	4.1	29	90	2.3–5.5	0.5	2500	29L 4×4 LGA
SP4T, R	PE42545	0.009	67000	49	30	28	1	6.6	22.5	46	3.15–3.45	0.06	2000	Flip Chip
SP4T, R	PE42546	0.009	52000	48	29	27	1.1	3.8	23	41	3.15–3.45	0.06	2000	20L 3×3 LGA
SP4T, R	PE42548	0.009	30000	52	29	27	1.1	2.3	33	41	3.15–3.45	0.06	600[4] 2000[5]	20L 3×2 LGA
SP6T, A	PE42562	0.009	8000	60 / 105	33	37.5	0.7	1.6	30	68	2.3–5.5	0.210	1000	24L 4x4 QFN
SP8T, A	PE42582	0.009	8000	60 / 105	33	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN
SP12T, A	PE42512	0.009	8000	60 / 105	33	37.5	0.7	2.4	22	69	2.3–5.5	0.232	1000	32L 5x5 QFN

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Visit our website for the latest information. **Note 4:** All pins except RF.
Note 5: RF pins.

50Ω High-power Switches

Our 50Ω high-power RF switches deliver a turnkey design and small footprint with extremely low-power consumption, excellent harmonic performance, and high power handling.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, A	PE42822	700	3800	65	32	39.5	0.6	0.8	44	47	2.3–5.5	0.5	3000	16L 3×3 QFN
SPDT, R	PE42820	30	2700	85	43	45.5	0.3	0.7	24	35	2.3–5.5	15	1500	32L 5×5 QFN
SPDT, R	PE42823[3]	700	6000	70	38.5	46	0.25	0.53	23	59	2.3–5.5	0.85	4500	16L 3×3 QFN
SP(3/5)T, R	PE42850	30	1000	42	42.5	45.5	0.25	0.35	30	36	2.3–5.5	15	1500	32L 5×5 QFN
SP4T, R	PE42443	1800	5000	85	50[4]	50	0.33	.074	26	33	4.5–5.5	0.82	1000	20L 4×4 LGA
SP4T, R	PE42444	1800	5000	85	50[4]	50	.032	.068	25	38	4.5–5.5	0.86	1000	20L 4×4 LGA

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** RX protection switch. **Note 4:** Peak power with 10 dB PAPR modulated waveform.

Using 50Ω Switches in 75Ω Systems

Many of our 50Ω switches can be used in 75Ω systems. Scan the QR code to learn more.

Antenna Tuning Switches

Our antenna tuning switches offer industry-leading RF power handling and ruggedness with best-in-class linearity in a small form factor.

Product Description*	Part Number	Operating Frequency (MHz)		R_{ON} (Ω)	C_{OFF} (pF)	IMD3 (dBm)	Peak RF Voltage (Vpk)	Package (mm)
		Min	Max					
SPST, OR	PE613010	10	3000	1.20	0.40	-115	25	10L 2x2 QFN
SP4T, OR	PE613050	5	3000	1.60	0.14	-120	18	12L 2x2 QFN

Note: * Open Reflective (OR).

Automotive Switches

Our AEC-Q100 Grade 2-certified automotive switches support operating temperatures up to +105 °C and a wide range of wireless applications, such as automotive infotainment and traffic safety.

	Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3/IIP2 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
			Min	Max				Min	Max	Min	Max				
NEW	SPDT. R	PE423211[3]	300	10600	–	25	25[4]	0.3	0.7	18	27	2.7–3.6	0.1	2000	6L 1.6×1.6 DFN
	SPDT, R	PE423422	100	6000	73.5 / 115	32	34	0.25	0.9	16	41	2.3–5.5	2	1000	12L 2×2 QFN
	SPDT, R	PE42359	10	3000	55 / –	34	33.5	0.35	1.1	14	35	1.8–3.3	2	2000	6L SC70
	SP4T, R	PE423641	50	3000	68 / 115	35	37	0.5	0.95	22	32	2.65–3.3	1	2000	16L 3×3 QFN

Note 1: Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF. **Note 3:** Visit our website for the latest information. **Note 4:** P1dB levels.

