ACTIVE COMPONENTS CATALOG

STELLANT SYSTEMS

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Introduction

Stellant Systems is a partner for civil, military, and commercial organizations whose missions seek to ensure a safe, aware, and connected world. We are a premier manufacturer of critical spectrum and power amplification systems for defense, space, medical/ scientific and industrial customers worldwide.

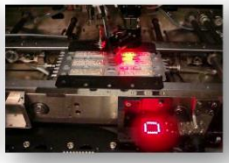
The Folsom, CA facility has been a supplier of high performance RF components for the Military, Space, Commercial and Wireless markets for nearly 40 years.

The facility is over 57,000 square feet and is ISO 9001:2015 and AS 9100:2016 certified.

Manufacturing Capabilities

* Advanced thermal, mechanical & electrical modeling
* Automated high-volume manufacturing
* Automated test and data management
* CNC machining, including vertical mills & turning centers
* Environmental Test lab
* Full forward and backward traceability
* Hermetic sealing in a controlled atmosphere
* Integrated company-wide MRP system
* In-house circuit fabrication
* Thin-film and solder assembly
* Test capabilities from RF through Millimeter Wave

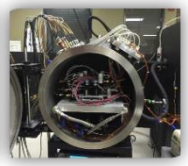

Automated Die Attach Machine


Automated Wire-bonding Machine


Laser Welding


Random Vibration Testing


Thermal Shock Testing


Thermal Vacuum Testing

Ordering Information

The information in this catalog will, in most cases, will be sufficient for you to select a particular Stellant product. However, Stellant's engineering and technical capabilities allow us to offer these catalog devices as well as custom units designed to your specifications. Our engineering staff is backed by extensive in- house manufacturing capability. This assures a rapid response to a prototype request as well as continuous delivery of production orders.

Please contact us to place an order.

Stellant Systems

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Active Products Technology

- GaAs p-HEMT, MESFET and MMIC Devices
- Patented Mixer Designs
- Temperature Compensated Modules
- Digitally Controlled Attenuators
- Gain Equalization
- Gain & Phase Matching
- Alumina Ceramic Thin Film Hybrid MIC (Chip and Wire)
- Softboard with Surface Mount Packages for Low Cost / High Volume
- Interchangeable Standard Size Carriers
- SMA, GPO or Waveguide Connector Options
- Rugged Packaging - Nickel Plated Aluminum Housings
- In-House Laser Seal for Hermetic Enclosures
- Modular Circuit Design

NOTES

1. All amplifiers include internal voltage regulator with input voltage of +12.0 VDC to +15.0 VDC
2. Maximum RF input power is +20 dBm (CW) or 27 dBm pulse, 1 micro second and 1% duty cycle.
3. Stellant offers a variety of multipliers over 1 GHz to 96 GHz for various bandwidths and multiplier ratios under special requests.
4. All amplifiers are offered with Coax/WG i/o or Coax/Coax i/o connectors which must be specified by the customer at the time of order.

*Case drawings for various case options are contained in this catalog.

Active Products List

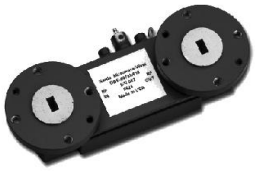
- Amplifiers
  - LNA's
  - Power Amplifiers
- Channel Amplifiers
- Linearizers
- Linearized Channel AMPS
- Multi-Function Amplifiers
  - Up & Down Converters
  - Receivers
  - Beacon Transmitters
  - Power Monitors

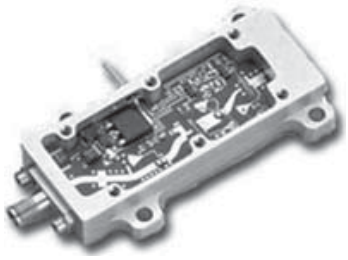
Amplifiers

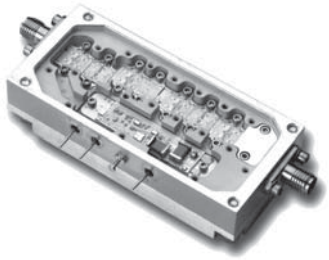
For space, military and commercial applications.

Features

- 0.5 through 65 GHz Designs
- Wide & Narrow Band Applications
- Low Noise Figure < 0.5 dB @ 4 GHz
- High Output Power (up to 3 Watts to 18 GHz)
- Gain & Phase Matching/Tracking
- Temperature Compensation(-65° to +95°C)
- External Gain Control (25 dB Dynamic Range)
- Waveguide or Coaxial Input/ Output Options
- Single Power Supply Operation
- Hermetically Sealed, Compact, Rugged Housing Design
- DC–DC Converters for Space Applications







Low Noise Wide Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Multiple Gain and P1dB Ranges
- Internal Voltage Regulation
- Input Voltage of +12.0 VDC to +15.0 VDC
- Small Hermetic Packages
- Choice of Case Options on Most Products
- Custom Configuration Available

LOW-NOISE WIDEBAND 0.5–18 GHz without Temperature Compensation (25°C)

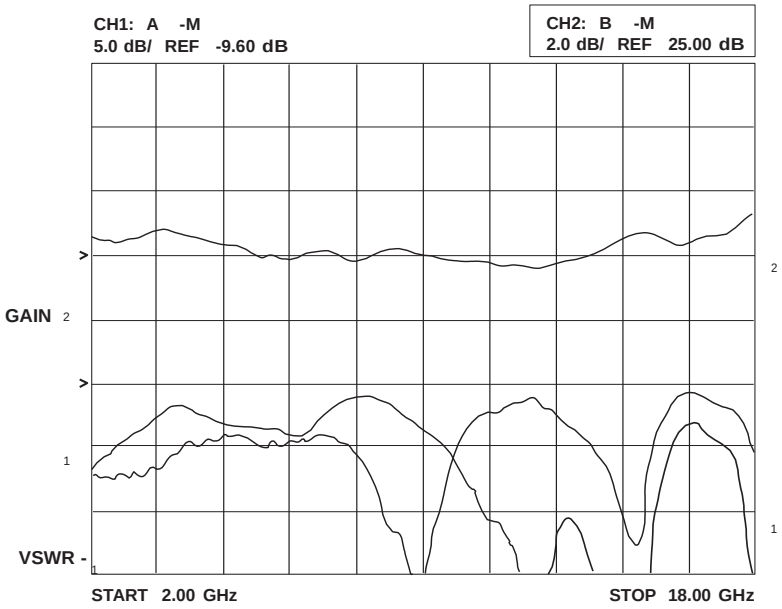
Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
0.5	2	12	16	0.75	1.8	2	10	18	2	2	100	DBX-2I, DBX-1MH	DBL-0102N110
0.5	2	28	32	0.5	1.8	2	10	15	2	1.8	125	DBX-2I, DBX-1MH	DBL-0102N210
0.5	2	28	32	0.5	1.8	2	5	15	2	2	150	DBX-1MH	DBL-0102N305
2	4	28	32	1	1.8	2	10	20	2	2	150	DBX-1MH	DBL-0204N310
2	18	22	27	1.75	3	3.5	8	18	2	2	160	DBX-2I, DBX-1MH	DBL-0218N208
2	18	32	38	1.75	3	3.5	8	18	2	2	200	DBX-4I, DBX-2MH	DBL-0218N308
4	8	28	33	1	1.8	2	10	20	2	2	150	DBX-1MH	DBL-0408N410
5	11	30	34	1	2.2	2.5	10	20	2	2	200	DBX-2MH	DBL-0511N410
6	18	10	14	1	2.3	2.5	5	18	2	2	80	DBX-2I, DBX-SMH	DBL-0618N108
6	18	20	24	1.5	2.3	2.5	8	18	2	2	150	DBX-2I, DBX-1MH	DBL-0618N208
6	18	25	29	1.5	2.3	2.5	13	23	2	2	190	DBX-4I, DBX-2MH	DBL-0618N313
6	18	28	32	1.5	2.3	2.5	15	25	2	2	200	DBX-4I, DBX-2MH	DBL-0618N315
6	18	28	33	1	2.3	2.5	10	20	2	2	150	DBX-4I, DBX-2MH	DBL-0618N410
6	18	32	37	1.5	2.3	2.5	15	25	2	2	275	DBX-41, DBX-3MH	DBL-0618N415
6	18	30	34	1.5	2.3	2.5	20	30	2	2	370	DBX-4I, DBX-3MH	DBL-0618N420
6	18	38	43	1.5	2.3	2.5	15	25	2	2	350	DBX-6I, DBX-4MH	DBL-0618N515
6	18	38	43	1.5	2.3	2.5	17	27	2	2	375	DBX-6I, DBX-4MH	DBL-0618N517
6	18	32	37	1.5	2.3	2.5	20	30	2.2	2	430	DBX-6I, DBX-4MH	DBL-0618N520
6	18	44	49	1.5	2.3	2.5	15	25	2	2	420	DBX-6I, DBX-5MH	DBL-0618N615

LOW-NOISE WIDEBAND 6-18 GHz with Temperature Compensation (-54° to 85°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
6	18	20	28	2.25	3.7	4	12	22	2	2	300	DBX-4I, DBX-3MH	DBL-0618T412
6	18	25	33	2.25	3.7	4	15	25	2	2	350	DBX-6I, DBX-4MH	DBL-0618T515
6	18	28	36	2.25	3.5	4	18	28	2	2	370	DBX-6I, DBX-5MH	DBL-0618T618
6	18	28	35	2.25	3.5	4	20	30	2	2	490	DBX-6I, DBX-5MH	DBL-0618T620
6	18	39	46	2.25	4	4.3	15	25	2	2	450	DBX-8I, DBX-	DBL-0618T715
6	18	35	42	2.25	3.5	4	18	28	2	2	450	DBX-8I, DBX-6MH	DBL-0618T718
6	18	39	46	2.25	3.5	4	20	20	2	2	550	DBX-8I, DBX-6MH	DBL-0618T720

NOTES

Maximum RF Input power is +17 dBm (CW) or +27 dBm pulse, 1 microsecond and 1% duty cycle. SMA Female connectors are standard.



Freq GHz	NF dB	P1dB dBm
2.0	3.1	12.2
6.0	2.9	12.8
10.0	2.9	13.0
14.0	2.7	12.9
18.0	3.0	12.7

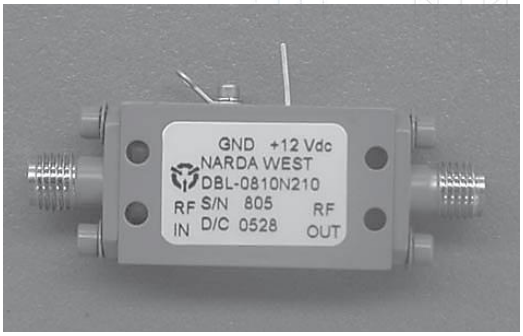
MODEL No. DBL-0218N208

Low Noise Narrow Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Common Communication Bands Covered
- Multiple Gain and P1dB Ranges
- Internal Voltage Regulation
- Input Voltage +12.0 VDC to +15.0 VDC
- Small Hermetic Packages
- Choice of Case Options on Most Products
- Custom Configuration Available



LOW-NOISE NARROW BAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
2	2.5	28		0.5	2		10	20	2	2	175	DBX-4I, DBX-2MH	DBS-2520N310
2	2.5	30		0.5	2		20	30	2	2	275	DBX-4I, DBX-2MH	DBS-2520N420
2.2	2.4	15		0.5	1.5		10	20	2	2	80	DBX-SMH	DBL-2422N110
2.2	2.4	30		0.5	1.5		10	20	2	2	125	DBX-2I, DBX-1MH	DBL-2422N210
2.5	3	28		0.5		2	12	22	2	2	175	DBX-4I, DBX-2MH	DBS-3025N312
2.5	3	30		0.5		2	20	30	2	2	275	DBS-4I, DBS-2MH	DBS-3025N420
2.7	3.1	30		0.5		1.5	10	20	2	2	125	DBS-2I, DBX-1MH	DBL-3127N210
5.4	6	30		0.5	1.5		10	20	2	2	125	DBX-2I, DBX-1MH	DBL-6054N210
8	10	19		1	2		10	20	2	2	110	DBX-2I, DBX-1MH	DBS-0810N210
8.5	10.5	20		1	1.7		10	20	2	2	100	DBX-2I, DBX-1MH	DBL-8510N210
9	10	30		1	1.7		10	20	2	2	150	DBX-4I, DBX-2MH	DBS-0910N310
9	10	30		1		1.7	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-0910N420
10.5	11.5	20		1		1.7	10	20	2	2	100	DBX-2I, DBX-1MH	DBL-1011N210
10.7	11.7	30		1		1.7	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-1011N310
10.7	11.7	30		1	1.7		20	30	2	2	350	DBX-4I, DBX-2MH	DBS-1011N420
11	13	30		1		2	10	20	2	2	200	DBX-2MH	DBL-1113N410
11.5	12.5	20		0.5		2.2	10	20	2	2	100	DBX-2I, DBX-1MH	DBL-1112N210
12.5	13.5	20		0.5		2.2	10	20	2	2	100	DBX-2I, DBX-1MH	DBL-1213N210
13.5	14.5	20		0.5		2.2	10	20	2	2	125	DBX-2I, DBX-1MH	DBL-1314N210
14	14.5	30		0.5		2.5	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-1415N310
14	14.5	30		0.5		2.5	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-1415N420
14.5	15.5	20		0.5	2.2		10	20	2	2	125	DBX-2I, DBX-1MH	DBL-1415N210
15.5	16.5	20		0.5		2.2	10	20	2	2	125	DBX-2I, DBX-1MH	DBL-1516N210
16	17	30		0.5		2.5	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-1617N310
16	17	30		0.5		3	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-1617N420
16.5	17.5	20		0.5		2.2	10	20	2	2	125	DBX-2I, DBX-1MH	DBL-1617N210
17.5	18.5	20		0.5		2.2	10	20	2	2	125	DBX-2I, DBX-1MH	DBL-1718N210
18.1	18.6	30	35	0.5	2.3	2.5	10	20	2	2	150	DBK-6	DBS-1819N310
18.1	18.6	30	35	0.5	2.3	2.5	20	30	2	2	350	DBK-6	DBS-1819N420

LOW-NOISE NARROW BAND 2–18 GHz with Temperature Compensation (-54° to 85°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max	Min.	Max	Max.	Typ.	Max	Min.	Typ.	Max.	Max.	Max.		
8.5	9.5	26	30	1.5	2.3	2.5	10	20	2	2	275	DBX-4I, DBX-2MH	DBL-9585T410
8.5	10.5	29	33	1.5	2.8	3	10	20	2	2	275	DBX-4I, DBX-2MH	DBL-8510T412
9	10	29	33	1.5	2.3	2.5	10	20	2	2	275	DBX-4I, DBX-2MH	DBL-9010T410
9.5	10.5	29	33	1.5	2.8	3	10	20	2	2	275	DBX-4I, DBX-2MH	DBL-9510T410
13.5	14.5	28	32	1.5	3	3.5	10	20	2	2	275	DBX-4I, DBX-2MH	DBL-1314T410

NOTES

Maximum RF input power is +17 dBm (CW) or 27 dBm pulse, 1 microsecond and 1% duty cycle. SMA Female connectors are standard.

Medium Power Wide Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Multiple Gain and P1 dB Ranges
- Internally Regulated +12.0 VDC to +15.0 VDC Input
- Hermetic Packages with SMA Female Connectors
- Optional Temperature Compensation
- Additional Configuration and Custom Components are Available

MEDIUM POWER WIDEBAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
0.5	2	22	28	1	2	2.2	18	28	2	2	200	DBX-2I, DBX-1MH	DBS-0102N218
0.5	2	34	39	1	2	2.2	18	28	2	2	250	DBX-4I, DBX-2MH	DBS-0102N318
0.5	12	20	26	1.5	5.5	6.5	10	20	2	2	270	DBX-2I, DBX-1MH	DBS-0112N210
0.5	12	21	26	2	5.5	6.5	23	33	2	2	475	DBX-4I	DBS-0112N323
0.5	12	38	46	2	5.5	6.5	10	20	2	2	350	DBX-4I, DBX-2MH	DBS-0112N410
1	19	18	24	2	5	5.5	10	20	2.2	2.2	200	DBX-4I, DBX-2MH	DBS-0119N310
1	19	24	31	2	5	5.5	10	20	2.2	2.2	250	DBX-4I, DBX-2MH	DBS-0119N410
1	19	29	36	2	5	5.5	10	20	2.2	2.2	275	DBX-4I, DBX-3MH	DBS-0119N510
2	8	14	18	1.5	2	2.3	8	18	2	2	70	DBX-2I, DBX-1MH	DBS-0208N108
2	8	24	29	1.5	2.1	2.3	15	25	2	2	150	DBX-2I, DBX-1MH	DBS-0208N215
2	8	24	29	1.5	2.3	2.5	18	28	2	2	175	DBX-2I, DBX-1MH	DBS-0208N218
2	8	20	25	1.5	3.5	4	20	30	2	2	250	DBX-2I, DBX-1MH	DBS-0208N220
2	8	30	35	1.5	2.1	2.3	15	25	2	2	200	DBX-4I, DBX-2MH	DBS-0208N315
2	8	32	38	1.5	2.5	3	20	30	2	2	300	DBX-4I, DBX-2MH	DBS-0208N320
2	8	32	38	1.5	2.5	3	23	33	2	2	350	DBX-4I, DBX-2MH	DBS-0208N323
2	8	42	48	1.5	2.1	2.3	15	25	2	2	250	DBX-4I, DBX-2MH	DBS-0208N415
2	8	42	48	1.5	2.5	3	20	30	2	2	350	DBX-4I, DBX-3MH	DBS-0208N420
2	8	45	50	1.5	2.5	3	20	30	2	2	400	DBX-6I, DBX-4MH	DBS-0208N520
2	18	7	10	1.5	4	4.5	8	18	2	2	85	DBX-2I, DBX-1MH	DBS-0218N108
2	18	14	18	1.5	4	4.5	9	19	2	2	100	DBX-2I, DBX-1MH	DBS-0218N109
2	18	20	26	1.75	4	4.5	18	28	2	2	350	DBX-4I, DBS-3MH	DBS-0218N318
2	18	20	26	2	4.5	5	20	30	2	2	425	DBX-4I	DBS-0218N320
2	18	31	38	1.75	4	4.5	15	25	2	2	325	DBX-4I, DBX-3MH	DBS-0218N415
2	18	30	36	2	4.5	5	23	31	2	2	900	DBX-4I	DBS-0218N623
4	8	28	33	1.5	2.2	2.5	15	25	2.2	2	125	DBX-2I, DBX-1MH	DBS-0408N215
4	8	30	35	1.5	2.3	2.5	18	28	2	2	230	DBX-4I, DBX-2MH	DBS-0408N318
4	8	40	45	1.5	2.3	2.5	23	33	2	2	375	DBX-4I, DBX-3MH	DBS-0408N423
4	11	10	15	1.5	2.2	2.5	7	17	2	2	75	DBX-2I, DBX-SMH	DBS-0411N107
4	11	19	23	1.5	2.2	2.5	10	20	2	2	140	DBX-2I, DBX-1MH	DBS-0411N210
4	11	19	23	1.5	4	4.5	20	30	2	2	200	DBX-2I, DBX-1MH	DBS-0411N220
4	11	28	32	1.5	2.2	2.5	13	23	2	2	200	DBX-4I, DBX-2MH	DBS-0411N313
4	11	26	30	1.5	4	4.5	20	30	2	2	250	DBX-4I, DBX-2MH	DBS-0411N320

4	11	34	39	1.5	4	4.5	20	30	2	2	300	DBX-4I, DBX-3MH	DBS-0411N420
4	11	43	49	1.5	2.2	2.5	15	25	2	2	300	DBX-6I, DBX-4MH	DBS-0411N515
4	11	41	47	1.5	4	4.5	20	30	2	2	350	DBX-6I, DBX-4MH	DBS-0411N520
5	13	10	14	1	2.2	2.5	10	20	2	2	75	DBX-2I, DBX-SMH	DBS-0513N110
5	13	20	24	1.5	2.2	2.5	15	25	2	2	140	DBX-2I, DBX-1MH	DBS-0513N215
5	13	18	21	1.5	3	3.5	20	30	2	2	140	DBX-2I, DBX-1MH	DBS-0513N220
5	13	27	31	1.5	3	3.5	20	30	2	2	290	DBX-4I, DBX-2MH	DBS-0513N320
5	13	28	32	1.5	2.2	2.5	15	25	2	2	180	DBX-4I, DBX-3MH	DBS-0513N415
5	13	38	48	1.5	3	3.5	20	30	2	2	320	DBX-4I, DBX-3MH	DBS-0513N420
5	13	46	52	1.5	3	3.5	20	30	2	2	380	DBX-6I, DBX-4MH	DBS-0513N520
6	12	10	14	1	2.2	2.5	8	17	2	2	75	DBX-2I, DBX-SMH	DBS-0612N108
6	12	7	10	1	6	7	20	29	2	2	100	DBX-2I, DBX-1MH	DBS-0612N120
6	12	20	24	1.5	2.2	2.5	10	20	2	2	150	DBX-2I, DBX-1MH	DBS-0612N210
6	12	16	20	1.5	3.5	4	20	29	2	2	180	DBX-2I, DBX-1MH	DBS-0612N220
6	12	29	33	1.5	2.2	2.5	15	25	2	2	175	DBX-4I, DBX-2MH	DBS-0612N315
6	12	25	29	1.5	3.5	4	20	29	2	2	250	DBX-4I, DBX-2MH	DBS-0612N320
6	12	40	46	1.5	2.2	2.5	15	25	2	2	225	DBX-4I, DBX-3MH	DBS-0612N415
6	12	34	38	1.5	3.5	4	20	29	2	2	300	DBX-4I, DBX-3MH	DBS-0612N420
6	12	50	58	1.5	2.2	2.5	15	25	2	2	275	DBX-6I, DBX-4MH	DBS-0612N515
6	12	41	46	1.5	3.5	4	20	29	2	2	350	DBX-6I, DBX-4MH	DBS-0612N520
6	18	16	20	1.5	2.7	3	13	23	2	2	140	DBX-2I, DBX-2MH	DBS-0618N213
6	18	10	16	1.5		7.5	23	33	2	2	400	DBX-2I	DBS-0618N223
6	18	10	14	1.5	6	6.5	23	33	2	2	350	DBX-2I	DBS-0618N223
6	18	25	29	1.5	2.5	3	8	18	2	2	190	DBX-4I, DBX-2MH	DBS-0618N308
6	18	20	24	1.5	2.7	3	13	23	2	2	200	DBX-4I, DBX-2MH	DBS-0618N313
6	18	26	30	1.5	2.7	3	15	25	2	2	260	DBX-4I, DBX-2MH	DBS-0618N315
6	18	32	37	1.5	2.7	3	15	25	2	2	320	DBX-4I, DBX-3MH	DBS-0618N415
6	18	28	32	1.5	2.7	3	20	30	2	2	370	DBX-4I, DBX-3MH	DBS-0618N420
6	18	22	26	1.5	6	6.5	23	33	2	2	510	DBX-4I	DBS-0618N423
6	18	38	43	1.5	2.7	3	15	25	2	2	380	DBX-6I, DBX-4MH	DBS-0618N515
6	18	32	37	1.5	2.7	3	20	30	2	2	430	DBX-6I, DBX-4MH	DBS-0618N520
6	18	44	49	1.5	2.7	3	15	25	2	2	440	DBX-6I, DBX-5MH	DBS-0618N615
6	18	50	56	1.5	2.7	3	15	25	2	2	500	DBX-8I, DBX-6MH	DBS-0618N715
6		36	41	1.5	2.7	3	20	30	2	2	450	DBX-6I, DBX-5MH	DBS-0618N620
7	12.4	10	14	1	2.3	2.5	9	19	2	2	75	DBX-2I, DBS-SMH	DBS-0712N109
7	12.4	18	24	1.5	2.3	2.5	10	20	2	2	125	DBX-2I, DBX-1MH	DBS-0712N210
7	12.4	28	32	1.5	2.3	2.5	15	25	2	2	190	DBX-4I, DBX-2MH	DBS-0712N315
7	12.4	22	26	1.5	2.5	3	20	30	2	2	260	DBX-4I, DBX-2MH	DBS-0712N320
7	12.4	32	36	1.5	2.5	3	20	30	2	2	310	DBX-4I, DBX-3MH	DBS-0712N420
7	12.4	38	43	1.5	2.3	2.5	15	25	2	2	315	DBX-6I, DBX-4MH	DBS-0712N515
7	12.4	36	41	1.5	2.5	3	20	30	2	2	350	DBX-6I, DBX-4MH	DBS-0712N520
7	12.4	47	53	1.5	2.3	2.5	15	25	2	2	380	DBX-6I, DBX-5MH	DBS-0712N615
12	18	15	19	1	2.8	3	13	23	2	2	140	DBX-2I, DBX-1MH	DBS-1218N213
12	18	20	25	1.5	2.8	3	13	23	2	2	190	DBX-4I, DBX-2MH	DBS-1218N313
12	18	26	31	1.5	2.8	3	15	25	2	2	260	DBX-4I, DBX-3MH	DBS-1218N415
12	18	32	37	1.5	2.8	3	15	25	2	2	310	DBX-6I, DBX-4MH	DBS-1218N515
12	18	38	43	1.5	2.8	3	15	25	2	2	360	DBX-6I, DBX-5MH	DBS-1218N615
12	18	44	49	1.5	2.8	3	15	25	2	2	410	DBX-8I, DBX-6MH	DBS-1218N715

MEDIUM POWER WIDEBAND 2–18 GHz with Temperature Compensation (-54° to 85°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
0.5	2	18	24	1.5	3.2	3.8	12	22	2	2	180	DBX-4I, DBX-2MH	DBS-0102T312
0.5	2	29	35	1.5	3.2	3.8	12	22	2	2	250	DBX-4I, DBX-3MH	DBS-0102T412
2	8	19	24	4.5	3.7	4	15	25	2	2	200	DBX-4I, DBX-2MH	DBS-0208T315
2	8	28	33	2	3.7	4	15	25	2	2	250	DBX-4I, DBX-3MH	DBS-0208T415
2	8	28	33	2	4	4.5	20	30	2	2	350	DBX-4II, DBX-3MH	DBS-0208T420
2	8	35	40	2	3.7	4	15	25	2	2	320	DBX-6I, DBX-4MH	DBS-0208T515
2	8	35	40	2	4	4.5	20	30	2	2	400	DBX-6I, DBX-4MH	DBS-0208T520
2	18	19	25	2.5	4.5	5.5	9	19	2	2	275	DBX-4I, DBX-2MH	DBS-0218T309
2	18	22	28	2.5	5	5.5	17	27	2	2	400	DBX-4I, DBX-2MH	DBS-0218T317
2	18	26	32	2.5	4.5	5.5	9	19	2	2	325	DBX-4I, DBX-3MH	DBS-0218T409
2	18	22	28	2.5	5.5	6	19	29	2	2	450	DBX-4I, DBX-3MH	DBS-0218T419
4	8	25	30	1.5	3	3.4	10	20	2	2	180	DBX-4I, DBX-2MH	DBS-0408T310
4	8	25	30	1.5	3	3.4	15	25	2	2	250	DBX-4I, DBX-3MH	DBS-0408T415
4	11	20	25	2	4	4.5	15	25	2	2	230	DBX-4I, DBX-2MH	DBS-0411T315
4	11	18	23	2	4.5	5	20	30	2	2	300	DBX-4I, DBX-2MH	DBS-0411T320
4	11	24	29	2	4	4.5	13	23	2	2	250	DBX-4I, DBX-3MH	DBS-0411T413
4	11	27	32	2	4	4.5	15	25	2	2	250	DBX-4I, DBX-3MH	DBS-0411T415
4	11	26	32	2	4.5	5	20	30	2	2	350	DBX-4I, DBX-3MH	DBS-0411T420
4	11	34	40	2	4	4.5	15	25	2	2	325	DBX-6I, DBX-4MH	DBS-0411T513
4	11	34	40	2	4	4.5	15	25	2	2	325	DBX-6I, DBX-4MH	DBS-0411T515
4	11	32	38	2	4.5	5	20	30	2	2	400	DBX-4I, DBX-4MH	DBS-0411T520
5	13	23	27	2	4	4.5	17	27	2	2	220	DBX-6I, DBX-4MH	DBS-0513T417
5	13	27	31	2	4	4.5	20	29	2	2	280	DBX-6I, DBX-4MH	DBS-0513T520
5	13	33	38	2	4	4.5	20	29	2	2	340	DBX-6I, DBX-5MH	DBS-0513T620
6	18	25	29	2.25	4	4.3	15	25	2	2	400	DBX-8I, DBX-6MH	DBS-0513T720
6	12	25	29	2	3.5	4	20	30	2	2	350	DBX4I, DBX-3MH	DBS-0612T420
6	12	31	36	2	3.5	4	20	30	2	2	400	DBX-6I, DBX-4MH	DBS-0612T520
6	12	41	46	2	3.5	4	20	30	2	2	450	DBX-6I, DBX-5MH	DBS-0612T620
6	18	25	29	2.25	4	4.3	15	25	2	2	350	DBX-6I, DBX-4MH	DBS-0618T515
6	18	29	34	2.25	3.5	4	18	28	2	2	370	DBX-6I, DBX-5MH	DBS-0618T618
6	18	29	33	2.25	3.5	4	20	30	2	2	490	DBX-6I, DBX-6MH	DBS-0618T620
6	18	39	44	2.25	4	4.3	15	25	2	2	450	DBX-8I, DBX-6MH	DBS-0618T715
6	18	35	40	2.25	3.5	4	18	28	2	2	450	DBX-8I, DBX-6MH	DBS-0618T718
6	18	39	44	2.25	3.5	4	20	30	2	2	550	DBX-8I, DBX-6MH	DBS-0618T720
7	12.4	17	21	2	3.5	3.8	15	25	2	2	230	DBX-4I, DBX-2MH	DBS-0712T315
7	12.4	24	28	2	3.5	3.8	15	25	2	2	300	DBX-4I, DBX-3MH	DBS-0712T415
7	12.4	25	29	2	3.5	4	20	30	2	2	350	DBX-4I, DBX-3MH	DBS-0712T420
7	12.4	30	35	2	3.5	3.8	15	25	2	2	330	DBX-6I, DBX-4MH	DBS-0712T515
7	12.4	31	36	2	3.5	4	20	30	2	2	400	DBX-6I, DBX-4MH	DBS-0712T520
7	12.4	36	41	2	3.5	3.8	15	25	2	2	370	DBX-6I, DBX-5MH	DBS-0712T615
7	12.4	41	46	2	3.5	4	20	30	2	2	450	DBX-6I, DBX-5MH	DBS-0712T620
7	12.4	42	48	2	3.5	3.8	15	25	2	2	450	DBX-8I, DBX-6MH	DBS-0712T715
12	18	20	25	1.5	3.7	4	12	22	2	2	290	DBX-4I, DBX-3MH	DBS-1218T412
12	18	25	30	1.5	3.7	4	15	25	2	2	350	DBX-6I, DBX-4MH	DBS-1218T515
12	18	30	36	1.5	3.7	4	15	25	2	2	440	DBX-6I, DBX-5MH	DBS-1218T615
12	18	36	44	1.5	3.7	4	18	28	2	2	510	DBX-8I, DBX-6MH	DBS-1218T718
12	18	42	50	1.5	3.7	4	18	28	2	2	570	DBX-8I, DBX-7MH	DBS-1218T818

NOTES

- The amplifiers listed above include an internal voltage regulator with input voltage of +12.0 VDC to +15.0 VDC.
- Maximum RF input power is +20 dBm (CW) or 30 dBm pulse, 1 microsecond and 1% duty cycle.
- RF connectors are SMA.

