



ALDETEC^{microwave} inc.

Broadband **Wireless**

2025

PRODUCT CATALOG

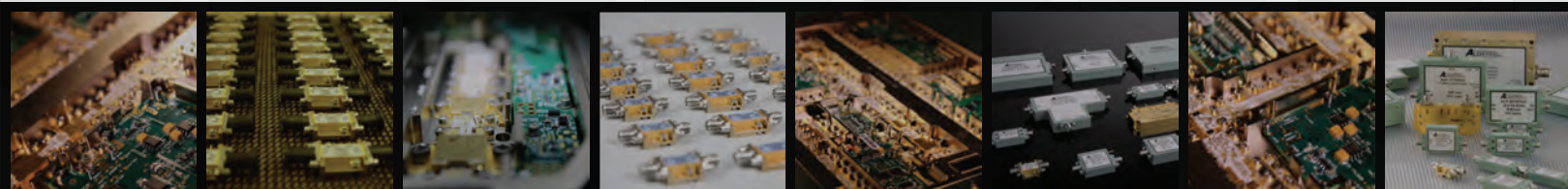
Integrated Microwave Assemblies

Up/Down Converters

Power Amplifiers

Low Noise Amplifiers

Broadband Amplifiers





ANTENNA systems

Our equipment is designed and manufactured to reliably function in the harsh environments found within the deployment arenas of Aerospace, manned and unmanned aerial vehicles, mountain tops and deserts. This industry sector requires systems able to reliably perform the functions of voice, data and video Tx/Rx under a stringent range of operating conditions.

DEFENSE

Representing a significant portion of business, Aldetec has helped sustain the needs of the military marketplace since the company was founded in 1999. From standard amplifiers to design specific custom integrated microwave components, Aldetec has developed the expertise necessary to deliver quality, value-based systems to Defense customers throughout the United States and globally.

ABOUT ALDETEC »

Aldetec, Incorporated is a provider of RF components and custom Microwave solutions for the Commercial, Defense, and Space sectors. Customer deliverables typically include the following types of product solutions; Broadband Amplifiers, Power Amplifiers (SSPA), Low Noise Amplifiers (LNA), Point-to-Point and Heterodyne Repeaters, Down Converters (BDC), Modulators, Limiters, Switches, Synthesizers, Up Converters (BUC), AGC Amplifiers and IMA assemblies from **20MHz to 50 GHz**.

Headquartered in Sacramento, California, founded in 1999; Aldetec operates in a **16,000** sq. ft. facility that includes over **10,000** sq. ft. of ESD protected manufacturing and assembly areas, and a dedicated **3,600** sq. ft. clean room (class **2**) space flight center. Aldetec's growth and business success has been contributed to its highly skilled staff that average more than 20 years of industry experience per person. Utilizing industry leading technology, Aldetec's core capabilities include RF circuit designs using chip-and-wire technology. Mechanical and concept technologies include drawings (CAD), machining (CAM), engineering (CAE), manufacturing and assembly, electrical and environmental testing. Aldetec's modularity in design allows for rapid configuration of customized products for a variety of platforms which include ground based and defense manned and unmanned aircraft.

Supplying complete engineering, design and manufacturing support for complex RF and Mechanical requirements, Aldetec's key to success is providing a quality product with a focus on customer commitment, from concept through delivery.



STANDARD AMPLIFIERS



Features

Specs. Guaranteed at +25C. Operational range -20 to +70C with degraded Performance

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN		GAIN FLATNESS +/- (dB)	VARIATION OVER-TEMP PER DEG/C	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
		MIN. (dB)	MAX. (dB)					IN	OUT		
ALD-P502S112	.5-2.0	15	17	.75	.012	2.5	12	2.0:1	2.0:1	80	L1
ALD-P502S212	.5-2.0	26	30	1.0	.024	2.5	12	2.0:1	2.0:1	120	L2
ALD-P502S215	.5-2.0	30	34	1.0	.024	2.5	15	2.0:1	2.0:1	150	L2
ALD-P502S320	.5-2.0	40	45	1.5	.036	2.5	20	2.0:1	2.0:1	225	L3
ALD-P504S110	.5-4.0	15	17	.75	.012	2.5	10	2.0:1	2.0:1	80	L1
ALD-P504S210	.5-4.0	26	30	1.0	.024	2.5	10	2.0:1	2.0:1	120	L2
ALD-P504S215	.5-4.0	30	34	1.0	.024	2.5	15	2.0:1	2.0:1	150	L2
ALD-P504S320	.5-4.0	40	45	1.5	.036	2.5	20	2.0:1	2.0:1	225	L3
ALD-P512S112	.5-12	10	13	.75	.012	5	12	2.0:1	2.0:1	100	L1
ALD-P512S215	.5-12	20	26	1.5	.024	4.5	15	2.0:1	2.0:1	160	L2
ALD-P512S320	.5-12	26	32	1.5	.036	4.5	20	2.0:1	2.0:1	300	L3
ALD-P512S420	.5-12	34	40	2.0	.044	4.5	20	2.0:1	2.0:1	350	L4
ALD-O208S108	2.0-8.0	15	17	1.0	.010	2.5	8	2.0:1	2.0:1	80	L1
ALD-O208S212	2.0-8.0	30	34	1.5	.020	2.5	12	2.0:1	2.0:1	125	L2
ALD-O208S320	2.0-8.0	42	46	2.0	.032	2.5	20	2.0:1	2.0:1	200	L3
ALD-O612S108	6.0-12.0	10	12	.75	.010	2.5	8	2.0:1	2.0:1	80	L1
ALD-O612S210	6.0-12.0	20	24	1.0	.020	2.5	10	2.0:1	2.0:1	125	L2
ALD-O612S315	6.0-12.0	25	30	1.5	.032	2.7	15	2.0:1	2.0:1	200	L3
ALD-O612S321	6.0-12.0	28	32	1.5	.032	2.7	21	2.0:1	2.0:1	225	L3
ALD-O612S421	6.0-12.0	38	42	2.0	.044	2.7	21	2.0:1	2.0:1	275	L4
ALD-O618S108	6.0-18.0	10	12	1.0	.010	2.5	8	2.0:1	2.0:1	80	L1
ALD-O618S208	6.0-18.0	18	22	1.5	.020	2.5	8	2.0:1	2.0:1	125	L2
ALD-O618S315	6.0-18.0	25	30	1.5	.032	2.7	15	2.0:1	2.0:1	200	L3
ALD-O618S320	6.0-18.0	28	32	1.5	.032	2.7	20	2.0:1	2.0:1	225	L3
ALD-O618S420	6.0-18.0	38	42	2.0	.044	2.7	20	2.0:1	2.0:1	275	L4
ALD-O218S108	2.0-18.0	9	12	1.0	.010	4	8	2.0:1	2.0:1	100	L1
ALD-O218S208	2.0-18.0	18	22	1.5	.020	4	8	2.0:1	2.0:1	175	L2
ALD-O218S315	2.0-18.0	24	28	1.5	.032	4	15	2.0:1	2.0:1	250	L3
ALD-O218S320	2.0-18.0	28	32	2.0	.032	4	20	2.0:1	2.0:1	310	L3

NOTE: Other case options available upon request.

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

TEMPERATURE COMPENSATED AMPLIFIERS



Features

Temperature Compensated amplifiers are guaranteed to meet performance from -54C to +85C

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN		GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
		MIN. (DB)	MAX. (dB)				IN	OUT		
ALDP502T310	.5-2.0	27	31	.75	3.5	10	2.0:1	2.0:1	160	L3
ALDP502T412	.5-2.0	36	41	1.0	3.5	12	2.0:1	2.0:1	220	L4
ALDP502T515	.5-2.0	42	47	1.0	3.5	15	2.0:1	2.0:1	270	L5
ALDP502T520	.5-2.0	38	43	1.5	3.5	20	2.0:1	2.0:1	325	L5
ALDP504T310	.5-4.0	27	31	.75	3.5	10	2.0:1	2.0:1	160	L3
ALDP504T412	.5-4.0	36	41	1.0	3.5	12	2.0:1	2.0:1	220	L4
ALDP504T515	.5-4.0	42	47	1.0	3.5	15	2.0:1	2.0:1	270	L5
ALDP504T520	.5-4.0	38	43	1.5	3.5	20	2.0:1	2.0:1	325	L5
ALD0208T310	2.0-8.0	27	31	1.0	4.0	10	2.0:1	2.0:1	160	L3
ALD0208T412	2.0-8.0	35	39	1.5	4.0	12	2.0:1	2.0:1	220	L4
ALD0208T512	2.0-8.0	40	45	2.0	4.0	15	2.0:1	2.0:1	280	L5
ALD0208T520	2.0-8.0	36	41	2.0	4.0	20	2.0:1	2.0:1	325	L5
ALD0612T408	6.0-12.0	27	31	.75	4.0	8	2.0:1	2.0:1	180	L4
ALD0612T512	6.0-12.0	37	41	1.0	4.0	12	2.0:1	2.0:1	250	L5
ALD0612T515	6.0-12.0	35	39	1.5	4.0	15	2.0:1	2.0:1	280	L5
ALD0612T520	6.0-12.0	37	41	1.5	4.0	20	2.0:1	2.0:1	325	L5
ALD0618T408	6.0-18.0	26	30	1.0	4.0	8	2.0:1	2.0:1	180	L4
ALD0618T512	6.0-18.0	35	40	1.5	4.0	12	2.0:1	2.0:1	250	L5
ALD0618T515	6.0-18.0	32	37	1.5	4.0	15	2.0:1	2.0:1	280	L5
ALD0618T520	6.0-18.0	35	40	1.5	4.0	20	2.0:1	2.0:1	325	L5
ALD0218T408	2.0-18.0	25	30	1.0	5.0	8	2.0:1	2.0:1	200	L4
ALD0218T510	2.0-18.0	35	40	1.5	5.0	10	2.0:1	2.0:1	260	L5
ALD0218T515	2.0-18.0	30	35	1.5	5.0	15	2.0:1	2.0:1	320	L5
ALD0218T520	2.0-18.0	32	37	2.0	5.0	20	2.0:1	2.0:1	375	L5

NOTE: Other case options available upon request.