Extended Temperature RF Switches

Our 50Ω extended temperature switches are ideal for applications that require wide temperature range support from –55 °C to +125 °C, such as harsh industrial applications.

Product Description[1]	Part Number	Operating Frequency (MHz)		IIP3/IIP2 (dBm)	P_{MAX} CW (dBm)	P0.1dB (dBm)	Insertion Loss (dB)		Isolation (dB)		V_{DD} Range (V)	Switching Time (µs)[2]	ESD HBM (V)	Package (mm)
		Min	Max				Min	Max	Min	Max				
SPDT, R	PE426525	0.009	60000	48 / 112	27	35	0.9	2.7	36	80	2.7–3.3	0.008	1000	Flip Chip
SP6T, A	PE426462	10	8000	60 / 105	31	37.5	0.7	1.6	30	68	2.3–5.5	0.210	1000	24L 4x4 QFN
SP8T, A	PE426482	10	8000	60 / 105	31	37.5	0.7	1.6	30	85	2.3–5.5	0.227	1000	24L 4x4 QFN
SP12T, A	PE426412	10	8000	60 / 105	31	37.5	0.7	2.4	22	69	2.3–5.5	0.232	1000	32L 5x5 QFN

Note 1: Absorptive (A) or Reflective (R). **Note 2:** 50% CTRL to 90% or 10% RF.

Attenuators

Visit our website to learn more

75Ω Broadband RF Digital Step Attenuators

Our 75Ω broadband RF digital step attenuators (DSAs) feature attenuation steps of 0.5 dB to 31.5 dB and low distortion for CATV and multi-carrier applications.

Part Number	Attenuation (dB) (Range/ Min. Step Size)	Programming Mode	Operating Frequency (MHz)		Insertion Loss (dB)		IIP3 (dBm)	Attenuation Accuracy (dB @ 1 GHz)	Switching Time (µs)	ESD HBM (V)	Package (mm)	Product Notes
			Min	Max	Min	Max						
PE4314[1]	0–31.5 / 0.5	Parallel[2], Serial	1	2500	1	1.5	58	±(0.15 + 3% of setting)	370	1500	20L 4×4 QFN	6-bit
PE43665	0–31.5 / 0.5	Parallel[2], Serial	1	2000	1.4	1.8	52	±(0.15 + 4% of setting)	1	500	20L 4×4 QFN	6-bit

Note 1: External V_{SS} option. **Note 2:** Parallel modes: latched and direct.

Glitchless RF Digital Step Attenuators

Our 50Ω glitchless RF DSAs feature glitchless attenuation state transitions and an extended operating temperature range to +105 °C, ideal for many broadband applications.

Part Number	Attenuation (dB) (Range/ Min. Step Size)	Programming Mode	Operating Frequency (MHz)		Insertion Loss (dB)		IIP3 (dBm)	Attenuation Accuracy (dB @ 2.2 GHz)	Switching Time (ns)	ESD HBM (V)	Package (mm)	Product Notes
			Min	Max	Min	Max						
PE43711	0–31.75 / 0.25	Parallel[1], Serial	0.009	6000	1.3	2.4	57	±(0.15 + 1.5% of setting)	275	3000	24L 4×4 QFN	7-bit
PE43712	0–31.75 / 0.25	Parallel[1], Ser-Add[2]	0.009	6000	1.3	2.45	57	±(0.20 + 1.5% of setting)	275	3000	32L 5×5 QFN	7-bit
PE43713[3]	0–31.75 / 0.25	Parallel[1], Ser-Add[2]	0.009	6000	1.3	2.45	57	±(0.20 + 1.5% of setting)	275	3000	32L 5×5 QFN	7-bit

Note 1: Parallel modes: latched and direct. **Note 2**: Serial-addressable mode. **Note 3:** External V_{SS} option.

General-purpose RF Digital Step Attenuators

Our 50Ω general-purpose RF DSAs feature high linearity, fast switching time with wide bandwidth, and best-in-class attenuation accuracy with fine attenuation steps.

