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QPN Series Power Amplifiers

Characteristics

- **State-of-the-Art Power Performance**
- **High IP3 for Digital Communications**
- **Internal Regulation with Single External Bias**



Product Description

QuinStar Technology's series **QPN power amplifiers** utilize advanced PHEMT MMICs and transistors for state-of-the-art power performance in the 24-60 GHz frequency range. Each amplifier has internal bias circuitry which generates gate control voltages, provides proper voltage sequencing and reverse voltage protection from a single positive external bias. The standard amplifier housing enables I/O ports of 2.9 mm (18-40 GHz) and 2.4 mm (40-50 GHz) coaxial connectors and WR-42 through WR-19 waveguide sizes.

Integral waveguide isolators are also available for improved input and output matches.

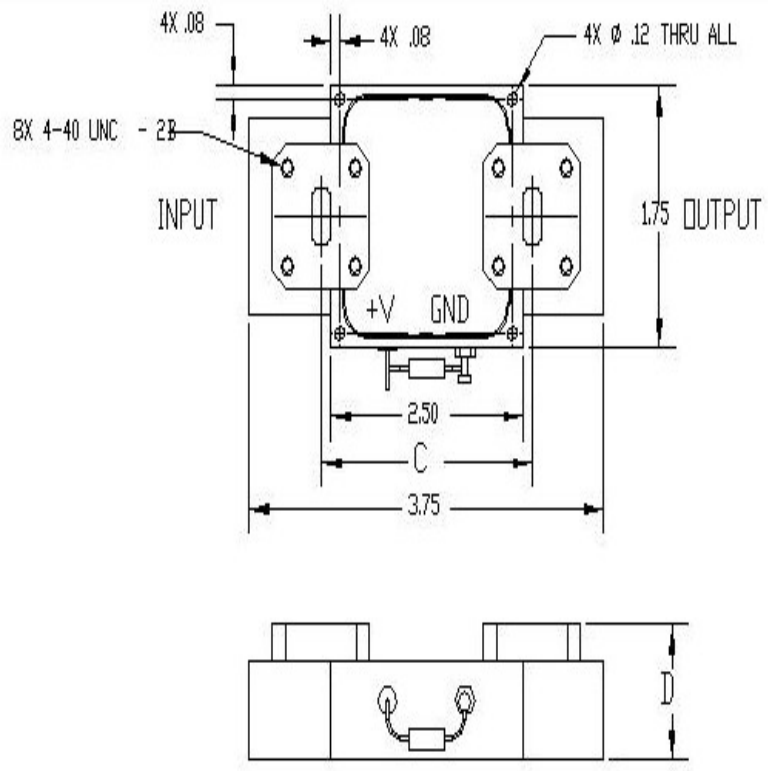
These power amplifiers are useful in communication and radar transmitters, and instrumentation systems where high solid state power is very important. QuinStar Technology has produced a wide variety of power amplifiers and several in volume production quantities featuring high linearity and temperature compensation for Digital Broadband Radio systems.

Specifications

Frequency Range (GHz)[1]	**24 - 28.5**	**28.5 - 31.5**	**33 - 36**	**38 - 40**	**40 - 42**	**43 - 48**	**50 - 60**
P-1dB (dBm typ)	20 - 30	20 - 30	20 - 29	20 - 30	20 - 29	20 - 28	10 - 19
IP3 Range (dBm)	28 - 38	28 - 38	CF	28 - 38	28 - 37	CF	CF
Gain Range (dB)[2]	30 - 60	30 - 60	30 - 60	30 - 60	30 - 50	20 - 40	CF
DC Voltage (V typ)	+10	+10	+10	+10	+10	+10	+8
Current (A typ)	0.6 - 2.5	0.6 - 4.0	0.6 - 4.0	0.6 - 4.5	0.6 - 4.5	1.0 - 4.5	1.0 - 2.0
VSWR (input typ)	2:1	2:1	2:1	2:1	2:1	2:1	2:1
Temperature	Operating range 0° C to +50° C / specifications at 25° C						
Outline Drawing	J, K, L, M, N, R	J, M, N, R	J, M, N, R	J, M, N, R	J, M, N	J, M, N	CF*

[1] Standard bandwidth is typically 2 GHz.
[2] Gain flatness is typically ±5% of minimum gain.
*CF: Consult factory for specifications.

Outline Drawings



Ordering Information

Model Number: **QPN - AB CD E F** **(please specify exact frequency range when ordering)**

AB = Center frequency (rounded to nearest GHz)
CD = Output power in dBm
E = Output power specified at:
P = P1dB
S = Saturation
F = Outline drawing (J, K, L, M, N, R - see above, or Z = custom)

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