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

OCTAVE BAND AMPLIFIERS



Features

Specs. Guaranteed at +25C. Operational range -20 to +70C with degraded Performance

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN TYP. (dB)		GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC	CASE TYPE
							IN	OUT	CURRENT (mA) TYP.	
ALD-0204S108	2.0-4.0	15	17	.75	1.7	8	2.0	2.0	50	L1
ALD-0204S214	2.0-4.0	28	34	1.0	1.7	14	2.0	2.0	125	L2
ALD-0204S220	2.0-4.0	26	32	1.0	2.0	20	2.0	2.0	160	L2
ALD-0204S225	2.0-4.0	26	32	1.0	3.0	25	2.0	2.0	240	L2
ALD-0408S214	4.0-8.0	27	33	1.0	2.0	14	2.0	2.0	125	L2
ALD-0408S220	4.0-8.0	25	31	1.0	2.5	20	2.0	2.0	160	L2
ALD-0204S225	4.0-8.0	25	31	1.0	3.5	25	2.0	2.0	240	L2
ALD-0812S108	8.0-12.0	10	12	.75	2.2	8	2.0	2.0	50	L1
ALD-0812S214	8.0-12.0	20	24	1.0	2.2	14	2.0	2.0	125	L2
ALD-0812S220	8.0-12.0	20	24	1.0	4.0	20	2.0	2.0	180	L2
ALD-0812S325	8.0-12.0	27	31	1.0	4.0	25	2.0	2.0	350	L3
ALD-1218S108	12.0-18.0	10	12	.75	2.5	8	2.0	2.0	50	L1
ALD-1218S214	12.0-18.0	18	22	1.0	2.5	14	2.0	2.0	125	L2
ALD-1218S220	12.0-18.0	18	22	1.0	4.0	20	2.0	2.0	180	L2
ALD-1218S225	12.0-18.0	26	30	1.25	4.0	25	2.0	2.0	375	L3

NOTE: Other case options available upon request.

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

LOW NOISE AMPLIFIERS



Features

Specs. Guaranteed at +25C. Operational range -20 to +70C with degraded Performance

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

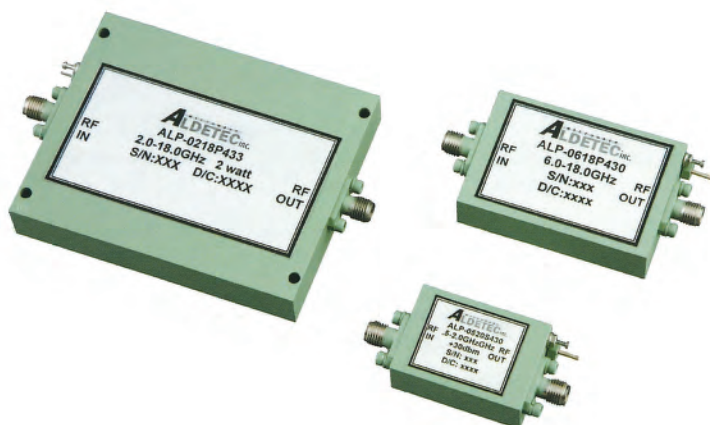
Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN		GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
		MIN. (DB)	MAX. (dB)				IN	OUT		
ALN-0102S210	1.0-2.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L3
ALN-0203S210	2.0-3.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L4
ALN-0335S210	3.0-3.5	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-3504S210	3.5-4.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-0445S210	4.0-4.5	28	1.0	1	10	2.0:1	2.0:1	80	L2	L3
ALN-4504S210	4.5-5.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L4
ALN-0555S210	5.0-5.5	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-5506S210	5.5-6.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-6665S210	6.0-6.5	28	1.0	1	10	2.0:1	2.0:1	80	L2	L3
ALN-6507S210	6.5-7.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L4
ALN-0775S210	7.0-7.5	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-7508S210	7.5-8.0	28	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-0885S210	8.0-8.5	25	1.0	1	10	2.0:1	2.0:1	80	L2	L4
ALN-8509S210	8.5-9.0	25	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-0995S210	9.0-9.5	25	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-9510S210	9.5-10.0	25	1.0	1	10	2.0:1	2.0:1	80	L2	L5
ALN-1015S312	10.0-10.5	30	1.0	1	12	2.0:1	2.0:1	100	L3	L4
ALN-1011S312	10.5-11.0	30	1.0	1	12	2.0:1	2.0:1	100	L3	L5
ALN-1115S312	11.0-11.5	30	1.0	1	12	2.0:1	2.0:1	100	L3	L5
ALN-1112S312	11.5-12.0	30	1.0	1	12	2.0:1	2.0:1	100	L3	L5
ALN-1215S312	12.0-12.5	30	1.0	1	12	2.0:1	2.0:1	100	L3	L4
ALN-1213S312	12.5-13.0	30	1.0	1	12	2.0:1	2.0:1	100	L3	L5
ALN-1315S312	13.0-13.5	30	1.0	1	12	2.0:1	2.0:1	100	L3	L5
ALN-1314S312	13.5-14.0	30	1.0	1.2	12	2.0:1	2.0:1	100	L3	L5
ALN-1415S312	14.0-14.5	30	1.0	1.2	12	2.0:1	2.0:1	100	L3	L4
ALN-1515S312	14.5-15.0	30	1.0	1.2	12	2.0:1	2.0:1	100	L3	L5
ALN-1516S312	15.0-15.5	30	1.0	1.2	12	2.0:1	2.0:1	100	L3	L5

NOTE: Other case options available upon request.

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

BROADBAND POWER AMPLIFIERS



Features

Specs. Guaranteed at +25C. Operational range -20 to +70C with degraded Performance

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN TYP. (dB)	GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	INTERMOD TYP. IM3	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
							IN	OUT		
ALP-0520S430	.5-2.0	30	1.5	4.0	30	40	2.0:1	2.0:1	1000	S-4
ALP-0520P433	.5-2.0	30	1.5	4.0	33	42	2.0:1	2.0:1	1600	P-4
ALP-0555S427	.5-5.5	30	1.5	4.0	27	35	2.0:1	2.0:1	800	S-4
ALP-0512S423	.5-12	30	1.5	4.0	23	33	2.0:1	2.0:1	500	S-4
ALP-0208S425	2.0-8.0	30	1.5	4.0	25	35	2.0:1	2.0:1	750	S-4
ALP-0208S427	2.0-8.0	30	1.5	4.0	27	37	2.0:1	2.0:1	850	S-4
ALP-0208S430	2.0-8.0	30	1.5	4.0	30	40	2.0:1	2.0:1	1000	S-4
ALP-0208P433	2.0-8.0	30	1.5	4.5	33	41	2.0:1	2.0:1	1600	P-4
ALP-0612S427	6.0-12.0	30	1.5	5.0	27	37	2.0:1	2.0:1	850	S-4
ALP-0612S430	6.0-12.0	30	1.5	5.0	30	40	2.0:1	2.0:1	1000	S-4
ALP-0612P433	6.0-12.0	30	1.5	5.5	33	41	2.0:1	2.0:1	1800	P-4
ALP-0618S425	6.0-18.0	30	1.5	5.5	25	35	2.0:1	2.0:1	750	S-4
ALP-0618S427	6.0-18.0	30	1.5	6.0	27	37	2.0:1	2.0:1	950	S-4
ALP-0618P430	6.0-18.0	30	1.5	6.0	30	40	2.0:1	2.0:1	1800	P-4
ALP-0218S423	2.0-18.0	30	1.5	5.5	23	33	2.0:1	2.0:1	750	S-4
ALP-0218S425	2.0-18.0	30	1.5	6.0	25	35	2.0:1	2.0:1	900	S-4
ALP-0218P427	2.0-18.0	30	2.0	6.0	27	35	2.0:1	2.0:1	1900	P-4
ALP-0218P429	2.0-18.0	30 min.	2.0	6.0	+29 (+30Typ.)	38	2.0:1	2.0:1	2100 Typ	P-6

NOTE: Other case options available upon request.

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

HIGH POWER AMPLIFIERS



Features

Power Control Board provides bias sequencing for single supply operation.

Internal regulation which allows operation from +11.5 to +15vdc

Output Isolator provided for all power amplifiers

Environmental screening 48 Hour Burn-in prior to Acceptance Testing.

Integrated Forward power monitor included.

DC Blocking on Input and Output of unit.

Amplifiers unconditionally stable under any load condition

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

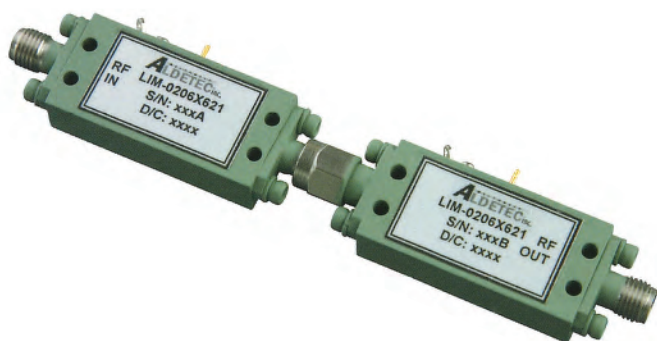
PART NUMBER	FREQUENCY RANGE (GHz)	GAIN TYP. (dB)	GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	INTERMOD TYP. *IP3	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
							IN	OUT		
AHP-2123HP12	2.1-2.3	30	1.0	5.0	40	47	2.0:1	2.0:1	4.0	HP1
AHP-2527HP12	2.5-2.7	30	1.0	5.0	40	47	2.0:1	1.5:1	6.0	HP1
AHP-3742HP12	3.7-4.2	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-4450HP12	4.4-5.0	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-5359HP12	5.3-5.9	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-5964HP12	5.9-6.4	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-6071HP08	6.0-7.1	30	1.0	5.0	38.5 TYP.	47	2.0:1	1.5:1	5.0	HP2
AHP-6472HP12	6.4-7.2	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-7179HP12	7.1-7.9	30	1.0	5.0	40	47	2.0:1	1.5:1	5.0	HP1
AHP-7185HP12	7.1-8.5	30	1.0	5.0	40	47	2.0:1	1.5:1	6.5	HP2
AHP-7785HP12	7.7-8.5	30	1.0	5.0	40	47	2.0:1	1.5:1	6.5	HP2
AHP-9510HP08	9.5-10.5	30	1.0	5.0	38.5 TYP.	47	2.0:1	1.5:1	5.0	HP1
AHP-9010HP20	9.0-10.5	30	1.0	5.0	42.0 TYP. **	50	2.0:1	1.5:1	8.0	HP10
AHP-1011HP12	10.7-11.7	30	1.0	5.0	40 TYP.	47	2.0:1	1.5:1	6.5	HP2
AHP-1213HP12	12.7-13.2	30	1.0	5.0	40 TYP.	47	2.0:1	1.5:1	6.5	HP2
AHP-1414HP12	14.0-14.5	30	1.0	5.0	40	47	2.0:1	1.5:1	6.5	HP2
AHP-1414HP12-A	14.4-14.83	30	1.0	5.0	40	47	2.0:1	1.5:1	6.5	HP2
AHP-1414HP12-G	15.1-15.35	30	1.0	5.0	40 TYP.	47	2.0:1	1.5:1	6.5	HP2
AHP-1415HP12	14.4-15.35	30	1.0	5.0	40 TYP.	47	2.0:1	1.5:1	6.5	HP2

