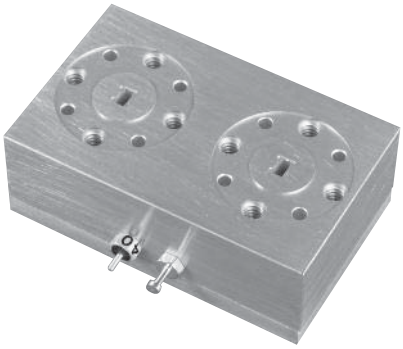
QUINSTAR TECHNOLOGY, INC.

Millimeter-Wave High Power Amplifiers

QPN



Characteristics

- 18-95 GHz Coverage
- State-Of-The-Art Power Performance
- Large Selection of Standard Models

Product Description

QuinStar Technology's series QPN power amplifiers utilize advanced Millimeter wave Monolithic Integrated Circuits (MMICs) and discrete devices for state-of-the-art power performance up to 4 GHz bandwidth in the 18-95 GHz frequency range. The standard amplifier housing offers a wide range and combinations of input and output coaxial connectors or waveguide ports. For 18 to 40 GHz amplifiers, we offer 2.9 mm coaxial connectors, and 2.4 mm for 40-50 GHz and 1.9 mm connectors for frequencies beyond. Appropriate waveguide input and/or output ports are offered for the entire range from 18 to 95 GHz. Any valid combination of coaxial and waveguide input and output ports can be supplied, if desired.

In addition to the standard products, QuinStar can produce customized amplifiers to specific requirements. A wide range of optional features is available for these amplifiers. Please see page 39 for details of these options.

Specifications

Model Number	Frequency Range[1] (GHz)	Power P1dB (dBm)	Gain (dB)	Voltage (V)	Current (A) typ.	–Voltage (V)	–Current (mA), max.	Outline Pages 40-45
QPN-ABCD2310	18-22	23	10	12	0.5	–	–	J,G,L,S
QPN-ABCD2325	18-22	23	25	12	0.6	–	–	J,G,L,S
QPN-ABCD2340	18-22	23	40	12	0.7	–	–	J,G,L,S
QPN-ABCD2710	18-22	27	10	12	0.8	–	–	J,G,L,S
QPN-ABCD2725	18-22	27	25	12	1.1	–	–	J,G,L,S
QPN-ABCD2740	18-22	27	40	12	1.2	–	–	J,G,L,S
QPN-ABCD3010	18-22	30	10	12	1.5	–	–	A,R,M,T
QPN-ABCD3025	18-22	30	25	12	1.8	–	–	A,R,M,T
QPN-ABCD3040	18-22	30	40	12	1.9	–	–	A,R,M,T
QPN-ABCD3310	18-22	33	10	10	3	–	–	A,R,M,T
QPN-ABCD3325	18-22	33	25	10	3.4	–	–	A,R,M,T
QPN-ABCD3340	18-22	33	40	10	3.5	–	–	A,R,M,T
QPN-ABCD3620	18-22	36	20	10	6t	-12	150	B,K,N,Q
QPN-ABCD3640	18-22	36	40	10	6.5	-12	150	B,K,N,Q
QPN-ABCD3820	18-22	38	20	10	12	-12	150	B,K,N,Q
QPN-ABCD3840	18-22	38	40	10	13	-12	150	B,K,N,Q
QPN-ABCD2310	22-26	23	10	12	0.5	–	–	J,G,L,S
QPN-ABCD2325	22-26	23	25	12	0.6	–	–	J,G,L,S
QPN-ABCD2340	22-26	23	40	12	0.7	–	–	J,G,L,S
QPN-ABCD2710	22-26	27	10	12	0.8	–	–	J,G,L,S
QPN-ABCD2725	22-26	27	25	12	1.1	–	–	J,G,L,S
QPN-ABCD2740	22-26	27	40	12	1.2	–	–	J,G,L,S
QPN-ABCD3010	22-26	30	10	12	1.5	–	–	A,R,M,T
QPN-ABCD3025	22-26	30	25	12	1.8	–	–	A,R,M,T
QPN-ABCD3040	22-26	30	40	12	1.9	–	–	A,R,M,T