Medium Power Narrow Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Internally Regulated with Single +12.0 VDC to
- +15.0 VDC Input
- Hermetic Packages with SMA Female Connectors
- Optional Temperature Compensation
- Additional Configuration and Custom Components are Available

MEDIUM POWER NARROWBAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
2.8	3.3	28		0.5		2	12	22	2	2	175	DBX-4I, DBX-2MH	DBS-3328N312
2.8	3.3	30		0.5		2	20	30	2	2	275	DBX-4I, DBX-2MH	DBS-3328N420
3	3.5	28		0.5		2	12	22	2	2	175	DBX-4I, DBX-2MH	DBS-3530N312
3	3.5	30		0.5		2	20	30	2.2	2	275	DBX-4I, DBX-2MH	DBS-3530N420
3.7	4.2	28		0.5		2	12	22	2	2	175	DBX-4I, DBX-2MH	DBS-4237N312
3.7	4.2	30		0.5		2	20	30	2	2	275	DBX-4I, DBX-2MH	DBS-4237N420
4.4	5	28		0.5		2	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-5044N310
4.4	5	28		0.5		2	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-5044N420
5.4	5.9	28		0.5		2	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-5954N310
5.4	5.9	28		0.5		2	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-5954N420
5.9	6.4	28		0.5		2	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-6459N310
5.9	6.4	28		0.5		2	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-6459N420
7.25	7.75	28		0.5		2	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-7772N310
7.25	7.75	28		0.5		2	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-7772N420
7.9	8.4	28		0.5		2	10	20	2	2	150	DBX-4I, DBX-2MH	DBS-8479N310
7.9	8.4	30		0.5		2	20	30	2	2	350	DBX-4I, DBX-2MH	DBS-8479N420
18.1	18.6	30	33	0.5		3	23	33	2	2	650	DBX-6I, DBX-3MH	DBS-1819N423

NOTES

- The amplifiers listed above include an internal voltage regulator with input voltage of +12.0 VDC to +15.0 VDC.
- Maximum RF input power is +20 dBm (CW) or 30 dBm pulse, 1 microsecond and 1% duty cycle.
- RF connectors are SMA.

High Power Wide Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Multiple Gain and P1 dB Ranges
- Internally Regulated with Single +12.0 VDC to +15.0 VDC Input
- Hermetic Packages with SMA Female Connectors
- Optional Temperature Compensation
- Additional Configuration and Custom Components are Available
- High temperature protection a built-in option

HIGH POWER WIDE BAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
0.5	2	40	50	2		4	33	43	2	2	1500	DBX-4P	DBP-0102N533
0.5	2	23	28	1.5		4	24	34	2	2	350	DBX-2I	DBS-0102N224
0.5	2	30	40	2		4	30	40	2.2	2.2	900	DBX-4I	DBS-0102N430
2	6	30	38	2		7	33	43	2.2	2.2	2200	DBX-4P	DBP-0206N533
2	6	35	42	1.5		6	30	40	2	2	1300	DBX-6I	DBS-0206N530
2	8	30	38	2		5.5	33	41	2	2	2200	DBX-4P	DBP-0208N533
2	8	32	38	1.5		4	27	37	2	2	900	DBX-6I	DBS-0208N527
2	18	30	36	2		5.5	27	35	2	2.5	1700 Typ.	DBXN-6P	DBM-0218N427
2	18	30	36	2		5	23	31	2	2.2	1000	DBXN-6	DBM-0218N623
2	18	38	44	2		5	25	33	2	2.5	1600 Typ.	DBXN-6	DBM-0218N625
2	18	34	41	2		5.5	27	35	2	2.5	1800 Typ	DBXN-6P	DBM-0218N627
2	18	30	36	2		5	27	35	2	2	1700 Typ.	DBX-7P	DBP-0218N427
2	18	34	41	2		5	27	35	2	2	1800 Typ.	DBX-7P	DBP-0218N627
2	18	38	45	2		5	25	33	2	2	1600 Typ.	DBX-6I	DBS-0218N625
4	11	32	38	1.5		6	27	37	2	2	950	DBX-4I, DBX-3MH	DBS-0411N427
4	11	40	45	1.5		6	27	37	2	2	1050	DBX-6I, DBX-4MH	DBS-0411N527
4	11	39	45	1.5		7.5	30	40	2	2	1250	DBX-6I, DBX-4MH	DBS-0411N630
6	12	30	35	2		5.5	33	41	2	2	1800	DBX-7P	DBP-0612N633
6	12	32	38	2		5.5	27	37	2	2	1100	DBX-6I	DBS-0612N527
6	12	42	48	2		5.5	27	37	2	2	1200	DBX-6I	DBS-0612N627
6	12	35	41	2		5.5	30	38	2	2	1250	DBX-6I	DBS-0612N630
6	18	26	34	2		8	30	40	2	2	1800 Typ.	DBX-7P	DBP-0618N630
6	18	34	42	2		8	30	40	2	2	2000 Typ.	DBX-7P	DBP-0618N830
6	18	42	50	2		8	30	40	2	2	2200 Typ.	DBX-7P	DBP-0618N930
6	18	32	40	2		6.5	27	37	2	2	1200	DBX-6I	DBS-0618N627
6	18	40	48	2		6.5	27	37	2	2	1300	DBX-6I	DBS-0618N727
8	12	48	54	2		5.5	30	40	2	2	2000	DBX-7P	DBP-0812N730
8	12	40	46	2		6.5	33	43	2	2	2200 Typ.	DBX-7P	DBP-0812N733
8	12	44	50	1.5		5.5	28	38	2	2	1200	DBX-8I	DBS-0812N528

NOTES

- The amplifiers listed above include an internal voltage regulator with input voltage of +12.0 VDC to +15.0 VDC. Maximum RF input power is +20 dBm (CW) or 30 dBm pulse, 1 microsecond and 1% duty cycle.
- RF connectors are SMA.

High Power Narrow Band Amplifiers

0.5 GHz TO 18 GHz

Features

- Internally Regulated with Single +12.0 VDC to +15.0 VDC Input
- Hermetic Packages with SMA Female Connectors
- Optional Temperature Compensation
- Additional Configuration and Custom Components are Available

HIGH POWER NARROW BAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
2	2.5	30	36	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-2520N427
2	2.5	40	48	0.5		4	30	40	2	2	1100	DBX-6I, DBX-4MH	DBS-2520N530
2.5	3	30	38	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-3025N427
2.5	3	40	48	0.5		4	30	40	2	2	1100	DBX-6I, DBX-4MH	DBS-3025N530
2.8	3.3	28	33	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-3328N427
2.8	3.3	30	36	0.5		4	30	40	2	2	1100	DBX-6I, DBX-4MH	DBS-3328N530
3	3.5	30	36	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-3530N427
3	3.5	30	36	0.5		4	30	40	2	2	1100	DBX-6I, DBX-4MH	DBS-3530N530
3.7	4.2	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-4237N637
3.7	4.2	35	45	1		6	39	49	2	2	5000	DBX-IMPI	DBH-4237N639
3.7	4.2	30	36	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-4237N427
3.7	4.2	30	36	0.5		4	30	40	2	2	1100	DBX-6I, DBX-4MH	DBS-4237N530
4.4	5	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-5044N637
4.4	5	28	33	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-5044N427
4.4	5	28	33	0.5		4	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-5044N530
4.4	5	28	33	0.5		4	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-5044N530
5.4	5.9	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-5954N637
5.4	5.9	28	33	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-5954N427
5.4	5.9	28	33	0.5		4	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-5954N530
5.9	6.4	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-6459N637
5.9	6.4	28	33	0.5		4	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-6459N427
5.9	6.4	28	33	0.5		4	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-6459N530

NOTES

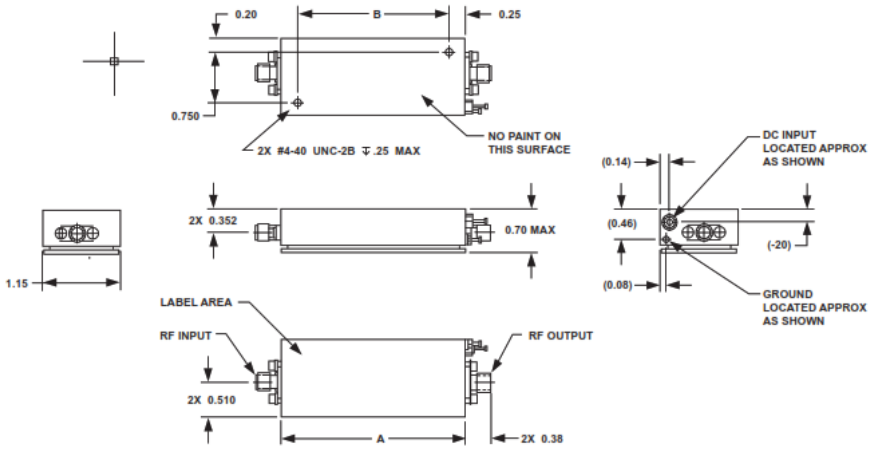
- The amplifiers listed above include an internal voltage regulator with input voltage of +12.0 to +15.0 VDC.
- Maximum RF input power is +20 dBm (CW) or 30 dBm pulse, 1 microsecond and 1% duty cycle.
- RF connectors are SMA.

HIGH POWER NARROW BAND 2–18 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
7.25	7.75	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-7772N637
7.25	7.75	28	33	0.5		3	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-7772N427
7.25	7.75	28	33	0.5		3	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-7772N530
7.25	7.75	28	33	0.5		3	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-7772N530
7.9	8.4	35	45	1		6	37	47	2	2	3750	DBX-IMPI	DBH-8479N637
7.9	8.4	28	33	0.5		3	27	37	2	2	750	DBX-4I, DBX-2MH	DBS-8479N427
9	10	30	40	0.5		3	27	37	2	2	750	DBX-4I, DBX-3MH	DBS-0910N427
9	10	30	40	0.5		3	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-0910N530
9.5	10.5	35	45	1		6	37	47	2	2	3900	DBX-IMPI	DBH-0910N637
9.5	10.5	35	45	1		6	39	49	2	2	5000 Typ.	DBX-IMPI	DBH-0910N639
10.7	11.7	35	45	1		6	37	47	2	2	3900 Typ.	DBX-IMPI	DBH-1011N637
10.7	11.7	30	40	0.5		3	27	37	2	2	950	DBX-4I, DBX-2MH	DBS-1011N427
10.7	11.7	30	40	0.5		3	30	40	2	2	1200	DBX-6I, DBX-4MH	DBS-1011N530
14	14.5	30	40	0.5		3	27	37	2	2	950	DBX-6I, DBX-3MH	DBS-1415N427
14	14.5	35	45	1		6	37	47	2	2	3900 Typ.	DBX-IMPI	DBH-1415N637
14	14.5	35	45	1		6	39	49	2	2	5000 Typ.	DBX-IMPI	DBH-1415N639
14	14.5	30	40	0.5		3	30	40	2	2	1200	DBX-7P	DBP-1415N530
16	17	30	40	0.5		3	27	37	2	2	950	DBX-6I, DBX-3MH	DBS-1617N427
16	17	30	40	0.5		3	30	40	2	2	1800	DBX-7P	DBP-1617N530
18.1	18.6	30	36	1	5.8	6	25	33	2	2	900	DBX-6I, DBX-3MH	DBS-1819N425
18.1	18.6	30	36	1	5.8	6	27	34	2	2	950	DBX-6I, DBX-3MH	DBS-1819N427
18.1	18.6	30	36	1	5.8	6	30	37	2	2	2000	DBX-7P	DBP-1819N530

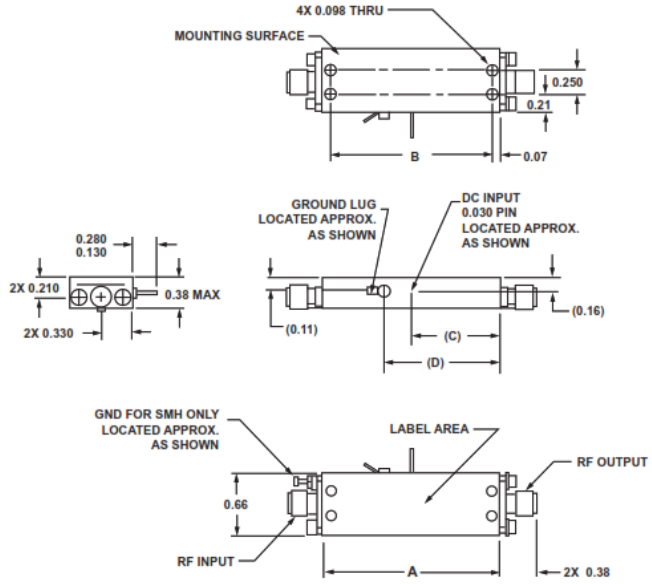
DBX I SERIES

CASE	"A" DIM	"B" DIM
DBX-2I	1.25	0.750
DBX-4I	1.75	1.250
DBX-6I	2.25	1.750
DBX-8I	2.75	2.250
DBX-10I	3.25	2.750
DBX-12I	3.75	3.250



DBX MH SERIES

CASE	"A" DIM	"B" DIM	"C" DIM	"D" DIM
DBX-SMH	0.87	0.728	0.43	---
DBX-1MH	1.12	0.976	0.43	0.68
DBX-2MH	1.36	1.220	0.68	0.93
DBX-3MH	1.60	1.462	0.68	0.93
DBX-4MH	1.85	1.705	0.92	1.17
DBX-5MH	2.09	1.948	0.92	1.17
DBX-6MH	2.33	2.190	1.17	1.41
DBX-7MH	2.57	2.434	1.41	1.66
DBX-8MH	2.82	2.677	1.41	1.66



Millimeter Wave Medium Power Amplifiers

18 GHz TO 45 GHz

Features

- Multiple Gain and P1 dB Ranges
- Internal Voltage Regulation
- Single Bias Input Voltage of +8.0 VDC to +15.0 VDC
- Input Power up to +20 dBm CW
- Small Hermetic Packages
- Choice of Waveguide or K-Female Connectors
- Custom Configurations Available

MILLIMETER WAVE MEDIUM POWER 18–40 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ	Max.	Min.	Typ.	Max.	Max.	Max.		
18	26.5	30	38	1.75	5.5	6	28	N/A	2	2	1000@8V	DBKN-7	DBM-1826N328
18	26.5	30	38	2	5.5	6	30	N/A	2	2	1800@8V	DBN-7	DBM-1826N330
18	26.5	27	35	1.75	6	7	27	37	2.2	2.2	2200	DBK-6P	DBP-1826N827
18	26.5	27	35	1.75	5	6	25.0 Psat	N/A	2.2	2.2	900	DBK-6	DBS-1826N725
18	26.5	27	35	1.75	6	7	25	35	2.2	2.2	1500	DBK-6	DBS-1826N825
18	40	18	26	23.5	6.5	7	24.0 Psat	N/A	2.5	2.5	2200	DBK-4P	DBP-1840N624
18	40	25	33	2.5	6.5	7	24.0 Psat	N/A	2.25	2.5	2200	DBK-6P	DBP-1840N824
20.2	21.2	30	36	1.25	5.8	6	25	35	2	2	900	DBK-6	DBS-2021N625
20.2	21.2	30	36	1.25	5.8	6	27	37	2	2	1500	DBK-6	DBS-2021N627
23.6	26.5	30	36	1.25	5.8	6	27	N/A	2	2	1900	DBK-6P	DBP-2326N627
23.6	26.5	30	36	1.25	5.8	6	25	35	2	2	900	DBK-6	DBS-2326N625
26.5	40	20	28	2	7	8	26.0 Psat	N/A	2.5	2.5	2200	DBK-6P	DBP-2640N526
26.5	40	26	35	2.5	7	8	26.0 Psat	N/A	2.5	2.5	2200	DBK-6P	DBP-2640N626
27	29	30	38	1.5	6.5	7	33	N/A	2	2	3700@8V	DBKN-7	DBM-2729N333
27	31	30	38	1.5	6.5	7	28	N/A	2	2	1000@8V	DBKN-7	DBM-2731N328
27	31	30	38	1.5	6.5	7	30	N/A	2	2	1800@8V	DBKN-7	DBM-2731N330
29	31	30	38	1.5	6.5	7	31	N/A	2	2.2	2200@8V	DBKN-7	DBM-2931N331
33	36	30	38	1.5	7	7.5	29	N/A	2	3	1800@8V	DBKN-7	DBM-3336N329
35.5	40.5	20	28	1.5	8	9	25 Psat	N/A	2.2	2.2	2000	DBK-6P	DBP-3540N625
35.5	40.5	20	28	1.5	8	9	27 Psat	N/A	2.2	2.2	2100	DBK-4P	DBP-3540N627
35.5	40.5	26	374	1.5	8	9	27 Psat	N/A	2.2	2.2	2200	DBK-6P	DBP-3540N727
37	39	30	38	1.5	7	7.5	32	N/A	2	2	3700@8V	DBKN-7	DBM-3739N332
37	40	30	38	1.5	8.5	7.5	30	N/A	2	2	2000@8V	DBKN-7	DBM-3940N330
39	42.5	30	38	1.5	8.5	9	29	N/A	2	2.3	2700@8V	DBKN-7	DBM-3942N329
40.5	42.5	20	26	1.5	8	9	25 Psat	N/A	2.5	2.5	2200	DBK-6P	DBP-4042N825

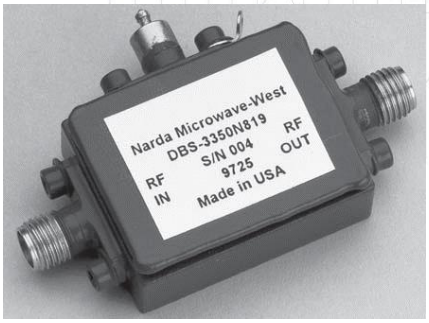
NOTES

- All amplifiers are sealed in hermetic cases with K-Female, V-Female or Waveguide connectors. All amplifiers have internal negative voltage generation and sequencing circuitry.
- Maximum input voltage is +15.0 VDC. However, Stellant recommends input voltage close to the minimum voltage since higher input voltage creates additional heat that must be dissipated.
- These amplifiers must be properly heatsinked to prevent overheating and damage. Amplifier baseplate must be kept below 65°C.

18 GHz TO 65 GHz

Features

- Wide Bandwidth
- Multiple Gain and P1 dB Ranges
- Internal Voltage Regulation
- Input Voltage +12.0 VDC to +15.0 VDC
- Small Hermetic Packages
- Custom Configuration and Waveguide Connectors are Available



MILLIMETER WAVE MEDIUM POWER 18–60 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
18	26.5	12	17	1	4.5	5	10	20	2.2	2.2	150	DBK-3	DBS-182N210
18	26.5	18	23	1.25	4.5	5	10	20	2.2	2.2	200	DBK-3	DBS-1826N310
18	26.5	28	33	1.5	4.5	5	12	22	2.2	2.2	260	DBK-4	DBS-1926N412
18	26.5	35	41	1.75	4.5	5	12	22	2.2	2.2	310	DBK-6	DBS-1826N512
18	26.5	31	37	1.75	4.5	5	15	25	2.2	2.2	500	DBK-6	DBS-1826N515
18	26.5	28	35	1.75	5		23 Psat	N/A	2.2	2.2	675	DBK-6	DBS-1826N523
18	26.5	41	48	2	4.5	5	12	22	2.2	2.2	390	DBK-6	DBS-1926N612
18	26.5	37	44	2	4.5	5	15	25	2.2	2.2	550	DBK-6	DBS-1826N615
18	26.5	27	35	1.75	5	6	23	33	2.2	2.2	825	DBK-6	DBS-1826N823
18	40	18	26	2.5	6.5	7	18	25	2.5	2.5	2200	DBK-4P	DBP-1840N518
18	40	25	33	2.5	6.5	7	18	25	2.5	2.5	2200	DBK-6P	DBP-1840N618
18	40	20	28	3.5	6	7	22 Psat	N/A	2.5	2.5	1100	DBK-4P	DBP-1840N622
18	40	25	35	3.5	6	7	22 Psat	N/A	2.5	2.5	1400	DBK-6P	DBP-1840N822
18	40	13	19	2	5.5	6	10	20	2.5	2.5	225	DBK-4	DBS-1840N310
18	40	17	24	2	5.5	6	10	20	2.5	2.5	300	DBK-4	DBS-1840N410
18	40	17	24	2.5	5.5	6	13	23	3	3	450	DBK-4	DBS-1840N413
18	40	18	26	3.5	6.5	7	20 Psat	N/A	2.5	2.5	550	DBK-4	DBS-1840N420
18	40	20	28	2.5	5.5	6	10	20	2.5	2.5	375	DBK-6	DBS-1840N510
18	40	24	32	3	5.5	6	10	20	2.5	2.5	450	DBK-6	DBS-1840N610
18	40	25	35	3.5	6	7	20 Psat	N/A	2.5	2.5	700	DBK-6	DBS-1840N620
18	40	28	38	3.5	5.5	6	13	23	2.5	2.5	600	DBK-8	DBS-1840N713
18	40	34	44	3.5	5.5	6	13	23	2.5	2.5	675	DBK-8	DBS-1840N813
20.2	20.2	21.2	30	1		2.3	10	20	2	2	225	DBK-6	DBS-2021N410
20.2	21.2	25	28	1		3.5	17	27	2	2	285	DBK-4	DBS-2021N417
20.2	21.2	32	35	1		3.5	20	30	2	2	425	DBK-6	DBS-2021N620
20.2	21.2	30	33	1		4	23	33	2	2	525	DBK-6	DBS-2021N623
21.5	22.5	28	33	1	2.3	2.5	10	20	2	2	215	DBK-4	DBS-2122N410
21.5	22.5	25	30	1	2.3	2.5	17	27	2	2	285	DBK*4	DBS-2122N417

MILLIMETER WAVE MEDIUM POWER 18–60 GHz without Temperature Compensation (25°C)

Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
21.5	22.5	32	37	1	2.3	2.5	20	30	2	2	425	DBK-6	DBS-2122N620
23	24	30	35	1	2.3	2.5	10	20	2	2	225	DBK-6	DBS-2324N410
23.6	26.5	28	33	1.25	2.6	2.9	10	20	2	2	215	DBK-4	DBS-2326N410
23.6	26.5	25	30	1.25	2.6	2.9	17	27	2	2	285	DBK-4	DBS-2326N417
23.6	26.5	32	37	1.25	2.6	2.9	20	30	2	2	425	DBK-6	DBS-2326N620
26	31.5	20	25	1.5	6	6.5	22	32	2.2	2.2	750	DBK-4	DBS-2631N622
26.5	40	26	35	2.5	7	8	20	30	2.5	2.5	2200	DBK-6P	DBP-2640N520
26.5	40	26	35	2.5	7	8	20	30	2.5	2.5	2200	DBK-6P	DBP-2640N620
26.5	40	26	35	2.5	7	8	23 Psat	N/A	2.5	2.5	1100	DBK-6P	DBP-2640N823
26.5	40	15	20	2	6.5	7	6	16	2.5	2.5	225	DBK-3	DBS-2640N306
26.5	40	20	26	2	6	6.5	10	20	2.5	2.5	300	DBK-4	DBS-2640N410
26.5	40	20	28	2.5	7	8	20 Psat	N/A	2.5	2.5	550	DBK-4	DBS-2640N420
26.5	40	25	32	2	6	6.5	10	20	2.5	2.5	375	DBK-6	DBS-2640N510
26.5	40	30	37	2.5	6	6.5	10	20	2.5	2.5	450	DBK-6	DBS-2640N610
26.5	40	28	35	2.5	6.5	7	13	23	2.5	2.5	600	DBK-6	DBS-2640N613
32	38	22	26	1	3.5	4	10	20	2	2	275	DBK-4	DBS-3238N410
32	38	23	30	1.5	7.5	8.5	20 Psat	N/A	2.2	2.2	500	DBK-6	DBS-3238N520
33	50	18	24	2	8	9	10	20	2.5	2.5	400	DBV-4	DBS-3350N410
33	50	20	28	2.5	8	9	16 Psat	N/A	2.5	2.5	600	DBV-6	DBS-3350N616
33	50	20	30	2.5	8	9	19 Psat	N/A	2.5	2.5	800	DBV-6	DBS-3350N819
34	35	30	35	1	2.8	3	10	17	2	2	245	DBK-6	DBS-3435N410
35.5	40.5	20	28	1.5	8	9	23 Psat	N/A	2.2	2.2	1100	DBK-4P	DBP-3540N623
40	60	25	35	3	8	9	17 Psat	N/A	3	3	1800	DBV-5P	DBP-4060N617
40	60	26	36	3	8.5	9.5	10 Psat	N/A	3	3	650	DBV-4	DBS-4060N410
40	60	26	36	3	8.5	9.5	12 Psat	N/A	3	3	800	DBV-4	DBS-4060N412
40	60	25	35	3	8	9	14 Psat	N/A	3	3	950	DBV-4	DBS-4060N514
40.5	42.5	20	26	1.5	7.5	8.5	21 Psat	N/A	2.5	2.5	1500	DBK-6P	DBP-4042N821
40.5	42.5	20	26	1.5	5.5	6.6	13	23	2.5	2.5	350	DBK-4	DBS-4042N413
40.5	42.5	30	36	1	3.5	4	10	17	2.5	2.5	300	DBK-6	DBS-4042N510
42	44	21	29	1	8.5	9	21	N/A	2	2	1200@8V	DBKN-7	DBM-4244N321
43	44	30	35	1.25	3.5	4	10	17	2	2	250	DBK-6	DBS-4344N510
43.5	45.5	20	26	1.5	7.5	8.5	21 Psat	N/A	2.5	2.5	1000	DBK-4P	DBP-4345N821
43.5	45.5	20	28	1.5	7.5	8.5	23 Psat	N/A	2.5	2.5	2000	DBK-6P	DBP-4345N823
43.5	45.5	22	28	1.5	55	6	10	20	2.5	2.5	325	DBV-4	DBS-4345N410
43.5	45.5	20	26	1.5	5	6	13	23	2.5	2.5	350	DBV-4	DBS-4345N413
44	45	30	35	1.25	3.5	4	10	17	2	2	250	DBK-6	DBS-4445N510
57	60	25	35	22.5	8	9	18 Psat	N/A	3	3	1900	DBV-5P	DBP-5760N618
58	59	28	38	1.5		9	13	23	2.5	2.5	1000	DBV-5P	DBP-5859N613
60	65	25	35	3	9	10	15 Psat	N/A	3	3	1800	DBV-5P	DBP-6065N615

MILLIMETER WAVE MEDIUM POWER 18–60 GHz with Temperature Compensation (-54° to 85°C)

Frequency (GHz)		Gain (dB)		Gain Flatness	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR	Output VSWR	Current @ 12V DC	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
18	26.5	12	17	2	5.5	6	12	22	2.2	2.2	400	DBK-6	DBS-1826T512
18	26.5	18	23	2	5	5.5	12	22	2.2	2.2	475	DBK-6	DBS-1826T612
18	26.5	28	33	2	5	5.5	12	22	2.2	2.2	525	DBK-8	DBS-1826T712
18	26.5	35	41	2	5	5.5	12	22	2.2	2.2	575	DBK-8	DBS-1826T812
18	40	31	37	2.5	6.5	7	7	17	2.5	2.5	450	DBK-6	DBS-1840T607
18	40	28	35	2.5	6.5	7	10	20	2.5	2.5	600	DBK-8	DBS-1840T810
26.5	40	41	48	2.5	6.5	7	6	16	2.5	2.5	375	DBK-6	DBS-2640T606
26.5	40	37	44	2.5	6.5	7	6	16	2.5	2.5	450	DBK-8	DBS-2640T706
26.5	40	27	35	2.5	6.5	7	6	16	2.5	2.5	525	DBK-8	DBS-2640T806

NOTE: All amplifiers are sealed in hermetic cases with K-Female, V-Female or Waveguide connectors.