***NOTE:** IP3 Measured with two tones 10dB below 1dB compression spec.

****NOTE:** Pulsed Operation Only

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

LIMITING AMPLIFIERS



Options:

1. Units configured with internal detectors upon request.
2. Single housing Version Available
3. Redundant Amplifier Version also available for Defense and Hi-Rel Class H or K
4. Output power levels can be adjusted to meet system requirements

Features

- Superior carrier suppression of better than 8dB
- Low Am/Pm phase deviation over broad dynamic range
- Limiting Amplifiers guaranteed to meet performance from -54C to + 85C.
- All units include LDO Internal regulation which allows operation from +11 to +15vdc.
- Maximum input level without damage is +16dBm CW
- Amplifiers unconditionally stable under any load condition
- DC blocking provided In/Out. Up to 50Vdc
- Reverse bias protected.
- Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY	INPUT DYNAMIC RANGE	SAT. FLATNESS +/- (dB)	VARIATION OVER DYN RANGE	NOISE FIGURE (dB)	OUTPUT POWER (dBm)	HARMONIC TYP. (DBC)	VSWR		+12 VDC CURRENT (mA)	CASE TYPE
								IN	OUT		
LIM-0520X612	.5-2.0	-65 to +10dBm	1.5	1.5	4.0	+12	-12	2.0:1	2.0:1	450	XS-4 (2)
LIM-0520X617	.5-2.0	-65 to +10dBm	1.5	1.5	4.0	+17	-12	2.0:1	2.0:1	475	XS-4 (2)
LIM-0520X621	.5-2.0	-65 to +10dBm	1.5	1.5	4.0	+21	-12	2.0:1	2.0:1	500	XS-4 (2)
LIM-0206X612	2-6	-65 to +10dBm	1.5	1.5	4.0	+12	-15	2.0:1	2.0:1	450	XS-4 (2)
LIM-0206X617	2-6	-65 to +10dBm	1.5	1.5	4.0	+17	-15	2.0:1	2.0:1	475	XS-4 (2)
LIM-0206X621	2-6	-65 to +10dBm	1.5	1.5	4.0	+21	-15	2.0:1	2.0:1	500	XS-4 (2)
LIM-0612X612	6-12	-65 to +10dBm	1.5	1.5	4.5	+12	-12	2.0:1	2.0:1	500	XS-4 (2)
LIM-0612X617	6-12	-65 to +10dBm	1.5	1.5	4.5	+17	-12	2.0:1	2.0:1	525	XS-4 (2)
LIM-0612X621	6-12	-65 to +10dBm	1.5	1.5	4.5	+21	-12	2.0:1	2.0:1	550	XS-4 (2)
LIM-0618X612	6-18	-65 to +10dBm	1.5	1.5	4.5	+12	-12	2.0:1	2.0:1	500	XS-4 (2)
LIM-0618X617	6-18	-65 to +10dBm	1.5	1.5	4.5	+17	-12	2.0:1	2.0:1	525	XS-4 (2)
LIM-0618X621	6-18	-65 to +10dBm	1.5	1.5	4.5	+21	-12	2.0:1	2.0:1	550	XS-4 (2)
LIM-0218X612	2-18	-45 to +10dBm	1.5	2.0	4.5	+12	-12	2.0:1	2.0:1	500	XS-4 (2)
LIM-0218X617	2-18	-45 to +10dBm	1.5	2.0	4.5	+17	-12	2.0:1	2.0:1	550	XS-4 (2)
LIM-0218X620	2-18	-45 to +10dBm	1.5	2.0	4.5	+21	-12	2.0:1	2.0:1	600	XS-4 (2)

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

ULTRA BROADBAND AMPLIFIERS



Features

Specs. Guaranteed at +25C. Operational range -20 to +70C with degraded Performance

All units include LDO Internal regulation which allows operation from +9 to +15vdc.

Maximum input level without damage is +16dBm CW

Amplifiers unconditionally stable under any load condition

DC blocking provided In/Out. Up to 50Vdc.

Reverse bias protected.

Field Replaceable SMA female connectors in accordance with Mil-C-39012C

**Optional connector configurations available upon request*

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN		GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
		MIN. (dB)	MAX. (dB)				IN	OUT		
ALU-P120S212*	.1-20	18	26	1.5	5.0	10	2.2:1	2.2:1	180	MM3
ALU-P120S218*	.1-20	16	24	1.5	5.5	18	2.2:1	2.2:1	350	MM3
ALU-P120S224*	.1-20	26	32	1.75	5.5	24	2.2:1	2.2:1	560	MM3
ALU-0220S112*	2.0-20.0	26	30	1.5	4	12	2.2:1	2.2:1	175	L-2

MILLIMETER-WAVE AMPLIFIERS

Product Specifications

PART NUMBER	FREQUENCY RANGE (GHz)	GAIN		GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	1dB COMPRESSION (dBm) MIN.	VSWR		+12 VDC CURRENT (mA) TYP.	CASE TYPE
		MIN. (dB)	MAX. (dB)				IN	OUT		
ALM-1826S110	18.0-26.5	18	24	1.5	4.0	10	2.2:1	2.2:1	150	MM3
ALM-1826S210	18.0-26.5	38	44	2.5	4.0	10	2.2:1	2.2:1	300	MM4
ALM-1826S116	18.0-26.5	18	24	2.0	4.0	16	2.2:1	2.2:1	175	MM3
ALM-2026S122	20.0-26.5	19	24	1.5	5.0	22	2.2:1	2.2:1	250	MM3
ALM-2026S222	20.0-26.5	38	46	1.5	4.5	22	2.2:1	2.2:1	370	MM4
ALM-1925S228	19.0-25.0	30	36	1.75	5.5	28	2.2:1	2.2:1	700	MM4

Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

UP CONVERTERS

Features

Converters Guaranteed from -55 to +70C

Low Phase Noise Performance for harsh vibration environments.

Converters included LDO regulation which allows for broad voltage range from +11 to +18Vdc

Maximum input level without damage is +16dBm CW

Designed to meet Defense / Airborne Environmental Conditions

DC blocking on RF and IF ports up to 50Volts

C and Ku-Bands

Product Specifications

PART NUMBER	IF FREQ. (MHz)	RF OUTPUT (GHz)	LOCAL OSC. (MHz)	CONVERSION GAIN	GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	IMAGE REJECT (TYPICAL)	REJECT OUT-OF BAND	OUTPUT POWER (dBm)	VSWR IN	VSWR OUT	+12 VDC CURRENT (mA)
AUC-5000	950 - 1725	5.85 - 6.625	4900	20 - 25dB	1.0	8.0dB	-45dB min.	-50 dBm	+21	1.7:1	1.5:1	550max.
AUC-5001	950 - 1350	6.7 - 7.1	5750	20 - 25dB	1.0	8.0dB	-45dB min.	-50 dBm	+21	1.5:1	1.5:1	550max.
AUC-5002	950 - 1450	7.9 - 8.4	9350	20 - 25dB	1.0	8.0dB	-45dB min.	-45 dBm	+20	1.5:1	1.5:1	550max.
AUC-5003	950 - 1450	12.75 - 13.25	11800	20 - 25dB	1.0	3.0dB	-45dB min.	-45 dBm	+20	1.8:1	1.5:1	500max.
AUC-5004	950 - 1450	14.0 - 14.5	13050	20 - 23dB	1.0	3.0dB	-45dB min.	-45 dBm	+18	1.8:1	1.5:1	500max.
AUC-5005	1050 - 1480	14.4 - 14.83	13350	25 - 30dB	1.0	4.0dB	-45dB min.	-45 dBm	+18	1.8:1	1.5:1	600max.
AUC-5006	1800 - 2000	15.15 - 15.35	13350	25 - 30dB	1.0	4.0dB	-45dB min.	-45 dBm	+18	1.8:1	1.5:1	600max.

PHASE NOISE (C / KU-BAND)	10HZ	100HZ	1KHZ	10KHZ	100KHZ	1MHZ	Converter Phase Noise performance is based on airborne vibration environment.*
	-40	-65	-80	-85	-100	-110	

*Phase Noise may be affected by reference performance.

Ka-Band Dual Conversion

Product Specifications

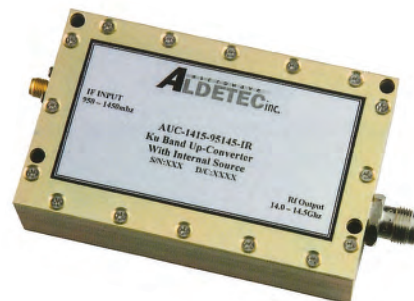
PART NUMBER	IF FREQ. (MHz)	RF OUTPUT (GHz)	LOCAL OSC. (MHz)	CONVERSION GAIN	GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	IMAGE REJECT (TYPICAL)	REJECT OUT-OF BAND	OUTPUT POWER (dBm)	VSWR IN	VSWR OUT	+12 VDC CURRENT (mA)
AUC-6000	950 - 1450	29.5 - 30.0	6950	23 - 27	1.0	15.0dB	-45dB min.	-80 dBm	+15	1.8:1	1.5:1	800 max.
AUC-6001	950 - 1450	30.0 - 30.5	7450	23 - 27	1.0	15.0dB	-45dB min.	-80 dBm	+15	1.8:1	1.5:1	800 max.
AUC-6002	950 - 1450	30.5 - 31.0	7950	23 - 27	1.0	15.0dB	-45dB min.	-80 dBm	+15	1.8:1	1.5:1	800 max.

PHASE NOISE (KA-BAND)	10HZ	100HZ	1KHZ	10KHZ	100KHZ	1MHZ	Converter Phase Noise performance is based on airborne vibration environment.*
	-32	-62	-72	-82	-92	-102	

*Phase Noise may be affected by reference performance.