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Specifications

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QPN-ABCD3310	22-26	33	10	10	3	–	–	A,R,M,T
QPN-ABCD3325	22-26	33	25	10	3.4	–	–	A,R,M,T
QPN-ABCD3340	22-26	33	40	10	3.5	–	–	A,R,M,T
QPN-ABCD3620	22-26	36	20	10	6	-12	150	B,K,N,Q
QPN-ABCD3640	22-26	36	40	10	6.5	-12	150	B,K,N,Q
QPN-ABCD3820	22-26	38	20	10	12	-12	150	B,K,N,Q
QPN-ABCD3840	22-26	38	40	10	13	-12	150	B,K,N,Q
QPN-ABCD2315	26-32	23	15	12	0.4	–	–	J.G,L,S
QPN-ABCD2326	26-32	23	26	12	0.45	–	–	J.G,L,S
QPN-ABCD2337	26-32	23	37	12	0.5	–	–	J.G,L,S
QPN-ABCD2348	26-32	23	48	12	0.55	–	–	J.G,L,S
QPN-ABCD2713	26-32	27	13	12	0.9	–	–	J.G,L,S
QPN-ABCD2728	26-32	27	28	12	1.1	–	–	J.G,L,S
QPN-ABCD2739	26-32	27	39	12	1.2	–	–	J.G,L,S
QPN-ABCD2750	26-32	27	50	12	1.3	–	–	J.G,L,S
QPN-ABCD3027	26-32	30	27	12	3.1	–	–	A,R,M,T
QPN-ABCD3038	26-32	30	38	12	3.2	–	–	A,R,M,T
QPN-ABCD3050	26-32	30	50	12	3.3	–	–	A,R,M,T
QPN-ABCD3327	26-32	33	27	12	4.4	-12	50	A,R,M,T
QPN-ABCD3338	26-32	33	38	12	4.5	-12	50	A,R,M,T
QPN-ABCD3350	26-32	33	50	12	4.6	-12	50	A,R,M,T
QPN-ABCD3627	26-32	36	27	8	8.8	-12	50	B,K,N,Q
QPN-ABCD3638	26-32	36	38	8	9	-12	50	B,K,N,Q
QPN-ABCD3650	26-32	36	50	8	9.6	-12	50	B,K,N,Q
QPN-ABCD3827	26-32	38	27	8	17	-12	50	*
QPN-ABCD3838	26-32	38	38	8	18	-12	50	*
QPN-ABCD3850	26-32	38	50	8	19	-12	50	*
QPN-ABCD2312	32-36	23	12	12	0.7	–	–	J.G,L,S
QPN-ABCD2325	32-36	23	25	12	0.8	–	–	J.G,L,S
QPN-ABCD2336	32-36	23	36	12	0.9	–	–	J.G,L,S
QPN-ABCD2347	32-36	23	47	12	0.95	–	–	J.G,L,S
QPN-ABCD2712	32-36	27	12	12	1.4	–	–	J.G,L,S
QPN-ABCD2725	32-36	27	25	12	1.6	–	–	J.G,L,S
QPN-ABCD2736	32-36	27	36	12	1.8	–	–	J.G,L,S
QPN-ABCD2747	32-36	27	47	12	2	–	–	J.G,L,S
QPN-ABCD3010	32-36	30	10	12	2.8	-12	50	A,R,M,T
QPN-ABCD3023	32-36	30	23	12	3	-12	50	A,R,M,T
QPN-ABCD3035	32-36	30	35	12	3.2	-12	50	A,R,M,T
QPN-ABCD3045	32-36	30	45	12	3.5	-12	50	A,R,M,T
QPN-ABCD3312	32-36	33	12	12	4.8	-12	100	A,R,M,T
QPN-ABCD3323	32-36	33	23	12	5	-12	100	A,R,M,T
QPN-ABCD3335	32-36	33	35	12	5.2	-12	100	A,R,M,T
QPN-ABCD3345	32-36	33	45	12	5.5	-12	100	A,R,M,T
QPN-ABCD3621	32-36	36	21	10	9	-12	100	B,K,N,Q
QPN-ABCD3630	32-36	36	30	10	9.5	-12	100	B,K,N,Q

