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CATALOGUE

PRODUCTS & SERVICES

OUR PRODUCTS

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SYSTEM INTEGRATION CONFIGURATION

TEST DOCUMENTATION

asartech

R&D DESIGN ENGINEERING

Designed and Manufactured in TÜRKİYE

ASARTECH ARGE TASARIM MÜHENDİSLİK

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info@asartech.com.tr

IMPORTANT

- Specifications of the products given in this document subject to change without further notice.
- Data given in this document provides its typical performance. Actual device performance is guaranteed by specifications called out by “customer-specific” part number and the associated acceptance test procedure

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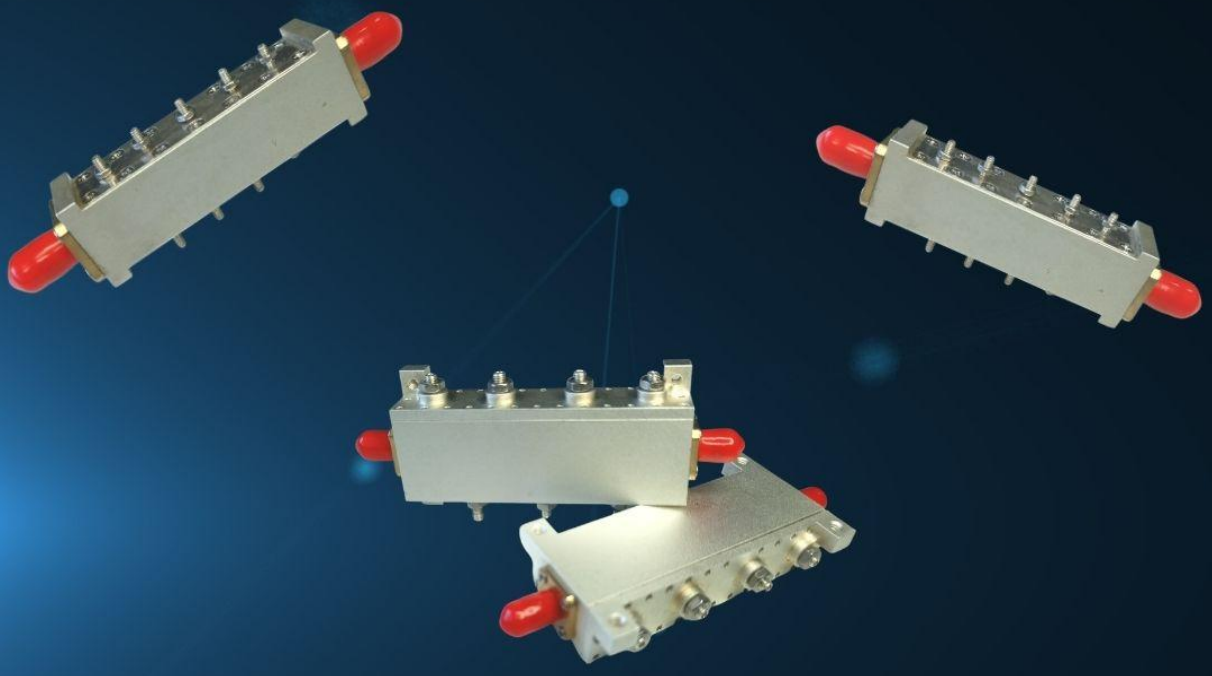
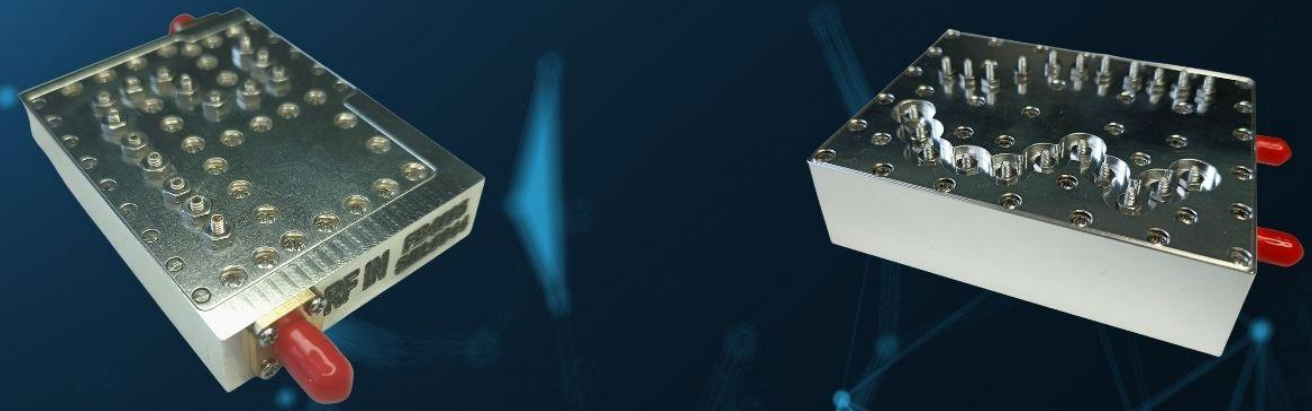
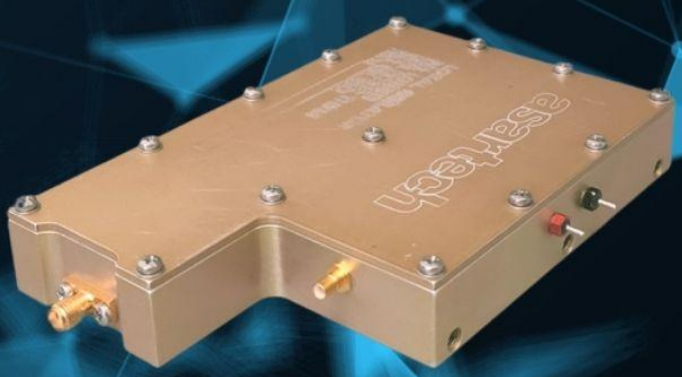






TYPICAL USE

Radars & Electronic Warfare Equipment

Ammunition Data Link

4,5G/LTE/5G Base Stations

Autonomous & Airborne Vehicles

Satellite Systems

Smart City Applications

asartech

R&D DESIGN ENGINEERING

RF /MW PASSIVE COMPONENTS

Asartech designs custom RF and microwave passive products up to 40 GHz:

- Lumped Element Filters
- Machined Cavity Filters
- Coaxial Ceramic Resonator Filters
- Microstrip and Suspended Stripline Filters
- Switched/Channelized Filters
- Diplexer and Multiplexers
- Switched Multiplexers
- Directional Couplers
- Hybrid Couplers
- Attenuators
- Terminations

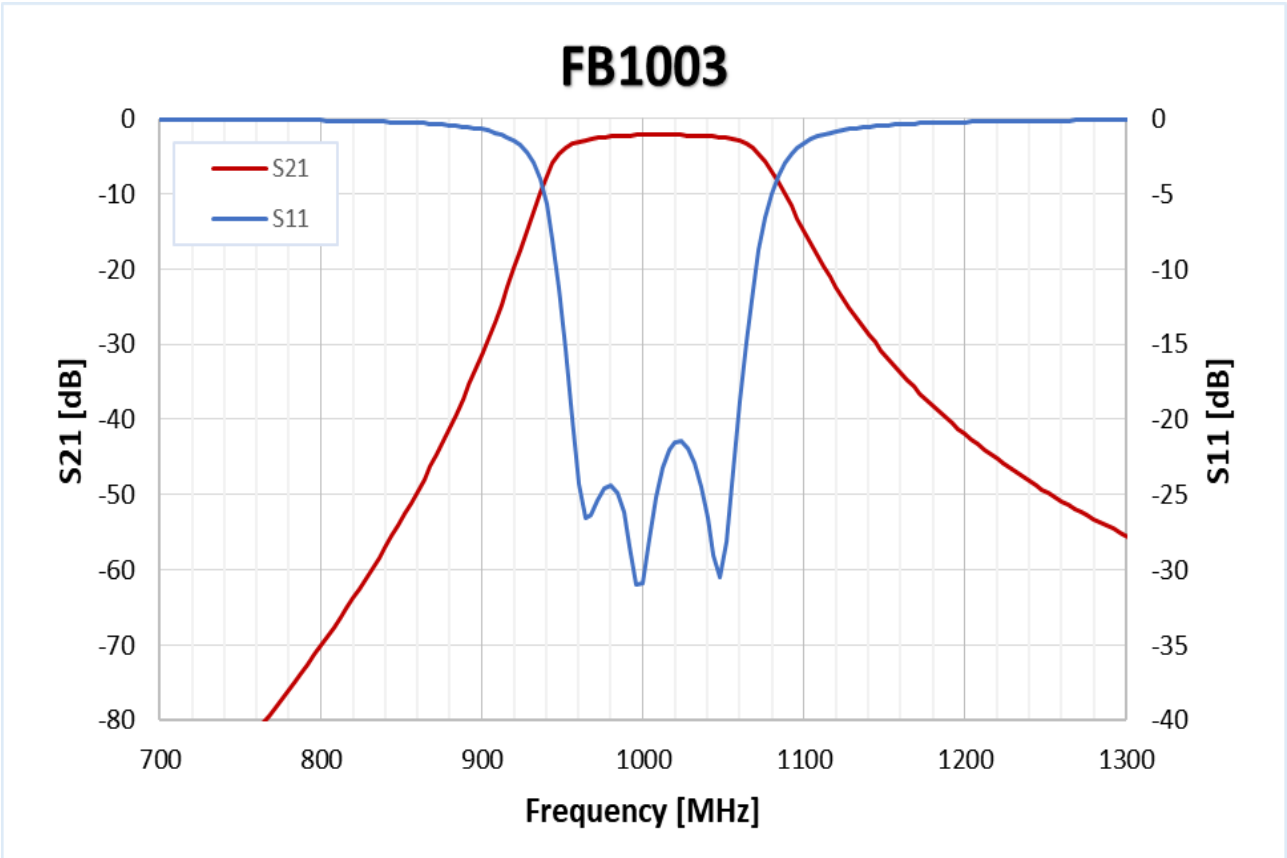
Available in Surface Mount and Connectorized versions