Part Number	Attenuation (dB) (Range/ Min. Step Size)	Programming Mode	Operating Frequency (MHz)		Insertion Loss (dB)		IIP3 (dBm)	Attenuation Accuracy (dB @ 1 GHz)	Switching Time (µs)	ESD HBM (V)	Package (mm)	Product Notes
			Min	Max	Min	Max						
PE43205[1]	0–18 / 6	Parallel	35	6000	0.5	1.05	61	+0.10	0.031	2000	12L 3×3 QFN	2-bit
PE43620	0–18 / 6, 12, and 18	Parallel[3]	50	3000	0.6	0.7	61	±(−0.25/+0.40 of setting)	0.03	2000	12L 3×3 QFN	2-bit
PE43650	0–15.5 / 0.5	Parallel[3], Serial	0.009	6000	2.4	2.9	58	±(0.3/+0.30 of setting)	4	500	24L 4×4 QFN	5-bit
PE4312[1,2]	0–31.5 / 0.5	Parallel[3], Serial	1	4000	1.3	2.1	59	±(0.15 + 2% of setting)	0.5	1500	20L 4×4 QFN	6-bit
PE43508[1,2]	0–31.5 / 0.5	Par[3], Ser, Ser-Add[4]	0.009	55000	2.2	5.9	50	+(1.00+4.5% of setting) / −1 @ 13 GHz	0.33	1000	Flip Chip	6-bit
PE43610[1,2]	0–31.5 / 0.5	Par[3], Ser, Ser-Add[4]	0.009	13000	1.6	3	50	+(1.00+4.5% of setting) / −1 @ 13 GHz	0.33	1000	24L 4×4 LGA	6-bit
PE43614[1,2]	0–31.5 / 0.5	Par[3], Ser, Ser-Add[4]	0.009	45000	3	5.8	50	+(1.00+4.5% of setting) / −1 @ 13 GHz	0.33	1000	24L 4×4 LGA	6-bit
PE43704[2]	0–31.75 / 0.25	Par[3], Ser, Ser-Add[4]	0.009	8000	1.3	2.9	61	+(0.15 + 4.5% of setting) −(0.1 + 2% of setting)	1.1	1500	32L 5×5 QFN	7-bit
PE43705[1,2]	0–31.75 / 0.25	Par[3], Ser, Ser-Add[4]	50	8000	1.3	2.4	58	+(0.15 + 1.5% of setting) −(0.1 + 1% of setting)	1	1500	32L 5×5 QFN	7-bit

Note 1: Operating temperature up to +105 °C. **Note 2:** Glitch-safe: negative glitch only. **Note 3:** Parallel modes: latched and direct. **Note 4:** Serial-addressable mode.

Phase and Amplitude Control

Visit our website to learn more

Phase Shifter

Our 50Ω digital phase shifter offers an ideal solution for optimizing transmission phase with its low RMS phase and amplitude error levels, and dual parallel and serial programming options.

Part Number	Operating Frequency (GHz)		Bits	Range (deg)	Resolution (deg)	Insertion Loss (dB)	RMS Phase Error (deg)	RMS Amplitude Error (dB)	Settling Time (ns)	V_{DD} Range (V)	ESD HBM (V)	Package (mm)
	Min	Max										
PE44820*	1.7	2.2	8	358.6	1.4	6	1.0	0.1	365	2.3–5.5	500	32L 5×5 QFN

Note: * With extended frequency support from 1–3 GHz.

Monolithic Phase and Amplitude Controllers

Our 50Ω MPACs provide an integrated solution for analog beamforming and Doherty power amplifier optimization applications, and offer the reliable phase and amplitude control of two independent RF paths.

