RF AMPLIFIER
MODEL Series QB-300

Available as:
QB-300-01, Outline Drawing with BNC Connectors (080-22518)
QB-300-02, Outline Drawing with SMA Connectors (080-22517)

Features

- High Gain: 24.5 dB Typical
- High Power: +22 dBm Typical
- Operating Temp. - 54 ºC to +71 ºC
- Environmental Screening Available

Maximum (NO DAMAGE) Ratings

Ambient Operating Temperature ..... -54ºC to +71 ºC
Storage Temperature .....-62ºC to +125 ºC
Case Temperature ..... +125 ºC
DC Voltage ..... +24 Volts
Continuous RF Input Power ..... +13 dBm
Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)
Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

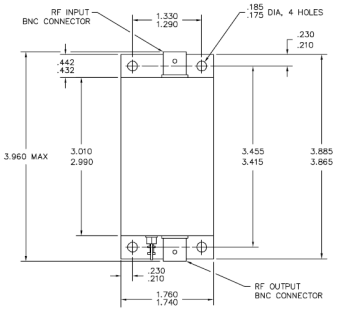
Note:
1. Specifications are guaranteed when tested in a 50 Ohm system.Specifications indicated as typical are not guaranteed.

Specifications

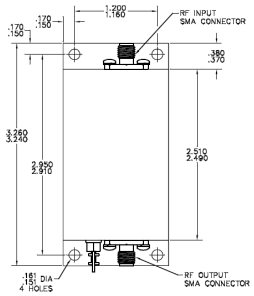
CHARACTERISTIC	TYPICAL Ta= 25 ºC	MIN/MAX Ta = -54 ºC to +71 ºC
Frequency	1 - 300 MHz	1 - 300 MHz
Gain (dB)	24.5 ± 1.0	—
Gain vs. Temperature	—	+0.5/ -0.6 Max.
Gain Flatness	1.0	—
Reverse Isolation (dB)	-36	—
VSWR In	1.5:1	—
VSWR Out	1.5:1	
1 dB Compression (dBm)	+22	—
Output Intercept point 3rd Order	+37	—
Output Intercept point 2nd Order	+52	
Noise Figure (dB)	3.8	—
Power Vdc	+20	—
Power mA	154	

Revision 3/11/05

QB-300-01 BNC Connectors

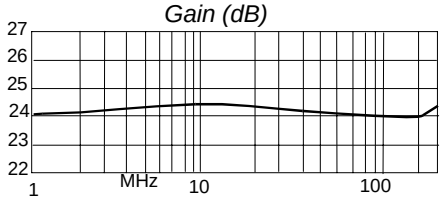


QB-300-02 SMA Connectors

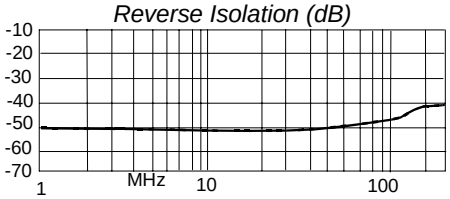


Typical Performance Data

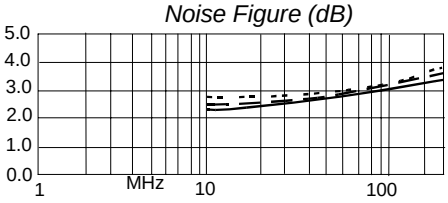
Gain (dB)



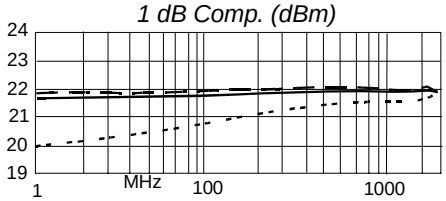
Reverse Isolation (dB)



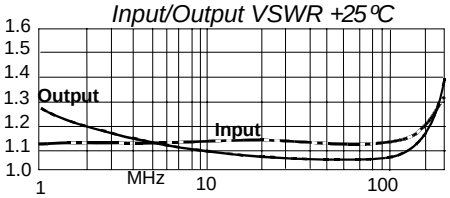
Noise Figure (dB)



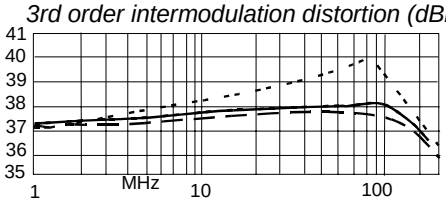
1 dB Comp. (dBm)



Input/Output VSWR +25ºC



3rd order intermodulation distortion (dBm)



Legend ——— *+ 25 ºC* – – – *+ 71 ºC* - - - - - - *-54 ºC*

Linear S-Parameters Data

FREQ. MHz	S11 dB	S11 Ang	S21 dB	S21 Ang	S12 dB	S12 Ang	S22 dB	S22 Ang
1	-24.6	31.5	24.1	11.5	-51.0	170.0	-19.2	89.9
60	-24.8	-2.0	24.2	-57.2	-49.3	177.9	-29.6	-48.6
90	-25.0	0.6	24.2	-85.5	-47.4	142.9	-29.4	-70.8
120	-24.8	4.6	24.1	-113.8	-46.4	147.7	-28.6	-93.7
180	-22.5	5.1	24.1	-171.4	-43.2	105.0	-25.4	-144.6
210	-21.2	2.2	24.2	159.5	-43.1	72.5	-23.0	-168.9
240	-19.9	-2.0	21.2	129.8	-42.6	57.5	-20.4	171.8
270	-18.6	-7.0	24.3	99.2	-41.0	40.0	-17.8	155.1
300	-17.1	-15.6	24.3	67.9	-40.5	15.0	-15.3	138.1

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