NOTES:

1. Spurious Output better than -88dbc over IF frequency range.
2. 10MHz reference required to Lock Source. Optional ref. Frequencies available.
3. Voltage controlled attenuator option available. 0 to 6V DC, 30dB typical atten.
4. Optional configurations available.
5. TNC female used IF Port of CWS-1 Series, SMA connector for CWS-2 series. See Outline
6. All units are exposed to Temp-Cycle from -55 to +70C with monitoring to insure performance prior to ATP.



Aldetec specializes in custom solutions to 50 GHz. Please contact us to discuss your specific requirements.

BLOCK DOWN-CONVERTERS

Features

Converters Guaranteed from -55 to +70C

Low Phase Noise Performance for harsh vibration environments.

Converters included LDO regulation which allows for broad voltage range from +11 to +18Vdc

Maximum input level without damage is +16dBm CW

Designed to meet Defense / Airborne Environmental Conditions

DC blocking on RF and IF ports up to 50Volts

Single Band

Product Specifications

PART NUMBER	RF FREQ. (GHz)	IF OUTPUT (MHz)	LOCAL OSC. (MHz)	CONVERSION GAIN	GAIN FLATNESS +/- (dB)	NOISE	IMAGE REJECT (TYPICAL)	REJECT OUT-OF BAND	OUTPUT POWER (dBm)	VSWR IN	VSWR OUT	+12 VDC CURRENT (mA)
ADC-3000	2.55 - 3.30	1435 - 2185	4735	18 - 22dB	1.0	4.5dB	-45dB min.	-55 dBm	+10	1.5:1	1.5:1	500 max.
ADC-3001	4.40 - 5.15	950 - 1450	7700	38 - 42dB	1.0	2.2dB	-45dB min.	-55 dBm	+10	1.5:1	1.5:1	550 max.
ADC-3002	10.95 - 11.7	950 - 1700	10000	40 - 45dB	1.0	3.0dB	-45dB min.	-45 dBm	+10	1.5:1	1.5:1	650 max.
ADC-3003	11.7 - 12.2	950 - 1450	10750	30 - 36dB	1.0	3.0dB	-45dB min.	-45 dBm	+10	1.8:1	1.5:1	500 max.
ADC-3004	12.25 - 12.75	950 - 1450	11300	30 - 36dB	1.0	3.0dB	-45dB min.	-45 dBm	+10	1.8:1	1.5:1	500 max.
ADC-3005	14.40 - 14.83	1050 - 1480	13350	25 - 30dB	1.0	4.0dB	-45dB min.	-45 dBm	+5	1.8:1	1.5:1	550 max.
ADC-3006	15.15 - 15.35	1800 - 2000	13350	25 - 30dB	1.0	4.0dB	-45dB min.	-45 dBm	+5	1.8:1	1.5:1	550 max.
ADC-3007	19.7 - 20.2	950 - 1450	18250	25 - 30dB	1.0	4.5dB	-45dB min.	-45 dBm	+5	1.8:1	1.5:1	550 max.
ADC-3008	20.2 - 21.2	950 - 1450	19250	25 - 30dB	1.0	5.0dB	-45dB min.	-45 dBm	+5	1.8:1	1.5:1	550 max.
ADC-3009	26.5 - 29.0	950 - 1450	25550	25 - 30dB	1.0	4.5dB	-45dB min.	-45 dBm	+5	1.8:1	1.5:1	550 max.

Dual Band Selectable LO

Product Specifications

PART NUMBER	IF FREQ. (MHz)	RF OUTPUT (GHz)	LOCAL OSC. (MHz)	CONVERSION GAIN	GAIN FLATNESS +/- (dB)	NOISE FIGURE (dB)	IMAGE REJECT (TYPICAL)	REJECT OUT-OF BAND	OUTPUT POWER (dBm)	VSWR IN	VSWR OUT	+12 VDC CURRENT (mA)
ADC-4000	11.7-12.2 B1 12.25-12.75 B2	950 - 1450	10750 11300	35 - 40dB	1.5	3.5dB	-45dB min	-45dBm Typ.	+10	1.5:1	1.5:1	500 max.
ADC-4001	19.7 - 20.2 B1 20.2 - 21.2 B2	950 - 1950	18750 19250	25 - 30dB	1.7	5.0dB	-45dB Min.	-45dBm Typ.	+5	1.8:1	1.8:1	500 max.
ADC-4002	4.40 - 5.50	36MHz	1KHz Step	35 - 40dB	1.0	5.0dB	-38dB Min.	-45dBm Typ.	+5	1.8:1	1.8:1	1275 max.

PHASE NOISE (TYPICAL)	10HZ	100HZ	1KHZ	10KHZ	100KHZ	1MHz	Converter Phase Noise performance is based on airborne vibration environment.*
	-40	-65	-80	-85	-100	-110	

*Phase Noise may be affected by reference performance. Above units utilize 10MHz Reference.

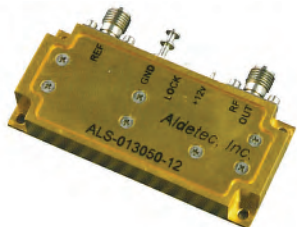
NOTES:

1. Spurious Output better than -88dbc over IF frequency range.
2. 10MHz reference required to Lock Source. Optional ref. Frequencies available.
3. Voltage controlled attenuator option available. 0 to 6V DC, 30dB typical atten.
4. Optional configurations available.
5. TNC female used IF Port of CWS-1 Series, SMA connector for CWS-2 series. See Outline
6. All units are exposed to Temp-Cycle from -55 to +70C with monitoring to insure performance prior to ATP.



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PHASE LOCKED SYNTHESIZERS



Features

10 or 100 MHz Reference Input

Ref Level: -7 to +10 dBm

Operating Temperature: -55 to +85 degree C

Fault (LO lock): 3V CMOS, 5V Open Collector

Airborne/Vibration Tolerant: 9Grms

Removeable SMA Connector for PCB mounting

**All units Temp-Cycled and Vibrated Prior to ATP*

ASDE Series Synthesizer Specs (fixed frequency, externally referenced):

Product Specifications

FREQ., MHz	POUT, dBm	SPURIOUS, DBC		HARMONICS, DBC	*PHASE NOISE, DBC/HZ			VOLTAGE	CURRENT
		REFERENCE	SUB-HARMONIC		1K	10K	100K		
3750	+10dBm	<-80	NA	<-30	-96	-100	-122	8 - 12 volts	150mA
4320	+10dBm	<-80	NA	<-30	-95	-98	-122	8 - 12 volts	150mA
4900	+10dBm	<-0	<-55	<-30	-95	-100	-122	8 - 12 volts	200mA
5150	+10dBm	<-70	<-55	<-30	-90	-95	-120	8 - 12 volts	200mA
6300	+10dBm	<-80	<-55	<-30	-88	-92	-118	8 - 12 volts	200mA
6950	+10dBm	<-70	<-55	<-30	-88	-92	-116	8 - 12 volts	200mA
9875	+10dBm	<-70	<-30	<-30	-84	-88	-113	8 - 12 volts	200mA
10750	+10dBm	<-70	<-30	<-30	-84	-88	-110	8 - 12 volts	200mA
11300	+10dBm	<-70	<-30	<-30	-84	-88	-108	8 - 12 volts	200mA
13050	+10dBm	<-80	<-30	<-30	-83	-87	-106	8 - 12 volts	200mA
15540	+7dBm	<-70	<-30	<-30	-80	-85	-103	8 - 12 volts	225mA

ASDI Series Synthesizer Specs (fixed frequency, internally referenced):

Product Specifications

FREQ., MHz	POUT, dBm	SPURIOUS, DBC		HARMONICS, DBC	*PHASE NOISE, DBC/HZ			VOLTAGE	CURRENT
		REFERENCE	SUB-HARMONIC		1K	10K	100K		
3750	+10dBm	<-80	NA	<-30	-87	-92	-120	8 - 12 volts	150mA
4320	+10dBm	<-80	NA	<-30	-85	-91	-120	8 - 12 volts	150mA
4900	+10dBm	<-0	<-55	<-30	-84	-89	-118	8 - 12 volts	200mA
5150	+10dBm	<-70	<-55	<-30	-84	-89	-118	8 - 12 volts	200mA
6300	+10dBm	<-80	<-55	<-30	-81	-87	-116	8 - 12 volts	200mA
6950	+10dBm	<-70	<-55	<-30	-81	-86	-113	8 - 12 volts	200mA
9875	+10dBm	<-70	<-30	<-30	-79	-83	-108	8 - 12 volts	200mA
10750	+10dBm	<-70	<-30	<-30	-79	-83	-106	8 - 12 volts	200mA
11300	+10dBm	<-70	<-30	<-30	-79	-83	-105	8 - 12 volts	200mA
13050	+10dBm	<-80	<-30	<-30	-77	-81	-103	8 - 12 volts	200mA
15540	+7dBm	<-70	<-30	<-30	-75	-79	-102	8 - 12 volts	225mA

ASP Series Synthesizer Specs (programmable frequency, internal or external reference option):

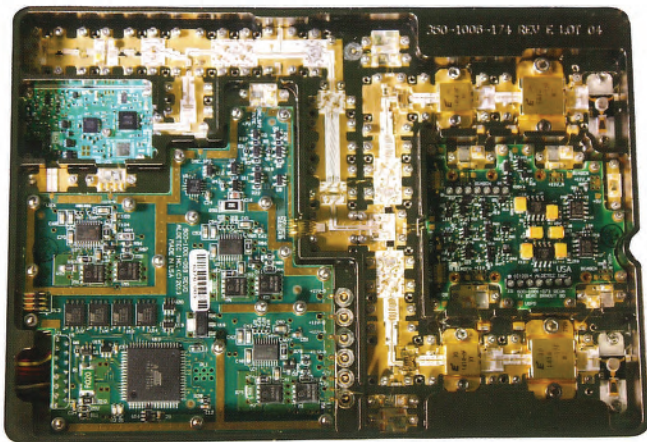
Product Specifications

FREQ., MHz	STEP SIZE KHZ	POUT, dBm	SPURIOUS, DBC		HARMONICS DBC	*PHASE NOISE, DBC/HZ			VOLTAGE/CURRENT
			REFERENCE	SUB-HARMONIC		1K	10K	100K	
4364 - 4964	1000	+10dBm	<-60	NA	<-20	-76	-80	-93	12 volts / 275mA
9000 - 10500	1000	+7dBm	<-55	-40	<-20	-76	-75	-90	12 volts / 325mA

INTEGRATED MICROWAVE ASSEMBLIES

Over the years Aldetec has developed a variety of microwave components as standalone assemblies and integrated modules. These modules were designed in a standardized configuration which allows for adaptation to most mechanical configurations. Our technology of utilizing discrete die with wire bonding has allowed us to provide superior performance in the smallest packaging available. Aldetec has become highly respected in our industry for development and design of Integrated Microwave Assemblies (IMAs). The benefits of using IMAs in Defense and Hi-Rel Aerospace applications has driven Aldetec to be world-class supplier in the technology.