	Part Number	Operating Frequency (GHz)		Phase (deg) (Range/ Step/Bits)	Attenuation (dB) (Range/ Step/Bits)	Programming Mode	Insertion Loss (dB)	IIP3 (dBm)	P0.1dB (dBm)	V_{DD} Range (V)	I_{DD} (µA)	ESD HBM (V)	Package (mm)
		Min	Max										
NEW	PE44951*	6.025	7.525	360 / 5.6 / 6	15.75 / 0.125 / 7	Serial	8.2	56	25.5	2.3–5.5	200	1000	32L 5×5 LGA
	PE46120	1.8	2.2	–87.2 / 2.8 / 5	7.5 / 0.5 / 4	Serial	6.9	60	35	2.3–5.5	350	1000	32L 6×6 QFN
	PE46130	2.3	2.7	–87.2 / 2.8 / 5	7.5 / 0.5 / 4	Serial	7.2	70	35	2.3–5.5	350	1500	32L 6×6 QFN
	PE46140	3.4	3.8	–87.2 / 2.8 / 5	7.5 / 0.5 / 4	Serial	6.5	60	35	2.3–5.5	350	1500	32L 6×6 QFN

Note: * Visit our website for the latest information.

Digital Tunable Capacitors

Our DTCs continue a tradition of innovation, high performance, and ease-of-use by offering wideband tuning coverage, minimum loss, excellent linearity, and fast switching speed.

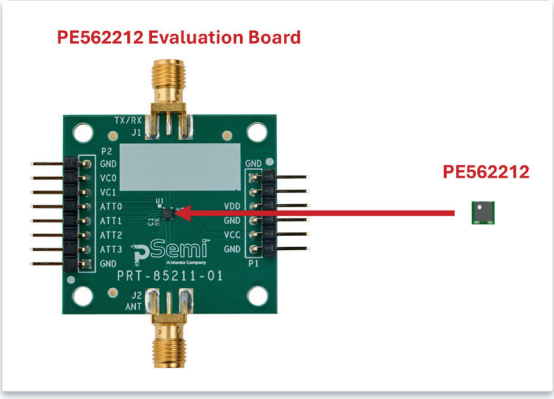
Part Number	Part Number	Operating Frequency (MHz)		Shunt Capacitance (pF)		Tuning Ratio (Shunt)	Quality Factor (Shunt, 1 GHz)		Peak Operating Voltage (V_{PK})	V_{DD} Range (V)	ESD HBM (V)	Package (mm)
		Min	Max	Min	Max		C_{MIN}	C_{MAX}				
PE64102	SPI	100	3000	1.88	14	7.4:1	50	28	6	2.3–3.6	2000	12L 2×2 QFN
PE64904	SPI	100	3000	1.10	5.10	4.6:1	35	10	30	2.3–3.6	1500	10L 2×2 QFN
PE64906	SPI	100	3000	0.90	4.60	5.1:1	40	40	30	2.3–4.8	2000	10L 2×2 QFN
PE64907	SPI	100	3000	0.85	2.40	2.82:1	41	37	30	2.3–4.8	2000	10L 2×2 QFN
PE64909	SPI	100	3000	0.60	2.35	3.9:1	40	40	30	2.3–4.8	2000	10L 2×2 QFN

Front-end Modules

2.4 GHz IoT FEM

Our PE562212, built to support the fast adoption of the Matter standard, enables connectivity across Thread, Zigbee, Bluetooth BDR/EDR, Bluetooth Low Energy, low-to-medium throughput Wi-Fi (MCS7), and 2.4 GHz proprietary applications.

	Part Number	Operating Frequency (MHz)		P1.0dB (dBm)	Tx Gain (dB)	Tx Gain Control (dB)	Tx Gain Step (dB)	Rx NF (dB)	Rx Gain (dB)	Bypass Loss (dB)	Supply Voltage (V)	Package (mm)
		Min	Max									
NEW	PE562212	2400	2483.5	21	23	15	1	1.6	15.0	0.6	3.0–3.6	14-lead 1.8×1.8 LGA



Visit our website to learn more

Switch + LNA Module

pSemi's dual-channel switch + LNA module incorporates high-power, fail-safe switches and low-noise amplifiers with a bypass function. This receiver front-end module features low noise, excellent linearity, and very low power consumption in a compact size and is ideally suited to 5G mMIMO applications.

Part Number	Operating Frequency (MHz)		OIP3 (dBm)	P_{MAX} Avg (dBm)	Noise Figure (dB)	Isolation (dB, typ)	V_{DD} Range (V)	Switching Time (µs)	Package (mm)
	Min	Max							
PE53231	3300	4200	32	43	1.0	47	4.75–5.25	0.5*	40L 6×6 LGA

Note: * 50% CTRL to 90% or 10% RF.