Millimeter Wave Low Noise Amplifiers

18 GHz TO 40 GHz

Features

- Multiple Gain and P1 dB Ranges
- Internal Voltage Regulation
- Input Voltage of +12.0 VDC to +15.0 VDC
- Small Hermetic Packages
- Custom Configuration and Waveguide Connectors are Available

MILLIMETER WAVE LOW NOISE 18–40 GHz without Temperature Compensation

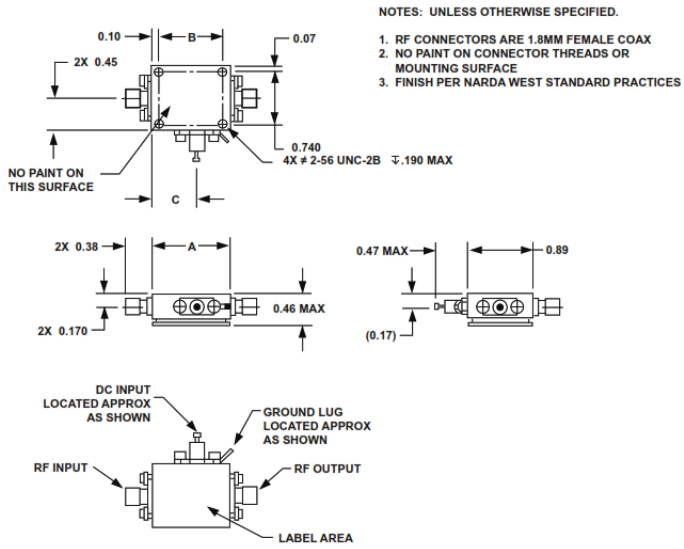
Frequency (GHz)		Gain (dB)		Gain Flatness (+/-)	Noise Figure (dB)		P-1 dB (dBm)	IP3 (dBm)	Input VSWR (50 Ω)	Output VSWR (50 Ω)	Current @ 12V DC (mA)	Case Options	Model Number
Min.	Max.	Min.	Max.	Max.	Typ.	Max.	Min.	Typ.	Max.	Max.	Max.		
18	26.5	22	27	1.25	3.2	3.5	10	20	2.2	2.2	200	DBK-4	DBL-1826N310
18	26.5	27	33	1.25	3.2	3.5	10	20	2.2	2.2	300	DBK-4	DBL-1826N410
18	40	20	28	2	4.5	5	6	16	2.5	2.5	350	DBK-6	DBL-1840N506
26.5	40	20	25	2	4.5	5	10	20	2.5	2.5	250	DBK-4	DBL-2640N410
26.5	40	25	30	2	4.5	5	10	20	2.5	2.5	325	DBK-6	DBL-2640N510
26.5	40	30	35	2	4.5	5	10	20	2.5	2.5	400	DBK-6	DBL-2640N610

NOTES

- Maximum RF input power is +17 dBm (CW) or 27 dBm pulse, 1 microsecond and 1% duty cycle.
- RF connector options for all models on the above table are K-Female, V-Female and Waveguide.

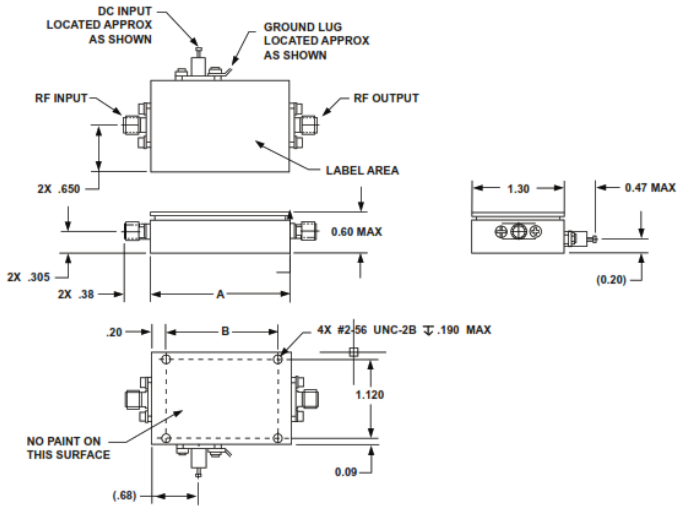
DBK SERIES, COAX CONNECTOR (FEMALE SMA + COMPATIBLE)

CASE	"A" DIM	"B" DIM	"C" DIM	"D" DIM
DBK-3	0.98	0.578	(0.49)	0.20
DBK-4	1.18	0.777	(0.59)	0.20
DBK-6	1.58	1.175	(0.99)	0.20
DBK-8	1.97	1.573	(1.39)	0.20
DBK-10	2.37	1.971	(1.79)	0.20

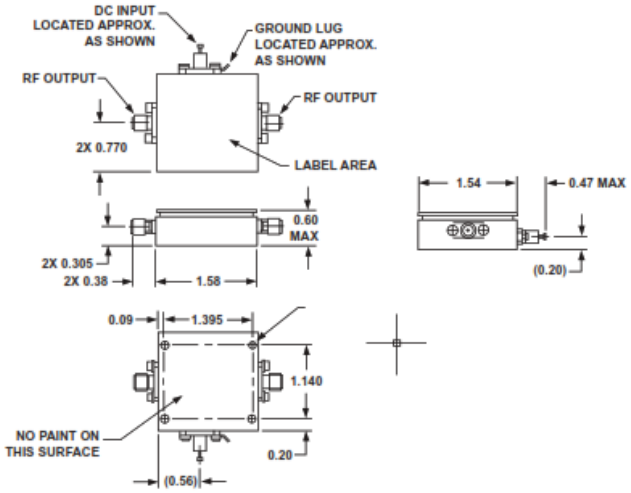


DBK-P SERIES, COAX CONNECTOR (FEMALE SMA + K COMPATIBLE)

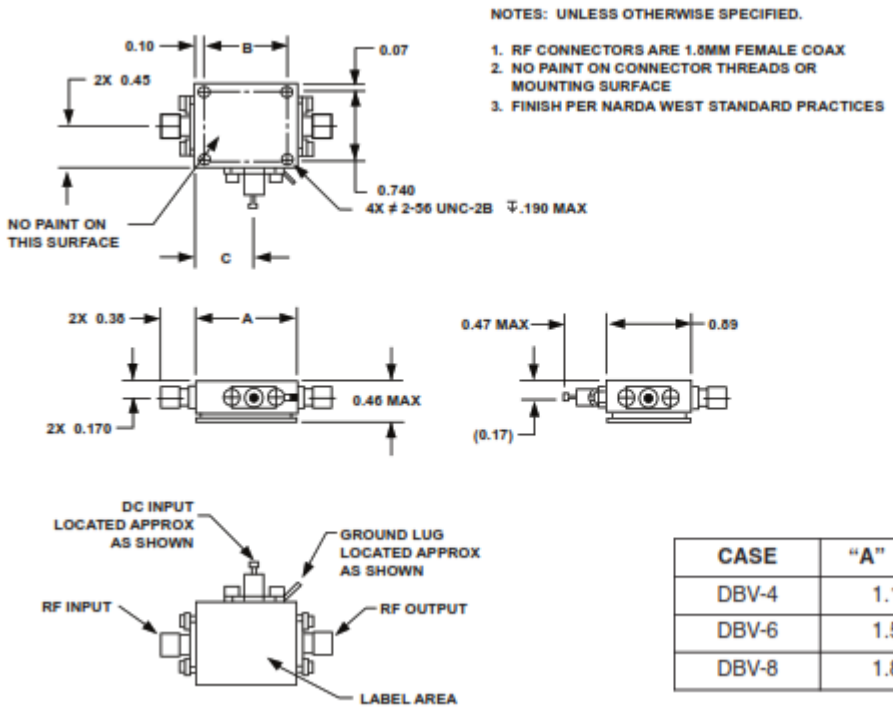
CASE	"A" DIM	"B" DIM
DBK-6P	1.97	1.573
DBK-8P	2.37	1.971
DBK-10P	2.77	2.369



DBK-4P SERIES, COAX CONNECTOR (FEMALE SMA + K COMPATIBLE)



DBV SERIES, COAX CONNECTOR



CASE	"A" DIM	"B" DIM	"C" DIM
DBV-4	1.10	0.897	(0.64)
DBV-6	1.50	1.295	(1.03)
DBV-8	1.89	1.694	(1.30)

NOTES

- Waveguide connector options are available and/or included in install drawings.

Low Noise Amplifiers 4-12 GHz

NWL-0412N405

Features

- Low Noise Figure: 1.2 typical
- Broad Bandwidth: 4–12 GHz, 1 1/2 Octaves
- Excellent VSWR: < 1.8:1 typical
- High Gain: 40 dB typical
- Gain Flatness: < 1dB pp typical
- Single Supply Operation: 12 VDC
- Low Current Consumption: 225 mA typical
- Hermetically Sealed
- Wide Operating Temperature Range: -54° to +95°C

DESCRIPTION

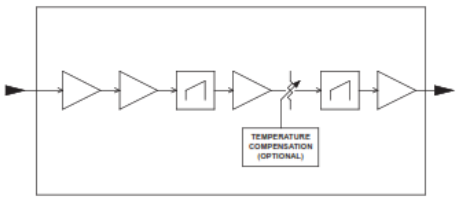
The NWL-0412N405, Stellant's LNA is a wide band, low noise, high gain MIC amplifier housed in a hermetically sealed, aluminum housing. It includes four stages of balanced amplifier gain stages integrated with a gain equalization network and linear voltage regulator. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations. Gain Equalization can be provided with positive, negative or flat gain vs. frequency responses.

The NWL-0412N405 is well suited for a variety of receiver applications such as front end LNA, buffer AMP, IF amplifier, or for test equipment or general laboratory use. It can be used in any application where low noise, high bandwidth, high gain and low power consumption are critical.

The NWL-0412N405 is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is suitable for use in military, space, and commercial applications.

This product is 100% RF tested to ensure compliance to performance specifications.

FUNCTIONAL SCHEMATIC



I/O Configuration
Input connector: SMA-Female
Output connector: SMA-Female
DC: Solderable pins for V_{Supply} and ground

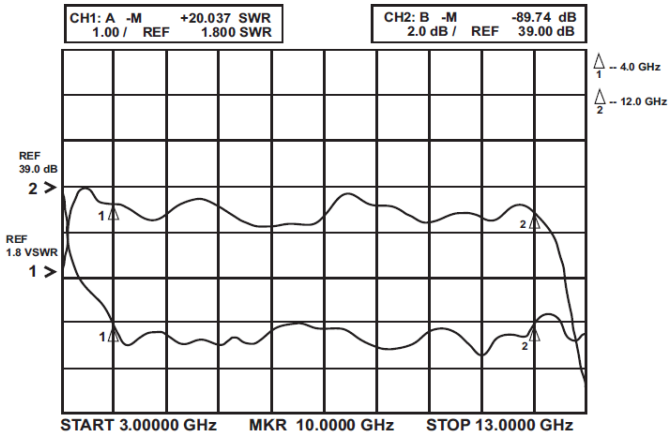
Absolute Maximum Ratings

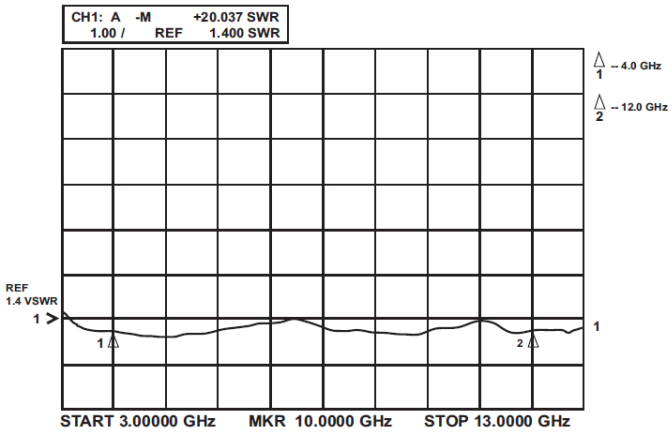
Parameter	Absolute Rating
V_{Supply}	20
Input power	+15 dBm
Junction Temperature	150°C
Operating Temperature	-54° to +125°C
Storage Temperature	-65° to +150°C

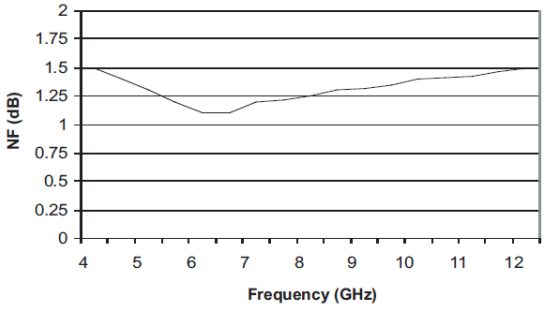
Electrical Specifications: Ta=25°C, V Supply=12 VDC, Zo=50 ohms

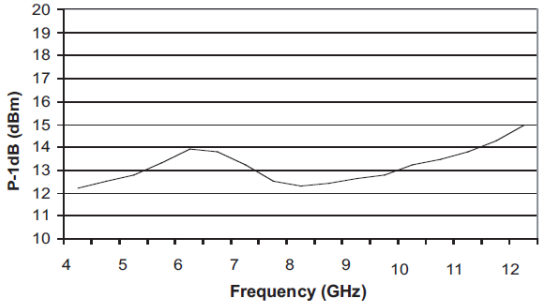
Parameter	Test Conditions	Units	Min	Typical	Max
Gain	4.0–12.0 GHz, -40 dBm in	dB	35	40	45
Noise Figure	4.0–12.0 GHz	dB	-	1.2	1.5
Input VSWR	4.0–12.0 GHz, -40 dBm in	-	-	1.60:1	1.80:1
Output VSWR	4.0–12.0 GHz, -10 dBm in	-	-	1.25:1	1.50:1
Output Power @ 1dB Gain Compression	4.0–12.0 GHz	dBm	+5	+10	-
IP3	4.0–12.0 GHz, -40 dBm in	dBm	+11	+13	-
Bias Current	-	mA	-	225	250

Typical Performance Curves



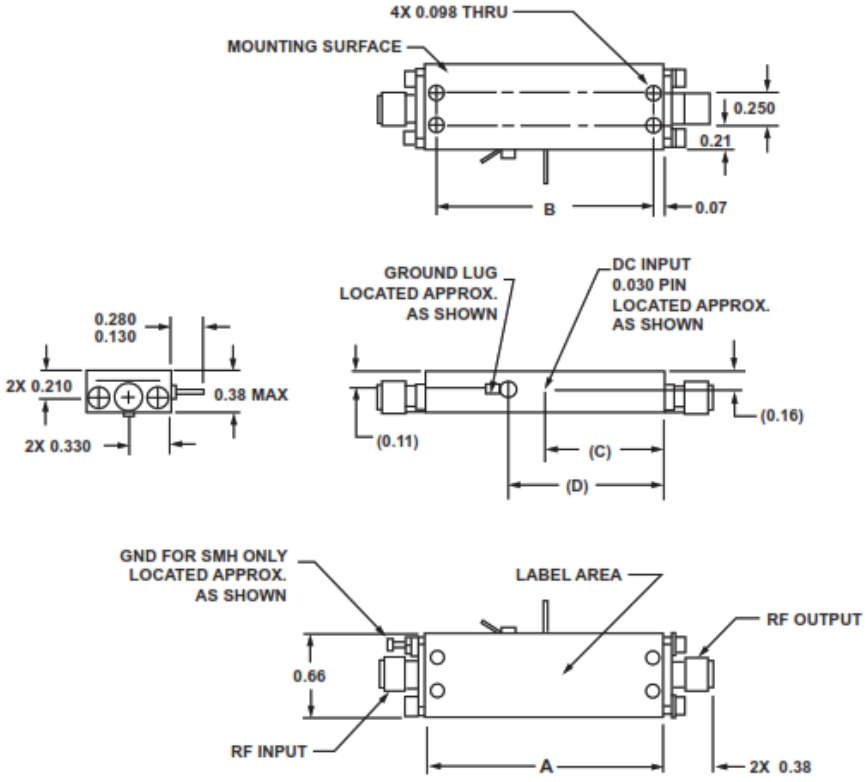






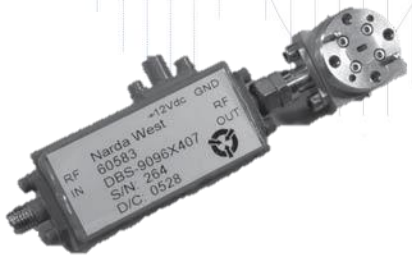
Installation Drawings

CASE	"A" DIM	"B" DIM	"C" DIM	"D" DIM
DBX-6MH	2.33	2.190	1.17	1.41



Active Multipliers

NWL-0412N405



Features

- Superior Fundamental & Harmonic Suppression
- X2, X3, X4 Configurations
- Wide Bandwidths
- Excellent Conversion Gain Flatness
- Small Hermetic Packages with (SMA, K, or V Female or Waveguide)

Active Multipliers (25°C)

Input Frequency (GHZ)		Output Frequency (GHZ)		Multiplier	Pout (dBm)	Signal Purity (dBc)	Current (mA)	Case Option	Model Number
Min.	Max.	Min.	Max.		Min.	Max.	Max.		
2.62	3.13	10.48	12.52	X4	20	-10	350	DBX-6I	DBS-1012X420
3.5	4	14	16	X4	20	-15	475	DBX-8I	DBS-1416X420
4.25	5.25	8.5	10.5	X2	20	-10	400	DBX-6I	DBS-0810X220
4.37	4.88	17.48	19.52	X4	20	-20	475	DBX-8I	DBS-1719X420
4.62	5.13	18.48	20.52	X4	20	-20	475	DBX-8I	DBS-1820X420
5.25	5.75	21	23	X4	20	-20	475	DBK-10	DBS-2123X420
5.25	6.25	10.5	12.5	X2	20	-20	400	DBX-6I	DBS-1012X220
6.5	10	26	40	X4	15	-20	600	DBK-10M	DBS-2640X415
6.5	10	26	40	X4	20	-20	750	DBK-10M	DBS-2640X420
6.87	7.38	27.48	29.52	X4	17	-20	500	DBK-10	DBS-2729X417
7	8	14	16	X2	20	-20	450	DBX-8I	DBS-1416X220
8.25	12.5	33	50	X4	10	-20	600	DBKV-8	DBS-3350X410
8.25	12.5	33	50	X4	10	-20	600	DBKV-8	DBS-3350X410
8.75	9.75	17.5	19.5	X2	20	-20	500	DBX-8I	DBS-1719X220
9	13.25	18	26.5	X2	20	-20	450	DBK-6	DBS-1826X220
10	15	40	60	X4	10	-20	750	DBKV-8	DBS-4060X410
10.75	11.5	43	46	X4	13	-20	600	DBKV-8	DBS-4346X413
12.33	13.33	37	40	X3	17	-20	500	DBK-6	DBS-3740X317
13.25	20	26.5	40	X2	18	-20	425	DBK-8	DBS-2640X218
13.25	20	26.5	40	X2	20	-20	575	DBK-8	DBS-2640X220
13.33	14.33	40	43	X3	15	-20	500	DBK-6	DBS-4043X315
14.33	15.33	43	46	X3	13	-20	500	DBKV-6	DBS-4346X313
15	16	45	48	X3	10	-20	500	DBKV-6	DBS-4548X310
16.5	25	33	50	X2	13	-20	500	DBKV-6	DBS-3350X213
17.5	20	70	80	X4	7 typ./5 min.	-20	600	Special*	DBS-7080X407
20	30	40	60	X2	10	-20	650	DBKV-6	DBS-4060X210
22.5	24	90	96	X4	7 typ./5 min.	-20	600	Special*	DBS-9096X407

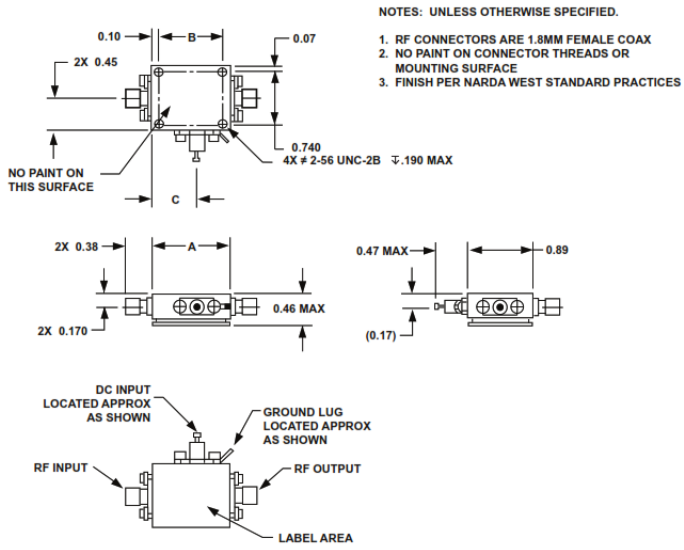
NOTES

- The multipliers listed above include an internal voltage regulator with input voltage of +12.0 VDC to +15.0 VDC.
- Maximum RF input power is +20 dBm (CW) or 30 dBm pulse, 1 microsecond and 1% duty cycle.

Installation Drawings

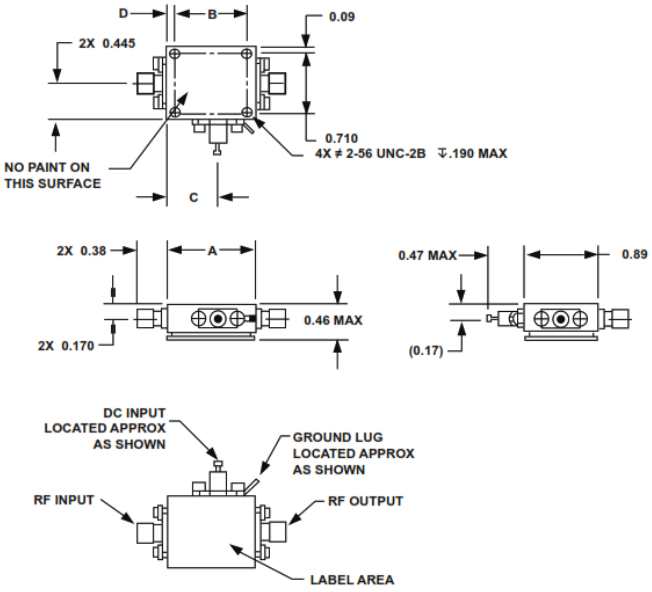
DBK V SERIEs FOR ACTIVE MULTIPLIERS

CASE	"A DIM	"B" DIM	"C" DIM"
DBK V-6	1.50	1.295	(0.95)
DBK V-8	1.89	1.694	(1.35)



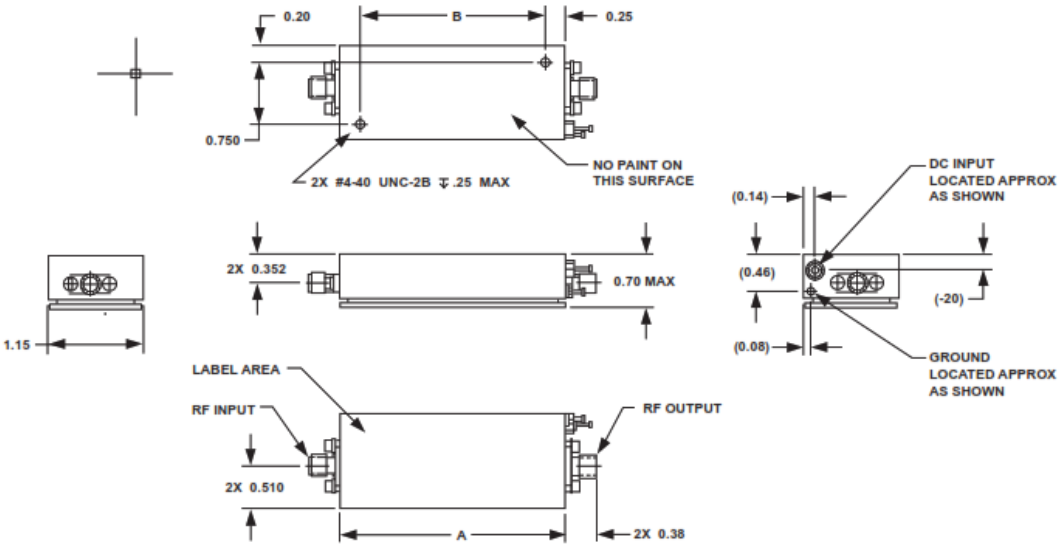
DBK-P SERIES, COAX CONNECTOR (FEMALE SMA + K COMPATIBLE)

CASE	"A" DIM	"B" DIM	"C DIM	"D" DIM
DBK-3	0.98	0.578	(0.49)	0.20
DBK-4	1.18	0.777	(0.59)	0.20
DBK-6	1.58	1.175	(0.99)	0.20
DBK-8	1.97	1.573	(1.39)	0.20
DBK-10	2.37	1.971	(1.79)	0.20



DBX I SERIES

CASE	"A" DIM	"B" DIM
DBX-2I	1.25	0.750
DBX-4I	1.75	1.250
DBX-6I	2.25	1.750
DBX-8I	2.75	2.250
DBX-10I	3.25	2.750
DBX-12I	3.75	3.250



Amplifiers Ordering Information

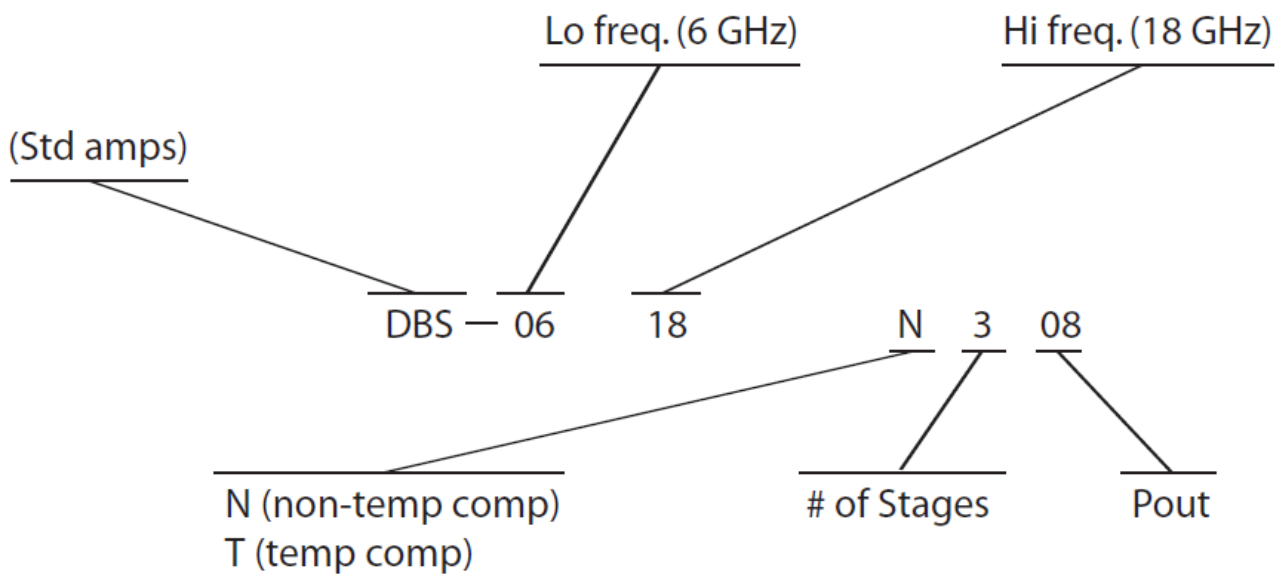
FINDING THE INFORMATION YOU NEED... QUICKLY!

For a standard amplifier requirement you can make a selection from the many product families listed in this catalog. However, Stellant can provide custom design amplifiers for special requirements.

By looking at Stellant's standard part number you can quickly identify the frequency range, Pout, number of gain stages and if the amplifier is with or without temperature compensation, as shown below:

DBQ (Super Mini Case Amps) or NWQ (Super Mini Case Amps) DBM (Std MMIC Power Amps) or NWM (Std MMIC Power Amps) DBP (Std Power Amps) or NWP (Std power Amps)

DBL (Std Low Noise Amps) or NWL (Std Low Noise Amps) DBS (Std Amps) or NMW (Std Amps)



When applicable, please indicate case option by adding the following letter to the PIN, as follows:

- I for In line Case.
- MH for mini case shipped with removable SMA connectors. (for end use requiring SMA connectors)
- SMA connectors (for end use requiring SMA connectors)

Where * indicates case length and the letter indicates case style.