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Specifications

Model Number	Frequency Range[1] (GHz)	Power P1dB (dBm)	Gain (dB)	Voltage (V)	Current (A) typ.	–Voltage (V)	–Current (mA), max.	Outline Pages 40-45
QPN-ABCD3640	32-36	36	40	10	10	-12	100	B,K,N,Q
QPN-ABCD3820	32-36	38	20	10	18	-12	100	*
QPN-ABCD3830	32-36	38	30	10	19	-12	100	*
QPN-ABCD3840	32-36	38	40	10	20	-12	100	*
QPN-ABCD2313	36-40	23	13	12	0.35	–	–	J.G,L,S
QPN-ABCD2324	36-40	23	24	12	0.4	–	–	J.G,L,S
QPN-ABCD2335	36-40	23	35	12	0.5	–	–	J.G,L,S
QPN-ABCD2345	36-40	23	45	12	0.55	–	–	J.G,L,S
QPN-ABCD2710	36-40	27	10	12	0.9	–	–	J.G,L,S
QPN-ABCD2723	36-40	27	23	12	1.2	–	–	J.G,L,S
QPN-ABCD2734	36-40	27	34	12	1.3	–	–	J.G,L,S
QPN-ABCD2745	36-40	27	45	12	1.4	–	–	J.G,L,S
QPN-ABCD3021	36-40	30	21	12	2.7	–	–	A,R,M,T
QPN-ABCD3032	36-40	30	32	12	2.8	–	–	A,R,M,T
QPN-ABCD3043	36-40	30	43	12	2.9	–	–	A,R,M,T
QPN-ABCD3321	36-40	33	21	12	4.5	-12	100	A,R,M,T
QPN-ABCD3332	36-40	33	32	12	4.7	-12	100	A,R,M,T
QPN-ABCD3343	36-40	33	43	12	4.8	-12	100	A,R,M,T
QPN-ABCD3621	36-40	36	21	10	9.4	-12	100	B,K,N,Q
QPN-ABCD3632	36-40	36	32	10	9.6	-12	100	B,K,N,Q
QPN-ABCD3643	36-40	36	43	10	10	-12	100	B,K,N,Q
QPN-ABCD3820	36-40	38	20	10	18	-12	100	*
QPN-ABCD3832	36-40	38	32	10	19	-12	100	*
QPN-ABCD3843	36-40	38	43	10	20	-12	100	*
QPN-ABCD2325	40-44	23	25	12	1.8	-12	50	A,R,M,T
QPN-ABCD2335	40-44	23	35	12	1.95	-12	50	A,R,M,T
QPN-ABCD2345	40-44	23	45	12	2.2	-12	50	A,R,M,T
QPN-ABCD2355	40-44	23	55	12	2.4	-12	50	A,R,M,T
QPN-ABCD2725	40-44	27	25	12	3.5	-12	50	A,R,M,T
QPN-ABCD2735	40-44	27	35	12	3.6	-12	50	A,R,M,T
QPN-ABCD2745	40-44	27	45	12	3.6	-12	50	A,R,M,T
QPN-ABCD2755	40-44	27	55	12	3.7	-12	50	A,R,M,T
QPN-ABCD3013	40-44	30	13	12	5.0	-12	50	A,R,M,T
QPN-ABCD3023	40-44	30	23	12	5.5	-12	50	A,R,M,T
QPN-ABCD3033	40-44	30	33	12	5.7	-12	50	A,R,M,T
QPN-ABCD3043	40-44	30	43	12	5.9	-12	50	A,R,M,T
QPN-ABCD3312	40-44	33	12	8	10	-12	100	B,K,N,Q
QPN-ABCD3323	40-44	33	23	8	11	-12	100	B,K,N,Q
QPN-ABCD3333	40-44	33	33	8	11.5	-12	100	B,K,N,Q
QPN-ABCD3343	40-44	33	43	8	11.8	-12	100	B,K,N,Q
QPN-ABCD3612	40-44	36	12	8	19	-12	100	B,K,N,Q
QPN-ABCD3623	40-44	36	23	8	20	-12	100	B,K,N,Q
QPN-ABCD3633	40-44	36	33	8	21	-12	100	B,K,N,Q
QPN-ABCD3643	40-44	36	43	8	22	-12	100	B,K,N,Q
QPN-ABCD2312	44-48	23	12	12	0.6	-12	50	J.G,L,S