Mixers and Limiters

Visit our website to learn more

Power Limiters

With both limiting and reflecting modes, our power limiters are highly integrated and smaller than PIN diode solutions; they feature an adjustable threshold control, high-power handling, and fast response and recovery times.

Part Number	Operating Frequency (MHz)		Adjustable Power Limiting Threshold (dBm)	Max Power Handling (dBm)		IIP3 (dBm)	Control Voltage Range (V)*	ESD HBM (V)	Package (mm)	Product Notes
	Min	Max		Pulsed	CW					
PE45361	10	8000	7–13	50	36	37	0 to 0.3	7000	12L 3×3 QFN	Low Threshold
PE45450	0.008	6000	25–35	47	40	70	–2.5 to –0.5	8000	12L 3×3 QFN	Broadband

Note: * Limiting mode.

Up-Down Converter

Our dual-channel mmWave up-down converter is a highly integrated, ultra-wideband solution that delivers low power consumption, optimal I/Q balance, and minimal LO leakage to active antenna designs.

Part Number	Operating Frequency (GHz)		Package (mm)	Product Note
	Min	Max		
PE128300	24.25	29.5	Flip Chip	n258 and n257

Prescaler

Our prescaler offers low-phase noise performance and low-power consumption with high-frequency support up to 13.5 GHz for a wide variety of compact high-performance applications.

Part Number	Divide Ratio	Operating Frequency (MHz)		ESD HBM (V)	Package (mm)
		Min	Max		
PE35400	Divide by 4	3000	13500	250	Die

Mixers

Our UltraCMOS mixers apply quad FET array cores to deliver high linearity and isolation, low conversion loss, and easier implementation than GaAs-based FET arrays.

Part Number	Operating Frequency (MHz)			LO Drive (dBm)	Conv Loss (dB)	Isolation (dB, typ)		IIP3 (dBm)	ESD HBM (V)	Package (mm)
	LO	RF	IF, Nom			LO–RF	LO–IF			
PE4140[1,2]	0.01–6000	0.01–6000	0.01–6000	0 to +20	6.5–7.5	25–40	25–40	32	100	6L 3×3 DFN
PE4141[1,2,3]	0.01–1000	0.01–1000	0.01–1000	0 to +20	7.0–8.0	40	40	33	100	8L MSOP
PE4151[1,3]	245–410	136–520	44.85–109.65	–10 to –6	6.5–8.5	43	40	26	1000	10L MSOP
PE4152[1]	245–831	136–941	109.65	–10 to +23	6.5–7.5	30–60	22–58	26	1000	20L 4×4 QFN

Note 1: Fully differential DC coupled ports. External baluns required. **Note 2:** Quad MOSFET array. **Note 3:** Low magnetic.

pSemi®
A Murata Company

Power Management

Power Management Products

pSemi is a market leader in the development of innovative power conversion products based on switching capacitor power conversion targeting low-profile, high-efficiency applications.

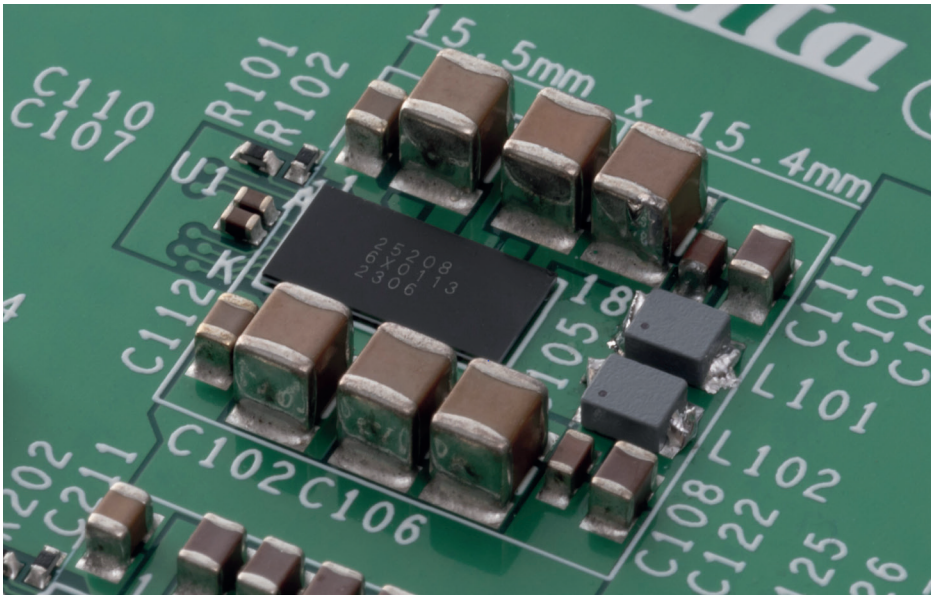
Our power product portfolios include charge pump capacitor dividers, two-stage buck regulators, two-stage boost regulators (LED backlight drivers), and multi-level converters.