FB1003

1 GHz BANDPASS FILTER

DESCRIPTION

FB1003 is a general purpose 1GHz bandpass filter. It's a lumped element filter housed in a standard Asartech FG1002 housing, i.e., 39.25 x 16.7 x 11mm aluminum box. The input and output connectors are standard SMA. The unit is intended for narrowband applications up to 100MHz, as well as harmonic filtering for fixed 1GHz reference frequency sources.

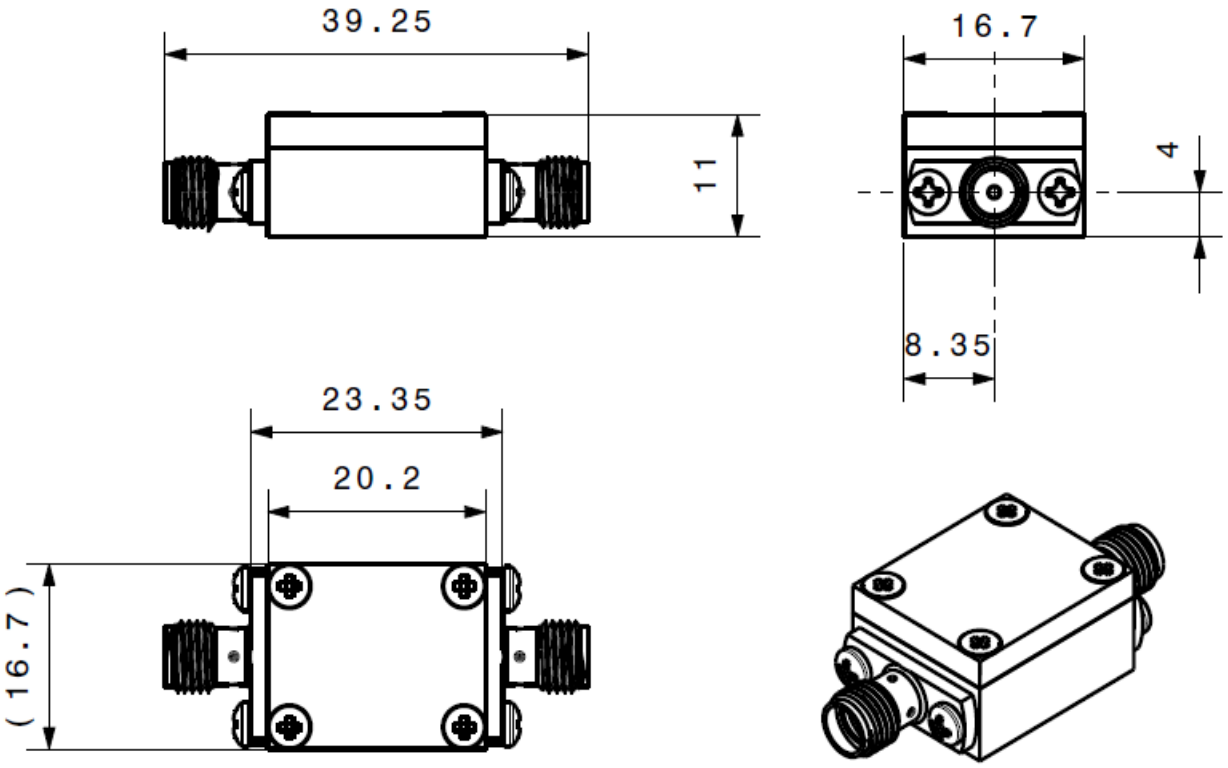


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	950-1050 MHz		2.5dB	4dB
	Return Loss	950-1050 MHz		20dB	18dB
	Power Handling	950-1050 MHz			1W
Stopband	**Attenuation**	DC - 800MHz	60dB	70dB	
	Attenuation	1200-3000MHz	35dB	40dB	

Other specifications available upon request.

MECHANICAL



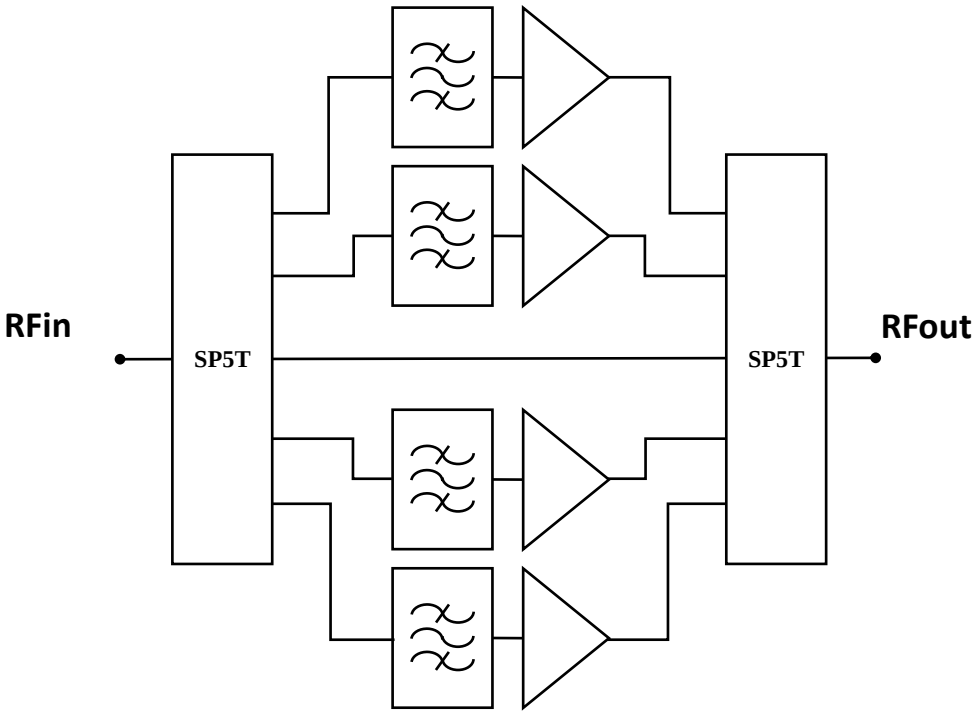
FB1004

IF FILTER BANK

DESCRIPTION

FB1004 is an IF filter bank suitable in front of high-speed ADCs in receiver chains. The filter channels are centered around 240MHz and selected by TTL inputs. The unit incorporates highly selective SAW filters with bandwidths of 0.3MHz, 5MHz, 10MHz and 20MHz. The filter bank also includes a selectable bypass RF through path.

On SAW filter channels, adequate gain blocks were included to compensate the SAW filter losses. The overall gain is 0dB ± 1dB for those channels.