HP/ AVANTEK Replacement Amplifiers

0.5–2 GHz AMPLIFIER DFT/DWT-2000's SERIES

Guaranteed @ +25°C	0.5–2 GHz Amplifiers without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1Db (dBm)	Gain Flatness (+/-dB)	IP3 (dPm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Typ.	Min.	Typ./Max	Min.	Max	Typ.	Max.	Typ.	
DFT-2031	0.5-2	10	10.5	3.3/3.5	11	0.5	21	2.0/2.0	60	1MH
DFT-2032	0.5-2	20	21	3.5/3.7	13	0.7	23	2.0/2.0	120	1MH
DFT-2033	0.5-2	30	32	3.5/3.7	13	1	23	2.0/2.0	180	2MH
DFT-2034	0.5-2	40	42	3.5/3.7	13	1.5	23	2.0/2.0	250	2MH
DFT-2061	0.5-2	10	10.5	4.5/5.0	20	0.5	30	2.0/2.0	180	1MH
DFT-2062	0.5-2	20	21	3.5/3.7	20	0.7	30	2.0/2.0	250	1MH
DFT-2063	0.5-2	30	32	3.5/3.7	20	1	30	2.0/2.0	300	2MH
DFT-2064	0.5-2	40	42	3.5/3.7	20	1.5	30	2.0/2.0	350	2MH
DWT-2071	0.5-2	10	13	2.1/2.5	11	0.5	21	2.0/2.0	75	2I
DWT-2072	0.5-2	21	26	2.3/2.7	11	0.75	21	2.0/2.0	150	2I
DWT-2073	0.5-2	33	40	2.4/2.8	20	1	30	2.0/2.0	260	4I
DWT-2032	0.5-2	23	27	2.8/3.5	13	1.25	23	2.0/2.0	100	2I
DWT-2033	0.5-2	35	40	2.8/3.5	13	1.25	23	2.0/2.0	160	4I
DWT-2034	0.5-2	47	53	2.8/3.5	13	1.25	23	2.0/2.0	250	4I
DWT-2053	0.5-2	35	40	3.2/3.5	20	1.25	30	2.0/2.0	260	4I
DWT-2054	0.5-2	47	53	3.2/3.5	20	1.25	30	2.0/2.0	310	4I

Guaranteed @-54 to 71°C	0.5–2 GHz Amplifiers with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dPm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Typ.	Min.	Typ./Max	Min.	Max	Typ.	Max.	Typ.	
DWT-2082	0.5-2	19	23	3.6/4.0	13	1.5	23	2.0/2.0	170	4I
DWT-2083	0.5-2	30	34	3.4/3.8	13	1.75	23	2.0/2.0	220	4I
DWT-2084	0.5-2	41	46	3.4/3.8	13	2	23	2.0/2.0	260	6I
DWT-2042	0.5-2	19	23	4.5/4.7	13	1.5	23	2.0/2.0	150	4I
DWT-2043	0.5-2	30	34	4.2/4.5	13	1.75	23	2.0/2.0	200	4I
DWT-2044	0.5-2	41	46	4.2/4.5	13	2	23	2.0/2.0	250	6I
DWT-2063	0.5-2	30	34	4.2/4.5	20	1.75	30	2.0/2.0	275	4I
DWT-2064	0.5-2	41	46	4.2/4.5	20	2	30	2.0/2.0	325	6I

2–4 GHz AMPLIFIER DFT/DMT/DWT-4000's SERIES

Guaranteed @ +25°C	HP/Avantek 2–4 GHz Amplifier Replacements without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./Max	Min.	Max	Typ.	Max.	Typ.	
DFT-4231	2–4	11.5	12.0	3.6/4.0	13	1.0	23	2.0/2.0	75	1MH
DFT-4232	2–4	23.0	24.0	3.6/4.0	13	1.0	23	2.0/2.0	150	2MH
DFT-4233	2–4	35.0	36.0	3.6/4.0	13	1.0	23	2.0/2.0	225	1MH
DFT-4234	2–4	47.0	48.0	3.6/4.0	13	1.5	23	2.0/2.0	300	2MH
DFT-4261	2–4	10.0	10.5	4.7/5.0	20	1.0	30	2.0/2.0	175	1MH
DFT-4262	2–4	21.5	22.5	3.6/4.0	20	1.0	30	2.0/2.0	225	1MH
DFT-4263	2–4	34.0	35	3.6/4.0	20	1.0	30	2.0/2.0	275	2MH
DFT-4264	2–4	44.5	46.0	3.6/4.0	20	1.5	30	2.0/2.0	325	2MH
DMT-4211	2–4	13.0	16.0	1.2/1.4	9	0.5	19	2.0/2.0	65	2I
DMT-4212	2–4	27.0	33.0	1.2/1.4	13	0.75	23	2.0/2.0	115	2I
DMT-4213	2–4	40.0	45.0	1.2/1.4	20	1.0	30	2.0/2.0	225	4I
DMT-4032	2–4	26.0	30.0	2.0/2.2	12	1.0	22	2.0/2.0	125	2I
DMT-4033	2–4	39.0	44.0	2.0/2.2	20	1.0	30	2.0/2.0	225	4I
DMT-4051	2–4	12.5	15.5	3.3/3.8	20	1.0	30	2.0/2.0	120	2I
DMT-4052	2–4	26.0	30.0	2.3/2.7	20	1.0	30	2.0/2.0	175	2I
DMT-4053	2–4	39.0	44.0	2.3/2.7	20	1.0	30	2.0/2.0	225	4I
DMT-4054	2–4	52.0	58.0	2.3/2.7	20	1.0	30	2.0/2.0	280	4I

Guaranteed @ -54 to 71°C	2–4 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./Max	Min.	Max	Typ.	Max.	Typ.	
DMT-4064	2–4	46	51	3.8	20	2.0	30	2.0/2.0	380	6I
DMT-4083	2–4	34	38	2.9	20	1.75	30	2.0/2.0	330	4I
DMT-4084	2–4	46	51	2.9	20	2.0	30	2.0/2.0	380	6I
DWT-2062	2–4	22	26	5.0	20	1.5	30	2.0/2.0	280	4I

2–6 GHz AMPLIFIER DFT/ DWT-6000's SERIES

Guaranteed @ +25°C	HP/Avantek 2–6 GHz Amplifier Replacements without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DFT-6231	2–6	8.5	9.0	3.3/3.7	10	0.7	20	2.0/2.0	60	1MH
DFT-6232	2–6	18.0	19.0	3.6/4.0	12	1.0	22	2.0/2.0	125	2MH
DFT-6233	2–6	27.5	28.5	3.6/4.0	12	1.0	22	2.0/2.0	200	1MH
DFT-6234	2–6	37.0	38.5	3.6/4.0	12	1.5	22	2.0/2.0	275	2MH
DFT-6261	2–6	7.0	8.0	5.5/6.0	20	0.7	30	2.0/2.0	175	1MH
DFT-6262	2–6	15.0	16.0	6.0/6.5	20	1.0	30	2.0/2.0	300	1MH
DFT-6263	2–6	24.5	26.0	5.0/5.5	20	1.0	30	2.0/2.0	350	2MH
DFT-6264	2–6	33.5	35.0	4.5/5.0	20	1.5	30	2.0/2.0	400	2MH
DMT-6032	2–6	19	23	3.3/3.5	15	1.0	25	2.0/2.0	130	2I
DMT-6033	2–6	28	33	3.3/3.5	15	1.0	25	2.0/2.0	190	4I
DMT-6034	2–6	38	44	3.3/3.5	15	1.25	25	2.0/2.0	250	4I
DMT-6035	2–6	48	55	3.3/3.5	15	1.5	25	2.0/2.0	310	6I
DMT-6052	2–6	18	23	5.0/6.0	23	1.25	33	2.0/2.0	300	2I
DMT-6053	2–6	27	33	3.6/4.0	23	1.25	33	2.0/2.0	350	4I
DMT-6054	2–6	36	43	3.2/3.5	23	1.5	33	2.0/2.0	400	4I
DMT-6055	2–6	46	54	3.2/3.5	23	2.0	33	2.0/2.0	460	6I

Guaranteed @ -54 to 71°C	2–6 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB) Typ./Max.	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-6043	2–6	24	28	4.8	15	1.75	25	2.0/2.0	230	4I
DMT-6044	2–6	31	36	4.5	15	2.00	25	2.0/2.0	280	6I
DMT-6045	2–6	40	45	4.5	15	2.25	25	2.0/2.0	340	6I
DMT-6063	2–6	23	28	6.5	23	2.00	33	2.0/2.0	420	4I
DMT-6064	2–6	31	37	5	23	2.25	33	2.0/2.0	460	6I
DMT-6065	2–6	38	45	4.5	23	2.50	33	2.0/2.0	540	6I

2–8 GHz AMPLIFIER DFT/ DWT-8000's SERIES

Guaranteed @ +25°C	2–8 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz) Min.	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DFT-8231	2–8	6.5	7.0	4.3/4.8	12	0.7	22	2.0/2.0	100	1MH
DFT-8232	2–8	14.0	14.5	4.5/5.0	12	1.0	22	2.0/2.0	175	1MH
DFT-8233	2–8	21.0	22.0	4.5/5.0	12	1.0	22	2.0/2.0	235	2MH
DFT-8234	2–8	28.0	30.0	4.5/5.0	12	1.5	22	2.0/2.0	300	2MH
DFT-8261	2–8	7.5	8.0	5.5/6.0	20	0.7	30	2.0/2.0	150	1MH
DFT-8262	2–8	16.5	17.0	5.5/6.0	20	1.0	30	2.0/2.0	300	1MH
DFT-8263	2–8	23.0	24.0	4.7/5.2	20	1.0	30	2.0/2.0	375	2MH
DFT-8264	2–8	30.0	32.0	4.7/5.2	20	1.5	30	2.0/2.0	450	2MH
DWT-8032	2–8	16.0	21.0	4.0/4.2	15	1.00	25	2.0/2.0	165	2I
DWT-8033	2–8	24.0	31.0	3.8/4.0	15	1.25	25	2.0/2.0	235	4I
DWT-8034	2–8	33.0	41.0	3.8/4.0	15	1.50	25	2.0/2.0	320	4I
DWT-8035	2–8	41.0	50.0	3.8/4.0	15	1.75	25	2.0/2.0	400	6I
DWT-8052	2–8	15.0	20.0	5.0/6.0	20	1.00	30	2.0/2.0	275	2I
DWT-8053	2–8	23.0	30.0	3.9/4.5	20	1.25	30	2.0/2.0	350	4I
DWT-8054	2–8	32.0	40.0	3.8/4.0	20	1.50	30	2.0/2.0	425	4I
DWT-8055	2–8	40.0	49.0	3.8/4.0	20	1.75	30	2.0/2.0	510	6I

Guaranteed @ -54° to 71°C	2–8 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (d Bm)	VSWR 50 Ω I/O	Current @12VDC (mA).	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-8043	2–8	18.5	24.5	5.8	15	1.75	25	2.0/2.0	270	4I
DWT-8044	2–8	26.5	32.5	5.5	15	2.00	25	2.0/2.0	340	6I
DWT-8045	2–8	32.5	41.0	5.3	15	2.25	25	2.0/2.0	420	6I
DWT-8063	2–8	18.0	24.0	7.5	20	2.00	30	2.0/2.0	400	4I
DWT-8064	2–8	25.0	32.0	5.7	20	2.25	30	2.0/2.0	470	6I
DWT-8065	2–8	32.5	41.5	5.5	20	2.50	30	2.0/2.0	550	6I

4–8 GHz AMPLIFIER DFT /DWT- 8400's SERIES

Guaranteed @ +25°C	4–8 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DFT-8431	4–8	8.5	9	4.0/4.5	1	1.0	20	2.0/2.0	75	1MH
DFT-8432	4–8	17.0	18	4.0/4.5	1	1.0	20	2.0/2.0	125	1MH
DFT-8433	4–8	28.0	29	3.5/4.0	1	1.0	22	2.0/2.0	200	2MH
DFT-8434	4–8	37.5	39	3.5/4.0	1	1.5	22	2.0/2.0	250	2MH
DFT-8461	4–8	6.5	7	7.5/8.0	2	0.7	30	2.0/2.0	125	1MH
DFT-8462	4–8	13.0	14	7.5/8.0	2	1.0	30	2.0/2.0	250	1MH
DFT-8463	4–8	24.0	25	5.0/5.5	2	1.0	30	2.0/2.0	300	2MH
DFT-8464	4–8	32.0	34	4.0/4.5	2	1.5	30	2.0/2.0	350	2MH
DMT-8071	4–8	10.0	13	2.1/2.7	7	0.5	16	2.0/2.0	50	2I
DMT-8072	4–8	20.0	24	2.3/2.7	7	1.0	17	2.0/2.0	100	2I
DMT-8073	4–8	30.0	35	2.3/2.7	1	1.5	23	2.0/2.0	175	4I
DMT-8074	4–8	39.0	45	2.3/2.7	1	2.0	28	2.0/2.0	275	4I
DMT-8032	4–8	19.0	23	3.3/3.7	1	1.0	25	2.0/2.0	125	2I
DMT-8033	4–8	29.0	34	3.0/3.5	1	1.0	25	2.0/2.0	180	4I
DMT-8034	4–8	38.0	45	3.0/3.5	1	1.25	25	2.0/2.0	220	4I
DMT-8035	4–8	48.0	56	3.0/3.5	1	1.5	25	2.0/2.0	275	6I
DMT-8052	4–8	18.0	22	4.0/5.2	2	1.0	30	2.0/2.0	200	2I
DMT-8053	4–8	27.0	32	3.2/3.8	2	1.0	30	2.0/2.0	250	4I
DMT-8054	4–8	37.0	44	3.0/3.5	2	1.25	30	2.0/2.0	300	4I
DMT-8055	4–8	46.0	54	3.0/3.5	2	1.5	30	2.0/2.0	350	6I

Guaranteed @ -54° to 71°C	4–8 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz) Min.	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-8083	4–8	25.0	29.0	4.2	15	1.25	25	2.0/2.0	230	4I
DMT-8084	4–8	34.0	39.5	3.8	15	1.5	25	2.0/2.0	275	6I
DMT-8085	4–8	43.0	50.0	3.8	15	1.75	25	2.0/2.0	325	6I
DMT-8043	4–8	24.0	28.0	5.0	15	1.25	25	2.0/2.0	225	4I
DMT-8044	4–8	31.5	37.0	4.5	15	1.5	25	2.0/2.0	250	6I
DMT-8045	4–8	40.0	47.0	4.5	15	1.75	25	2.0/2.0	300	6I
DMT-8063	4–8	22.0	26.0	7.0	20	1.5	30	2.0/2.0	350	4I
DMT-8064	4–8	29.0	35.0	5.2	20	1.75	30	2.0/2.0	400	6I
DMT-8065	4–8	37.0	44.0	5.0	20	2.0	30	2.0/2.0	450	6I

4–11 GHz AMPLIFIER DWT- 10500s/ 11400s SERIES

Guaranteed @ +25°C	4–11 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-11471	4–11	8	11	2.1/2.5	7	0.75	17	2.0/2.0	65	2I
DWT-11472	4–11	17	21	2.3/2.7	7	1.0	17	2.0/2.0	130	2I
DWT-11473	4–11	26	31	2.3/2.7	13	1.25	23	2.0/2.0	200	4I
DWT-11474	4–11	34	41	2.3/2.7	20	1.5	30	2.0/2.0	380	4I
DWT-10532	4.5–10.5	17	21	4.3/4.5	15	1.0	25	2.0/2.0	120	2I
DWT-10533	4.5–10.5	26	31	4.2/4.5	15	1.0	25	2.0/2.0	160	4I
DWT-10534	4.5–10.5	34	41	4.2/4.5	15	1.25	25	2.0/2.0	210	4I
DWT-10535	4.5–10.5	43	51	4.2/4.5	15	1.5	25	2.0/2.0	250	6I
DWT-10552	4.5–10.5	15	20	5.5/6.0	20	1.0	30	2.0/2.0	275	2I
DWT-10553	4.5–10.5	24	30	4.8/5.0	20	1.25	30	2.0/2.0	320	4I
DWT-10554	4.5–10.5	32	40	4.2/4.5	20	1.5	30	2.0/2.0	360	4I
DWT-10555	4.5–10.5	41	50	4.2/4.5	20	2.0	30	2.0/2.0	400	6I

Guaranteed @ -54° to 71°C	4–11 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-11484	4–11	25	31	3.8/4.0	7	2.0	17	2.0/2.0	300	6I
DWT-11485	4–11	32	39	3.8/4.0	13	2.25	23	2.0/2.0	365	6I
DWT-10543	4.5–10.5	21	26	5.0/6.0	15	1.75	25	2.0/2.0	230	4I
DWT-10544	4.5–10.5	28	34	5.0/6.0	15	2.0	25	2.0/2.0	250	6I
DWT-10545	4.5–10.5	35.5	42	5.0/6.0	15	2.25	25	2.0/2.0	290	6I
DWT-10563	4.5–10.5	19	24	6.0/7.0	20	1.75	30	2.0/2.0	375	4I
DWT-10564	4.5–10.5	27	34	5.0/6.5	20	2.0	30	2.0/2.0	450	6I
DWT-10565	4.5–10.5	33	41	4.5/6.0	20	2.25	30	2.0/2.0	475	6I

6–12 GHz AMPLIFIER DFT/DMT-12000's/12600's SERIES

Guaranteed @ +25°C	HP/Avantek 6–12 GHz Amplifier Replacements without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.		
DFT-12631	6–12	7.5	8.0	5.0/6.5	10	0.7	20	2.0/2.0	75	1MH
DFT-12632	6–12	15.0	16.0	4.5/6.0	10	1.0	20	2.0/2.0	150	1MH
DFT-12633	6–12	22.5	24.0	3.8/4.5	14	1.0	24	2.0/2.0	175	2MH
DFT-12634	6–12	30.5	32.0	3.5/4.5	14	1.5	24	2.0/2.0	225	2MH
DFT-12635	6–12	38.0	40.0	3.5/4.5	14	2.0	24	2.0/2.0	275	4MH
DFT-12661	6–12	5.0	5.5	7.5/8.0	20	0.7	30	2.0/2.0	175	1MH
DFT-12662	6–12	13.0	14.0	5.0/6.5	20	1.0	30	2.0/2.0	250	1MH
DFT-12663	6–12	21.0	22.0	5.0/5.5	20	1.0	30	2.0/2.0	300	2MH
DFT-12664	6–12	28.0	29.0	4.5/5.0	20	1.5	30	2.0/2.0	350	2MH
DFT-12665	6–12	36.5	38.0	4.5/5.0	20	2.0	30	2.0/2.0	400	4MH

Guaranteed @ -54° to 71°C	HP/Avantek 6–12 GHz Amplifier Replacements with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-12064	6–12	21	29	6.0	20	1.5	30	2.0/2.0	520	6I
DMT-12065	6–12	32	40	5.0	20	1.5	30	2.0/2.0	460	6I
DMT-12066	6–12	37	45	4.5	20	2.0	30	2.0/2.0	520	8I

7–12.4 GHz AMPLIFIER DMT-12400's/12700's SERIES

Guaranteed @ +25°C	7–12.4 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-12711	7–12.4	10	13	2.2/2.3	9	0.5	19	2.0/2.0	85	2I
DMT-12713	7–12.4	30	35	2.2/2.3	15	1.0	25	2.0/2.0	225	4I
DMT-12714	7–12.4	37	44	2.2/2.3	20	1.5	30	2.0/2.0	400	4I
DMT-12432	7–12.4	17	21	3.9/4.5	15	1.0	25	2.0/2.0	140	2I
DMT-12433	7–12.4	25	31	3.9/4.5	15	1.0	25	2.0/2.0	210	4I
DMT-12434	7–12.4	31	39	3.7/4.0	15	1.0	25	2.0/2.0	230	4I
DMT-12435	7–12.4	38	45	3.7/4.0	15	1.5	25	2.0/2.0	290	6I
DMT-12436	7–12.4	47	55	3.7/4.0	15	1.5	25	2.0/2.0	350	6I
DMT-12453	7–12.4	23	29	4.5/5.0	20	1.0	30	2.0/2.0	330	4I
DMT-12454	7–12.4	32	40	3.9/4.5	20	1.0	30	2.0/2.0	390	4I
DMT-12455	7–12.4	36	44	3.8/4.0	20	1.5	30	2.0/2.0	400	6I
DMT-12456	7–12.4	45	53	3.8/4.0	20	1.5	30	2.0/2.0	450	6I

7–12.4 GHz AMPLIFIER DMT-12400's SERIES

Guaranteed @ -54° to 71°C	7–12.4 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-12483	7–12.4	18	24	4.9	13	1.0	23	2.0/2.0	230	4I
DMT-12484	7–12.4	25	33	5.2	15	1.5	25	2.0/2.0	300	6I
DMT-12485	7–12.4	32	41	4.7	15	1.5	25	2.0/2.0	330	6I
DMT-12486	7–12.4	38	47	4.4	15	2.0	25	2.0/2.0	370	8I
DMT-12487	7–12.4	45	55	4.2	15	2.5	25	2.0/2.0	420	8I
DMT-12443	7–12.4	20	26	5.7	13	1.0	23	2.0/2.0	230	4I
DMT-12444	7–12.4	27	35	6.0	15	1.5	25	2.0/2.0	300	6I
DMT-12445	7–12.4	31	40	5.5	15	1.5	25	2.0/2.0	320	6I
DMT-12446	7–12.4	36	45	5.2	15	2.0	25	2.0/2.0	350	8I
DMT-12447	7–12.4	44	54	5.0	15	2.5	25	2.0/2.0	410	8I
DMT-12464	7–12.4	21	29	6.7	20	1.5	30	2.0/2.0	420	6I
DMT-12465	7–12.4	30	38	6.0	20	1.5	30	2.0/2.0	460	6I
DMT-12466	7–12.4	36	45	5.6	20	2.0	30	2.0/2.0	500	8I

5–13 GHz AMPLIFIER DWT-13000's/13500's SERIES

Guaranteed @ +25°C	5–13 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-13531	5–13	9	12	2.6/3.2	10	0.75	20	2.0/2.0	75	2I
DWT-13532	5–13	13	17	2.6/3.2	10	1.0	20	2.0/2.0	130	2I
DWT-13533	5–13	20	26	2.6/3.2	15	1.25	25	2.0/2.0	185	4I
DWT-13534	5–13	28	36	2.6/3.2	15	1.5	25	2.0/2.0	245	4I
DWT-13032	5–13	17	21	2.6/3.2	15	1.0	25	2.0/2.0	140	2I
DWT-13033	5–13	25	30	2.6/3.2	15	1.0	25	2.0/2.0	200	4I
DWT-13034	5–13	33	40	2.6/3.2	15	1.0	25	2.0/2.0	275	4I
DWT-13035	5–13	41	49	2.6/3.2	15	1.5	25	2.0/2.0	320	6I
DWT-13036	5–13	49	57	2.6/3.2	15	1.5	25	2.0/2.0	380	6I

Guaranteed @ -54° to 71°C	5–13 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-13083	5–13	20	25	5.2	13	1.5	23	2.0/2.0	220	4I
DWT-13084	5–13	26	32	5.0	13	1.5	23	2.0/2.0	280	6I
DWT-13085	5–13	33	41	5.0	15	2.0	25	2.0/2.0	340	6I
DWT-13086	5–13	40	48	5.0	15	2.5	25	2.0/2.0	400	8I
DWT-13043	5–13	20	25	6.0	13	1.5	23	2.0/2.0	220	4I
DWT-13044	5–13	27	33	6.0	15	1.5	25	2.0/2.0	280	6I
DWT-13045	5–13	34	42	6.0	15	2.0	25	2.0/2.0	340	6I
DWT-13046	5–13	41	49	6.0	15	2.5	25	2.0/2.0	400	8I

6–18 GHz AMPLIFIER DFT182N40U / DF186N50U SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
Low Noise Amplifiers										
DFT186N40U18	6–18	18	22	4	10	1.5	12	2.0/2.0	140	2MH
DFT186N40U23	6–18	23	28	4	10	1.5	12	2.0/2.0	205	4MH
DFT186N40U28	6–18	28	33	4	10	1.5	12	2.0/2.0	205	4MH
DFT186N40U33	6–18	33	39	4	10	1.5	12	2.0/2.0	265	4MH
DFT186N40U38	6–18	38	44	4	10	1.5	12	2.0/2.0	265	4MH
DFT186N40U43	6–18	43	51	4	10	1.5	12	2.0/2.0	330	6MH
DFT186N40U48	6–18	48	56	4	10	1.5	12	2.0/2.0	330	6MH
Low Noise Medium Power Amplifiers										
DFT186N50U21	6-18	18	22	4	10	1.5	12	2.0/2.0	140	2MH
DFT186N50U24	6-18	23	28	4	10	1.5	12	2.0/2.0	205	4MH
DFT186N50U30	6-18	28	33	4	10	1.5	12	2.0/2.0	205	4MH
DFT186N50U35	6-18	33	39	4	10	1.5	12	2.0/2.0	265	4MH
DFT186N50U40	6-18	38	44	4	10	1.5	12	2.0/2.0	265	4MH
DFT186N50U45	6-18	43	51	4	10	1.5	12	2.0/2.0	330	6MH

6–18 GHz AMPLIFIER DWT186N23U / DWT186N27U / DWT186P20U SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
Low Noise Amplifiers										
DWT186N23U17	6–18	17	20	2.5	6	1.0	15	2.0/2.0	120	2MH
DWT186N23U20	6–18	20	23	2.5	6	1.0	15	2.0/2.0	140	4MH
DWT186N23U23	6–18	23	26	2.5	6	1.0	15	2.0/2.0	140	4MH
DWT186N23U25	6–18	25	29	2.5	10	1.0	19	2.0/2.0	165	4MH
DWT186N23U28	6–18	28	32	2.5	6	1.0	15	2.0/2.0	195	4MH
DWT186N23U32	6–18	32	36	2.5	10	1.0	18	2.0/2.0	205	4MH
DWT186N23U36	6–18	36	40	2.5	12	1.0	20	2.0/2.0	225	4MH
DWT186N23U40	6–18	40	45	2.5	13	1.0	21	2.0/2.0	320	6MH
Low Noise Medium Power Amplifiers										
DWT186N27U23	6–18	23	26	2.7	15	1.0	23	2.0/2.0	265	4MH
DWT186N27U25	6–18	25	28	2.7	17	1.0	25	2.0/2.0	265	4MH
DWT186N27U28	6–18	28	32	2.7	15	1.5	23	2.0/2.0	305	4MH
DWT186N27U31	6–18	31	35	2.7	17	1.5	25	2.0/2.0	305	4MH
DWT186N27U34	6–18	34	38	2.7	18	1.5	26	2.0/2.0	305	4MH
DWT186N27U37	6–18	37	42	2.7	16	2.0	24	2.0/2.0	345	4MH
DWT186N27U42	6–18	42	47	2.7	18	2.0	26	2.0/2.0	345	6MH

6–18 GHz AMPLIFIER DWT186N23U / DWT186N27U / DWT186P20U SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
100 mW Amplifiers										
DWT186P20U22	6–18	22	25	4.5	20	1.0	28	2.0/2.0	430	4MH
DWT186P20U25	6–18	25	28	4.5	20	1.0	28	2.0/2.0	430	4MH
DWT186P20U27	6–18	27	30	4.5	20	1.5	28	2.0/2.0	590	6MH
DWT186P20U29	6–18	29	33	4.5	20	1.5	28	2.0/2.0	590	4MH
DWT186P20U32	6–18	32	36	4.5	20	1.5	28	2.0/2.0	590	4MH
DWT186P20U35	6–18	35	39	4.0	20	2.0	28	2.0/2.0	590	4MH
DWT186P20U39	6–18	39	44	4.0	20	2.0	28	2.0/2.0	650	6MH

6–18 GHz AMPLIFIER DWT186N30 / DWT186N33 / DWT186P18 SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
Low Noise Amplifiers										
DWT186N30T21	6–18	21	25	3.5	5	1.5	13.0	2.0/2.0	200	4MH
DWT186N30T23	6–18	23	27	3.5	6	1.5	14.0	2.0/2.0	210	4MH
DWT186N30T26	6–18	26	30	3.5	7.5	1.25	15.5	2.0/2.0	265	6MH
DWT186N30T28	6–18	28	34	3.5	8	1.5	16.0	2.0/2.0	265	6MH
DWT186N30T31	6–18	31	36	3.5	8.5	1.5	16.5	2.0/2.0	300	6MH
DWT186N30T34	6–18	34	39	3.5	9.5	1.5	17.5	2.0/2.0	320	6MH
DWT186N30T38	6–18	38	44	3.5	11.5	2.0	19.5	2.0/2.0	320	6MH
Low Noise Medium Power Amplifiers										
DWT186N33T20	6–18	20	24	3.7	8.5	1.0	16.5	2.0/2.0	300	4MH
DWT186N33T22	6–18	22	26	3.7	13	1.0	21.0	2.0/2.0	330	4MH
DWT186N33T24	6–18	24	28	3.7	11	1.0	19.0	2.0/2.0	400	6MH
DWT186N33T26	6–18	26	30	3.7	14	1.25	22.0	2.0/2.0	425	6MH
DWT186N33T29	6–18	29	34	3.7	16	1.5	24.0	2.0/2.0	470	6MH
DWT186N33T40	6–18	40	46	3.7	17	2.0	25.0	2.0/2.0	625	6MH
Medium Power Amplifiers										
DWT186P18T20	6–18	20	24	5.5	18	1.0	26	2.0/2.0	450	4MH
DWT186P18T22	6–18	22	26	5.5	18	1.0	26	2.0/2.0	450	4MH
DWT186P18T25	6–18	25	29	5.5	18	1.25	26	2.0/2.0	550	6MH
DWT186P18T28	6–18	28	32	5.5	18	1.5	26	2.0/2.0	600	6MH
DWT186P18T30	6–18	30	35	4.5	18	1.5	26	2.0/2.0	630	6MH
DWT186P18T34	6–18	34	39	4.5	18	1.5	26	2.0/2.0	650	6MH
DWT186P18T38	6–18	38	44	4.5	18	2.0	26	2.0/2.0	670	6MH

6–18 GHz AMPLIFIER DFT-186000's SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DFT-18631	6–18	7.0	7.5	6.4/6.7	10	1.0	20	2.0/2.0	75	SMH
DFT-18632	6–18	13.0	14.0	6.5/7.0	10	1.0	20	2.0/2.0	125	1MH
DFT-18633	6–18	18.5	20.0	6.5/7.0	10	1.0	20	2.0/2.0	175	2MH
DFT-18634	6–18	24.5	26.0	6.5/7.0	10	1.5	20	2.0/2.0	250	2MH
DFT-18635	6–18	30.0	32.0	6.5/7.0	10	2.0	20	2.0/2.0	300	4MH
DFT-18651	6–18	5.0	6.0	7.0/7.3	15	1.0	25	2.0/2.0	100	SMH
DFT-18652	6–18	11.0	12.0	7.0/7.3	15	1.0	25	2.0/2.0	165	1MH
DFT-18653	6–18	18.5	20.0	6.6/7.1	15	1.0	25	2.0/2.0	225	2MH
DFT-18654	6–18	24.5	26.0	6.6/7.1	15	1.5	25	2.0/2.0	275	2MH
DFT-18655	6–18	32.0	34.0	6.6/7.1	15	2.0	25	2.0/2.0	325	4MH
DFT-18662	6–18	9.5	10.5	8.7/9.2	20	1.0	29	2.0/2.0	325	1MH
DFT-18663	6–18	15.0	16.5	8.2/8.7	20	1.0	29	2.0/2.0	360	2MH
DFT-18664	6–18	23.0	24.5	6.6/7.1	20	1.5	29	2.0/2.0	425	2MH
DFT-18665	6–18	30.5	32.5	6.6/7.1	20	2.0	29	2.0/2.0	475	4MH