Charge Pump Capacitor Dividers

pSemi's patented, adiabatic charge pump technology reduces capacitive redistribution losses during switching transitions, resulting in industry best-in-class efficiency (up to 99% peak), and solution size reduction. These devices are available in a range of step-down ratios in the 15W to 160W power range.

Part Number	V_{IN} (V)	V_{OUT} (V)	I_{OUT} (A)	Efficiency (%)	Package
PE25200	5.5-10	$V_{IN}/2$ & $V_{IN}/3$	10	97	WLCSP
PE25203	5.7-15	$V_{IN}/2$ & $V_{IN}/3$	4	99	WLCSP*
PE25213	5.7-15	$V_{IN}/2$ & $V_{IN}/3$	10	99	WLCSP*
PE25204	18-60	$V_{IN}/4$	6	96.8	WLCSP
PE25208	18-60	$V_{IN}/2$ & $V_{IN}/3$	8	98.2	WLCSP*
MYC0409	20-60	$V_{IN}/4$	6	96.5	LGA

Note: * Type III PCB-compatible.



Power Management Products (continued)

Two-stage Buck Regulators

Our unique two-stage, step-down architecture provides best-in-class efficiency performance for low-profile applications (< 1.2 mm). These devices come in 3.3V and 12V input ranges with an optional I²C interface.

Part Number	V_{IN} (V)	V_{OUT} (V)	I_{OUT} (A)	Efficiency (%)	Package
PE24108	3.0-3.6	0.4-1.0	10	88.5 (V_{OUT} = 0.5V)[1]	QFN
PE24110	3.0-3.6	0.35-0.7	12	89 (V_{OUT} = 0.5V)[1]	QFN
PE24111	3.0-3.6	0.35-0.7	20	90 (V_{OUT}= 0.5V)[1]	QFN
MYTNA1R86RELA2RA	6-14.4	0.7-1.8	6	90 (V_{OUT} = 1.2V)[2]	LGA
MYTNC1R86RELA2RA	6-14.4	0.7-1.8	6	90 (V_{OUT} = 1.2V)[2]	LGA

Note 1: Low-profile solutions ≤ 1.2 mm. **Note 2:** Low-profile solutions ≤ 2.0 mm.

Two-stage Boost Regulators (LED Backlight Drivers)

Our range of LED backlight drivers is based on a two-stage step-up to achieve the highest efficiency (up to 96%) to increase application battery runtime. The architecture results in very low-profile solutions (< 0.7 mm) for the latest low-profile display panels. These devices are available for 1-cell, 2-cell, and 3-cell battery input voltages with up to 15-bit resolution via I²C or PWM control.

Part Number[1]	V_{IN} (V)	V_{OUT} (V)	Strings	I_{OUT} per String (mA)	Dynamic Range (Bits)	Efficiency (%)	Package
ARC1C0605	2.5-5.5	30	6	25	12	95	WLCSP
ARC1C0608	2.5-5.5	30	6	25	12	95	WLCSP
ARC3C0845W	4.5-15	45	8	43	15	95	WLCSP
PE23108[2]	4.5-15	42	8	33	15	96	WLCSP

Note 1: Low-profile solutions ≤ 1 mm. **Note 2:** Type III PCB-compatible.