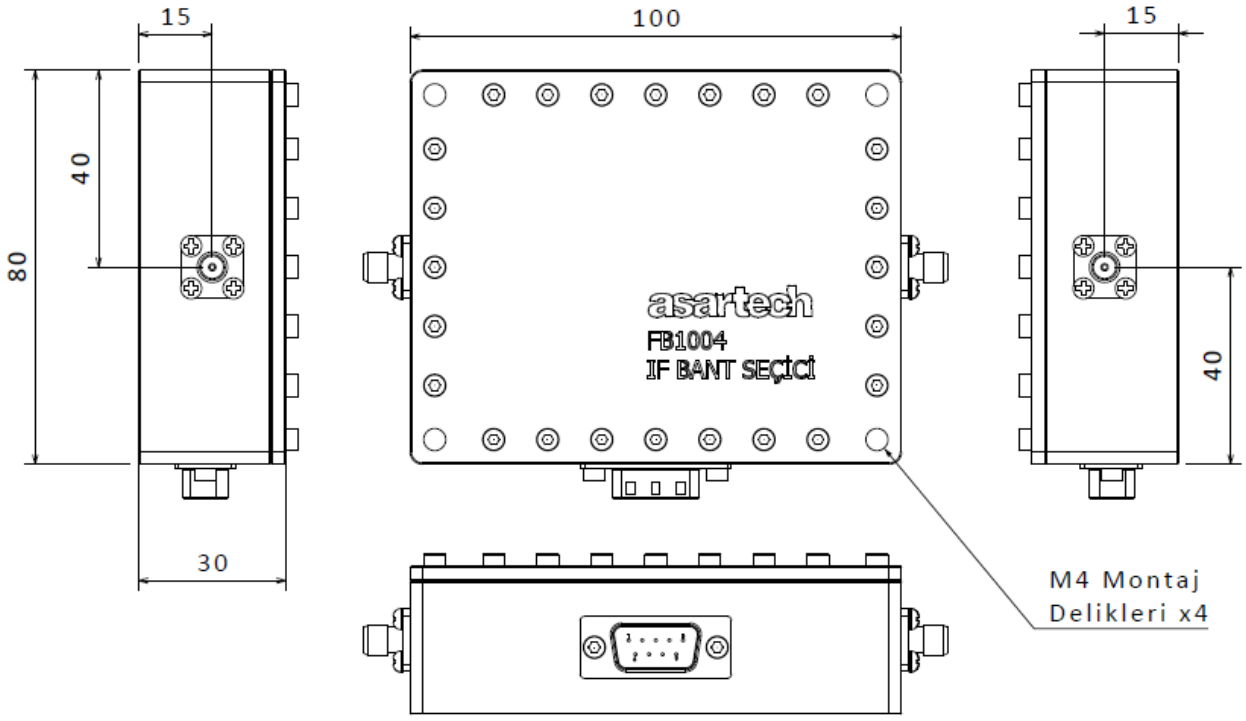


SPECIFICATIONS

Parameter	Limits
Passband Center (Fo)	240MHz
Passband Width (BW)	5 selectable channels: 0.3MHz, 5MHz, 10MHz, 20MHz, Through path
Signal Gain	0dB ± 1dB typ for filter paths, -2dB typ for through path
Return Loss	20dB max
Stopband Attenuation	30dB min @ Fo-BW 30dB min @ Fo+BW
Power Handling	15dBm typ
Operational Temp Range	5°C to 65°C
Storage Temp Range	0°C to 125°C
RF Input Power	20dBm max

Note-1: Other specifications available upon request.
Note-2: It is assumed that the device will sit within a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL

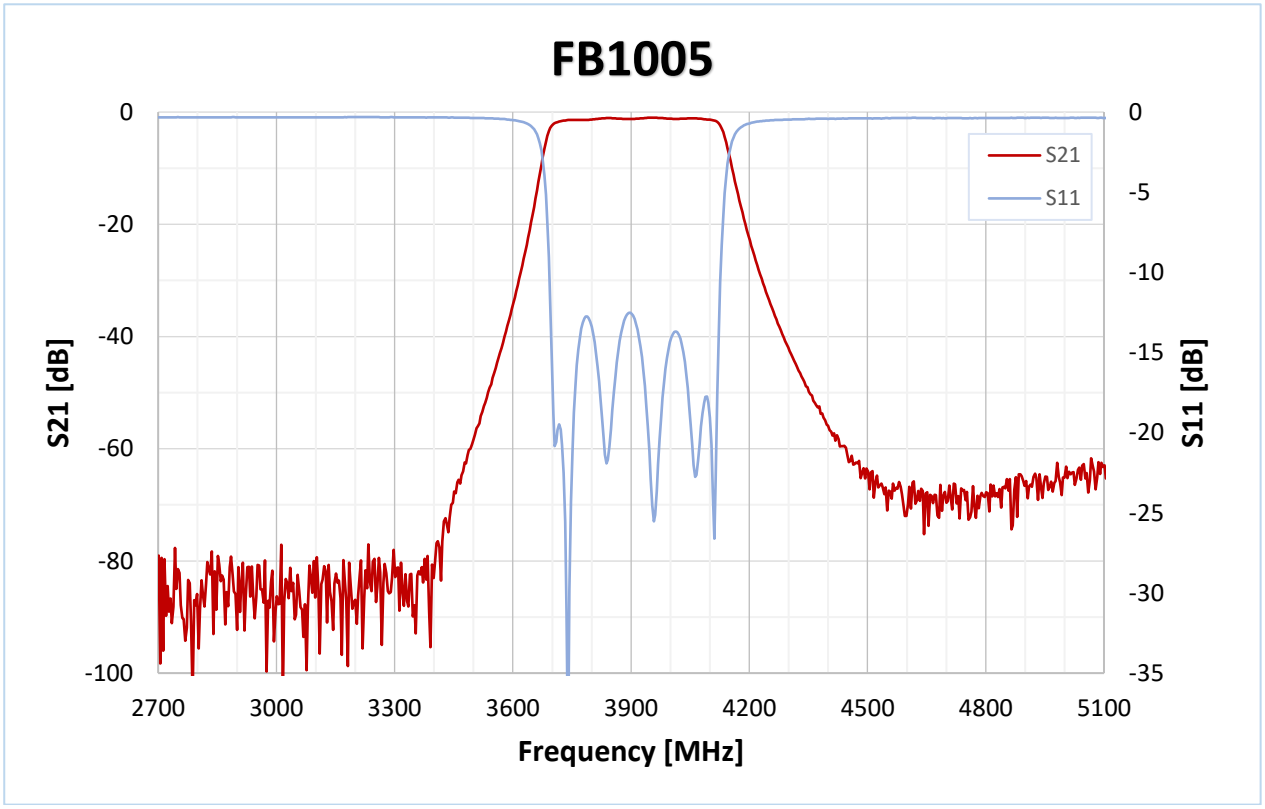


FB1005

S BAND CERAMIC FILTER

DESCRIPTION

FB1005[1] is an ultra-miniature bandpass filter in SMD form with sharp roll off and low passband insertion loss. It is suitable for dense PCB applications thanks to its compact size.

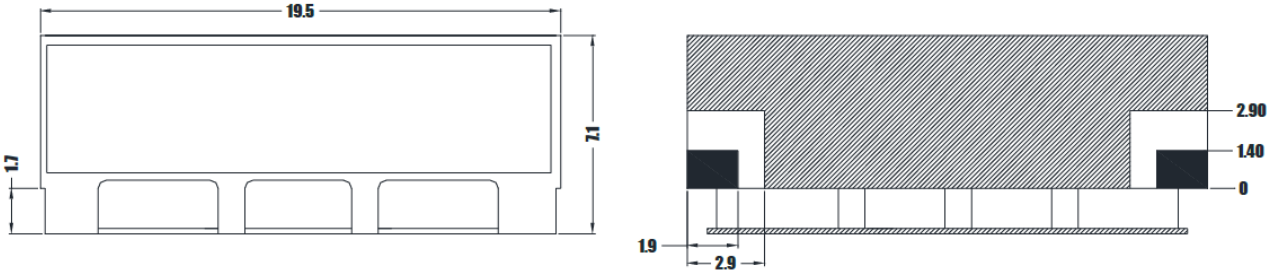


[1] This product has been developed with the support the program of The Scientific and Technological Research Council of Turkey (TÜBTAK) (Project No: 3205062) but all the responsibility concerning the product/service belongs to ASARTECH ARGE TASARIM MÜHENDİSLİK A.Ş.

SPECIFICATIONS

Parameter	Limits
Filter Type	PCB filter with soldered TIN (covered with proper material for environmental conditions) type box
Mounting	Input, Output Pads -Soldered
Passband	3800-4100 MHz
Max Loss in Passband	2 dB
Stopband	<3350 MHz & >4750 MHz
Min Loss in Stopband	60 dB
Input/Output Impedance	50 ohm
S11/S12	< -12 dB
Mechanical Dimensions	19.5 x 7.1 x 4.42 mm
Operational Temperature	-45°C + - 85°C