6–18 GHz AMPLIFIER DWT-18600's SERIES

Guaranteed @ +25°C	6–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-18613	6–18	25	31	2.5/2.8	8	1.0	16	2.0/2.0	200	4I
DWT-18614	6–18	31	37	2.5/2.8	14	1.5	22	2.0/2.0	250	4I
DWT-18615	6–18	37	44	2.5/2.8	17	1.5	25	2.0/2.0	300	6I
DWT-18616	6–18	42	49	2.5/2.8	20	2.0	28	2.0/2.0	450	6I
DWT-18632	6–18	14	20	5.2/5.5	13	1.0	21	2.0/2.0	140	2I
DWT-18633	6–18	20	26	5.1/5.5	13	1.0	21	2.0/2.0	200	4I
DWT-18634	6–18	26	32	5.1/5.5	15	1.0	23	2.0/2.0	260	4I
DWT-18635	6–18	32	38	5.1/5.5	15	1.5	23	2.0/2.0	320	6I
DWT-18636	6–18	38	44	5.1/5.5	15	1.5	23	2.0/2.0	380	6I
DWT-18637	6–18	44	50	5.1/5.5	15	2.0	23	2.0/2.0	440	8I
DWT-18654	6–18	24	30	5.5/6.0	20	1.0	28	2.0/2.0	370	4I
DWT-18655	6–18	30	36	5.2/5.5	20	1.5	28	2.0/2.0	430	6I
DWT-18656	6–18	37	43	5.2/5.5	20	1.5	28	2.0/2.0	490	6I
DWT-18657	6–18	43	51	5.2/5.5	20	2.0	28	2.0/2.0	560	8I

6–18 GHz AMPLIFIER DWT-18600's SERIES

Guaranteed @ -54° to 71°C	6–18 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-18685	6–18	26	32	5.3/5.5	10	2.5	18	2.0/2.0	350	6I
DWT-18686	6–18	30	38	4.8/5.0	10	2.5	18	2.0/2.0	410	8I
DWT-18688	6–18	40	48	4.8/5.0	15	3.0	23	2.0/2.0	520	8I
DWT-18695	6–18	26	32	5.8/6.0	15	2.5	23	2.0/2.0	350	6I
DWT-18696	6–18	30	36	5.8/6.0	18	2.5	26	2.0/2.0	510	8I
DWT-18698	6–18	40	48	5.3/5.5	20	3.0	28	2.0/2.0	630	8I
DWT-18644	6–18	20	25	6.7/7.0	12	2.0	20	2.0/2.0	290	6I
DWT-18645	6–18	25	30	6.7/7.0	15	2.5	23	2.0/2.0	350	6I
DWT-18646	6–18	30	36	6.3/6.5	15	2.5	23	2.0/2.0	440	8I
DWT-18647	6–18	36	44	6.3/6.5	18	3.0	26	2.0/2.0	510	8I
DWT-18648	6–18	42	50	6.3/6.5	18	3.0	26	2.0/2.0	570	8I
DWT-18666	6–18	28	36	7.0/7.5	20	2.5	28	2.0/2.0	520	8I
DWT-18667	6–18	36	44	6.3/6.5	20	3.0	28	2.0/2.0	600	8I

8-18 GHz AMPLIFIER DFT-18800's / DWT-18000's SERIES

Guaranteed @ +25°C	8-18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DFT-18831	8–18	7.0	7.5	6.4/6.7	10	1.0	20	2.0/2.0	75	1MH
DFT-18832	8–18	13.0	14.0	6.5/7.0	10	1.0	20	2.0/2.0	125	1MH
DFT-18833	8–18	18.5	20.0	6.5/7.0	10	1.0	20	2.0/2.0	175	2MH
DFT-18834	8–18	24.5	26.0	6.5/7.0	10	1.5	20	2.0/2.0	250	2MH
DFT-18835	8–18	30.0	32.0	6.5/7.0	10	2.0	20	2.0/2.0	300	4MH
DFT-18851	8–18	5.0	5.5	7.0/7.3	15	1.0	25	2.0/2.0	100	1MH
DFT-18852	8–18	11.0	12.0	7.0/7.3	15	1.0	25	2.0/2.0	165	1MH
DFT-18853	8–18	18.5	20.0	6.6/7.1	15	1.0	25	2.0/2.0	225	2MH
DFT-18854	8–18	24.5	26.0	6.6/7.1	15	1.5	25	2.0/2.0	275	2MH
DFT-18855	8–18	32.0	34.0	6.6/7.1	15	2.0	25	2.0/2.0	325	4MH
DFT-18862	8–18	9.5	10.5	8.7/9.2	20	1.0	29	2.0/2.0	325	1MH
DFT-18863	8–18	15.0	16.5	8.2/8.7	20	1.0	29	2.0/2.0	360	2MH
DFT-18864	8–18	23.0	24.5	6.6/7.1	20	1.5	29	2.0/2.0	425	2MH
DFT-18865	8–18	30.5	32.5	6.6/7.1	20	2.0	29	2.0/2.0	475	4MH
DWT-18032	8–18	14.0	20.0	5.5/6.5	13	1.0	21	2.0/2.0	140	2I
DWT-18033	8–18	20.0	26.0	5.5/6.5	13	1.0	21	2.0/2.0	190	4I
DWT-18034	8–18	26.0	32.0	5.5/6.5	15	1.0	23	2.0/2.0	260	4I
DWT-18035	8–18	32.0	38.0	5.5/6.5	15	1.5	23	2.0/2.0	310	6I
DWT-18036	8–18	38.0	44.0	5.5/6.5	15	1.5	23	2.0/2.0	370	6I
DWT-18037	8–18	44.0	50.0	5.5/6.5	15	2.0	23	2.0/2.0	430	8I
DWT-18054	8–18	24.0	30.0	5.5/7.0	20	1.0	28	2.0/2.0	370	4I
DWT-18055	8–18	30.0	36.0	5.5/7.0	20	1.5	28	2.0/2.0	420	6I
DWT-18056	8–18	36.0	43.0	5.5/7.0	20	1.5	28	2.0/2.0	480	6I
DWT-18057	8–18	42.0	50.0	5.5/7.0	20	2.0	28	2.0/2.0	520	8I

12–18 GHz AMPLIFIER DMT-18000's SERIES

Guaranteed @ +25°C	12–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-18032	12–18	14	20	5.5/6.5	13	1.0	21	2.0/2.0	140	2I
DMT-18033	12–18	20	26	5.0/6.5	13	1.0	21	2.0/2.0	190	4I
DMT-18034	12–18	26	32	5.0/6.5	15	1.0	23	2.0/2.0	260	4I
DMT-18035	12–18	32	38	5.0/6.5	15	1.5	23	2.0/2.0	310	6I
DMT-18036	12–18	38	44	5.0/6.5	15	1.5	23	2.0/2.0	360	6I
DMT-18037	12–18	44	50	5.0/6.5	15	2.0	23	2.0/2.0	410	8I

Guaranteed @ -54° to 71°C	12–18 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-18044	12–18	20	25	7.5	12	2.0	20	2.0/2.0	290	6I
DMT-18045	12–18	25	30	7.5	15	2.5	23	2.0/2.0	350	6I
DMT-18046	12–18	30	36	7.5	15	2.5	23	2.0/2.0	410	8I
DMT-18047	12–18	36	44	7.5	18	3.0	26	2.0/2.0	500	8I
DMT-18048	12–18	42	50	7.5	18	3.0	26	2.0/2.0	570	8I

12–18 GHz AMPLIFIER DMT-18000's SERIES

Guaranteed @ +25°C	12–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-18032	12–18	14	20	5.5/6.5	13	1.0	21	2.0/2.0	140	2I
DMT-18033	12–18	20	26	5.0/6.5	13	1.0	21	2.0/2.0	190	4I
DMT-18034	12–18	26	32	5.0/6.5	15	1.0	23	2.0/2.0	260	4I
DMT-18035	12–18	32	38	5.0/6.5	15	1.5	23	2.0/2.0	310	6I
DMT-18036	12–18	38	44	5.0/6.5	15	1.5	23	2.0/2.0	360	6I
DMT-18037	12–18	44	50	5.0/6.5	15	2.0	23	2.0/2.0	410	8I

Guaranteed @ -54° to 71°C	12–18 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-18044	12–18	20	25	7.5	12	2.0	20	2.0/2.0	290	6I
DMT-18045	12–18	25	30	7.5	15	2.5	23	2.0/2.0	350	6I
DMT-18046	12–18	30	36	7.5	15	2.5	23	2.0/2.0	410	8I
DMT-18047	12–18	36	44	7.5	18	3.0	26	2.0/2.0	500	8I
DMT-18048	12–18	42	50	7.5	18	3.0	26	2.0/2.0	570	8I

1–20 GHz AMPLIFIER DFT-18200's / DFT-12000's / DWT-19100/20200's SERIES

Guaranteed @ +25°C	1–20 GHz Amplifier without Temperature Compensation									
DBS Model Number	**Frequency Response (GHz)**	**Gain (dB)**	**Gain (dB)**	**Noise Figure (dB)**	**P1dB (dBm)**	**Gain Flatness (+/-dB)**	**IP3 (dBm)**	**VSWR 50 Ω I/O**	**Current @12VDC (mA)**	**Case DBX-**
	Min.	**Min.**	**Min.**	**Typ./ Max**	**Min.**	**Max**	**Typ.**	**Max.**	**Typ.**	
DFT-18232	2–18	9.0	17	10	10	2.0	18	2.2/2.2	225	1MH
DFT-18234	2–18	18.0	28	10	10	4.0	18	2.2/2.2	425	1MH
DWT-12012	0.5–12	27.0	32	5.5/6.5	10	1.5	18	2..3/2.0	325	2I
DWT-12013	0.5–12	41.0	49	5.5/6.5	10	2.0	18	2.3/2.0	475	4I
DWT-19133	1–19	14.5	19	10.5	10	2.0	18	2.2/2.2	275	4I
DWT-19134	1–19	20.0	27	10.5	10	2.5	18	2.2/2.2	365	4I
DWT-19135	1–19	25.0	34	10.5	10	3.0	18	2.2/2.2	455	6I
DWT-18233	2–18	14.5	19	10	10	1.5	18	2.2/2.2	275	4I
DWT-18234	2–18	20.0	27	10	10	2.0	18	2.2/2.2	365	4I
DWT-18235	2–18	25.0	34	10	10	2.5	18	2.2/2.2	455	6I
DWT-18236	2–18	30.0	40	10	10	3.0	18	2.2/2.2	545	6I
DWT-18212	2–18	29.0	34	5.8/6.5	10	1.5	18	2.2/2.2	250	2I
DWT-18213	2–18	42.0	50	5.8/6.5	10	2.0	18	2.2/2.2	350	4I
DWT-18252	2–18	10.0	15	10	20	1.0	28	2.2/2.2	400	2I
DWT-18253	2–18	15.0	22	10	20	1.5	28	2.2/2.2	550	4I
DWT-18254	2–18	20.0	28	10	20	2.0	28	2.2/2.2	650	4I
DWT-20233	2–20	14.5	19	11	10	1.5	18	2.2/2.2	275	4I
DWT-20234	2–20	20.0	27	11	10	2.0	18	2.2/2.2	365	4I
DWT-20235	2–20	25.0	34	11	10	2.5	18	2.2/2.2	455	6I
DWT-20236	2–20	30.0	40	11	10	3.0	18	2.2/2.2	545	6I

Guaranteed @ -54° to 71°C	2–18 GHz Amplifier with Temperature Compensation									
DBS Model Number	**Frequency Response (GHz)**	**Gain (dB)**	**Gain (dB)**	**Noise Figure (dB)**	**P1dB (dBm)**	**Gain Flatness (+/-dB)**	**IP3 (dBm)**	**VSWR 50 Ω I/O**	**Current @12VDC (mA)**	**Case DBX-**
	Min.	**Min.**	**Min.**	**Typ./ Max**	**Min.**	**Max**	**Typ.**	**Max.**	**Typ.**	
DWT-18244	2–18	18	26	11	9	3.0	17	2.2/2.2	425	4I
DWT-18245	2–18	22	31	11	9	3.5	17	2.2/2.2	510	6I
DWT-18246	2–18	26	36	11	9	4.0	17	2.2/2.2	600	6I

12–20 GHz / 8–20 GHz AMPLIFIER DMT-2000's / DWT-20800's SERIES

Guaranteed @ +25°C	8–20 GHz Amplifier without Temperature Compensation									
DBS Model Number	**Frequency Response (GHz)**	**Gain (dB)**	**Gain (dB)**	**Noise Figure (dB)**	**P1dB (dBm)**	**Gain Flatness (+/-dB)**	**IP3 (dBm)**	**VSWR 50 Ω I/O**	**Current @12VDC (mA)**	**Case DBX-**
	Min.	**Min.**	**Min.**	**Typ./ Max**	**Min.**	**Max**	**Typ.**	**Max.**	**Typ.**	
DWT-20832	8–20	10	14	8	16	1.0	24	2.0/2.0	175	2I
DWT-20833	8–20	15	20	8	16	1.0	24	2.0/2.0	250	4I
DWT-20834	8–20	21	27	8	16	1.5	24	2.0/2.0	325	4I
DWT-20835	8–20	26	33	8	16	1.5	24	2.0/2.0	400	6I
DWT-20836	8–20	32	40	8	16	2.0	24	2.0/2.0	485	6I

Guaranteed @ +25°C	**12–20 GHz Amplifier without Temperature Compensation**									
DBS Model Number	**Frequency Response (GHz)**	**Gain (dB)**	**Gain (dB)**	**Noise Figure (dB)**	**P1dB (dBm)**	**Gain Flatness (+/-dB)**	**IP3 (dBm)**	**VSWR 50 Ω I/O**	**Current @12VDC (mA)**	**Case DBX-**
	Min.	**Min.**	**Min.**	**Typ./ Max**	**Min.**	**Max**	**Typ.**	**Max.**	**Typ.**	
DMT-20032	12–20	10	14	7	17	1.0	25	2.0/2.0	175	2I
DMT-20033	12–20	14	19	7	17	1.0	25	2.0/2.0	250	4I
DMT-20034	12–20	21	27	7	17	1.5	25	2.0/2.0	325	4I
DMT-20035	12–20	26	33	7	17	1.5	25	2.0/2.0	400	6I
DMT-20036	12–20	32	40	7	17	2.0	25	2.0/2.0	475	6I

2–18 GHz AMPLIFIER DPT-4000's/6000's/8000's/10500's/12000's/1860's SERIES

Guaranteed @ +25°C	2–18 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DPT-4063	2–4	28	38	4.5	30	1.5	37	2.0/2.0	900	4I
DPT-4064	2–4	39	49	4.5	30	1.5	37	2.0/2.0	1050	4I
DPT-4074	2–4	33	43	4.5	33	1.5	40	2.0/2.0	1800	4P
DPT-6065	2–6	35	45	5.5	30	1.5	37	2.0/2.0	1350	6I
DPT-6077	2–6	40	50	6.0	33	1.5	40	2.0/2.0	2300	4P
DPT-8255	2–8	30	40	6.0	27	2.0	34	2.0/2.0	800	6I
DPT-8266	2–8	35	45	7.0	30	2.0	37	2.0/2.0	1300	6I
DPT-8056	4–8	35	45	5.5	29	1.5	36	2.0/2.0	1500	6I
DPT-8066	4–8	35	45	5.5	30	1.5	37	2.0/2.0	1500	6I
DPT-8076	4–8	30	40	7.5	33	2.0	40	2.0/2.0	2500	4P
DPT-8465	7.9–8.4	30	40	7.0	30	1.0	37	2.0/2.0	1200	6I
DPT-10555	4.5–10.5	34	44	5.0	26	1.5	33	2.0/2.0	800	6I
DPT-10566	4.5–10.5	29	40	8.0	30	2.0	38	2.0/2.0	1500	6I
DPT-12057	6–12	37	47	6.0	26	1.5	33	2.0/2.0	1100	6I
DPT-12066	6–12	28	39	8.0	30	1.5	37	2.0/2.0	2500	6I
DPT-18646	6–18	20	30	10.0	23	2.0	30	2.0/2.0	900	4I
DPT-18649	6–18	35	45	8.0	23	2.0	30	2.0/2.0	1400	6I
DPT-18656	6–18	18	28	13.0	27	2.0	33	2.0/2.0	1300	4I
DPT-18659	6–18	36	46	8.5	27	2.0	33	2.0/2.0	1400	6I
DPT-18-2722	6–18	22	32	9.0	27	2.0	34	2.0/2.0	1300	4I
DPT-18-2730	6–18	30	40	8.0	27	2.0	34	2.0/2.0	1500	6I
DPT-18-2735	6–18	35	45	8.0	27	2.0	34	2.0/2.0	1500	6I
DPT-18-2726	6–18	26	37	13.0	30	2.0	36	2.0/2.0	2500	7P
DPT-18-2732	6–18	32	44	10.0	30	2.0	36	2.0/2.0	2500	7P
DPT-18-2738	6–18	38	51	10.0	30	2.0	36	2.0/2.0	2500	7P
DPT-18615	6–18	26	37	13.0	30	2.0	36	2.0/2.0	2500	7P
DPT-18616	6–18	32	44	10.0	30	2.0	36	2.0/2.0	2500	7P
DPT-18617	6–18	38	51	10.0	30	2.0	36	2.0/2.0	2500	7P

20.2–21.2 GHz AMPLIFIER DMT-21000 SERIES

Guaranteed @ +25°C	HP/Avantek 20.2–21.2 GHz Amplifier Replacements without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-21033	20.2–21.2	21	27	3	10	0.75	17	1.8/1.8	210	DBK-4
DMT-21034	20.2–21.2	30	36	3	12	0.75	19	1.8/1.8	250	DBK-6
DMT-21035	20.2–21.2	38	44	3	12	0.75	19	1.8/1.8	310	DBK-6

Guaranteed @ -54° to 71°C	HP/Avantek 20.2–21.2 GHz Amplifier Replacements with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-21044	20.2–21.2	30	36	3.5	10	1.5	17	1.8/1.8	375	DBK-8

18–26.5 GHz AMPLIFIER DMT-26100 SERIES

Guaranteed @ +25°C	HP/Avantek 18–26.5 GHz Amplifier Replacements without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-26135	18–26.5	25	31	6.0	21	2.5	28	2.2/2.2	1050	DBK-4
DMT-26137	18–26.5	37	45	6.0	21	3.0	28	2.2/2.2	1150	DBK-6
DMT-26175	18–26.5	25	31	5.5	12	2.5	19	2.2/2.2	380	DBK-4
DMT-26176	18–26.5	30	36	5.5	12	2.5	19	2.2/2.2	460	DBK-6
DMT-26177	18–26.5	37	45	5.5	12	3.0	19	2.2/2.2	540	DBK-6

Guaranteed @ -54° to 71°C	HP/Avantek 18–26.5 GHz Amplifier Replacements with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-26185	18–26.5	20	27	8.5	12	2.5	19	2.2/2.2	400	DBK-6
DMT-26187	18–26.5	31	39	8.0	12	3.0	19	2.2/2.2	480	DBK-8
DMT-26188	18–26.5	38	46	8.0	12	3.0	19	2.2/2.2	520	DBK-8

26.5–40 GHz AMPLIFIER DMT-40000's SERIES

Guaranteed @ +25°C	26.5–40 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-40074	26.5–40	20	26	6	10	1.5	16	2.5/2.5	345	DBK-4
DMT-40076	26.5–40	31	38	6	10	2.5	16	2.5/2.5	450	DBK-8
DMT-40077	26.5–40	38	46	6	10	3.0	16	2.5/2.5	600	DBK-8

Guaranteed @ -54° to 71°C	26.5–40 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DMT-40086	26.5–40	24	32	9.0	6	2.5	13	2.5/2.5	450	DBK-8
DMT-40087	26.5–40	27	35	8.0	6	3.0	13	2.5/2.5	500	DBK-8
DMT-40088	26.5–40	34	43	8.0	6	3.5	13	2.5/2.5	600	DBK-0

18–40 GHz AMPLIFIER DWT-40000's SERIES

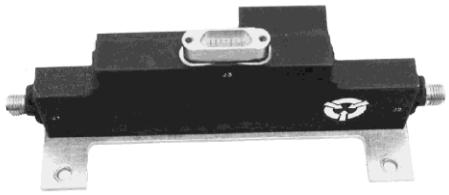
Guaranteed @ +25°C	18–40 GHz Amplifier without Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-40034	18–40	15.0	21.0	9	6	2	13	3.0/3.0	300	DBK-4
DWT-40036	18–40	24.0	32.0	8	10	3	16	3.0/3.0	450	DBK-6
DWT-40039	18–40	39.5	49.5	8	10	4	16	3.0/3.0	750	DBK-8

Guaranteed @ -54° to 71°C	18–40 GHz Amplifier with Temperature Compensation									
DBS Model Number	Frequency Response (GHz)	Gain (dB)	Gain (dB)	Noise Figure (dB)	P1dB (dBm)	Gain Flatness (+/-dB)	IP3 (dBm)	VSWR 50 Ω I/O	Current @12VDC (mA)	Case DBX-
	Min.	Min.	Min.	Typ./ Max	Min.	Max	Typ.	Max.	Typ.	
DWT-40046	18–40	17.0	25.0	10	6	3.0	13	3.0/3.0	500	DBK-6
DWT-40047	18–40	24.5	34.5	10	6	3.0	13	3.0/3.0	650	DBK-8
DWT-40410	18–40	32.5	43.5	10	6	3.5	13	3.0/3.0	800	DBK-8

18–26.5 / 43.5–45.5 GHz MULTIPLIERS DMT-26XX2's / 40XX2's / 46XX4's SERIES

Guaranteed @ +25°C	HP/Avantek 18–45.5 GHz Multiplier Replacements without Temperature Compensation						
Model Number	Input Frequency (GHz)	Output Frequency (GHz)	Pin (dBm) Min.	Pout (dBm)	Signal Purity (dBc)	Current @12VDC (mA)	Case
			Min.	Min.	Max.	Max.	
DMT-260X2	9.0–13.25	18.0-26.5	10	15	-20	350	DBK-6
DMT-261X2	9.0–13.25	18.0-26.5	10	21	-20	750	DBK-6
DMT-400X2	13.25–20.0	26.5-40.0	10	11	-20	250	DBK-6
DMT-401X2	13.25–20.0	26.5-40.0	10	15	-20	395	DBK-8
DMT-460X4	10.87–11.37	43.5-45.5	10	10	-20	400	DBK-8
DMT-461X4	10.87–11.37	43.5-45.5	10	20	-20	850	DBK-10

Channel Amplifiers



Features

- S, C, X, Ku and Ka- Band Design
- Output Power Adjustment
- Low Power Consumption
- Light Weight

Stellant's Channel Amplifier is a wideband TWT (Traveling Wave Tube) driver which operates in S-Band, C-Band, X-Band, Ku-Band or Ka-Band frequency ranges. The channel amplifier can operate in a fixed gain mode or an ALC mode. The unit has commandable gain and ALC levels. Pulse or serial command inputs are used to increase or decrease the gain in the fixed gain mode, increase or decrease the power in the ALC mode and select the mode of operation.

An RF telemetry output monitor can be included which will provide a calibrated DC voltage to provide information on the output power level of the channel amplifier in the fixed gain mode. An RF telemetry input monitor can be included which will provide a calibrated DC voltage to provide information on the input power level of the channel amplifier in the ALC mode. The unit is constructed using thin film amplifier, attenuator, coupler/detector, microstrip bandpass filter and control circuits. The thin film modules are enclosed in a laser sealed hermetic aluminum housing. The housing has two SMA RF connectors and a 15 pin Micro-D connector for DC/Command interface.

Section 1 General Requirements

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
Frequency Range, Full Range, Simultaneously	GHz	2.630 - 2.655	3.7 - 4.2	7.25 - 7.75	500 MHz Bandwidth over 10.7 to 12.7	500 MHz Bandwidth over 18.3 to 20.2
Channel Bandwidth	MHz	25	36	36	36	36
RF Input Power (FGM and ALC mode), nominal range	dBm	-40 to -13	-51 to -28	-55 to -24	-54 to -32	-51 to -24
Overdrive Capability, Input	dBm	0 Max	0 Max	0 Max	0 Max	0 Max
Maximum Output Power	dBm	+19	+19	+19	+19	+19
Input Return Loss	dB	18	18	18	18	18
Output Return Loss	dB	15	15	15	15	15
Source & Load VSWR for Stability		All phases of Open & Short	All phases of Open & Short	All phases of Open & Short	All phases of Open & Short	All phases of Open & Short
Out-of-Band Rejection at Receive Frequencies	dB	20 Min	20 Min	20 Min	40 Min	40 Min
In-Band Spurious Outputs						
Within any 4 kHz band	dBc	75	75	75	75	75
Within any 1 MHz band	dBc	70	70	70	70	70
Caused by Power Supply Frequencies	dBc	55	55	55	55	55
Out-of-Band Spurious Outputs (except harmonics)-						
Within any 4 kHz Band	dBc	60	60	60	60	60
Group Delay Variation	nsec	0.2	0.2	0.2	0.2	2.0
Gain Channel Flatness	dBp-p	0.25	0.25	0.3	0.3	0.3
Gain Flatness	dBp-p	0.25	2.0	2.0	2.0	2.0

Gain Slope @ 10 dB IBO	dB/MHz	0.015	0.015	0.015	0.015	0.015
ALC Power Flatness	dBp-p	N/A	N/A	1.5	1.5	1.5
ALC Power Slope	dB/MHz	N/A	N/A	0.015	0.015	0.015
ALC Power Variation Over	dBp-p	N/A	N/A	±0.5	±0.5	±0.5
RF Susceptibility	dBi	-80	-80	-80	-80	-80
RF Connectors		SMA	SMA	SMA	SMA	SMA
DC Voltage	V	+8.0	+8.0	+8.0	+8.0	+8.0
DC Power	W	1.5 Nom., 2.0 Max	1.5 Nom., 2.0 Max	1.8 Nom., 2.2 Max	1.8 Nom., 2.2 Max	2.2 Nom., 2.5 Max
Mass	G		110	110	110	110

Section 2 Fixed Gain Mode

(FGM) Requirements

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
Commandable Gain Control	dB	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps
Noise Figure @ Max Gain	dB	8	8	8	8	8
Noise Figure @ Min Gain	dB	20	20	15	15	20
Gain Stability						
Cold to Hot [More gain at hot than cold, G(hot) -	dBp-p	1.0	1.0	1.0	1.0	1.0
Over Life	dB	±0.	±0.7	±0.7	±0.7	±0.7

Section 3 Automatic Level Control

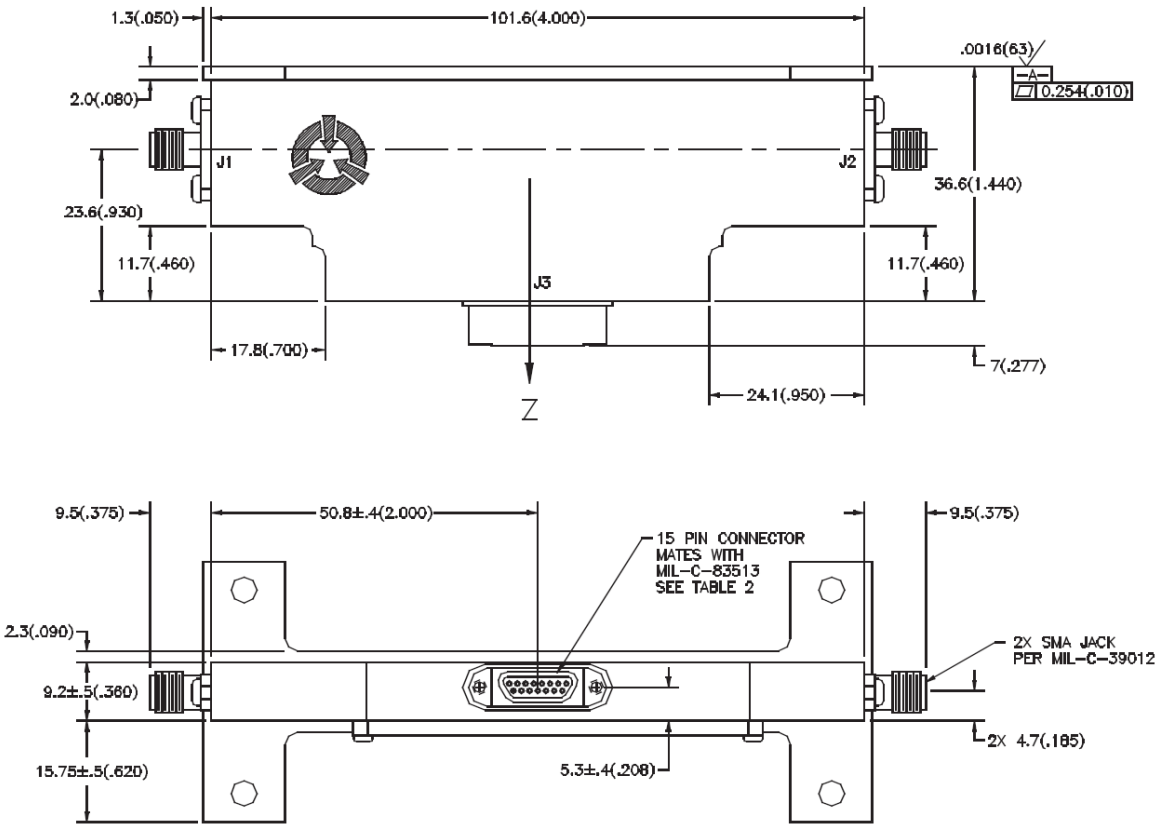
(ALC) Mode Requirements

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
ALC Commandable Output Level (measured at CAMP output)	dB	15 dB Min in 0.5±0.2 dB Steps	N/A	15 dB Min in 0.5±0.2 dB Steps	15 dB Min in 0.5±0.2 dB Steps	15 dB Min in 0.5±0.2 dB Steps
Output Power Stability						
@ Channel Center Frequency over Input Power Range	dBp-p	0.3	N/A	0.3	0.3	0.3
@ Any Fixed Drive Over Temp (Cold to Hot)	dBp-p	0.5	N/A	0.5	0.5	0.5
@ Max Power Variation due to Aging & Radiation (analysis)	dBp-p	0.5	N/A	0.5	0.5	0.5
ALC Time Constant (For a +1 dB Change in Input Power)	msec	10-100	N/A	10-100	10-100	10-100

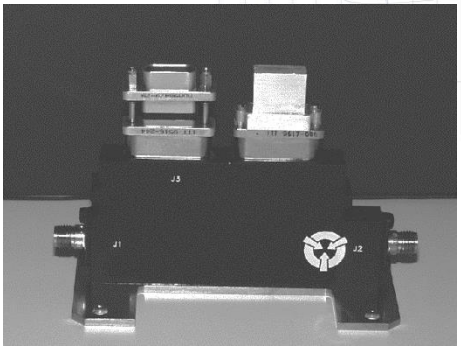
Section 4 Command and Telemetry Interface

PARAMETER	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU- BAND SPECIFICATION	KA-BAND SPECIFICATION
Command Set					
FGM/ALC Select	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial
GAIN/OUTPUT LEVEL ATTEN	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial
Telemetry Set					
FGM/ALC Status	Bi-Level	N/A	Bi-Level	Bi-Level	Bi-Level
GAIN/OUTPUT LEVEL STATE	Analog	N/A	Analog	Analog	Analog
Input Power Monitor (ALC Mode)	Analog	Analog	Analog	Analog	Analog
Output Power Monitor (FGM	Analog	Analog	Analog	Analog	Analog

OUTLINE DRAWING



Linearizers



Features

- S, C, X, Ku and Ka- Band Design
- Output Power Adjustment
- Low Power Consumption
- Light Weight

Stellant's Linearizer is a wideband TWTA (Traveling Wave Tube Amplifier) driver which operates in S-Band, C-Band, X-Band, Ku-Band or Ka-Band frequency ranges. The unit acts as an amplitude and phase predistortion generator to extend the linear operating range of the TWTA. The unit is constructed using thin film amplifier, attenuator, equalizer, linearizer and control circuits. The thin film modules are enclosed in a laser-sealed hermetic aluminum housing. The housing has two SMA RF connectors and a 15 pin Micro-D connector for DC/Command interface. The housing may also include a second 15 pin Micro-D connector which can be used to externally fine tune the linearizer, after it has been sealed, to match the final TWTA data. If required, these adjustments can be made by adding established reliability resistors to this second 15 pin Micro-D connector.