Advantages to IMAs



BUC w/Dual Output >20W Pwr Combined

- RF Performance
 - Minimize signal loss for low noise and High Power Applications
 - VSWR interaction can be tuned to improve gain or power ripple
 - RF Path Isolation
- Up to 60% smaller than individual components when cable interconnected
- Improved Power efficiency
- Reliability - Less part count
- Mechanically adaptable to customer requirements

Products Offered for Integration

- Amplifiers in our product library
- Limiters up to 1kW
- Amplitude Control (Analog or Digital)
- Automatic Gain Control
- Low Phase Noise Synthesizers
- RF Pwr Detection
- Switch gain paths
- Switched filtering
- High Speed Switching
- Power Splitting (2,4, 8 Way)
- User Programming capability
- Microprocessor Controlled Calibration
- RF Couplers for signal monitoring
- DC Converters up to +48V
- Thermal monitoring / Shutdown
- Reduced Power Mode
- Built-in-Test (BIT)

AMPLIFIER SCREENING

Reliability Screening (Defense)

TEST	MIL-STD-883 METHOD	CONDITION
Pre-Seal Bake	—	T= 125C +5/-0, 3 hours, Nitrogen Atmosphere
Hermetic Seal (Gross)	1014	Test Cond. C
(Fine)	1014	Test Cond. A2 (Helium Bomb)
Stabilization Bake	1008	Test Cond. B, T=+125C, 24 hours
TempCycle	1010	Test Cond. B, 10 Cycles, -55 (-10/+0) To +125C (+15/-0) Transition 10 min. Maximum/ Dwell 30 min.
Constant Acceleration	2001	Test Cond. A, Y1 Axis only, 5000G
Burn-in	1015	Test Cond. B 168 hours, (Note 1)

Aldetec ESS Screening

TEST	MIL-STD-883 METHOD	CONDITION
Pre-Seal Bake	—	T= 125C +5/-0, 3 hours, Nitrogen Atmosphere
Hermetic Seal (Gross)	1014	Test Cond. C
(Fine)	1014	Test Cond. A2 (Helium Bomb)
Stabilization Bake	1008	Test Cond. B, T=+125C, 8 hours
TempCycle	1010	Test Cond. B, 10 Cycles, -55 (-10/+0) To +125C (+15/-0) Transition 10 min. Maximum/ Dwell 30 min.
Burn-in	1015	Test Cond. B, 48 hours, (Note 1)

NOTE 1: Power Amplifiers with greater than +27dBm output will have Burn-in performed at maximum operating temperature per individual specification. Temperature tolerance of +5/-0C

Comments:

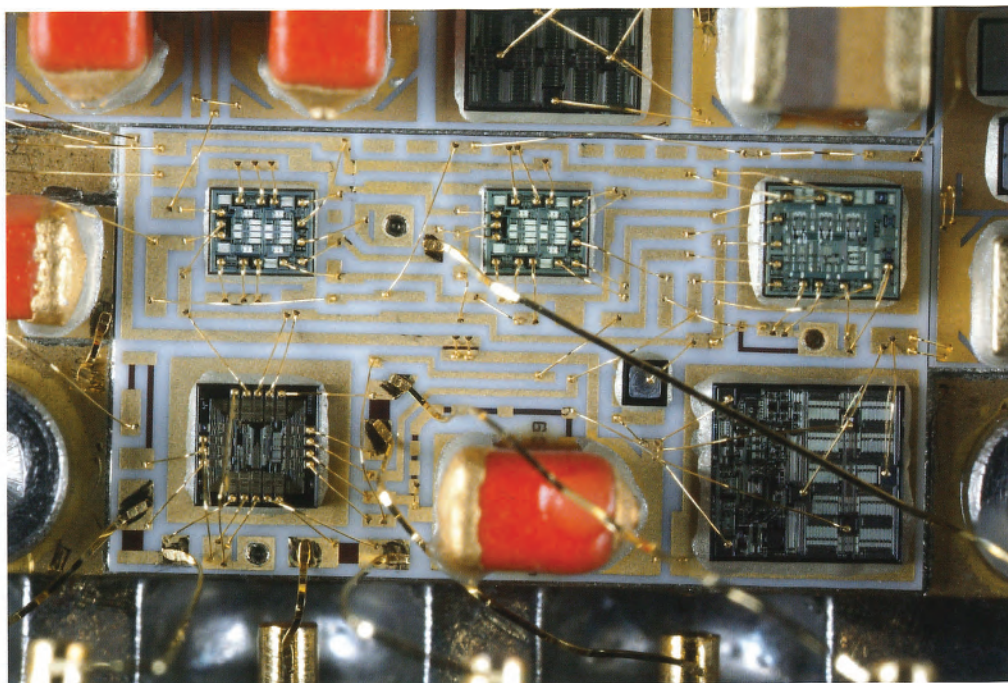
Throughout the screening process, general performance data is acquired upon completion of each test. (Small Signal Gain & Current). This data is used to illustrate any abnormalities in performance. Upon completion of Screening, acceptance testing is performed for compliance. A Screening flow sheet will be provided with each lot of amplifiers screened.

QUALITY »

At Aldetec, our Quality Management Systems (QMS) meets the International Organization for Standardization (ISO) defined in the International Standard ISO 9001:2015 and AS9100:2016.

Our QMS is embedded in a culture of Quality core values and provides the foundation for a natural evolution into the Society of Automotive Engineers (SAE) Aerospace Standard (AS) defined in AS9100; design management, analysis, validation, part management, screening, production process controls, inspection and test. For Space Level assemblies the design validation is invoked through significant analysis efforts and peer review. The product baseline is established through formal preliminary and critical design reviews with parts pedigree evaluation and manufacturing/test readiness considerations. Products are built to meet Mil-STD-883, J-STD-001 and IPC A610 (Class 3, Space Level) certifications to ensure the fundamental requirements for Space products will be met. With a wide range of environmental testing capabilities and knowledgeable, seasoned industry professionals, Aldetec is recognized for fulfilling customer requirements on previous and current aerospace programs. We are ready to move forward with confidence to support future opportunities involving integrated microwave assemblies (IMAs) and Amplifier components to meet your system needs.

**Please feel free to contact our quality department with any questions or concerns. You can also receive a copy of our ISO certificate or QMS document with your request.*



SPACE LEVEL CAPABILITIES

Space Heritage Products

UEC RF-Microwave boasts over 15 years of experience in the space sector, specializing in deep space, cislunar, GEO, MEO, and LEO payloads. Our expertise encompasses both commercial and classified satellites, ensuring we meet various qualification standards, including Mil-PRF-38534 Class H and radiation-hardened Class K. UEC is committed to providing RF solutions that ensure mission success and longevity.

Heritage

Band (GHz)	Supply Voltage	Noise Figure	Gain/Power	Designator	Year	Mission (Years)	Class
DC - 2	+5 V	3.5 dB	50 dB	Limiting Amp	2006	3	H
2 - 6	+5 V	3.0 dB	50 dB	Limiting Amp	2006	3	H
6 - 18	+5 V	3.5 dB	50 dB	Limiting Amp	2006	3	H
1.62 - 1.65	+12 V		27 dB	Transmitter	2009	3	H
5.845 - 6.725	+12 V		34 dB	Transmitter	2009	3	H
13.75 - 14.5	+12 V		31.5 dB	Transmitter	2009	3	H
1.5.2 - 1.565	+12 V		18 dB	Receiver	2009	3	H+
3.4 - 4.2	+12 V		38 dB	Receiver	2009	3	H+
10.95 - 12.75	+12 V		43 dB	Receiver	2009	3	H+
3.4 - 4.2	+12 V	3.8 dB		LNA	2014	12	K
8 - 8.4	+12 V	6.0 dB	40 dBm	Power Amp	2019	12	H
9.1	+5 V			Switched Amp	2019	12	K
2 - 6	+5 V			Switched Amp	2019	12	K
13 - 20	+5 V			Switched Amp	2019	12	K

In Development

Band (GHz)	Supply Voltage	Noise Figure	Gain/Power	Designator	Year	Mission (Years)	Class
1.95 - 4	+12 V		30 dBm	Power Amp	2025	3	H
10 - 15	+12 V		30 dBm	Power Amp	2025	3	H
25 - 31	+12 V		30 dBm	Power Amp	2025	3	H
1.9 - 4	+12 V		30 dBm	Power Amp	2025	5	H
18 - 31	+12 V		30 dBm	Power Amp	2025	5	H
1.91 - 4	+12 V	3.0 dB	30 dBm	LNA	2025	5	H
18 - 31	+12 V	4.0 dB	25 dBm	LNA	2025	5	H
7.91 - 8.4	+12 V			Converter	2025	3	LEO

MIL-PRF-38534 Requirements

Level 1, QPL Class K: UEC possesses a track record in delivering essential components for life support, mission-critical situations, and meeting the needs of single-string and single-point failure requirements.

Level 2, QPL Class H: UEC engineers and manufactures RF modules tailored for general-purpose spaceflight applications, adhering to MIL-STD-883 specifications.

Level 3, QPL Class G, D, E, L: UEC has the capability to manufacture hardware in accordance with MIL-STD requirements, but with a streamlined qualification testing process suitable for less critical applications.

COTS, QPL Class F: Cost efficiency is paramount in commercial space applications. UEC can produce components designed to comply with MIL-STD requirements while maintaining a Commercial-Off-The-Shelf (COTS) price target.

Dedicated Resources

For over 20 years Aldetec has been a provider of integrated microwave assemblies (IMAs) for the Aerospace Industry Sector. To support the requirements of this diverse business arena (civil, commercial and defense) we have developed the extensive capabilities, engineering expertise, quality systems, processes and procedures to deliver technology solutions for complex payload applications. Our on-orbit legacy extends over 10 years including a successful heritage of meeting both short term (class H) and long term (class K) mission life requirements. We are well suited to meet the demands of this high quality and technology-focused marketplace.