MECHANICAL



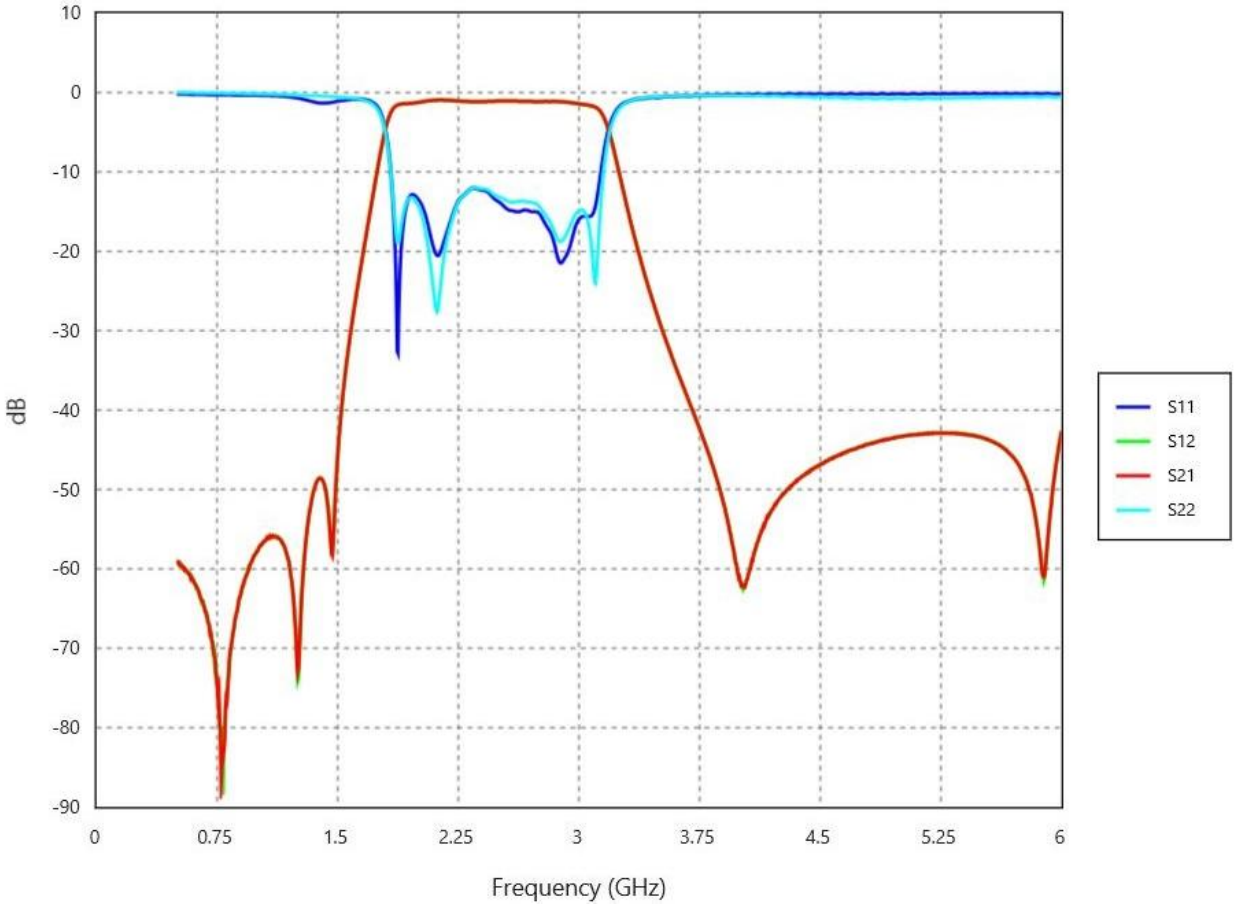
FB1008

2.5 GHz BANDPASS FILTER

DESCRIPTION

FB1008 is a 1.9-3.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

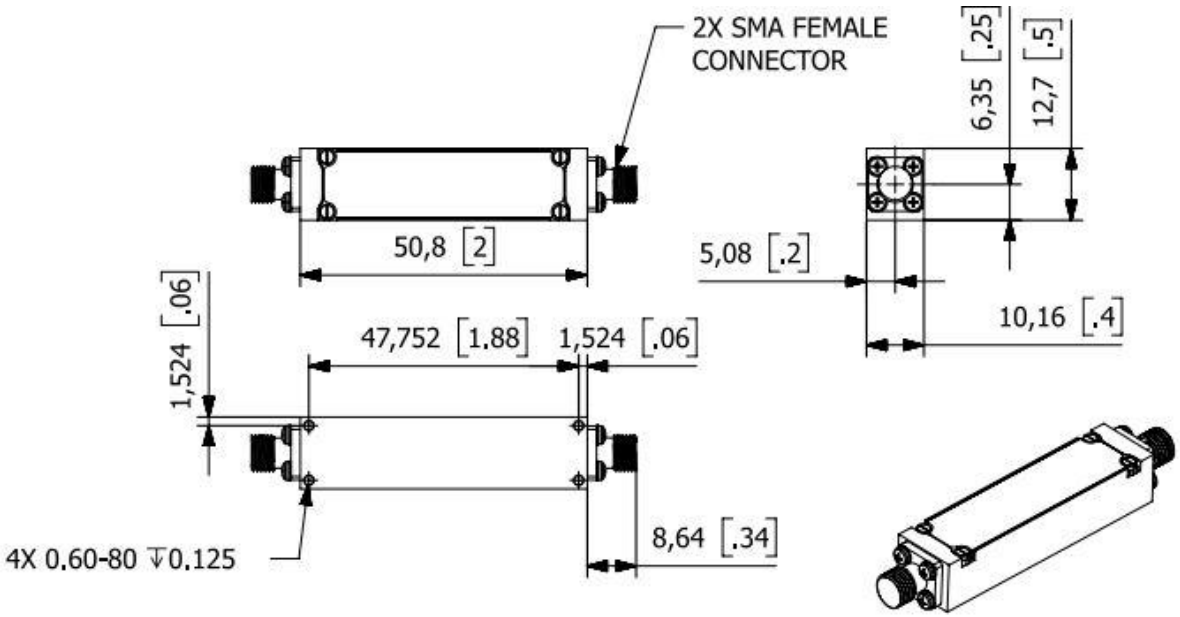
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

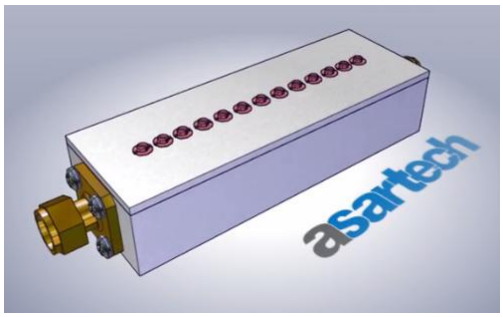
Parameter	Limits
Center Freq	2500 MHz
3dB BW [min]	1200 MHz
Passband IL [max]	0.6dBa
VSWR [max]	2.0:1
Passband RL [min]	10.0 dB
Out of Band Rejection	50 dBc @ 1000 MHz 50 dBc @ 4000 MHz
Dimensions	2.0 x 0.5 x 0.4 in. (50.80 x 12.70 x 10.16 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



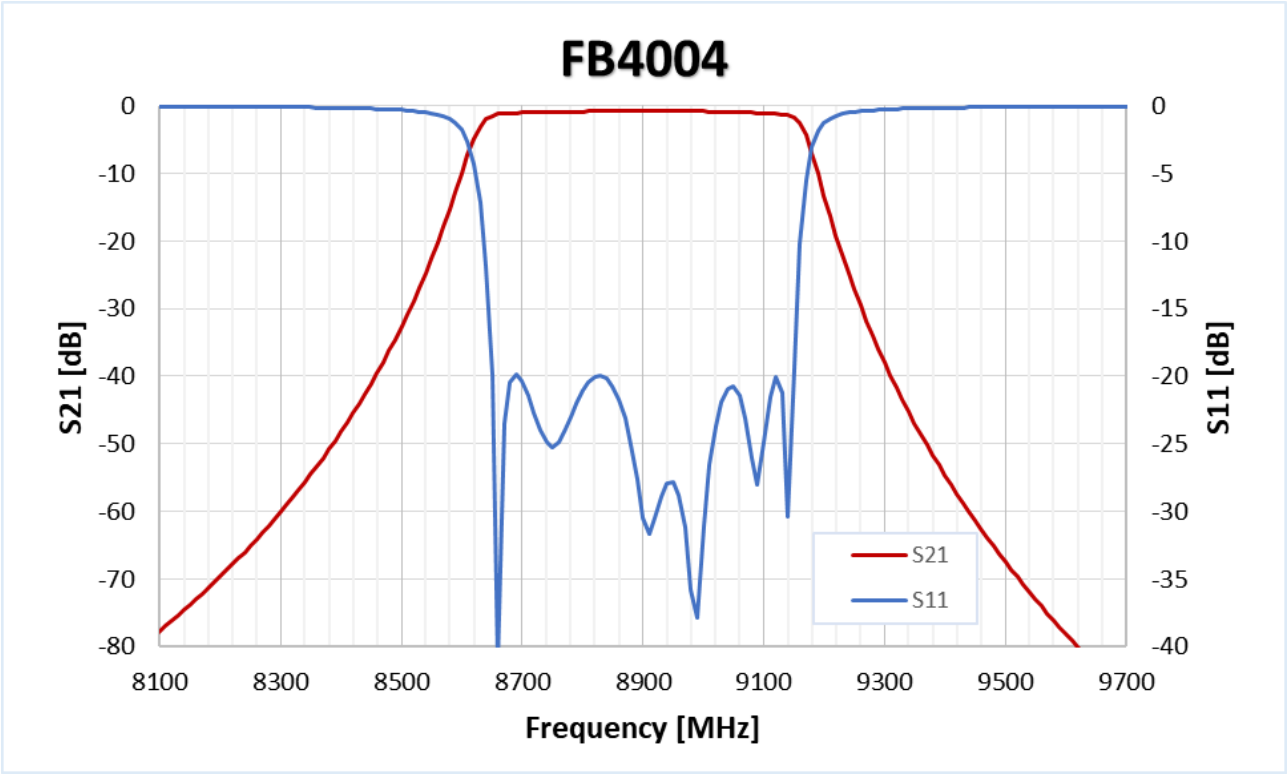
FB4004

8.9 GHz BANDPASS FILTER



DESCRIPTION

FB4004 is a highly selective, low-loss 8900MHz bandpass filter. It's a machined cavity filter housed in 98.6 x 17.2 mm aluminum box. The input and output connectors are standard SMA. The unit can be used for RX and TX front ends of X-band transceivers and radars.