UltraCMOS® Technology

Silicon-on-Insulator Innovation

UltraCMOS technology—a patented, advanced form of silicon-on-insulator (SOI)—enables pSemi to offer a market-leading combination of large- and small-signal performance.

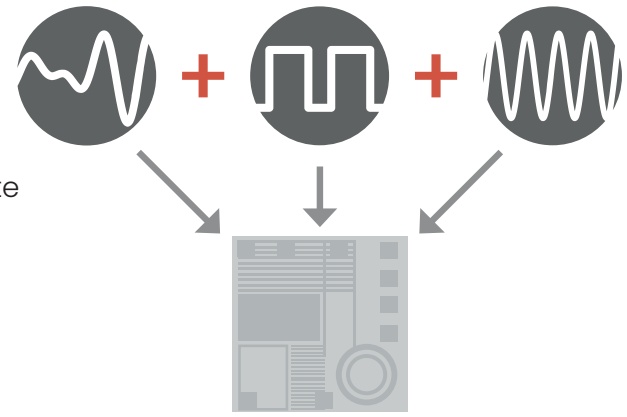
With its outstanding RF and microwave properties, SOI provides an ideal substrate for integration. When paired with high-volume CMOS—the most widely-used semiconductor technology—the result is a reliable, repeatable technology platform that offers superior performance compared to other mixed-signal processes.

Our UltraCMOS products allow engineers the flexibility to prioritize attributes—like small form factor, low power consumption, high reliability, radiation tolerance, high ESD ratings, programmability, affordability, and reduced board area—based on use case.

Intelligent Integration

Our UltraCMOS products feature intelligent integration—the ability to integrate RF, digital, and analog components on a single die.

With intelligent integration, a single chip can integrate features such as RF amplifiers, analog DC tracking, digital logic control, high-performance switching, phase shifters, and digital step attenuators.

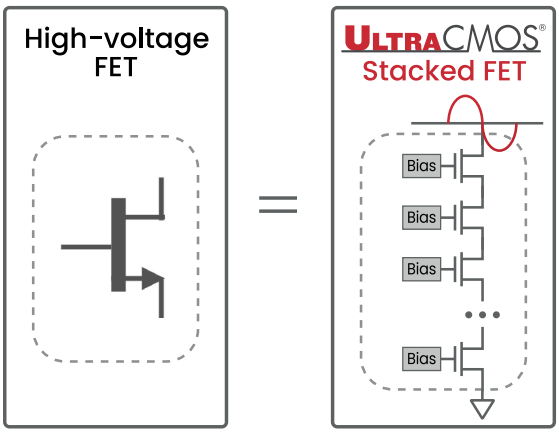


Monolithic Die

- **Flexibility**
- **Reliability**
- **Configurability**
- **Repeatability**
- **Smaller Footprint**
- **Ease-of-Use**

HaRP™ Technology

Our UltraCMOS technology uses stacked field-effect transistors (FETs) manufactured on an insulating substrate, providing the ability to pass high-power RF signals. The HaRP invention allows for very linear FETs that, when stacked together, provide excellent linearity performance.



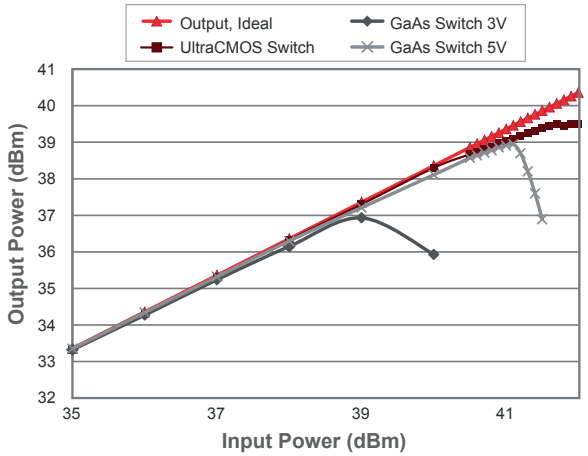
High-performance RF Products

Design Choice and Flexibility

RF complexity is growing exponentially as more wireless devices compete for spectrum across more frequency bands, and our products continue to achieve several SOI industry firsts that offer RF engineers the widest range of high-performance RF choices.