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Specifications

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QPN-ABCD2322	44-48	23	22	12	0.9	-12	50	J,G,L,S
QPN-ABCD2332	44-48	23	32	12	1	-12	50	J,G,L,S
QPN-ABCD2342	44-48	23	42	12	1.2	-12	50	J,G,L,S
QPN-ABCD2610	44-48	26s	10	12	1.2	-12	50	J,G,L,S
QPN-ABCD2620	44-48	26s	20	12	1.5	-12	50	J,G,L,S
QPN-ABCD2630	44-48	26s	30	12	1.6	-12	50	J,G,L,S
QPN-ABCD2640	44-48	26s	40	12	1.8	-12	50	J,G,L,S
QPN-ABCD2318	50-54	23	18	8	2.2	–	–	C1
QPN-ABCD2330	50-54	23	30	8	2.5	–	–	C1
QPN-ABCD2618	50-54	26	18	8	5	–	–	C2
QPN-ABCD2630	50-54	26	30	8	5.5	–	–	C2
QPN-ABCD2818	50-54	28	18	8	10	–	–	*
QPN-ABCD2830	50-54	28	30	8	11	–	–	*
QPN-ABCD2318	54-58	23	18	8	2.2	–	–	C1
QPN-ABCD2330	54-58	23	30	8	2.5	–	–	C1
QPN-ABCD2618	54-58	26	18	8	5	–	–	C2
QPN-ABCD2630	54-58	26	30	8	5.5	–	–	C2
QPN-ABCD2816	54-58	28	16	8	10	–	–	*
QPN-ABCD2830	54-58	28	30	8	11	–	–	*
QPN-ABCD2318	58-62	23	18	8	2.2	–	–	C1
QPN-ABCD2330	58-62	23	30	8	2.5	–	–	C1
QPN-ABCD2618	58-62	26	18	8	5	–	–	C2
QPN-ABCD2630	58-62	26	30	8	5.5	–	–	C2
QPN-ABCD2816	58-62	28	16	8	10	–	–	*
QPN-ABCD2830	58-62	28	30	8	11	–	–	*
QPN-ABCD2318	62-66	23	18	8	12	–	–	C1
QPN-ABCD2330	62-66	23	30	8	13	–	–	C1
QPN-ABCD2618	62-66	26	18	8	14	–	–	C2
QPN-ABCD2630	62-66	26	30	8	15	–	–	C2
QPN-ABCD2816	62-66	28	16	8	16	–	–	*
QPN-ABCD2830	62-66	28	30	8	17	–	–	*
QPN-ABCD2128	71-76	21	28	6	0.7	–	–	P2
QPN-ABCD2420	90-95	24s	20	6	0.9	–	–	P1
QPN-ABCD2430	90-95	24s	30	6	1	–	–	P2
QPN-ABCD2718	90-95	27s	18t	6	1.8	–	–	C1
QPN-ABCD2730	90-95	27s	30	6	2	–	–	C1
QPN-ABCD3018	90-95	30s	18t	6	4.5	–	–	C2
QPN-ABCD3030	90-95	30s	30	6	5	–	–	C2

s = Saturated power output

[1] Standard product has 2 GHz of operating bandwidth within this frequency range

* Please contact QuinStar for applicable package outline

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Ordering Information

Model Number **QPN - AB CD EF GH IJ - K**

- **AB** → center frequency in GHz
- **CD** → bandwidth in GHz up to 4 GHz
- **EF** → P1dB (power at 1dB gain compression point), in dBm (or saturated power, where applicable)
- **GH** → gain, in dB
- **IJ** → outline designation (see pages 40-45)
- **K** → options (see page 39)

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