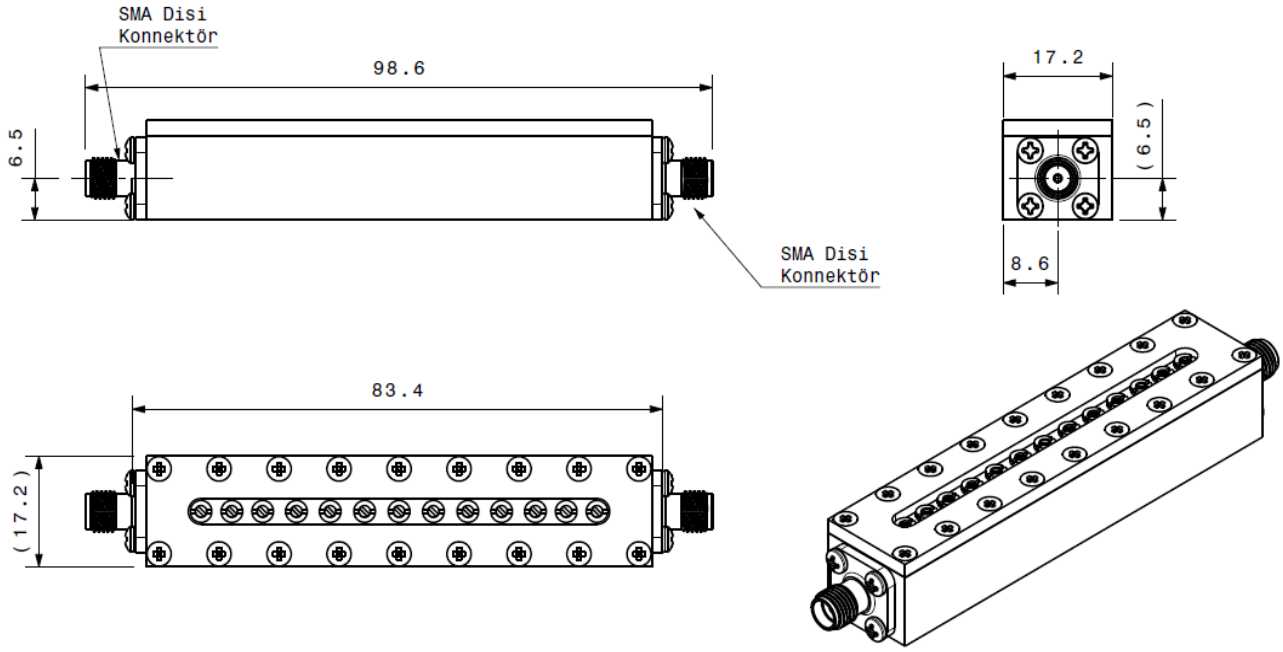


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	8700-9100 MHz		1.2 dB	1.5 dB
	Return Loss	8700-9100 MHz		20 dB	17 dB
	Power Handling	8700-9100 MHz			10 W
Stopband	**Attenuation**	DC-8400 MHz	40 dB	48 dB	
	Attenuation	9400-18000 MHz	50 dB	55 dB	

Other specifications available upon request.

MECHANICAL



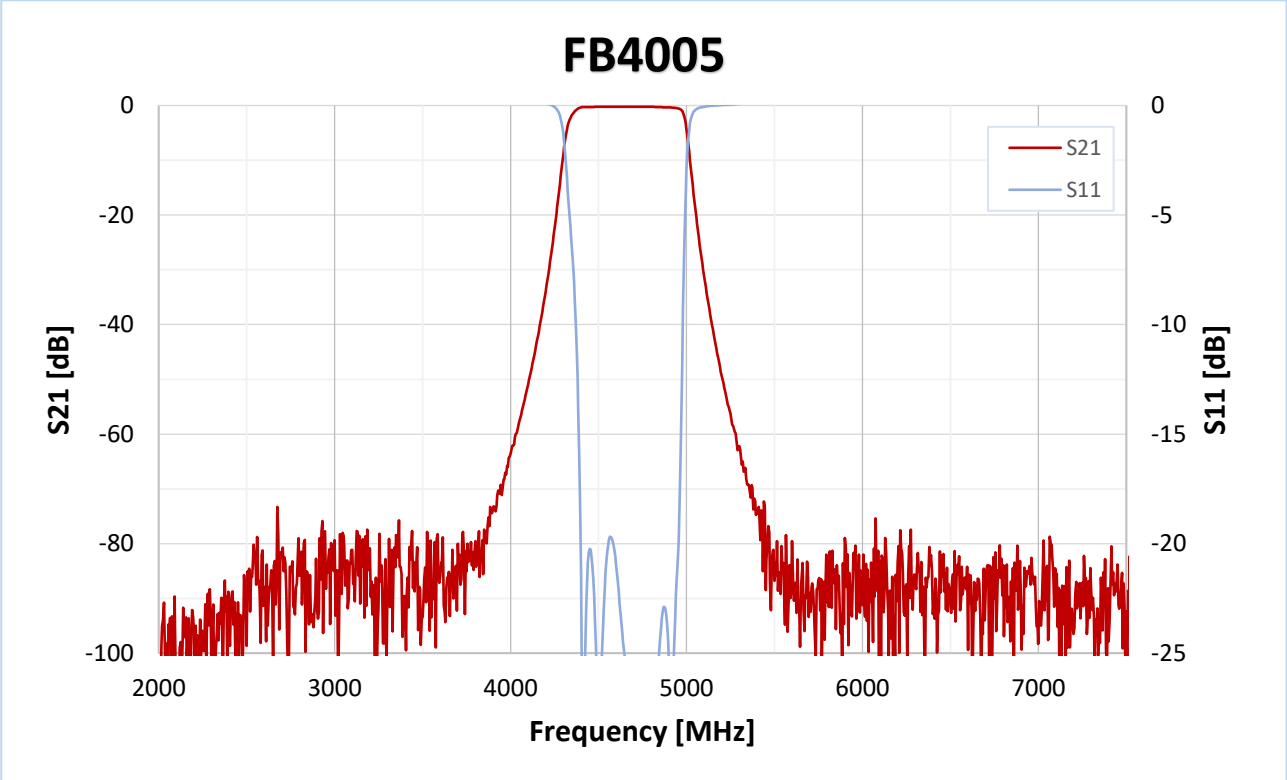
FB4005

C-BAND BANDPASS CAVITY FILTER

DESCRIPTION

FB4005[2] is a highly selective, low-loss 4675 MHz. bandpass filter. It's a machined cavity filter housed in 72×53.5×14.5 mm. aluminum box.

The input and output connectors are standard SMA (female). The Insertion Loss is 1.0 max. dB. and its Operational Temp. Range is -45 °C – +85 °C. The unit can be used for RX and TX front ends of C-band transceivers and radars.



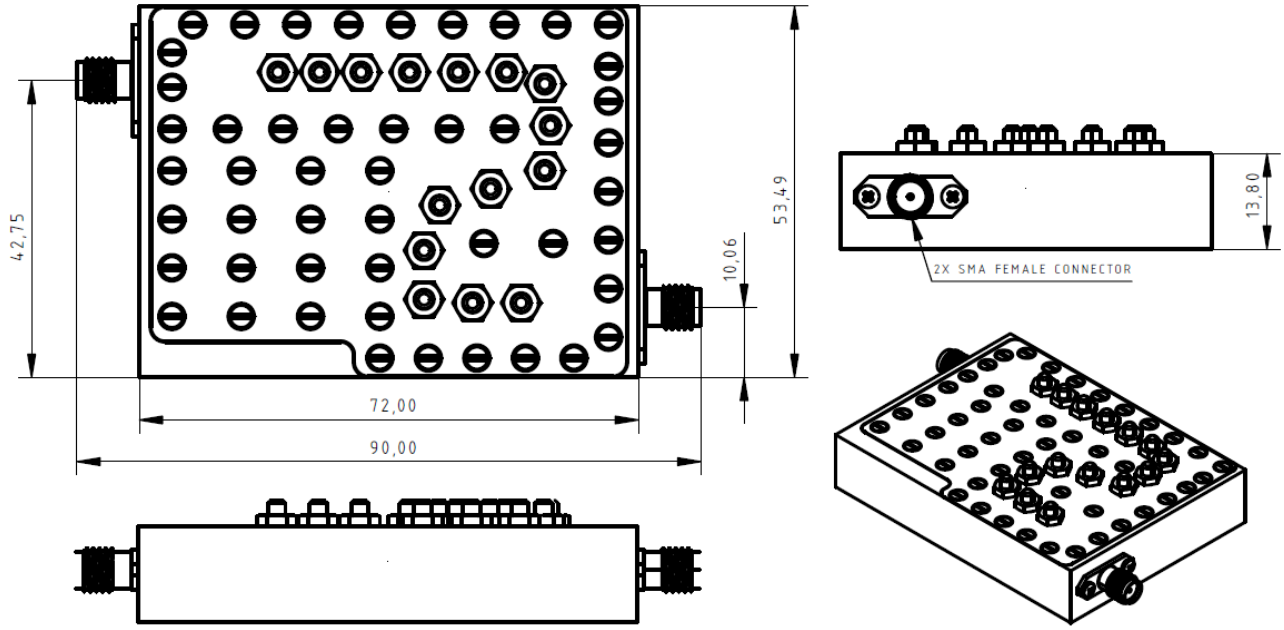
[2] This product has been developed with the support the program of The Scientific and Technological Research Council of Turkey (TÜBTAK) (Project No: 3205062) but all the responsibility concerning the product/service belongs to ASARTECH ARGE TASARIM MÜHENDİSLİK A.Ş.