Space Qualified Linearizer Specifications

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATIONS	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
General Requirements						
Frequency Range	GHz	2.630–2.655	.7–4.2	7.25–7.75	500 MHz Bandwidth over 10.7 to 12.7	500 MHz Bandwidth over 18.3 to 20.2
Power Output Reference Level at Ambient ($Pout_{REF}$)	------	+4.0	+3.0	+3.0	+3.0	+3.0
Channel Bandwidth	MHz	25	36	36	36	36
RF Susceptibility	dBi	-80	-80	-80	-80	-80
RF Connectors		SMA	SMA	SMA	SMA	SMA
DC Voltage	V	+8.0	+8.0	+8.0	+8.0	+8.0
DC Power	W	1.0 Nom., 1.5 Max	1.0 Nom., 1.5 Max	1.0 Nom., 1.5 Max	1.0 Nom., 1.5 Max	1.0 Nom., 1.5 Max
Mass	g	90	90	90	90	90

Integrated LCAMP-TWTA Requirements

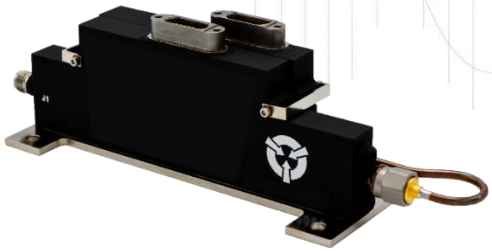
PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATIONS	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
Phase Shift LTWTA	deg					
at Pin_{sat} (0 dB IBO)		±20	±20	±20	±20	±20
at Pin_{sat} -3 dB (3dB IBO)		±15	±15	±15	±15	±15
at Pin_{sat} -6 dB (6 dB IBO)		±9	±9	±9	±9	±9
at Pin_{sat} -9 dB (9 dB IBO)		±5	±5	±5	±5	±5
at Pin_{sat} -12 dB (12 dB IBO)		±3	±3	±3	±3	±3
at Pin_{sat} -15 dB (15 dB IBO)		±2.5	±2.5	±2.5	±2.5	±2.5
at Pin_{sat} < Pin_{sat} -20 dB (20 dB IBO)		0.0 (reference)	0.0 (reference	0.0 (reference)	0.0 (reference)	0.0 (reference)

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATIONS	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
AM/PM Conversion Coefficient LTWTA	deg/ dB					
at Pin_{sat} (0 dB IBO)		±4.0	±4.0	±4.0	±4.0	±4.0
at Pin_{sat} -3 dB (3 dB IBO)		±3.0	±3.0	±3.0	±3.0	±3.0
at Pin_{sat} -6 dB (6 dB IBO)		±2.5	±2.5	±2.5	±2.5	±2.5
at Pin_{sat} -9 dB (9 dB IBO)		±1.8	±1.8	±1.8	±1.8	±1.8
at Pin_{sat} -12 dB (12 dB IBO)		±1.2	±1.2	±1.2	±1.2	±1.2
at Pin_{sat} -15 dB (15 dB IBO)		±1.0	±1.0	±1.0	±1.0	±1.0
at Pin_{sat} < Pin_{sat} -20 dB (20 dB IBO)		±0.5	±0.5	±0.5	±0.5	±0.5

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATIONS	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
C/3IM Ratio (IBO is wrt single Pin_{sat})	dBc					
Each carrier at Pin_{sat} - 3 dB (3 dB IBO)		10	10	10	10	10
Each carrier at Pin_{sat} - 6 dB (6 dB IBO)		18	18	18	18	18
Each carrier at Pin_{sat} - 9 dB (9 dB IBO)		23	23	23	23	23
Each carrier at Pin_{sat} - 12 dB (12 dB IBO)		29	29	29	29	29
Each carrier at Pin_{sat} - 15 dB (15 dB IBO)		33	33	33	33	33

PARAMETER	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATIONS	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
NPR (IBO is wrt single carrier Pin_{sat})	dBc					
at Pin_{sat} (0 dB IBO)		8	8	8	8	8
at Pin_{sat} -3 dB (3 dB IBO)		12	12	12	12	12
at Pin_{sat} -6 dB (6 dB IBO)		20	20	20	20	20
at Pin_{sat} -9 dB (6 dB IBO)		26	26	26	26	26
at Pin_{sat} -12 dB (12 dB IBO)		29	29	29	29	29
at Pin_{sat} -15 dB (15 dB IBO)		32	32	32	32	32

Linearized Channel Amplifiers (LCAMP)



Features

- S, C, X, Ku and Ka- Band Design
- 6 dB Typical Gain Enhancement
- 50 Degree Typical Phase Advance
- Output Power Adjustment
- Low Power Consumption
- Light Weight

Stellant's Linearized Channel Amplifier (LCAMP) is a wideband TWT (Traveling Wave Tube) driver which operates in S-Band, C-Band, X-Band, Ku- Band or Ka-Band frequency ranges. The LCAMP consists of a channel amplifier assembly and a linearizer assembly which are mounted on a common baseplate. The RF output of the channel amplifier assembly is connected to the RF input of the linearizer assembly with an SMA coax cable.

The channel amplifier can operate in a fixed gain mode or an ALC mode. The unit has commandable gain and ALC levels. Pulse or serial command inputs are used to increase or decrease the gain in the fixed gain mode, increase or decrease the power in the ALC mode and select the mode of operation. An RF telemetry output monitor can be included which will pro- vide a calibrated DC voltage to provide information on the output power level of the channel amplifier in the fixed gain mode. An RF telemetry input monitor can be included which will pro- vide a calibrated DC voltage to provide information on the input power level of the channel amplifier in the ALC mode. The unit is constructed using thin film amplifier, attenuator, coupler/detector, microstrip bandpass filter and control circuits. The thin film modules are enclosed in a laser-sealed hermetic aluminum housing. The housing has two SMA RF connectors and a 15 pin Micro-D connector for DC/Command interface.

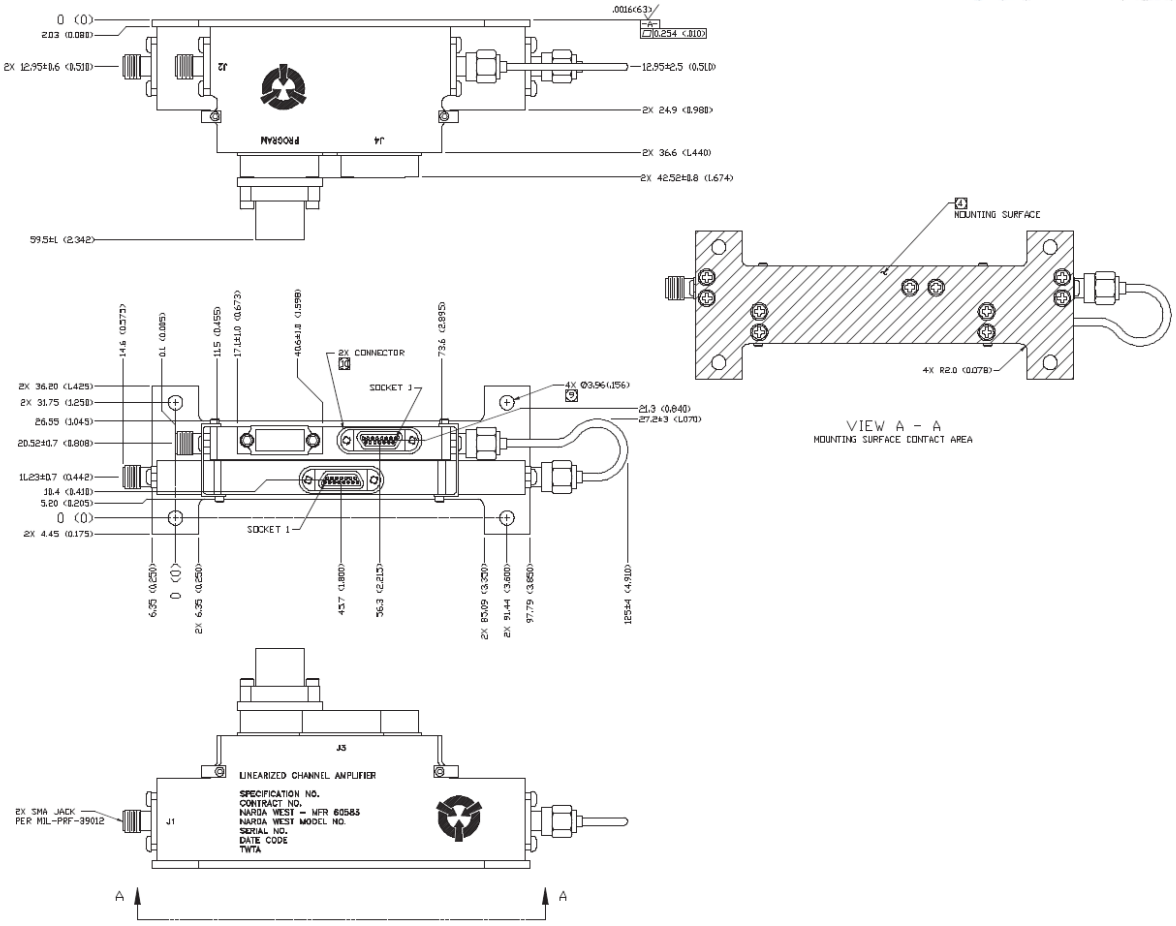
The linearizer acts as an amplitude and phase predistortion generator to extend the linear operating range of the TWTA. The unit is constructed using thin film amplifier, attenuator, equalizer, linearizer and control circuits. The thin film modules are enclosed in a laser-sealed hermetic aluminum housing. The housing has two SMA RF connectors and a 15 pin Micro-D connector for DC/Command interface. The housing may also include a second 15 pin Micro-D connector which can be used to externally fine tune the linearizer, after it has been sealed, to match the final TWTA data. If required, these adjustments can be made by adding established reliability resistors to this second 15 pin Micro-D connector.

PARAMETERS	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
Section 1 General Requirements						
Frequency Range	GHz	2.630 –2.655	3.7–4.2	7.25–7.75	500 MHz Bandwidth over 10.7 to 12.7	500 MHz Bandwidth over 18.3 to 20.2
Power Output Reference Level at Ambient ($Pout_{REF}$)	-----	+4.0	+3.0	+3.0	+3.0	+2.0
Channel Bandwidth	MHz	25	36	36	36	36
RF Input Power (FGM and ALC mode)	dBm	-40 to -13	-51 to -28	-58 to -27	-58 to -27	-53 to -26
Overdrive Capability, Input	dBm	0 Max	0 Max	0 Max	0 Max	0 Max
Maximum Output Power	dBm	+19	+19	+19	+19	+19
Input Return Loss	dB	18	18	18	18	18
Output Return Loss	dB	18	18	18	18	18
Source & Load VSWR for Stability		All phases of Open & Short	All phases of Open & Short	All phases of Open & Short	All phases of Open & Short	All phases of Open & Short
Out-of-Band Rejection at Receive Frequencies	dB	20 Min	20 Min	40 Min (with external	40 Min	40 Min
In-Band Spurious Outputs						
Within any 4 kHz band	dBc	75	75	75	75	75
Within any 1 MHz band	dBc	70	70	70	70	70
Caused by Power Supply Frequencies	dBc	55	55	55	55	55
Out-of-Band Spurious Outputs (except harmonics)	-----					
Within any 4 kHz Band	dBc	60	60	60	60	60
Group Delay Variation (over channel BW)	nsec	1.0	0.2	2.0	0.2	0.2
Gain Flatness @ 10 dB IBO	dBp-p					
Over Channel Bandwidth		0.5	0.5	0.5	0.5	0.5
Over Operating Frequency Range		0.5	2.0	2.0	2.0	3.0
Gain Slope @ 10 dB IBO	dB/MHz	0.015	0.015	0.015	0.015	0.015
RF Susceptibility	dBi	-80	-80	-80	-80	-80
RF Connectors		SMA	SMA	SMA	SMA	SMA
DC Voltage	V	8.0	8.0	8.0	8.0	8.0
DC Power	W	3.0 Nom., 3.5 Max	3.0 Nom., 3.5 Max	3.5 Nom., 4.0 Max	3.5 Nom., 4.0 Max	4.0 Nom., 4.5 Max
Mass	g	200	200	260 (external filter)	200	200

PARAMETERS	UNITS	S-BAND SPECIFICATION	C-BAND SPECIFICATION	X-BAND SPECIFICATION	KU-BAND SPECIFICATION	KA-BAND SPECIFICATION
Section 2 Fixed Gain Mode (FGM) Requirements						
Commandable Gain Control	dB	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps	31 dB Min in 1.0±0.5 dB Steps
Noise Figure @ Max Gain	dB	7	7	7	7	7
Noise Figure @ Min Gain	dB	20	20	15	15	20
Output Power Compensation over temperature	dB/°C	+0.5 dB Cold to Hot	+0.5 dB Cold to Hot	+0.5 dB Cold to Hot	+0.5 dB Cold to Hot	+0.5 dB Cold to Hot
Input Dynamic Range Stability	-----					
Cold to Hot (More gain at Hot than Cold)	dB	+1.0	+1.0	+1.0	+1.0	+1.0
Over Life	dB	±0.7	±0.7	±0.7	±0.7	±0.7
Section 3 Automatic Level Control (ALC) Mode Requirements						
ALC Commandable Output Level (measured at CAMP output)	dB	15 dB in	N/A	15 dB in	15 dB in	15 dB in
Output Power Stability	dB	0.5±-0.2 dB Steps	7	0.5±-0.2 dB Steps	0.5±-0.2 dB Steps	0.5±-0.2 dB Steps
@ Channel Center Frequency over Input Power Range	dBp-p	0.3	N/A	0.3	0.3	0.3
@ Any Fixed Drive Over Temp (Cold to Hot)	dBp-p	0.5	N/A	0.5	0.5	0.5
ALC Time Constant (For a +1 dB Change in Input Power)	dB	±0.7	±0.7	±0.7	±0.7	±0.7
Section 4 Integrated LCAMP-TWTA Requirements						
Phase Shift LTWTA	Deg					
at Pin_{sat} (0 dB IBO)		±20	±20	±20	±20	±20
at Pin_{sat} -3 dB (3 dB IBO)		±15	±15	±15	±15	±15
at Pin_{sat} -6 dB (6 dB IBO)		±9	±9	±9	±9	±9
at Pin_{sat} -9 dB (9 dB IBO)		±5	±5	±5	±5	±5
at Pin_{sat} -12 dB (12 dB IBO)		±3	±3	±3	±3	±3
at Pin_{sat} -15 dB (15 dB IBO)		±2.5	±2.5	±2.5	±2.5	±2.5
at Pin_{sat} < Pin_{sat} -20 dB (20 dB IBO)		0.0 (reference)	0.0 (reference)	0.0 (reference)	0.0 (reference)	0.0 (reference)
AM/PM Conversion Coefficient LTWTA	deg/ dB					
at Pin_{sat} (0 dB IBO)		±4.5	±4.5	±4.5	±4.5	±4.5
at Pin_{sat} -3 dB (3 dB IBO)		±3.0	±3.0	±3.0	±3.0	±3.0
at Pin_{sat} -6 dB (6 dB IBO)		±2.5	±2.5	±2.5	±2.5	±2.5

at Pin_{sat} -9 dB (9 dB IBO)		±1.8	±1.8	±1.8	±1.8	±1.8
at Pin_{sat} -12 dB (12 dB IBO)		±1.2	±1.2	±1.2	±1.2	±1.2
at Pin_{sat} -15 dB (15 dB IBO)		±1.0	±1.0	±1.0	±1.0	±1.0
at Pin_{sat} < Pin_{sat} -20 dB (20 dB IBO)		±0.5	±0.5	±0.5	±0.5	±0.5
C/3IM Ratio (IBO is wrt single carrier Pinsat)	dBc					
Each carrier at Pin_{sat} - 3 dB (3 dB IBO)		10	10	10	10	10
Each carrier at Pin_{sat} - 6 dB (6 dB IBO)		18	18	18	18	18
Each carrier at Pin_{sat} - 9 dB (9 dB IBO)		23	23	23	23	23
Each carrier at Pin_{sat} - 12 dB (12 dB IBO)		29	29	29	29	29
Each carrier at Pin_{sat} - 15 dB (15 dB IBO)		32	32	32	32	32
NPR (IBO is wrt single carrier Pinsat)	dBc					
at Pin_{sat} (0 dB IBO)		8	8	8	8	8
at Pin_{sat} -3 dB (3 dB IBO)		12	12	12	12	12
at Pin_{sat} -6 dB (6 dB IBO)		20	20	20	20	20
at Pin_{sat} -9 dB (9 dB IBO)		26	26	26	26	26
at Pin_{sat} -12 dB (12 dB IBO)		29	29	29	29	29
at Pin_{sat} -15 dB (15 dB IBO)		32	32	32	32	32
Section 5 Command and Telemetry Interface						
Command Set						
FGM/ALC Select		Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial
GAIN/OUTPUT LEVEL ATTEN		Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial	Pulse or Serial
Telemetry Set						
FGM/ALC Status		Bi-Level	N/A	Bi-Level	Bi-Level	Bi-Level
GAIN/OUTPUT LEVEL STATE		Analog	N/A	Analog	Analog	Analog

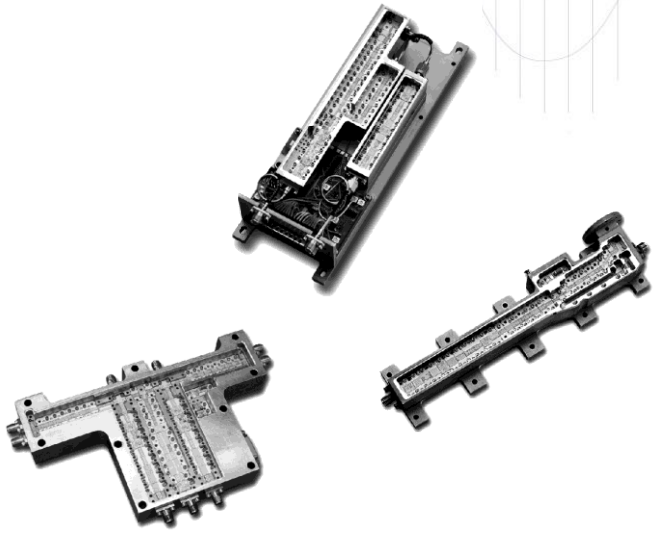
MECHANICAL OUTLINE



Converter Technology

Features

- L-Band through V-Band Designs
- Internal or External LO's
- Ultra-Low Loss & Low Spurious Mixer
- Low Phase Noise
- Coaxial & Waveguide Interface
- High Dynamic Range Attenuation Control
- Custom Internal Amplifiers, Mixers, Multipliers & Filters
- RF Switches
- DC/DC Converters

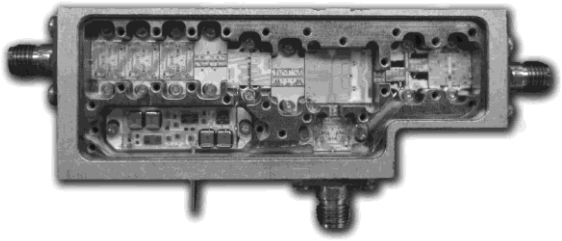


C- / X- Band Down Converter

APPLICATIONS: MILITARY AND SPACE

Features

- C thru X-Band RF Input
- Fixed or variable IF
- Low Noise, 1.3 dB
- Radiation Hardened Design
- Single Supply Operation: 12 VDC
- Hermetically Sealed

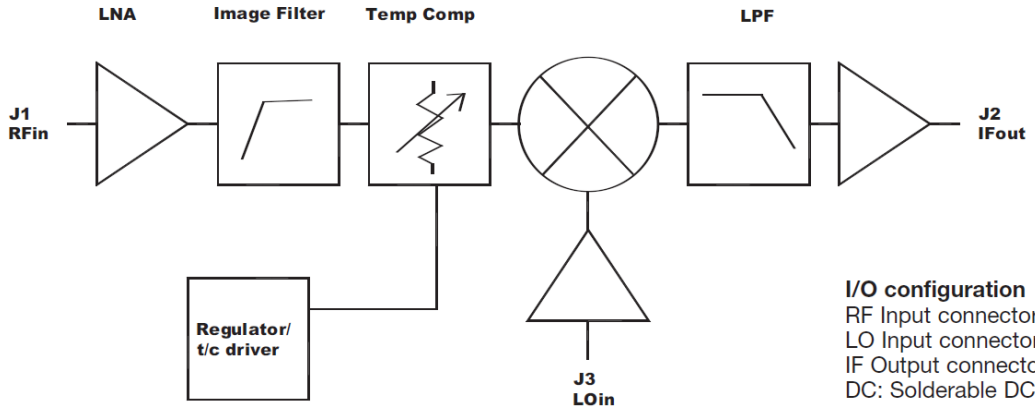


DESCRIPTION

The intended use is in C and X-Band communications systems. This unit shown has a single low noise, X-Band input and a UHF Output. The Local Oscillator port can be driven at over a +3 to +7dBm input range and has internal limiting amplifiers in the LO path to provide a controlled stable power level to the internal mixer. It has an integral image filter, IF filter, gain equalization, a temperature compensation module, a linear voltage regulator and can be provided with a gain or power control options.

This assembly is an MIC, multi-function assembly, housed in a hermetically sealed aluminum enclosure. The design employs the use of balanced amplifier architecture for very stable performance and excellent to load and source impedance variations. The internal mixer is an ultra-wideband, low loss, double balanced design. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is typically used in satellite communications systems.

FUNCTIONAL SCHEMATIC



I/O configuration
RF Input connector: SMA Female
LO Input connector: SMA Female
IF Output connector: WR-22
DC: Solderable DC and Ground pins

ABSOLUTE MAXIMUM RATINGS

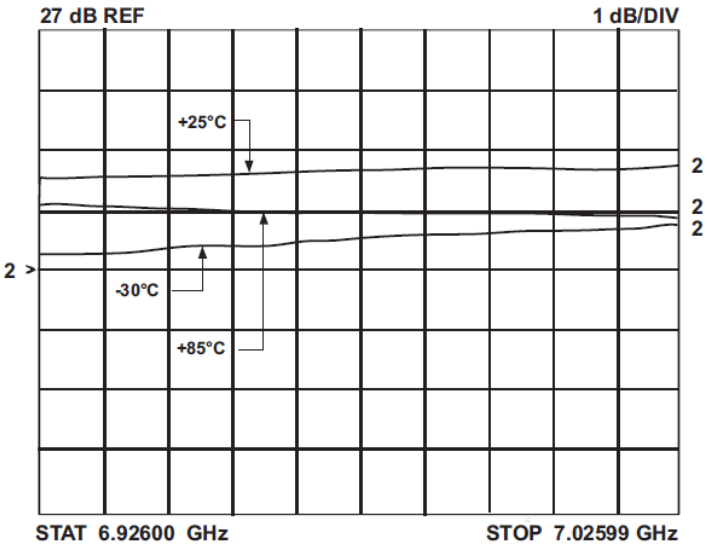
Junction Temperature (T_J)	175°C
Supply Voltages	17 V
Input Power	10 dBm
Storage Temperature	-55° to +125°C
Survival Temperature (T_C)	-55° to +125°C
Operating Temperature	-40° to +95°C

ELECTRICAL SPECIFICATIONS LIMITS

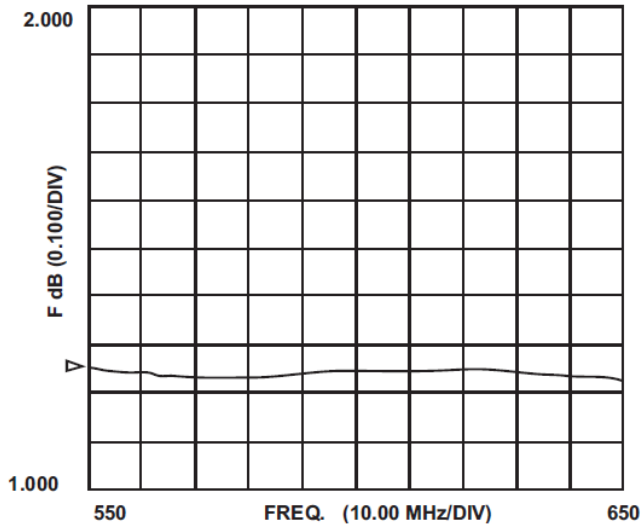
X Band Downconverter, Temperature of case -30° to +85°C

PARAMETER	LIMITS	UNITS
RF input Center Frequency	6.976	GHz
Intermediate Output Frequency, IF	600	MHz
LO input frequency	6.376	GHz
3 dB Minimum Channel Bandwidth	100	MHz
Channel Flatness	1	dBp-p
Spurious Free Conversion Dynamic Range	-120 to -60	GHz
Maximum RF input level -- no damage or degradation	10	dBm
Net Conversion Gain	27± 2	dB
Noise Figure (room temp.)	1.3	dB
Noise Figure (65°C)	1.7	dB
RF input VSWR	1.5:1	v/v
LO input level for specified conversion performance	3 to 7	dBm
LO leakage @ IF output	-40	dBm
LO leakage at RF input	-55	dBm
Image rejection	30	dB
LO input VSWR	1.5:1	v/v
IF output filter rejection @ 6.376 GHz	40	dB
IF load VSWR	1.5:1	v/v
Supply Voltage	9 ± 0.5	V
Supply Current	250	mA
Power Out @ 1dB Gain Compression	5	dBm
3rd Order Amplitude Linearity	-60	dBc
Out-of-Band Spurious Outputs: Up to 40 GHz	-60	dBc