Aldetec has the experience and skills necessary to meet the specifications and guidelines defined from analysis through testing requirements (MIL-STD-883, MIL-PRF-38534, EEE-INST-002, MIL-HDBK-217G, MIL-STD-810 and MIL-STD 750). Aldetec has extensive proficiencies in the complete design to manufacture cycle; from the initial request for information through final customer acceptance, the program management support team is highly skilled at providing concise and effective customer communications in a timely manner as established through Statements of Work (SOW).

Facility

Aldetec's dedicated 1600 sq. ft. Flight Center manufacturing facility is a Class 10,000 clean room with Class 100 work areas for critical operations. With a full suite of equipment including active ESD monitoring, temperature/humidity controls, nitrogen controlled material storage, manufacturing equipment, and test instruments necessary to take assemblies from individual components through final customer source inspection (CSI). Activities are all completed without having to transfer materials outside the Flight Center. Aldetec Space Level assemblies are manufactured in accordance to very detailed process documents. Each process is subjected to cross verification and controls such as destruct and non-destruct die shear, bond pull and weld penetration analysis for Laser Weld Schedules. These stringent processes and disciplines assure the end product will meet Space Level Flight requirements.

Expertise

We have extensive expertise in the full design cycle from simulation to analysis; request for information (RFI) through proposal (RFP), preliminary (PDR) through critical design reviews (CDR), manufacturing and facility readiness (MRR) through test readiness (TRR) reviews and acceptance testing (ATP) procedures. Our program management support team is very skilled at fulfilling critical customer communication program deliverables in a professional and timely manner to meet the needs of contract and subcontract document deliverables (CDRL's and SDRL's). Coupled with our wide range of environmental testing capabilities, Aldetec looks forward to fulfilling customer requirements on existing or future Aerospace programs for amplifier components and or integrated microwave assemblies (IMAs) for your system requirements.

Test and Screening

As screening is a fundamental condition of acceptance, all flight material is subjected to a significant level of component evaluation and assembly level testing. These activities are specified within the customer contractual deliverables and each program has slightly different component evaluation and screening requirements. Aldetec is well versed at meeting the active and passive element evaluation criteria and all environmental screening conditions. We perform many of these tasks utilizing in-house equipment and expertise. Flow-down requirements typically include the following:

- Element Evaluation – (visual, electrical, physical)
- X-ray Fluorescence (XRF)
- Surge Current
- Scanning Electron Microscopy (SEM)
- Fine and Gross Leak Testing
- Particle Impact Noise Detection (PIND)
- Temperature – Cycle, Shock
- Mechanical Shock
- Mechanical Vibration
- Altitude
- Constant Acceleration
- Burn-in
- Radiography
- Residual Gas Analysis (RGA)
- Destructive Physical Analysis (DPA)
- Accelerated Life Test

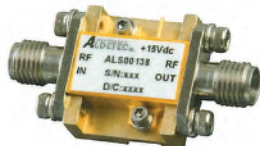
AMPLIFIER CASE TYPES

Many of Aldetec's Standard Amplifier specifications can be incorporated into the Aldetec "ALQ - Series" micro-package/case styles. These sealed micro-packages, designed for "drop in" applications, come complete with a removable connectorized test fixture. Contact the factory to see if your specifications can be incorporated into this miniature solution.

P-Series



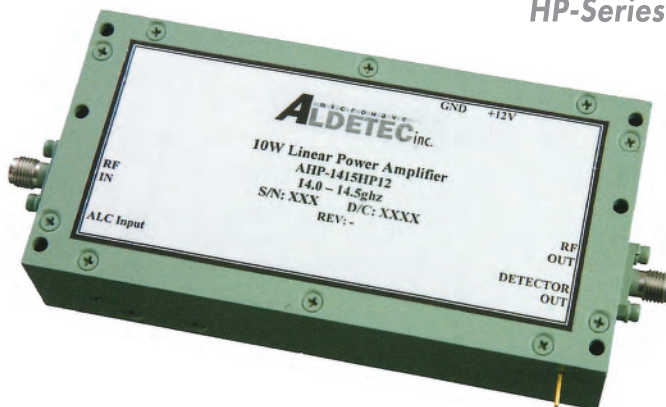
ALQ-Series



XS-Series



HP-Series

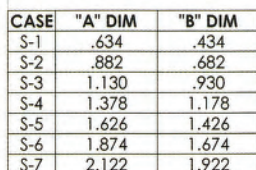


MM-Series



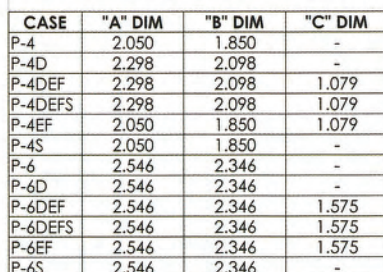
L-Series





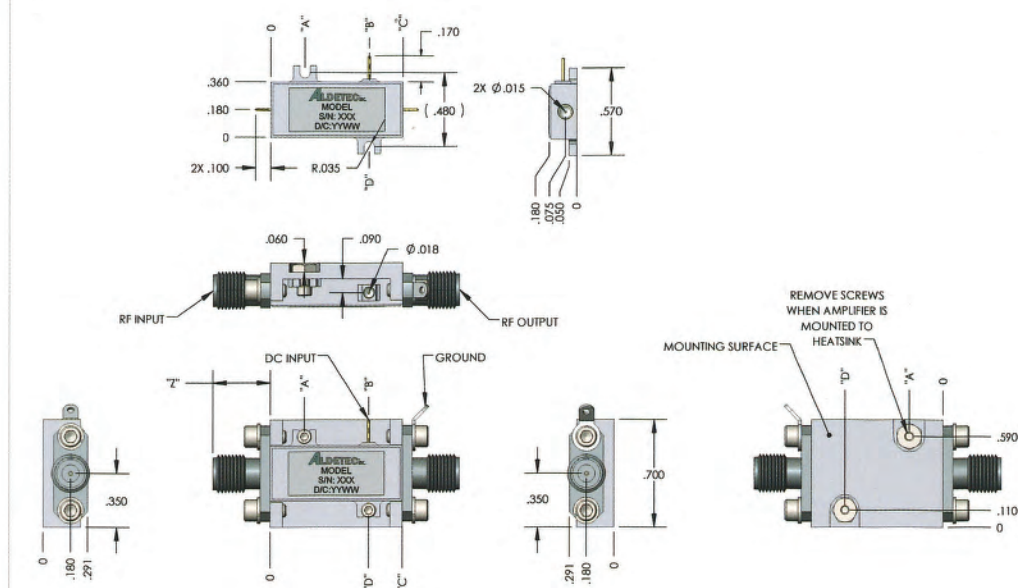
CONNECTOR	"Z" DIM
SMA-F	.38
SMA-M	.51
2.92mm-F	.38
2.92mm-M	.52

S SERIES OUTLINE



CONNECTOR	"Z" DIM
SMA-F	.38
SMA-M	.51
2.92mm-F	.38
2.92mm-M	.52

P SERIES OUTLINE



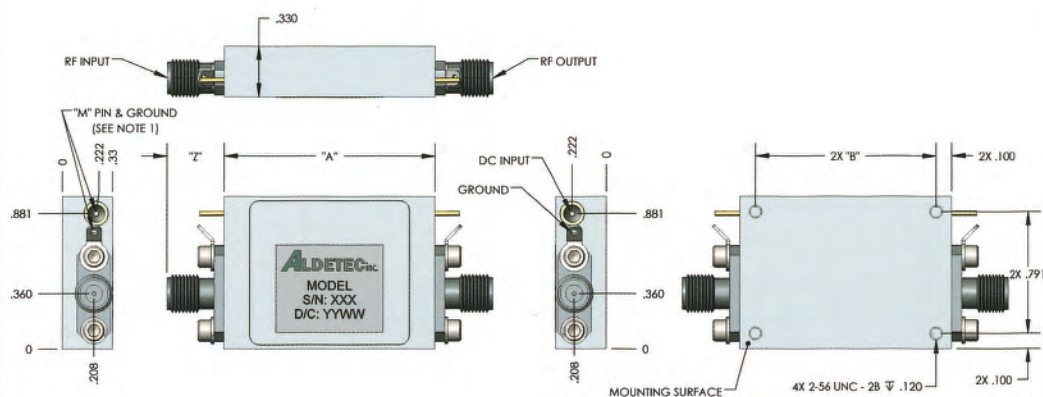
CASE	"A" DIM	"B" DIM	"C" DIM	"D" DIM
ALQ-2	.160	.280	.430	.270
ALQ-3	.160	.320	.530	.370
ALQ-4	.220	.430	.640	.420
ALQ-5	.220	.530	.750	.530
ALQ-6	.220	.640	.860	.640
ALQ-7	.220	.750	.970	.750
ALQ-8	.220	.860	1.080	.860

CONNECTOR	"Z" DIM
SMA-F	.38
SMA-M	.51
2.92mm-F	.38
2.92mm-M	.52

ALDETEC inc. 3560 Business Drive, Suite 100
Sacramento, CA 95829
(916) 453-3382

TITLE:

ALQ SERIES OUTLINE



CASE	"A" DIM	"B" DIM
MM-2	.882	.682
MM-3	1.130	.930
MM-4	1.378	1.178
MM-5	1.626	1.426
MM-6	1.874	1.674

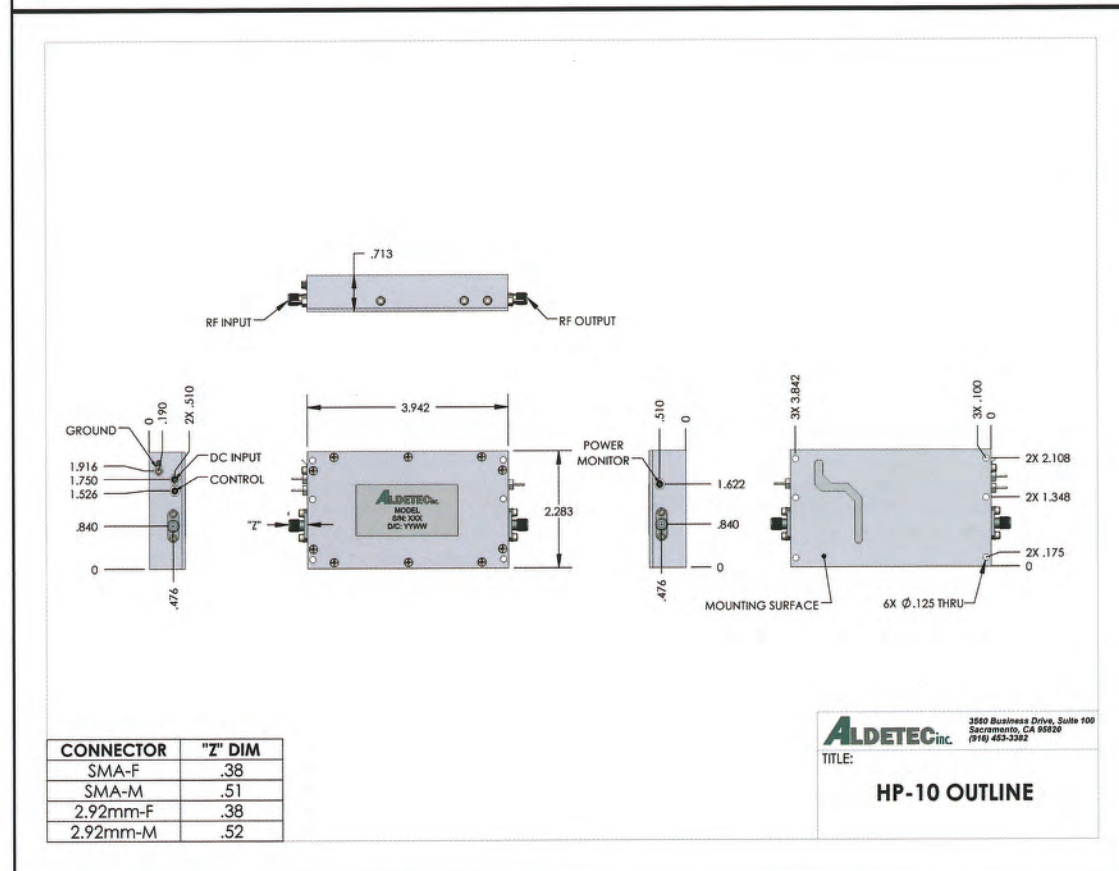
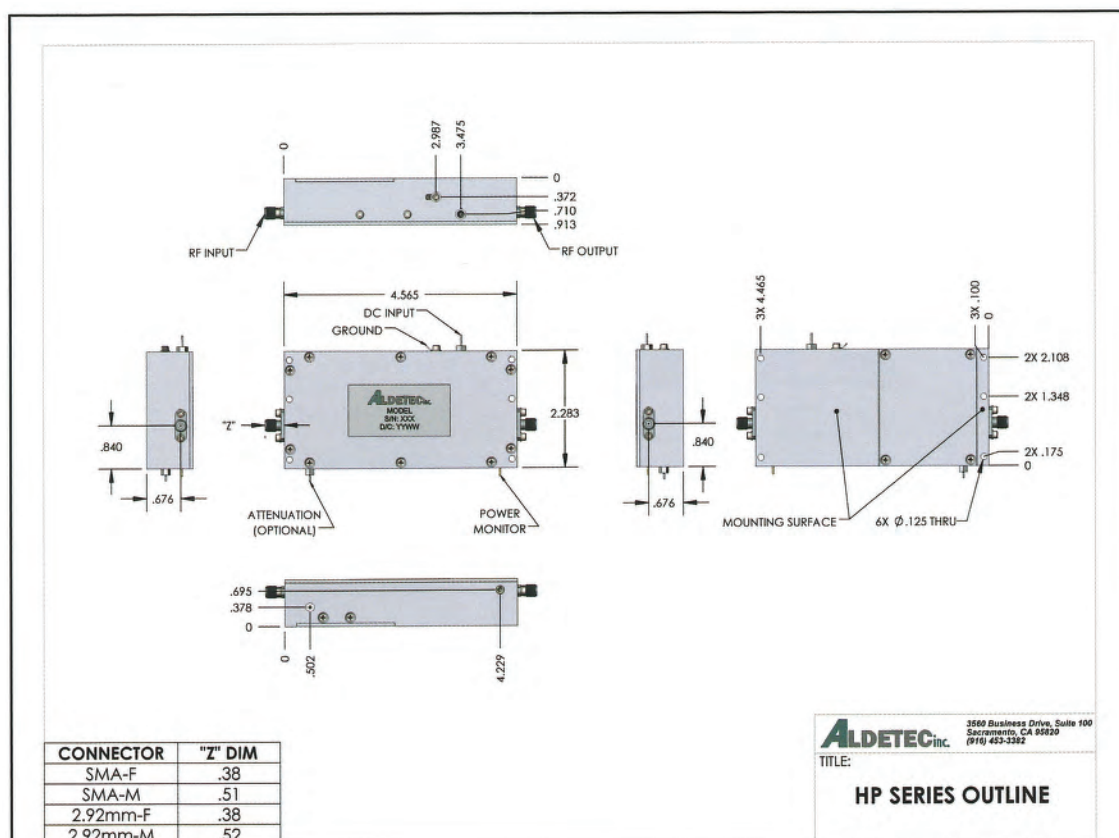
CONNECTOR	"Z" DIM
SMA-F	.38
SMA-M	.51
2.92mm-F	.38
2.92mm-M	.52

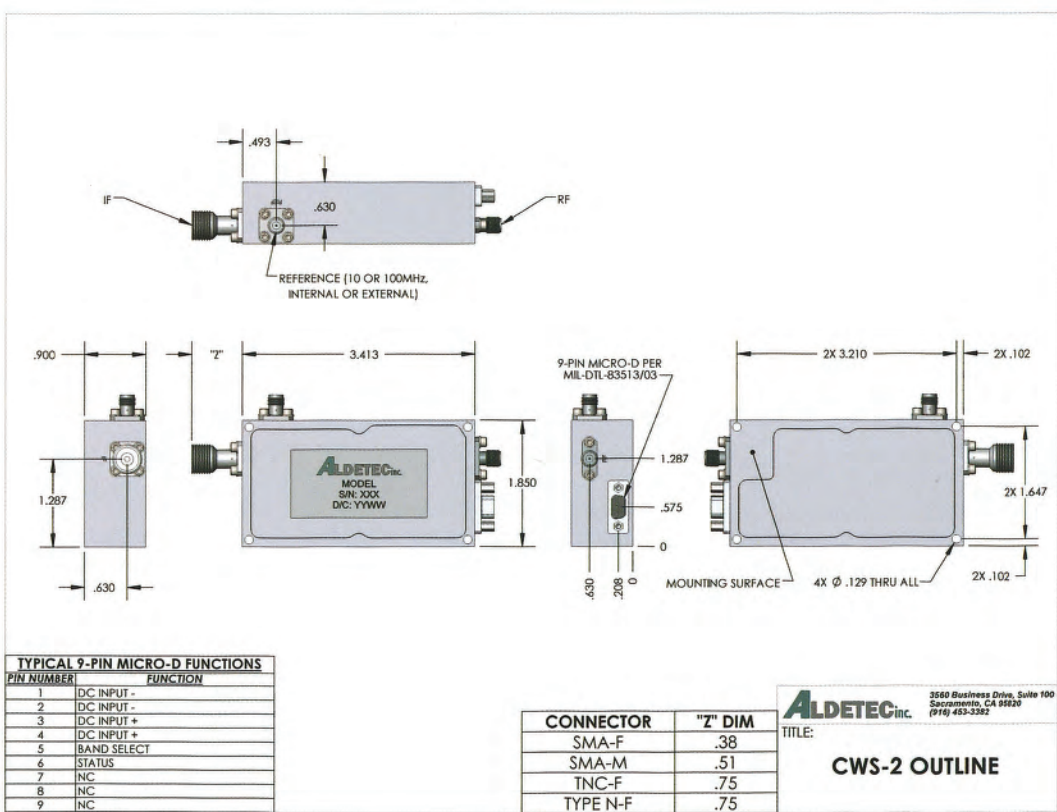
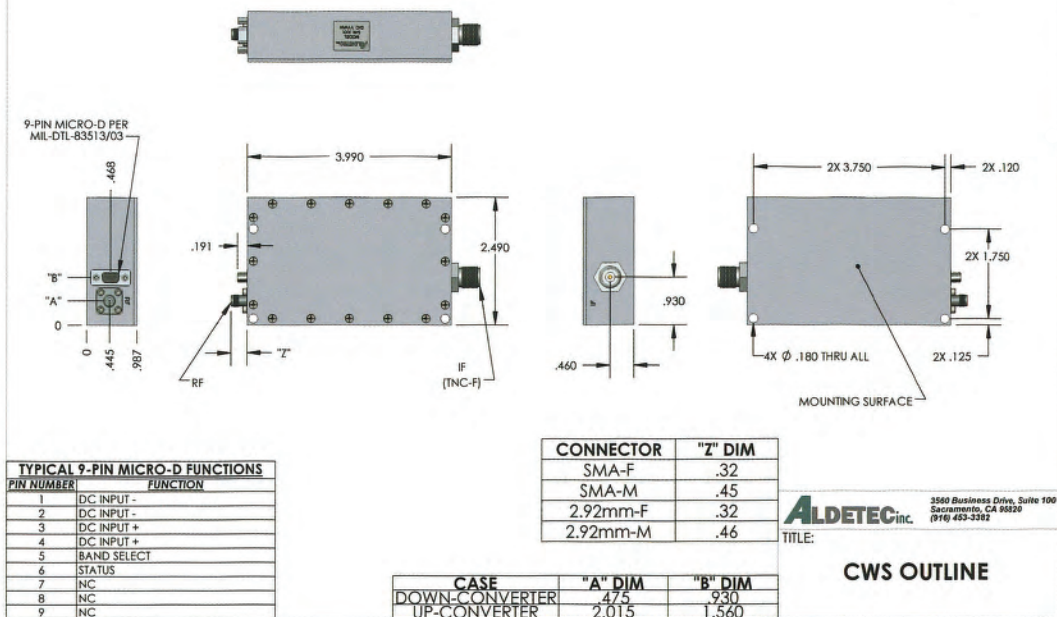
NOTES:
1. WHEN "M" IS DESIGNATED AFTER PART NUMBER
ADDITIONAL PIN AND GROUND ARE INCLUDED.