SPECIFICATIONS

Parameter	Limits	
	Frequency Range	Min
Center Frequency	4675 MHz	5550 MHz
Bandwidth	4400-4950 MHz	5250-5850 MHz
Insertion Loss	1.0 dB max.	1.0 dB max.
VSWR	1.3:1 max	1.3:1 max
Attenuation	80 dB min. @ 2000 MHz 70 dB min. @ 5250-5850 MHz 80 dB min. @ 9000 MHz	80 dB min. @ 2000 MHz 70 dB min. @ 4400-4950 MHz 80 dB min. @ 9000 MHz
Isolation between bands	80 dB min. @5250-5850 MHz	80 dB min. @4440-4950 MHz
Power Handling	20 Watt CW max.	
IN/OUT Impedance	50 Ohm	
Operational Temp. Range	-45°C - + 85°C	
Connector	SMA (Female) – All Ports	
Finish	Black Painting	
Mechanical Dimensions	96 x 74 x 14.5 mm	

Other specifications available upon request.

MECHANICAL



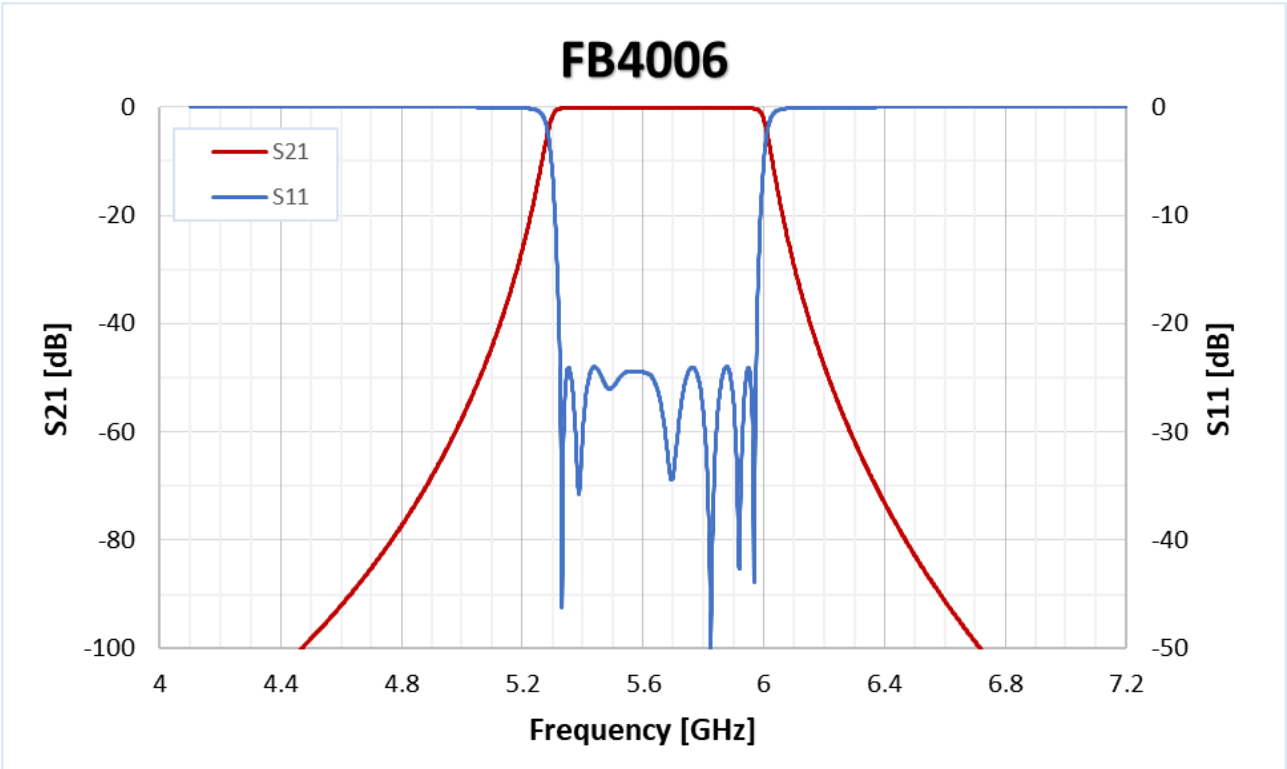
FB4006

C-BAND BANDPASS CAVITY FILTER

DESCRIPTION

FB4006 is cavity bandpass filter in C-band (frequencies available upon request and customizable within frequency range).

The passband width is 600MHz max.

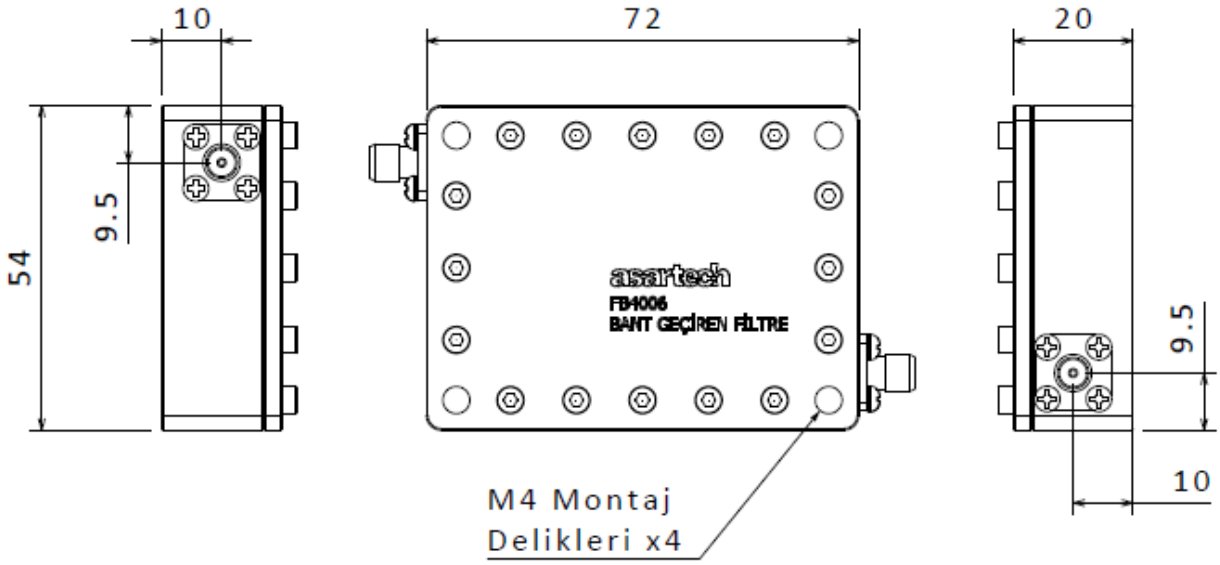


SPECIFICATIONS

Parameter	Limits
Passband Freqs (F1, F2)	5-6 GHz
Passband Width	600MHz
Insertion Loss	0.5dB max within PB
Return Loss	20dB max
Stopband Attenuation	55dB @ F1-350MHz 55dB @ F2+350MHz
Power Handling	100W
No Spurious	Up to 15GHz
Operational Temp Range	5°C to 65°C
Storage Temp Range (Note 2)	0°C to 125°C
RF Input Power	125W max

Note-1: Other specifications available upon request.
Note 2: It is assumed that the device will sit within a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL