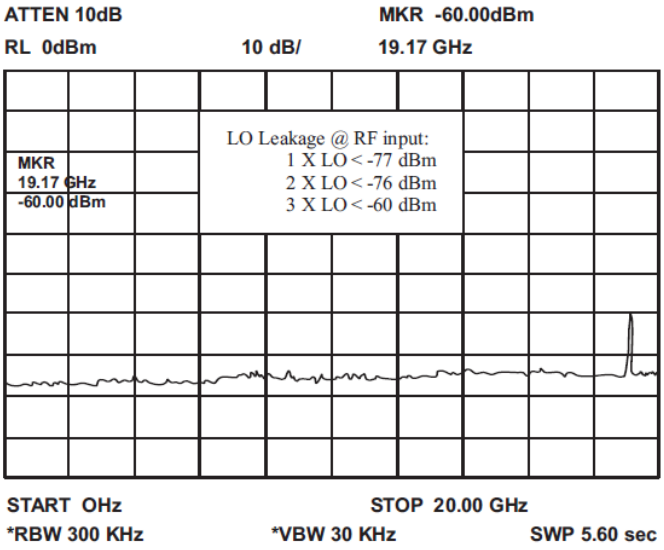
TYPICAL PERFORMANCE CURVES



Conversion Gain: Over Temp

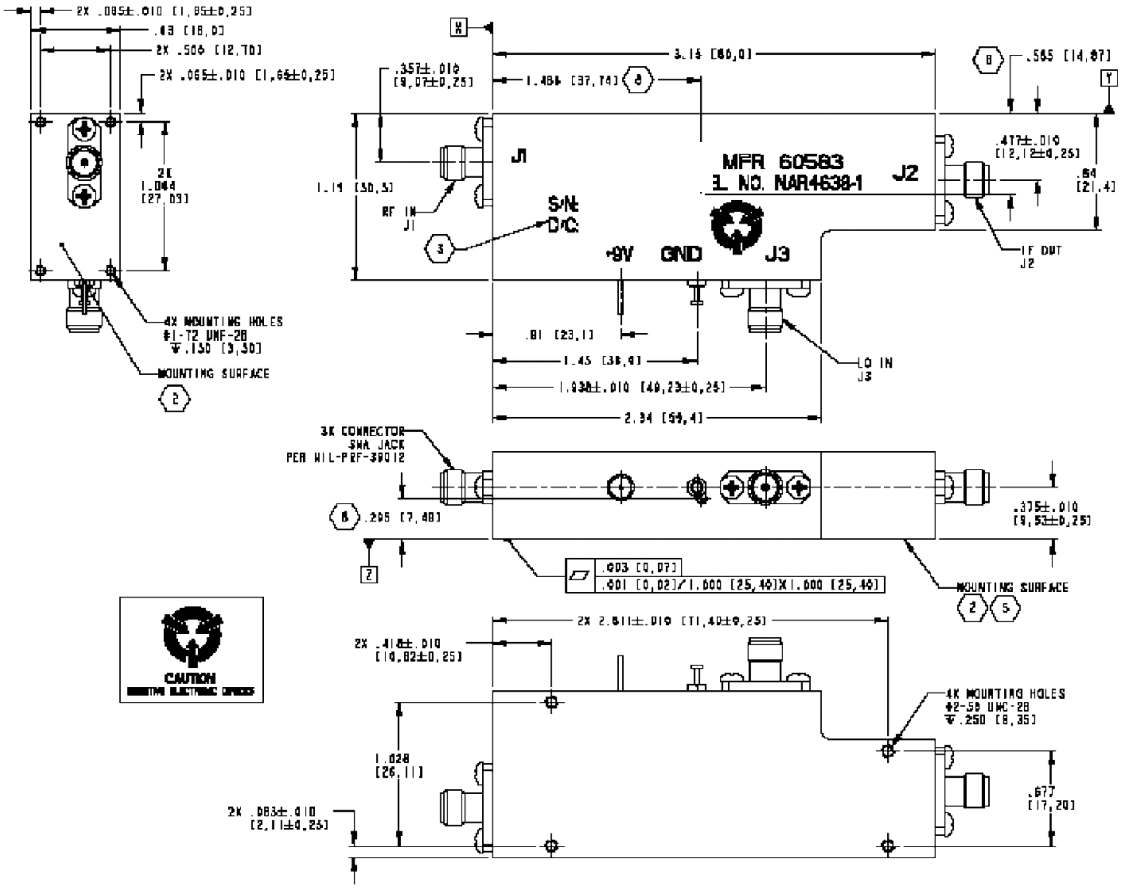


Noise Figure: 25°C

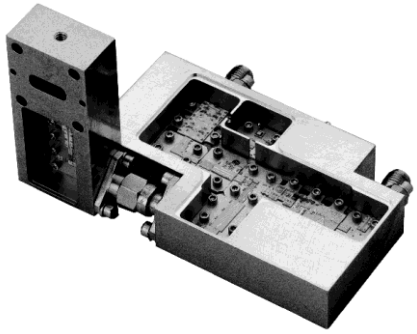


LO Leakage @ RF input

MECHANICAL OUTLINE



Ka-Band LNA/ Down Converter



APPLICATIONS: SATELLITE AND MILITARY

Features

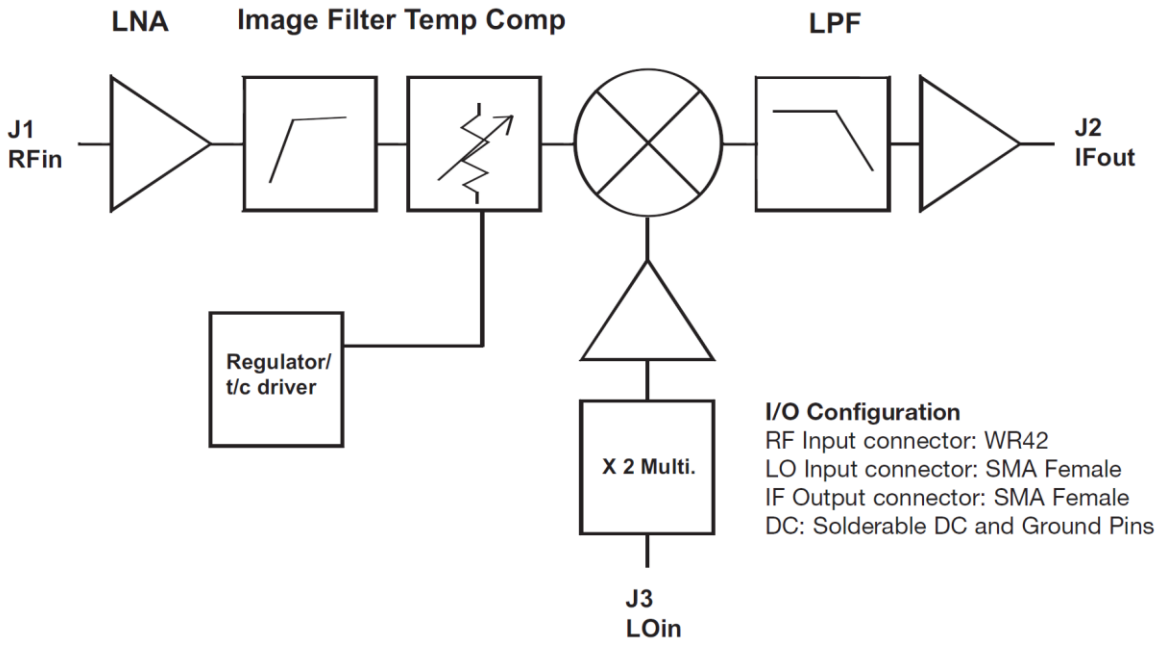
- 20.2–21.2 GHz RF Input
- Low Noise, 1.8 dB Typical
- Single Supply Operation: 12 VDC

DESCRIPTION

This unit is a low noise amplifier integrated with a downconverter. The Local Oscillator's port can be driven at very low levels. The LO path has a x2 multiplier and amplification and has internal limiting amplifiers in the LO path to provide a controlled stable power level to the internal mixer. It has an integral image filter, IF filter, gain equalization, a temperature compensation module, and an LO power monitor.

This assembly is an MIC, multi-function assembly. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations. The internal mixer is an ultra-wideband, low loss, double balanced design. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices.

FUNCTIONAL SCHEMATIC



I/O Configuration
RF Input connector: WR42
LO Input connector: SMA Female
IF Output connector: SMA Female
DC: Solderable DC and Ground Pins

ABSOLUTE MAXIMUM RATINGS

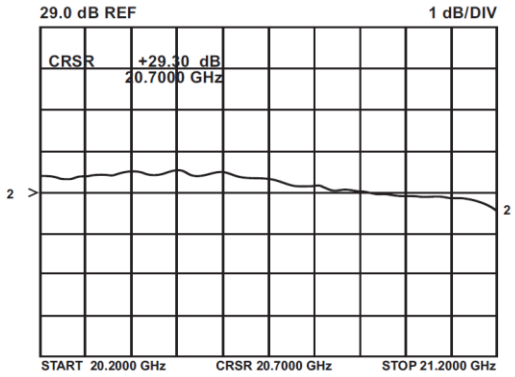
Junction Temperature (T_J)	175°C
Supply Voltages	17 V
Input Power	13 dBm
Storage Temperature	-40° to +60°C
Survival Temperature (T_C)	-55° to +125°C
Operating Temperature	-30° to +85°C

ELECTRICAL SPECIFICATIONS:

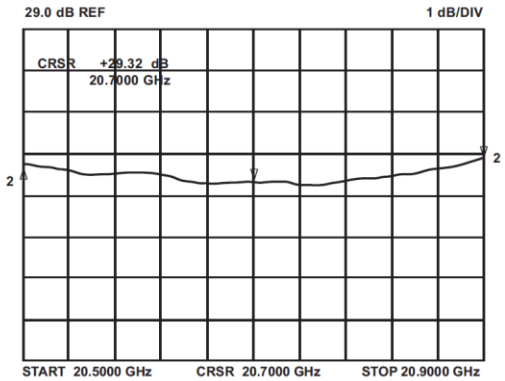
TA=25°C, Zo=50 OHMS

PARAMETER	LIMITS	UNITS
RF Input Frequency	20.2 to 21.2	GHz
Intermediate Output Frequency, IF	1.3 to 1.7	GHz
LO Input Frequency	10.85 to 11.85	GHz
LO Input Level	-37 to -31	dBm
Channel Flatness	0.6	dB p-p
Maximum RF Input Level - no damage or degradation	13	dBm
RF to IF Conversion Gain	29±1.0	dB
Noise Figure (23°C)	2.3	dB
Noise Figure (60°C)	2.75	dB
RF Input VSWR	1.7:1	v/v
IF Output VSWR	1.5:1	v/v
LO Leakage @ RF Input	-60	dBm
Image Rejection	35	dB
LO Input VSWR	1.5:1	v/v
Supply Voltage	5	V
Supply Current	600	mA
Power Out @ 1dB Gain Compression	5	dBm

TYPICAL PERFORMANCE CURVES

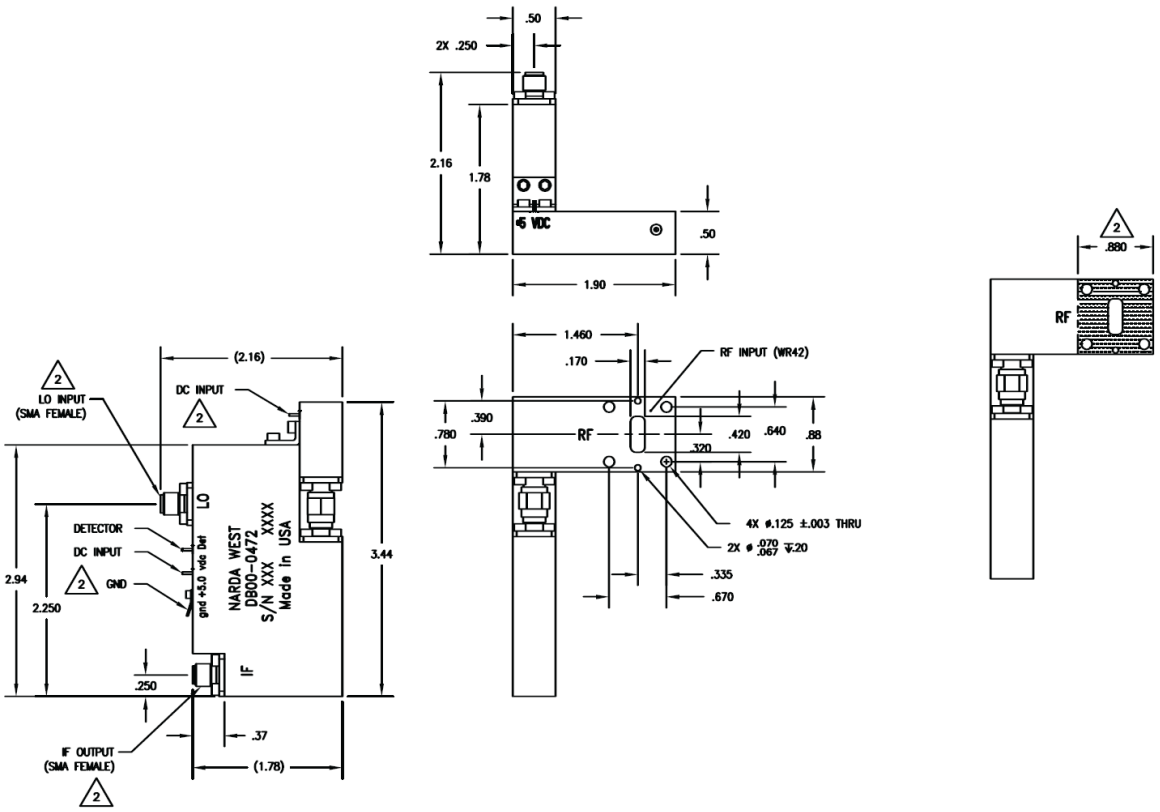


Conversion Gain: Fixed IF and Variable LO



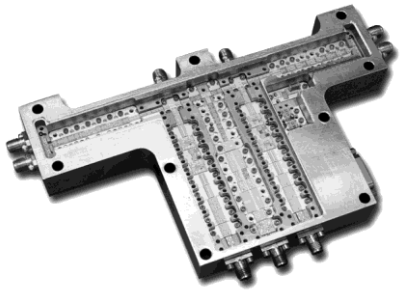
Conversion Gain: Swept IF

MECHANICAL OUTLINE



K-Band Dual Down Converter

APPLICATIONS: AIRBORNE



Features

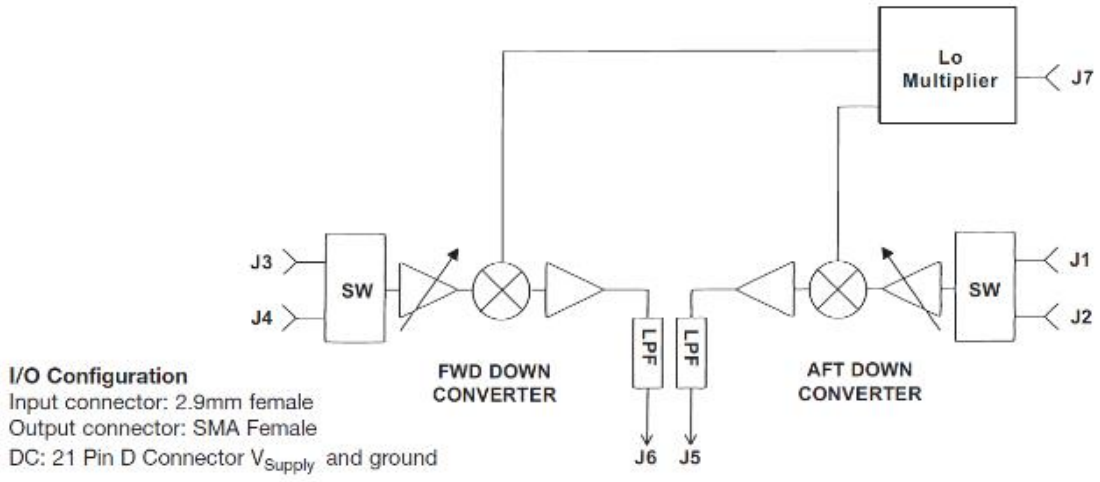
- High Level of Multi-Function Integration
- 18–40 GHz Input
- 2–18 GHz Output
- Externally Selectable Gain
- X-Band LO Input w/ Selectable (x2/x4) Internal Multiplier
- Hermetically Sealed
- Wide Operating Temperature Range: -54° to +95°C

DESCRIPTION

Stellant's Dual Broadband Downconverter is for use in the millimeter frequency range. The unit has four MM wave inputs ports, two RF output ports and a single local oscillator input port. All DC power and control signals are provided through the multi-pin connector port. Each of the two primary RF paths consists of a 1P2T input switch, a MM preamplifier, a dynamic range extension changing the gain prior to the mixer, a MM mixer, and a final lowpass filter. A single local oscillator subsection provides the amplification, multiplication, and the filtering to provide LO power to both mixers simultaneously.

This Broadband MM Downconverter is an MIC multi-function assembly, housed in a hermetically sealed, aluminum enclosure. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations. The internal mixers are ultra-wideband, low loss, double balanced designs. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is primarily used in military, radar warning systems that require MM wave coverage. This product is typically used to extend the operating frequency range of radar warning receiver systems.

FUNCTIONAL SCHEMATIC



ABSOLUTE MAXIMUM RATINGS

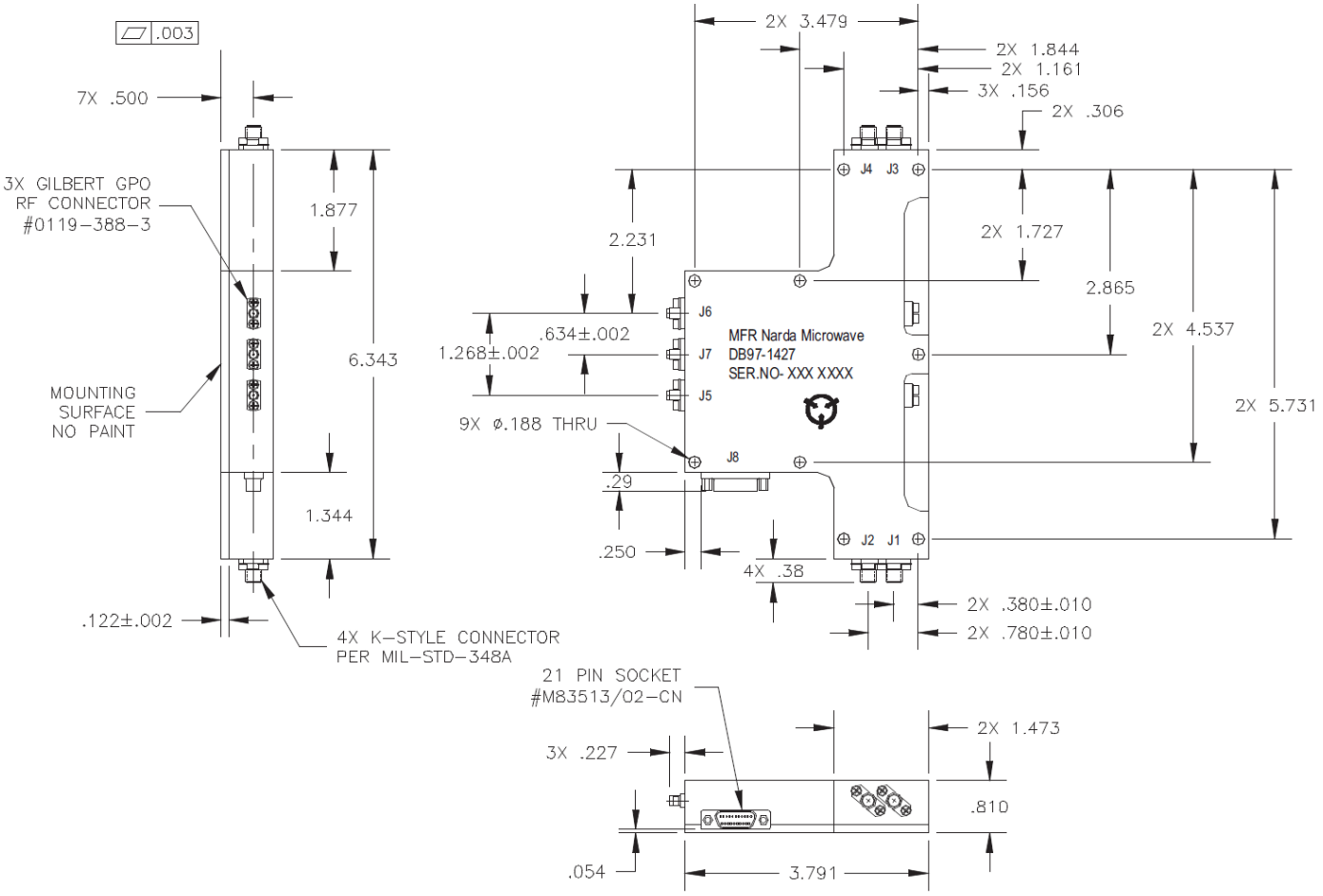
PARAMETER	ABSOLUTE RATING
V_{Supply}	20 Vdc
Input power	+15 dBm
Junction Temperature	150°C
Operating Temperature	-54° to +125°C
Storage Temperature	-65° to +150°C

ELECTRICAL SPECIFICATIONS

TA=25°C, V_{SUPPLY}=+11/-11 VDC, Zo=50 OHMS

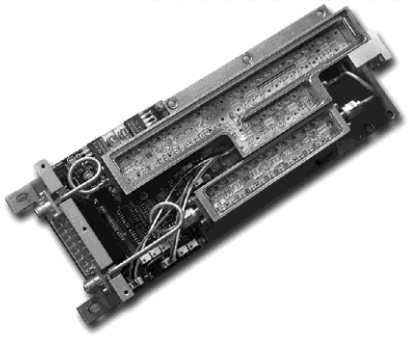
PARAMETER	SPECIFICATION LIMIT
Small-Signal Conversion Gain	23 dB ± 6 dB
Gain Variation	4 dB Maximum
Rejection (above 19 GHz)	40 dB Minimum
Noise Figure	10.5 dB Maximum
VSWR Input Ports Output Ports LO Input Port	 3.0:1 Maximum 2.8:1 Maximum 2.5:1 Maximum
Power Output @ 1dB Compression High Gain Mode Extended Dynamic Range Mode	 3 dBm Minimum -6 dBm Minimum
Third Order Intercept Point High Gain Mode Extended Dynamic Range Mode	 4 dBm Minimum 1 dBm Minimum
Second Order Intercept Point High Gain Mode Extended Dynamic Range Mode	 13 dBm Minimum 8 dBm Minimum
Switching Speed	6 S Maximum
Switch Isolation	28 dB Minimum
Maximum CW Input Power RF Input Ports LO Input Port	 +15 dBm Maximum +20 dBm Maximum
Power Supply Characteristics Power Supply Nominal Voltage Current Negative Supply Nominal Voltage Current	 +11 Vdc 2200 mA Maximum -11 Vdc 250 mA Maximum
Local Oscillator Input Power	11-16 dBm
Local Oscillator Spurious Signals LO Input Frequencies Conversion Frequencies Harmonics and Subharmonics	 -60 dBm Maximum -55 dBm Maximum -65 dBm Maximum
Channel-To-Channel Isolation	35 dBm Minimum

MECHANICAL OUTLINE



Q-Band Up Converter

APPLICATIONS: MILITARY



Features

- 43.5–45.5 GHz Output
- 7 GHz IF Input
- 8 bit, Digitally Controlled 64 dB Step Attenuator
- High Attenuation Accuracy
- Internal x28 LO Multiplier
- +18 dBm Output Power @ P-1dB
- Radiation Hardened Design
- High Level of Multi-Function Integration
- Hermetically Sealed

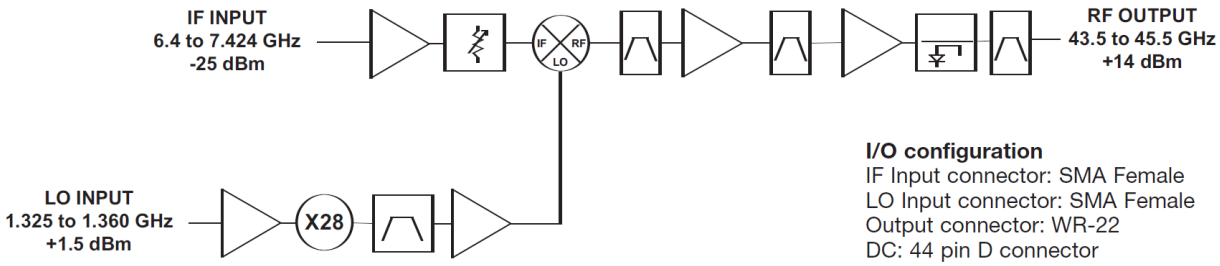
DESCRIPTION

Stellant's Q-Band Upconverter is for use in the millimeter frequency range. The unit has an X Band IF input, an L Band Local Oscillator input, and a Q Band output port. All DC power and control signals are provided through the multi-pin connector port.

The LO path consists of a X4 and X7 multiplier with associated filtering and saturating amplifiers for stable LO level control. The IF path consists of a saturating amplifier chain followed by voltage controlled attenuation that operates over a minimum 64 dB dynamic range. The mixer is a double balanced architecture. It is followed by a MMiC LNA, inter-stage filtering and a medium power Output MMIC. The unit is fully temperature compensated and provides a output level detection function.

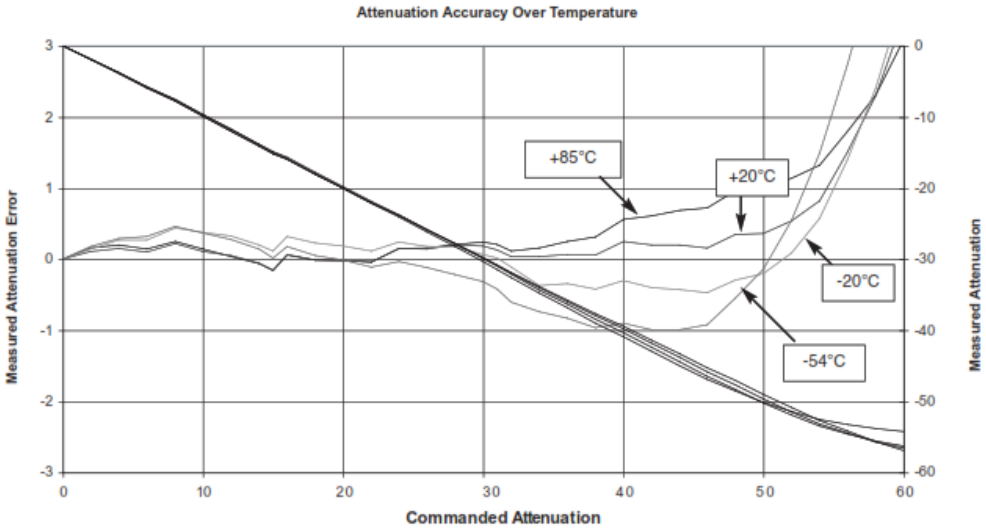
This Upconverter is an MIC multi-function assembly, housed in a hermetically sealed, aluminum enclosure. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations as well as several MMiC blocks. The internal mixers are ultra-wideband, low loss, double balanced designs. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is used in high data rate, satellite communication links.

FUNCTIONAL SCHEMATIC

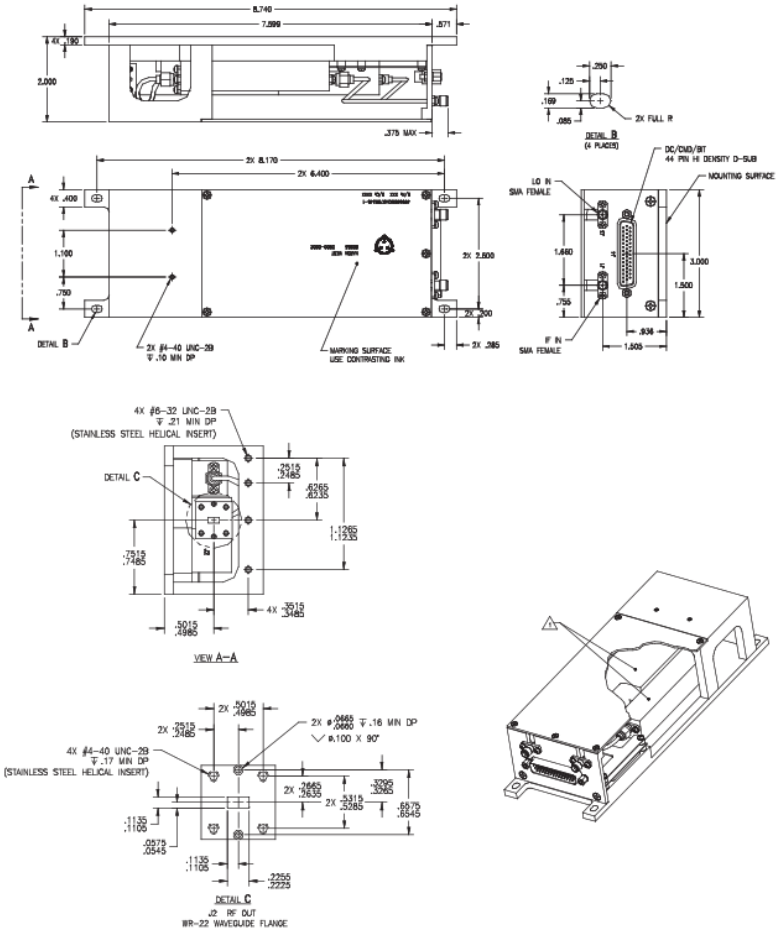


I/O configuration
IF Input connector: SMA Female
LO Input connector: SMA Female
Output connector: WR-22
DC: 44 pin D connector

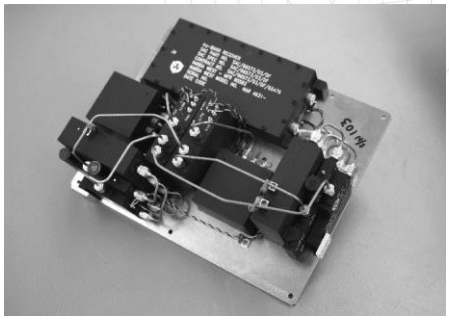
TYPICAL PERFORMANCE CURVES



MECHANICAL DRAWING



Ka-Band Communication Receiver



APPLICATIONS: SATELLITE

Features

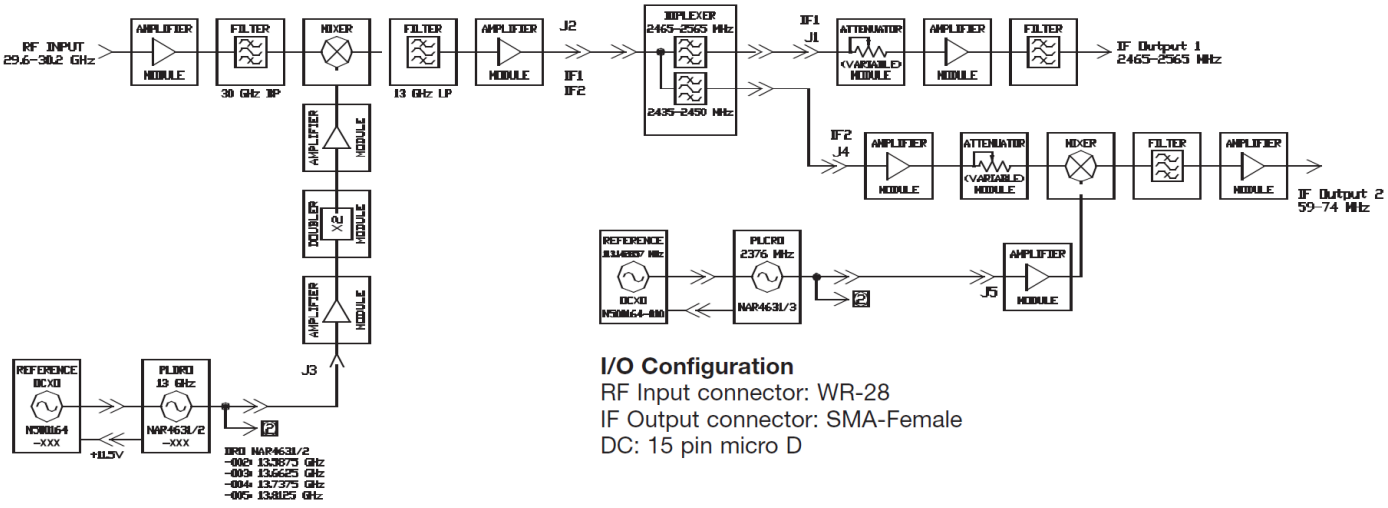
- 28–31 GHz Input Range
- Dual IF Output, 2.5 GHz and 70 MHz
- Low Noise, 2.6 dB
- Radiation Hardened Design
- Custom Integration of LNA, Mixer, and Filters
- Single Supply Operation: 15 VDC
- Hermetically Sealed

DESCRIPTION

Stellant's Ka-Band Downconverter is for use in Ka-Band communications systems. This unit has a Ka Band RF input, and S and UHF Band IF outputs. Phase locked Oscillators and DC/DC Power supplies are optional. All DC power and control signals are provided through a 15 pin, micro D multi-pin connection.