Linearity Figure of Merit: P0.1dB

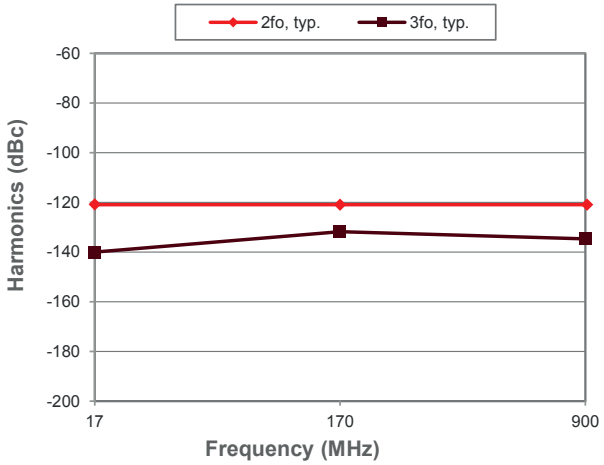
Our UltraCMOS switch exhibits close-to-ideal linearity behavior up to the input 0.1 dB compression point (P0.1 dB), which remains constant over power supply voltages.



Our UltraCMOS switches do not compress in the same manner as switches on other technology processes, so a traditional P1dB measurement cannot be performed. Instead, the P0.1 dB compression point is used as the figure of merit to reflect each switch's true linearity performance.

Industry-leading Linearity Performance

PE42723 second and third harmonics (P_{IN} = 65 dBmV)



Our PE42723 SPDT RF switch for DOCSIS 4.0/3.1 features unmatched linearity performance enabled by our UltraCMOS technology, the only technology capable of addressing the linearity challenges of the future.

Quality and Reliability

Our ISO9001:2015 and AS9100D-certified quality systems, advanced designs, progressive process technology, and excellent product performance enable us to consistently deliver high-quality, reliable products to our customers.

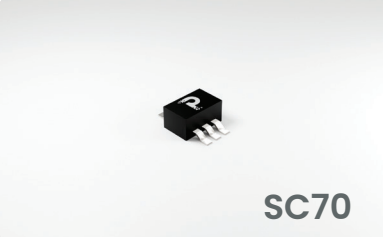
pSemi Quality Policy

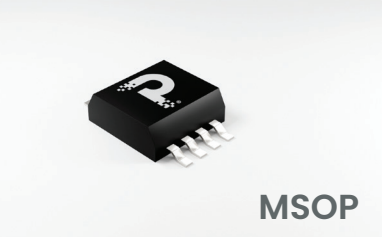
pSemi is committed to providing quality products and services that meet or exceed customers' requirements the first time, every time, by:

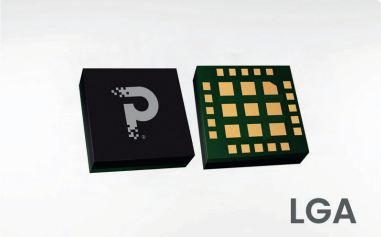
- Fully understanding our customers' requirements and expectations
- Providing products that use proven designs and manufacturing processes
- Developing a highly trained workforce that is motivated, empowered, and fully accountable
- Establishing strong relationships with world-class suppliers
- Continually improving the efficiency and effectiveness of our business processes and quality management systems

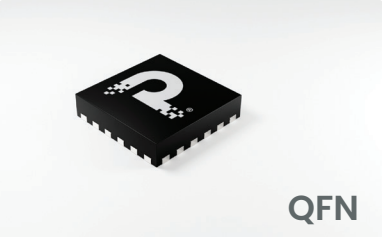
Packaging

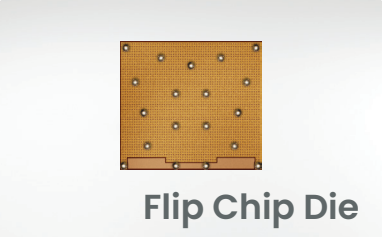
pSemi offers a variety of RoHS-compliant commercial packaging options, as shown below.











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