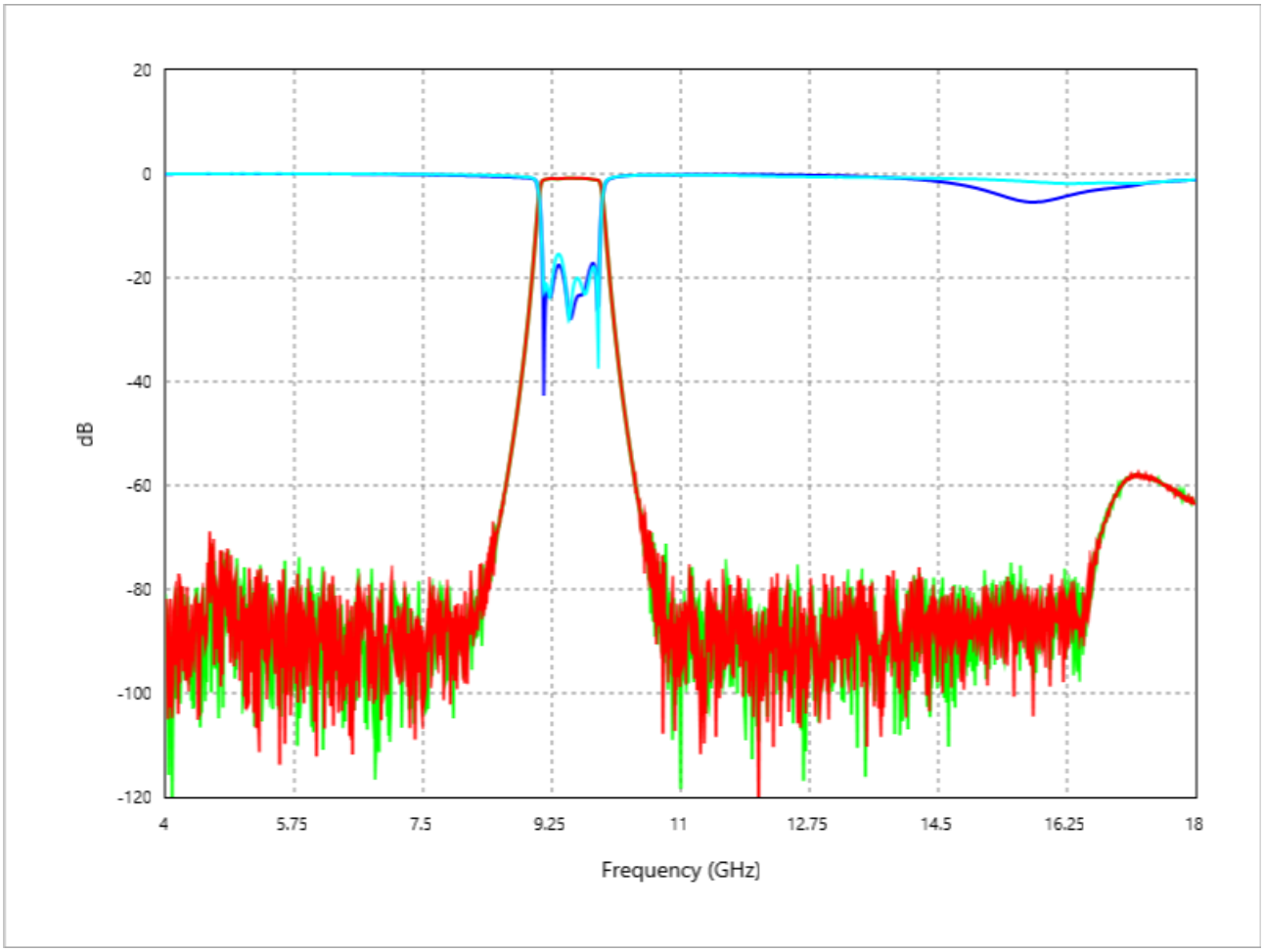
FB4011

9.5 GHz BANDPASS FILTER

DESCRIPTION

FB4011 is a 9.075-9.925GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

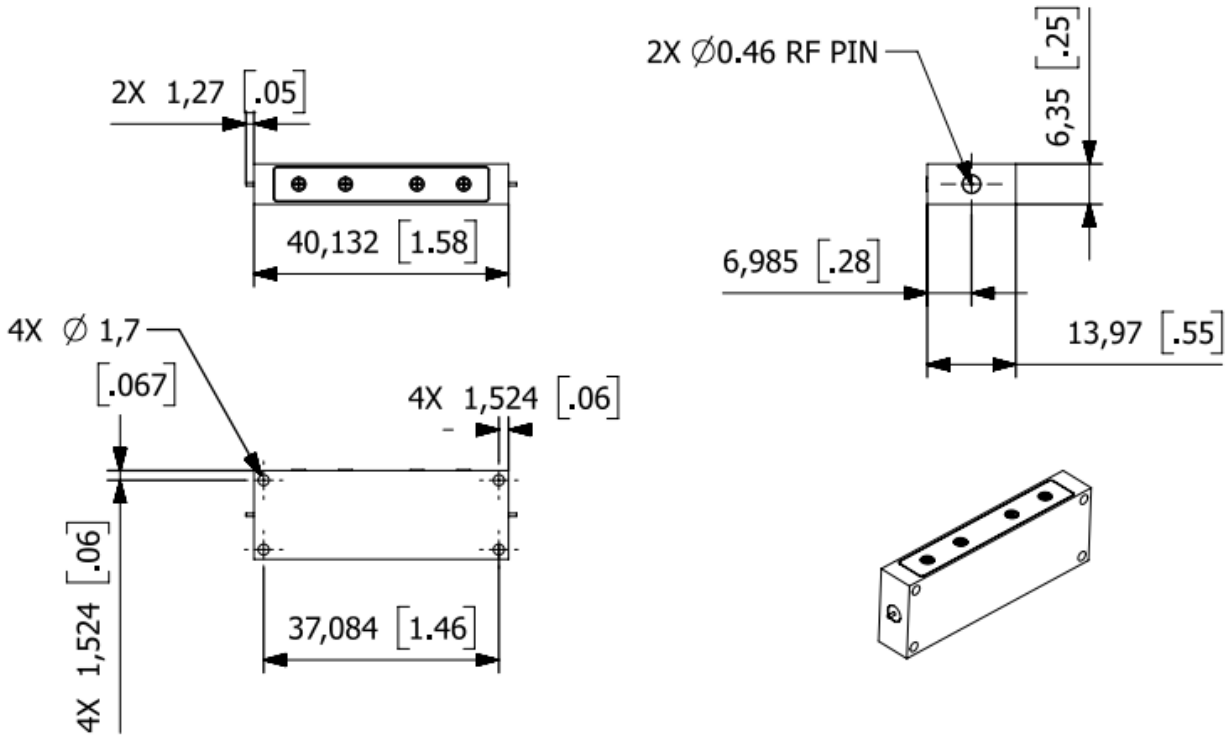
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	9500 MHz
3dB BW [min]	850 MHz
Passband IL [max]	1.2dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	40 dBc @ 8756 MHz 43 dBc @ 10243 MHz
Dimensions	1.58 x 0.55 x 0.25 in. (40.01 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