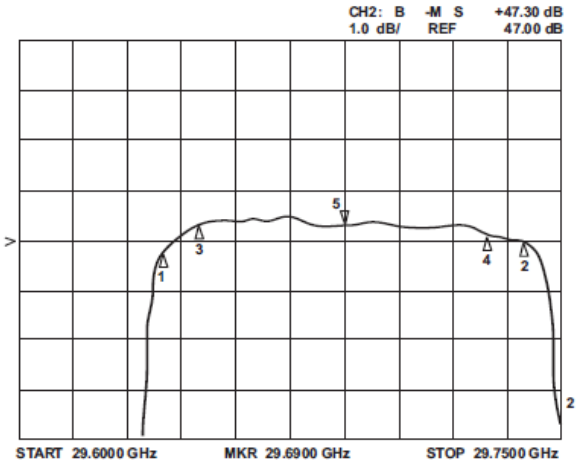
This Receiver is an MIC, multi-function assembly, housed in a hermetically sealed aluminum enclosure. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations as well as MMiC blocks. The internal mixers are ultra-wideband, low loss, double balanced designs. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is used in satellite communications systems. It operates over a high dynamic range with very low spurious performance.

FUNCTIONAL SCHEMATIC

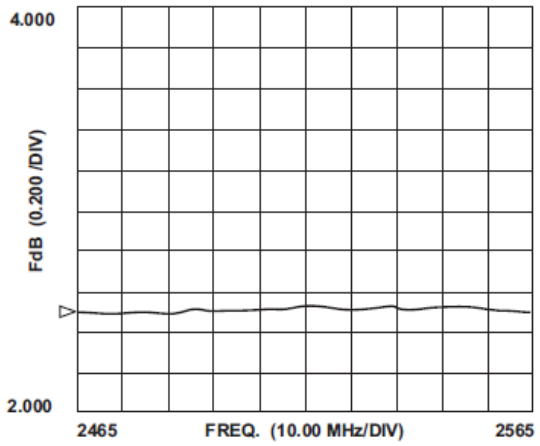


I/O Configuration
RF Input connector: WR-28
IF Output connector: SMA-Female
DC: 15 pin micro D

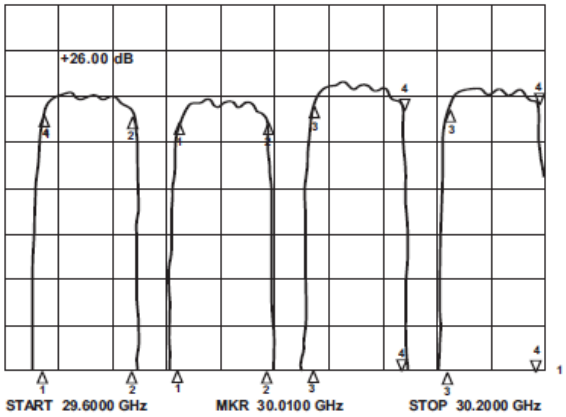
TYPICAL PERFORMANCE CURVES



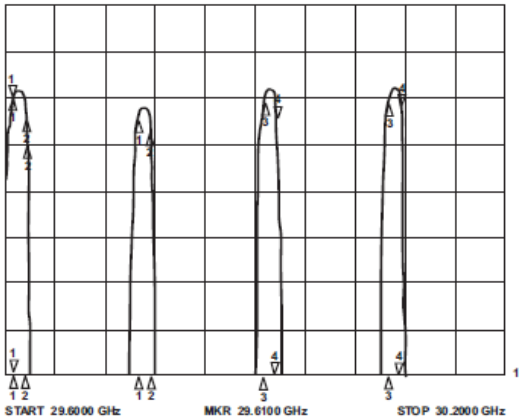
Conversion Gain: Ka to S Band, full band



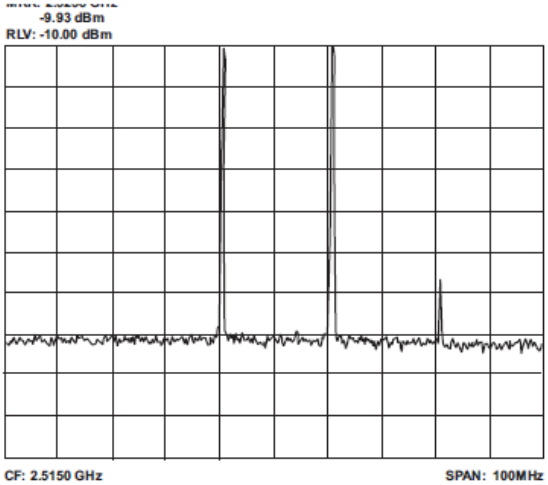
Noise Figure: Ka to S Band



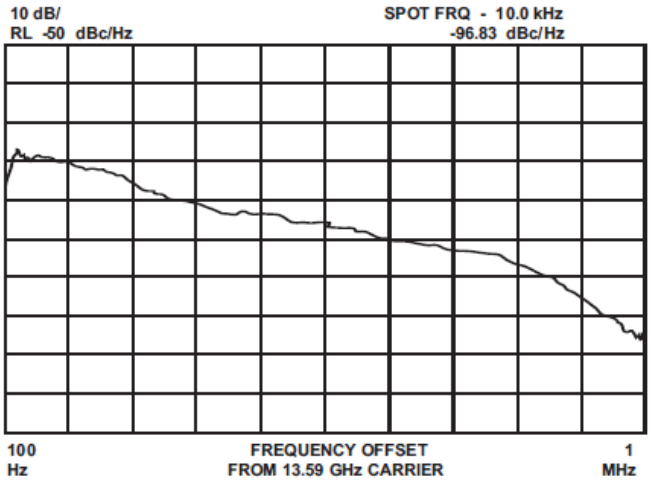
Conversion Gain: Ka to S Band w/IF duplexer



Conversion Gain: Ka to 70MHz IF

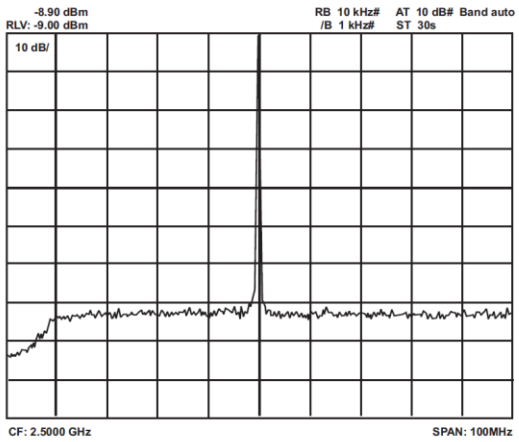


3rd Order Intermod: Ka to S Band output, -55dBm input

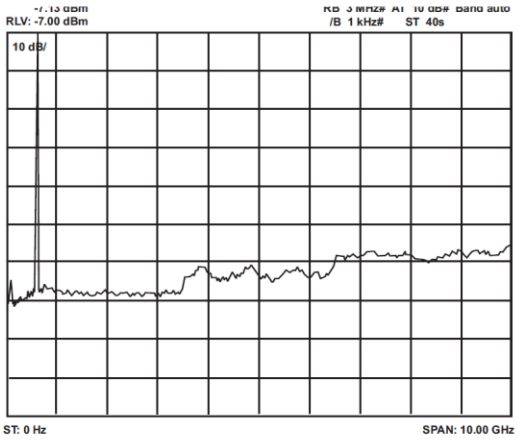


Phase Noise: 13.6 GHz Phase Locked DRO

TYPICAL PERFORMANCE CURVES

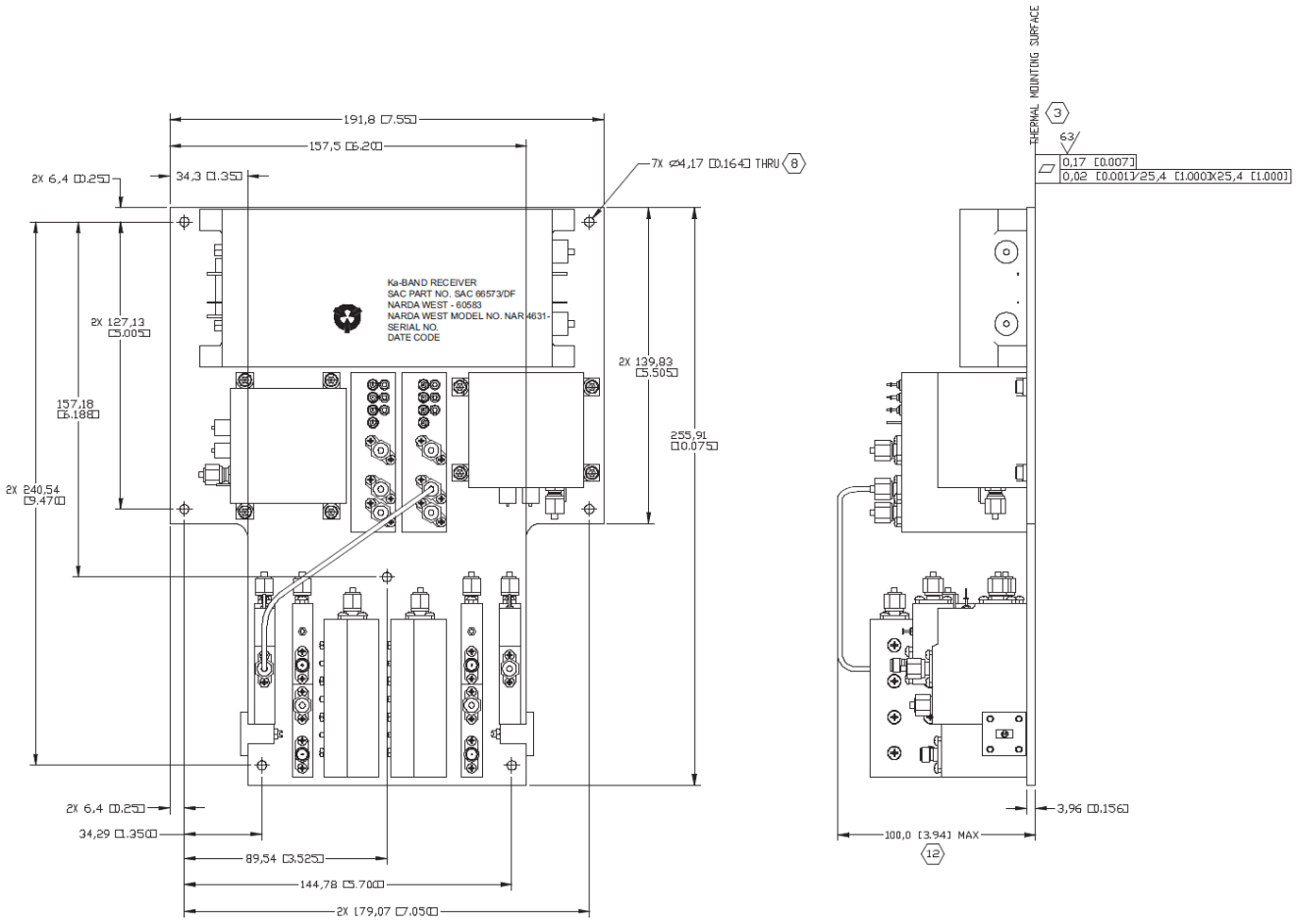


Spurious: In-Band

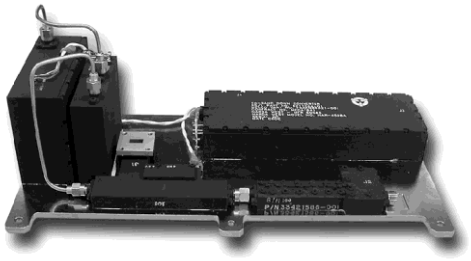


Spurious: Out-of-Band

MECHANICAL OUTLINE



17/12 GHz Receiver



APPLICATIONS: SATELLITE

Features

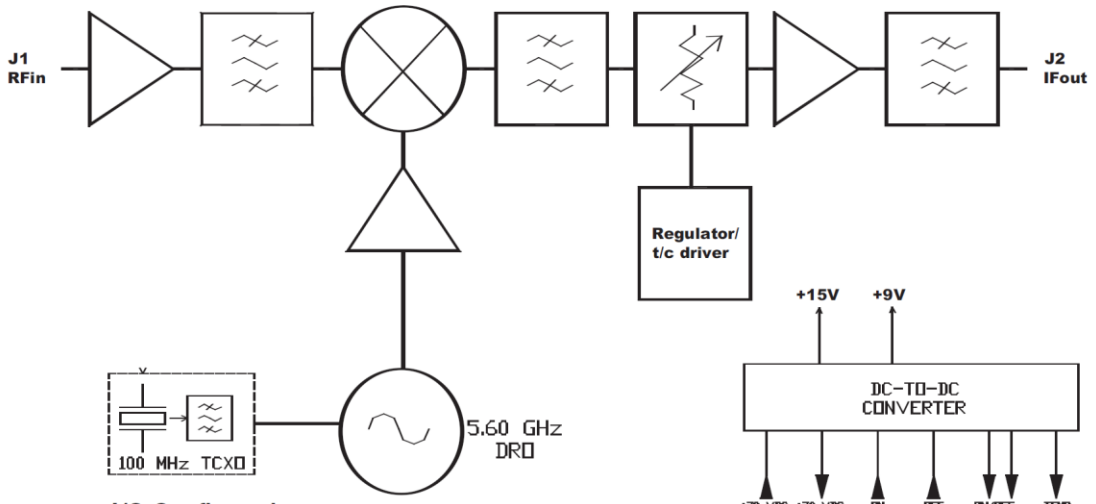
- Low Noise Front End Amplifier
- Low Spurious High Dynamic Range Converter
- Multiple Filter Options
- Low Phase Noise
- Radiation Hardened Design
- Hermetically Sealed

DESCRIPTION

The intended use is in Ku-Band satellite communications systems. The Receiver has an integral Downconverter, Phase Locked Source, TCXO or OCXO Reference and DC/DC Converter. The Downconverter consists of an LNA, image filter, IF filter, gain equalization, temperature compensation, and various IF filter options.

This assembly is an MIC, multi-function assembly, housed in a hermetically sealed aluminum enclosure. The design employs the use of balanced amplifier architecture for very stable performance and excellent tolerance to load and source impedance variations. The internal mixer is an ultra-wideband, low loss, double balanced design. It is manufactured using thin film, chip and wire technology and utilizes GaAs, PHEMT, FET devices. This product is typically used in satellite communications systems

FUNCTIONAL SCHEMATIC



I/O Configuration
RF Input connector: SMA Female or WR-62 WG
IF Output connector: SMA-Female
DC: 15 pin micro D

ABSOLUTE MAXIMUM RATINGS

Junction Temperature (T_J)	175°C
Supply Voltages	90 V
Input Power	10 dBm
Storage Temperature	-55° to +125°C
Survival Temperature (T_C)	-55° to +125°C
Operating Temperature	-15° to +60°C

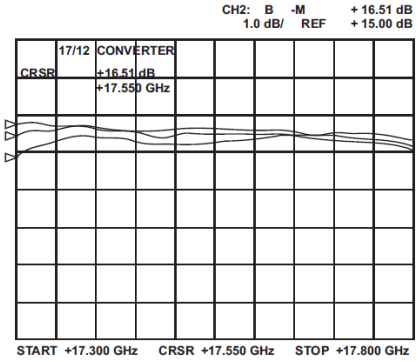
ELECTRICAL SPECIFICATIONS LIMITS:

X Band Downconverter, Temperature of case -30° to +85°C

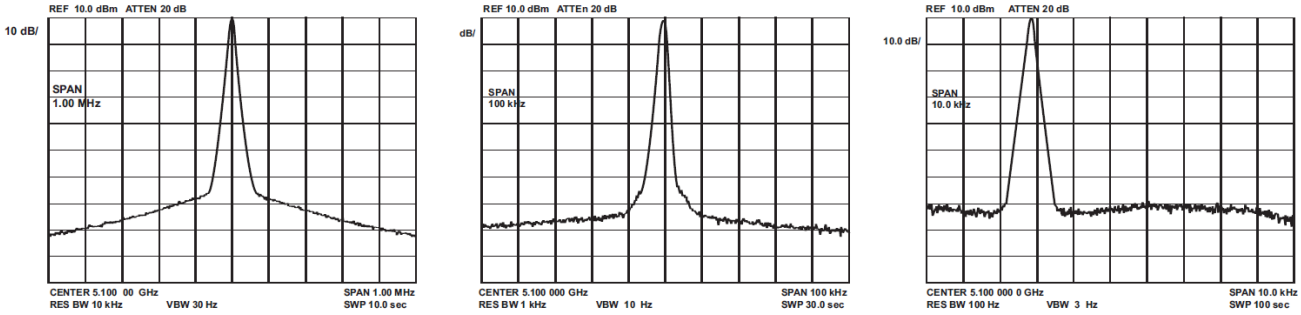
PARAMETER	LIMITS	VALUE	UNITS
Input Frequency Range	range	17.3–17.8	GHz
Output Frequency Range	range	11.7–12.2	GHz
Translation Frequency	N/A	5600	MHz
Channel Bandwidth (reference)	=	34	MHz
Max Operational Input per Carrier			
Power Level	=	-55.8	dBm
Number of Carriers	=	8	carriers
Noise Figure			
EOL w/Temp	≤	2.4	dB
Gain	range	52-54	Gain
Gain Stability			
Over 66°C Range	≤	1.5	dB p-p
Over Life (15 Years)	≤	1	dB p-p
Over any 20°C	≤	0.5	dB p-p
Gain Variation			
Over Full Band	≤	1	dB p-p
Over any 34.5 MHz	≤	0.3	dB p-p
Gain Slope	≤	0.01	dB/MHz
Translation Frequency Stability			
Variation over 15°C and 1 day	±	5	ppm
Translation error over 66°C and life (including initial set ability)≠	±	50	ppm
Single-Sideband Phase Noise		Phase Noise Density	Phase Noise Density
Offset From Carrier			
100 Hz	≤	-60	dBc/Hz
1 kHz	≤	-70	dBc/Hz
10 kHz	≤	-80	dBc/Hz
100 kHz	≤	-90	dBc/Hz
1 MHz	≤	-90	dBc/Hz

PARAMETER	LIMIT	VALUE	UNITS
Amplitude Linearity			
C/3IM for 2 Carriers	≥	46	dBc
Input Power Each Carrier	=	-49	dBm
Group Delay Variation			
Over any 34.5 MHz	≤	0.8	nsec p-p
Group Delay Ripple			
Period less than 10 MHz	≤	0.2	nsec p-p
Phase Linearity			
Input Level from -76 to -56 dBm	≤	1	°
Input level from -76 to -47 dBm	≤	5	°
AM/PM Conversion Coefficient			
56 dBm Input Level	≤	0.15	°/dB
Overdrive Survivability (Total Input Level)			
For 24 Hours	≥	-35	dBm
Continuously	≥	-49	dBm
In Band Spurious Outputs			
Mixer Intermods	≤	-75	dBc
Input Carrier Power Level	=	-56	dBm
Input Frequency Range	range	17.3 to 17.8	GHz
Other Spurious Outputs	≤	-87	dBm
Out-of-Band Spurious Outputs			
2 x LO Harmonic	≤	-35	dBm
Other Spurious Outputs	≤	-56	dBm
Commands		On/Off	
Telemetry		On/Off	
RF Interfaces			
Input		WR-62 WG	
Output		SMA Female	
Return Loss			
Input	≥	18	dB
Output	≥	18	dB
Bus Voltage	range	68 to 71	Volts
DC Power Consumption	≤	8.2	Watts
Mass	≤	0.8	Kg
Acceptance Temperature Range	range	-10 to +71	°C
Cold Start	≤	-29	°C

TYPICAL PERFORMANCE CURVES

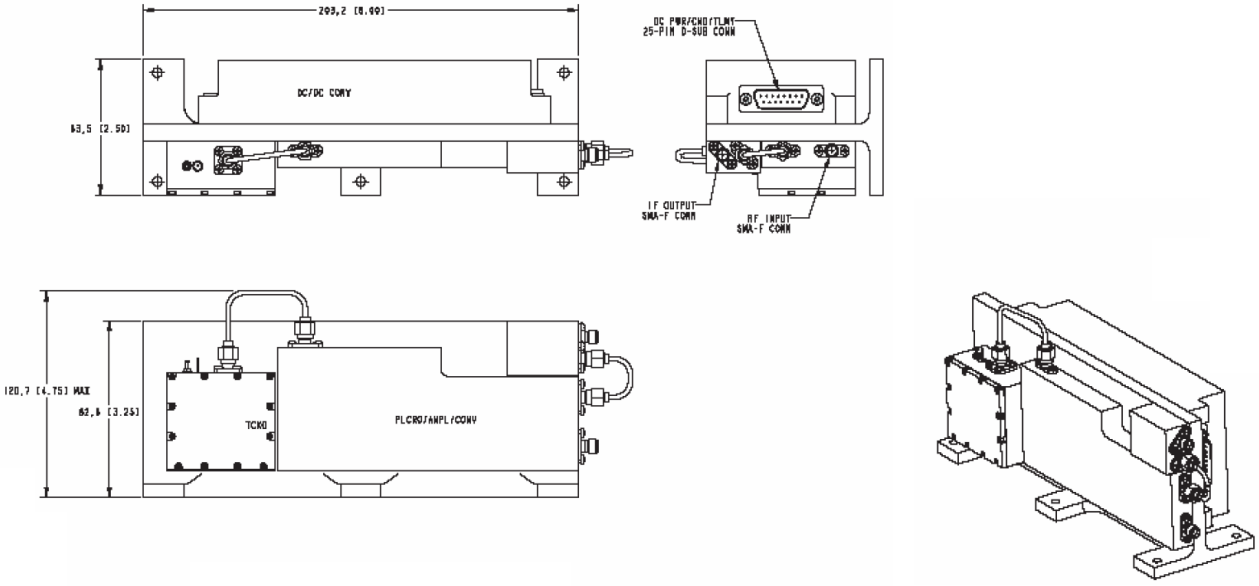


Conversion Gain: Over Temp



Source Phase Noise

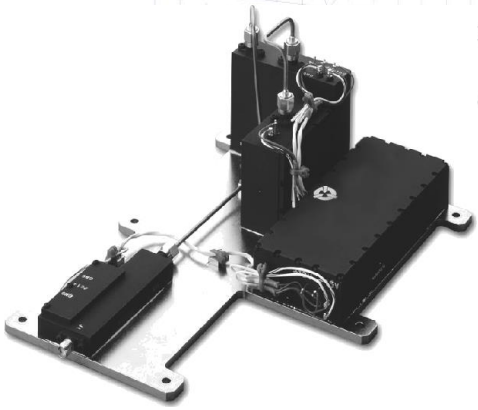
MECHANICAL OUTLINE



Beacon Transmitters

Multifunction Assemblies

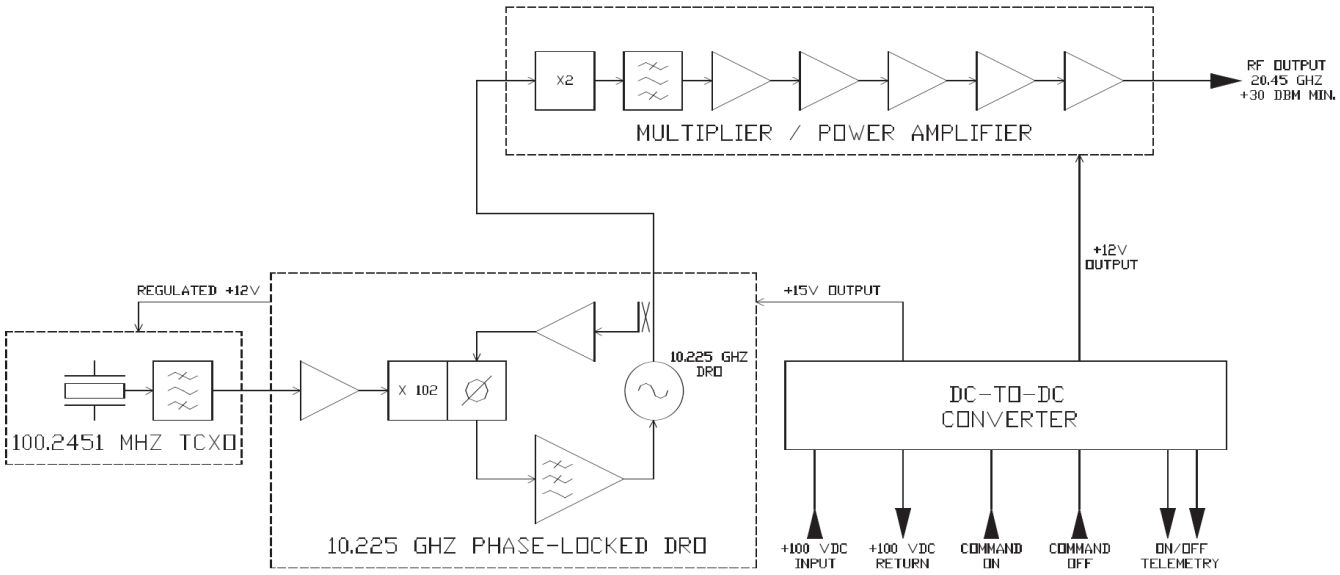
APPLICATIONS: SATELLITE



Features

- L, S, C, X, Ku and Ka-Band Designs
- High Output Power (up to 1.5 Watts to 30 GHz)
- Temperature Compensated
- Gain Equalization
- High Frequency Accuracy & Stability

FUNCTIONAL DIAGRAM



Power Monitors

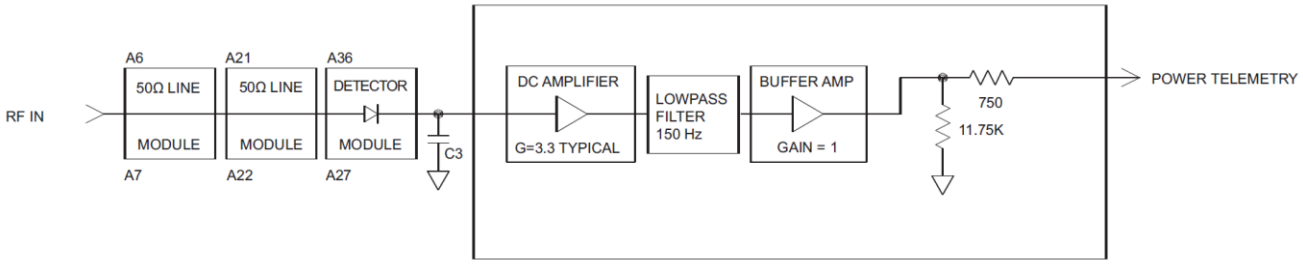
Multifunction Assemblies

APPLICATIONS: SATELLITE

Features

- L, S, C, X, Ku and Ka-Band Designs
- Transmit Inputs from 1 to 32 Channels
- Operational Range Input Levels from -60 to 9 dBm
- Telemetry Voltage Range from 0.0 to +5 Volts
- Calibration Curves Available from -15° to +70°C

FUNCTIONAL DIAGRAM



ACTIVE COMPONENTS CATALOG

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