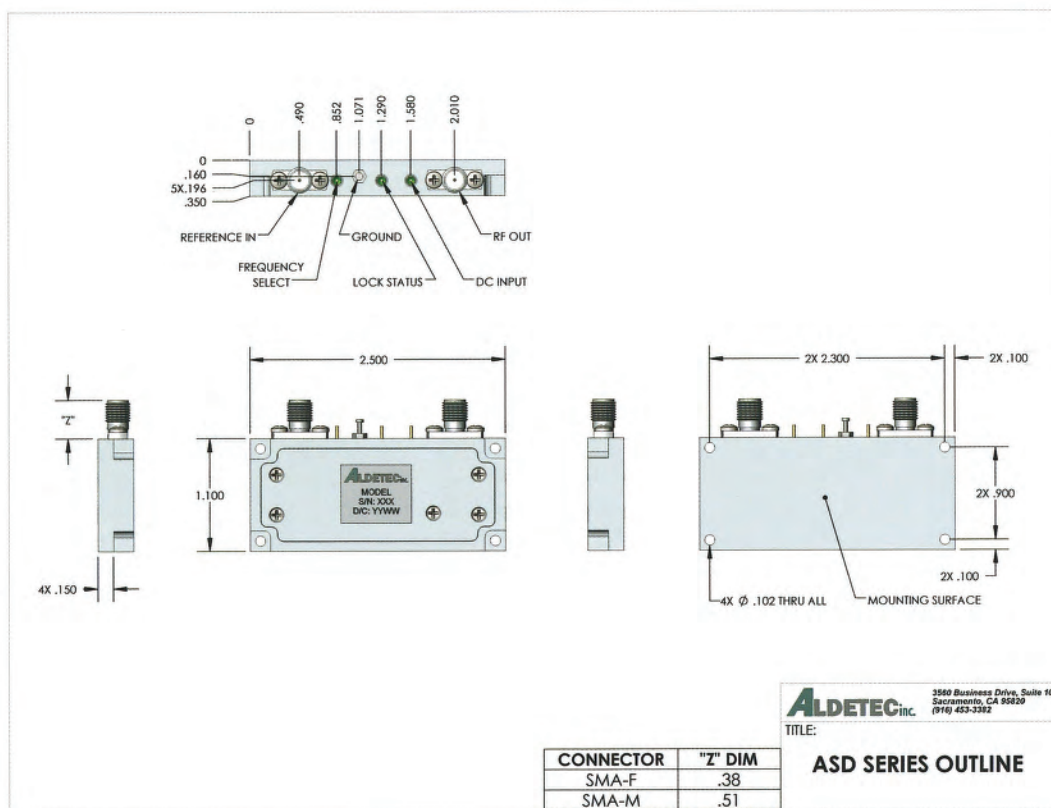
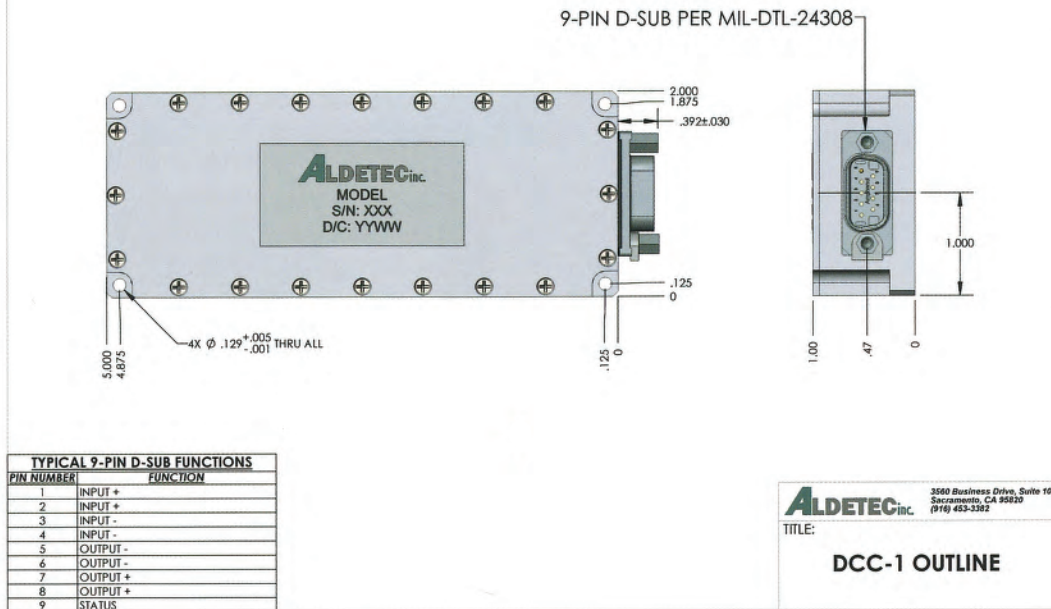
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TITLE:

MM SERIES OUTLINE









MICROWAVE components

Over the years Aldetec has developed a variety of microwave components as standalone assemblies and integrated modules. These modules were designed in a standardized configuration which allows for adaptation to most mechanical configurations. Our technology of utilizing discrete die with wire bonding has allowed us to provide superior performance in the smallest packaging available. Aldetec has become highly respected in our industry for development and design of Integrated Microwave Assemblies (IMAs). The benefits of using IMAs in Defense and Hi-Rel Aerospace applications has driven Aldetec to be a world-class supplier in the technology.

high-reliability AEROSPACE

To support the requirements of this diverse business arena (civil, commercial and military), Aldetec has developed extensive capabilities, engineering expertise, quality systems, processes and procedures to deliver technology solutions for the most complex applications. With a dedicated Flight Facility for manufacturing, our on-orbit legacy extends for more than 8 years including a successful heritage of meeting both short term (Class H) and long term (Class K) mission life conditions. With a discipline for high quality and technology focused deliverables supported by highly effective customer communications, Aldetec is well suited to meet the demands of the Space industry

Broadband Wireless

Broadband Wireless specializes in the design and manufacture of RF Power Amplifiers (RFPAs) tailored for telecommunications, broadcasting, aerospace & defense, and industrial applications. We assess our clients' specific project requirements and collaborate closely to ensure that each power amplifier (PA) is fully optimized for performance and efficiency.

Our knowledge and experience ensure we will deliver reliable and affordable products that meet your needs. And our commitment to quality and customer satisfaction has made us a trusted partner in the industry for more than two decades. Let us help you enhance your projects with our cutting-edge RF amplifier technology.

Located in Reno, NV, Broadband Wireless has recently occupied a brand new 9,000 sq. ft. facility just minutes from the Reno-Tahoe International Airport.

Key Offerings:

- Volume Manufacturing: Focused on PA-centric design for seamless manufacturing and delivery.
- Testing: Comprehensive RF/electrical PA and system testing to ensure optimal performance.
- R&D and Custom Solutions: Tailored solutions to meet unique project requirements.



Capabilities:

- Frequency Range: 17 Hz to 6 GHz, with a roadmap extending to 31 GHz.
- Power Output: Up to 1000 watts.
- Linearization Techniques: Options for predistortion and feed-forward linearization.
- Technologies: Designs utilizing laterally diffused metal oxide semiconductor (LDMOS), gallium arsenide (GaAs), and galliumnitride (GaN) technologies.
- Waveforms: Support for continuous wave (CW), pulsed, and modulated waveforms.
- System Integration: Expertise in system architecture, rapid prototyping, and quick turnaround.
- Applications: Solutions for commercial, defense, and medical industries.
- Testing Services: Independent RFPA testing services available.

Integrated Solutions:

- Power Management: Includes power supplies and voltage regulation, synthesizers, receivers, diplexing, and duplexing.
- Control Systems: Control via inter-integrated circuits (I2C), SPI, Ethernet, etc.
- Detection and Monitoring: Features for over/under power, voltage, temperature, thermal shutdown, voltage standing waveratio (VSWR) detection, and blanking.
- Waveform Support: Capable of CW, pulsed, code division multiple access (CDMA), wideband code division multiple access(WCDMA), enhanced data rates for GSM evolution (EDGE), long-term evolution (LTE), 5G NR, and custom waveforms.

Products:

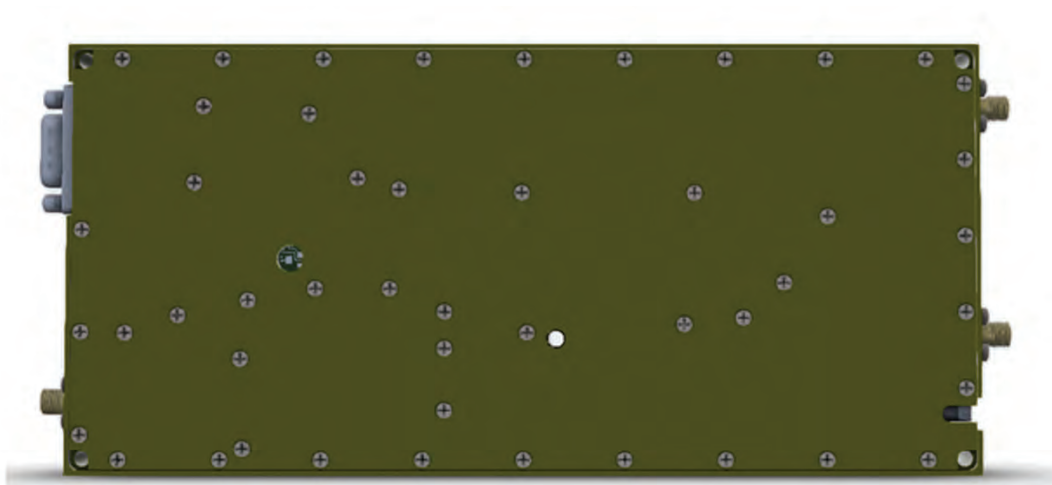
- Communication Amplifiers: Highly linear amplifiers designed for the frequency range of 30 -2700 MHz and beyond.
- Pulsed Power Amplifiers:
 - Radar: Engineered for radar applications.
 - FAA: Designed for Federal Aviation Administration needs.
 - Naval Weapons Stations: Specialized for military applications.
- Medical Amplifiers: Tailored solutions for medical applications requiring lifesaving reliability.

Why Choose Broadband Wireless Technologies (BWT)?

- Robustness:
 - Over 300 million hours of fielded PA time.
 - Mean time between failures (MTBF) calculated between 200,000 and 1 million hours.
 - Failure rate of <1%, with systems in place to ensure genuine components.
- Short Design Time: Our efficient processes lead to faster design and delivery of solutions
- Innovative Solutions: We welcome challenges and enjoy solving complex problems for our clients.
- Competitive Cost: We offer high-quality products at prices that will meet your budgetary needs.

Choosing BWT means partnering with a reliable and innovative company dedicated to delivering high-value, effective RF power amplifier solutions.

Contact us to discuss your RF Power Amplifier requirements.



<https://rf.uec-corp.com>

Phone: (916) 453-3382

Broadband Wireless



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