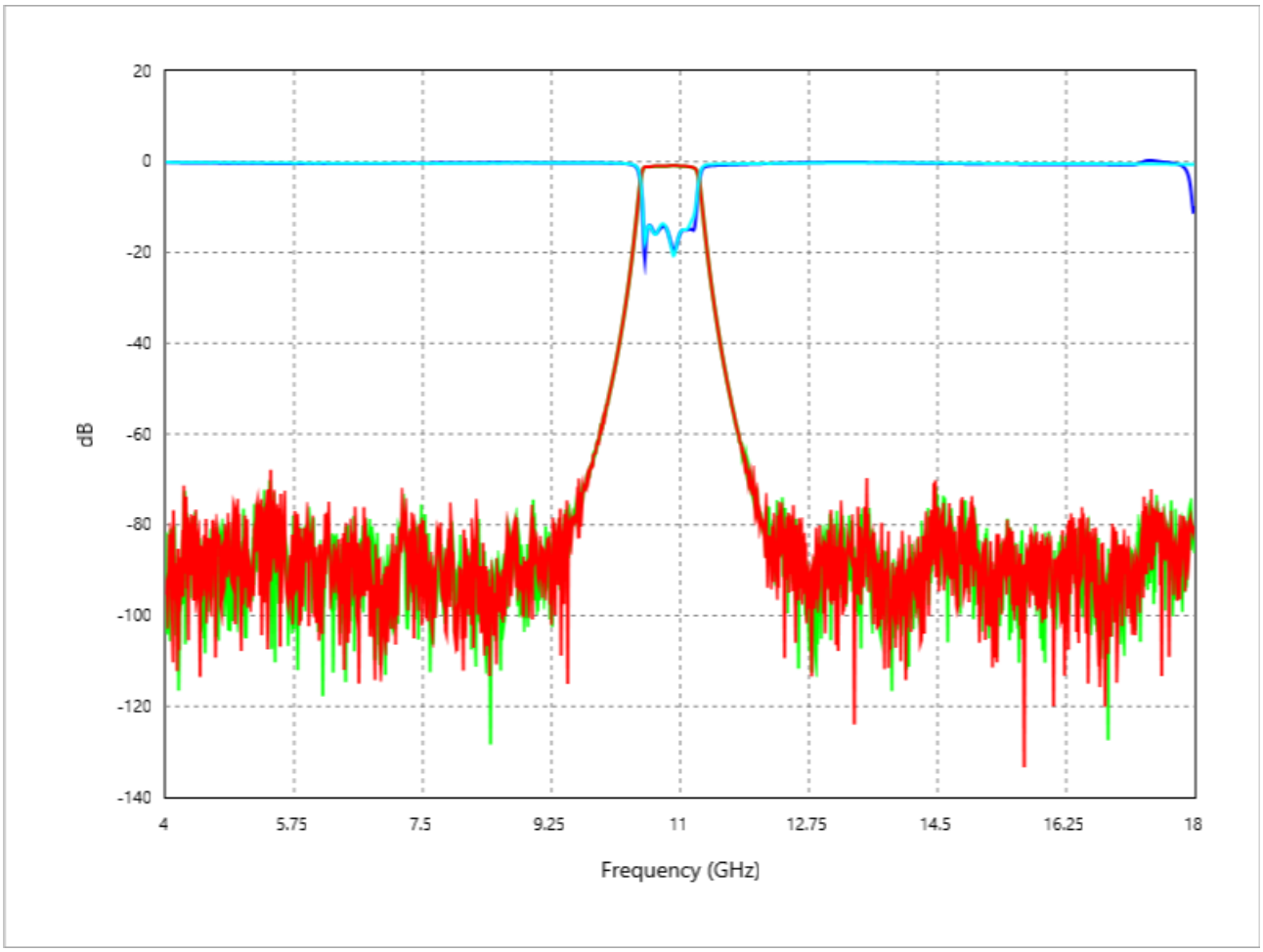
FB4012

10.86 GHz BANDPASS FILTER

DESCRIPTION

FB4012 is a 10.460-11.260GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

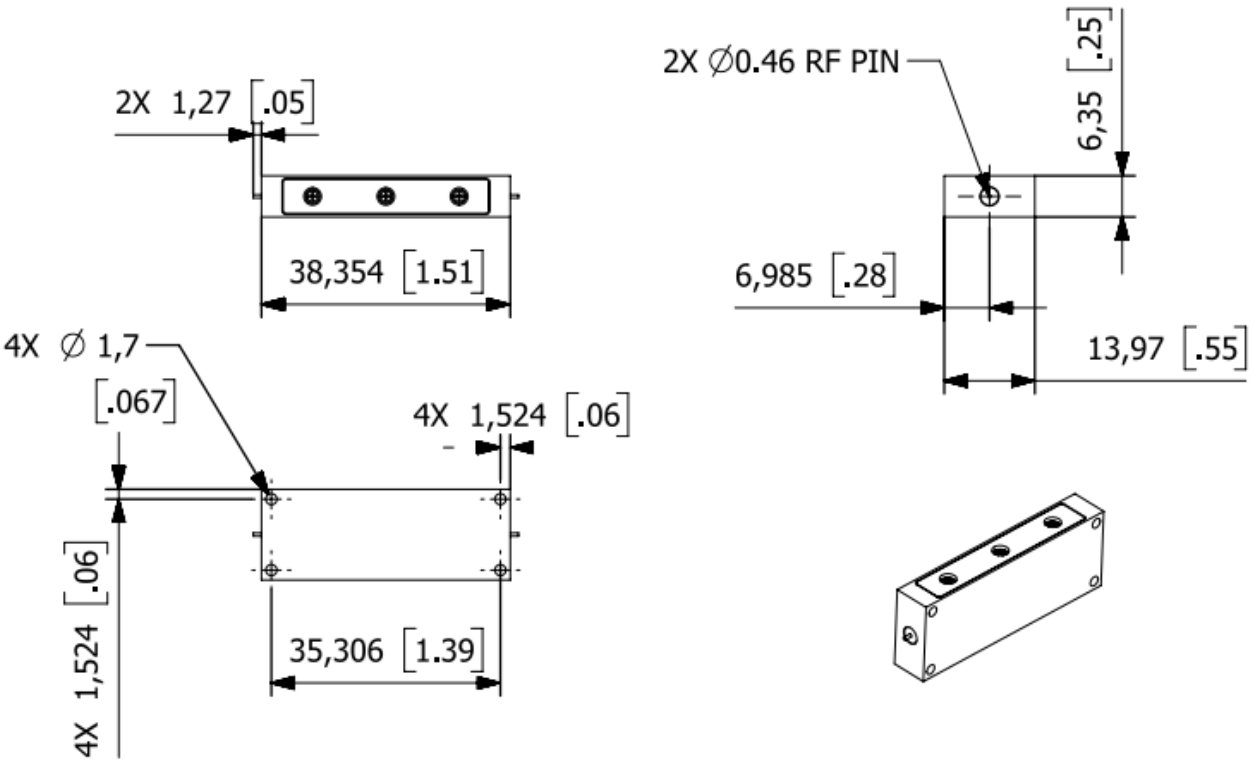
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	10860 MHz
3dB BW [min]	800 MHz
Passband IL [max]	1.3dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	39 dBc @ 10100 MHz 30 dBc @ 11500 MHz
Dimensions	1.51 x 0.55 x 0.25 in. (38.43 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



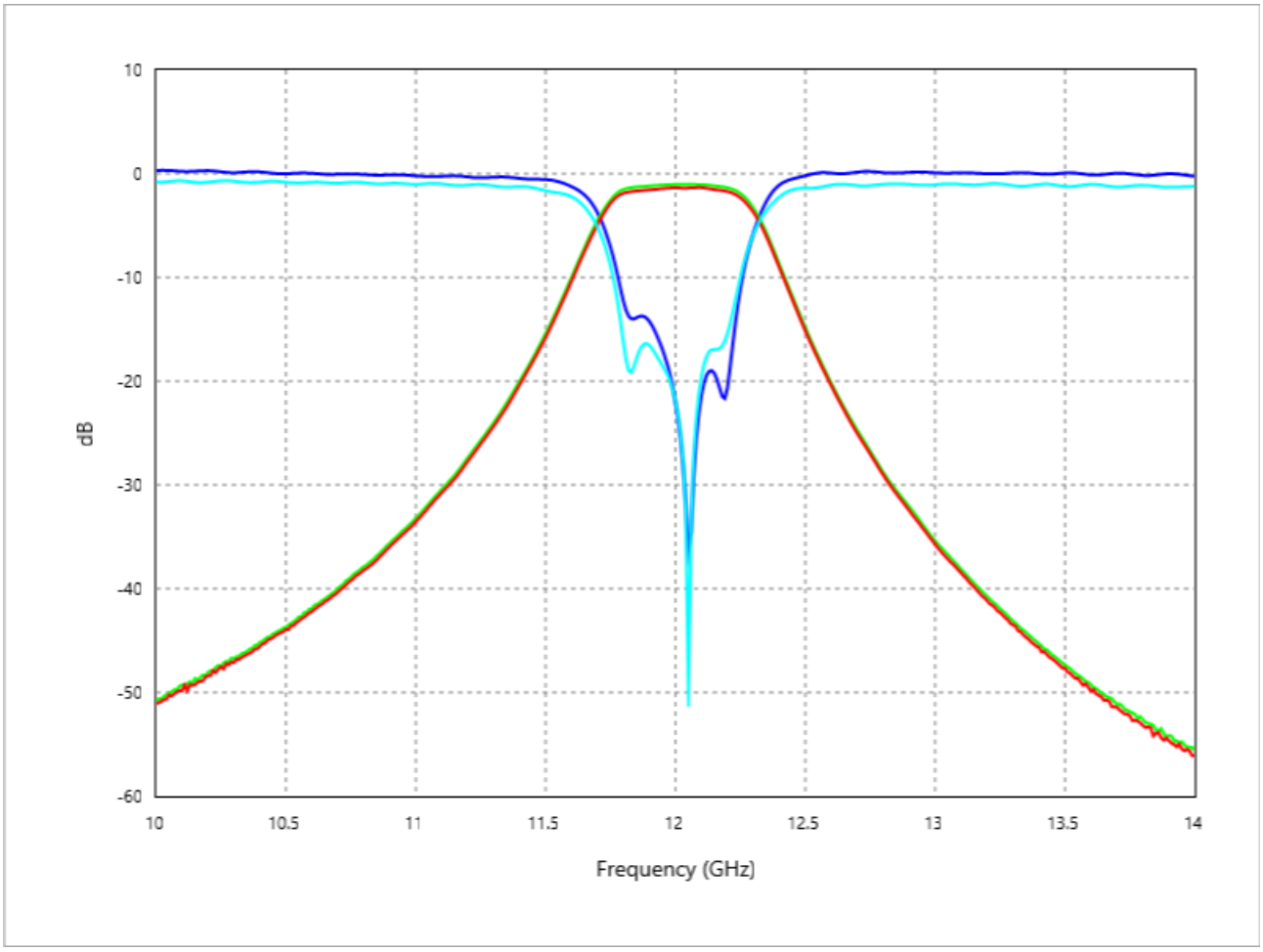
FB4013

12 GHz BANDPASS FILTER

DESCRIPTION

FB4013 is a 11800-12200MHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

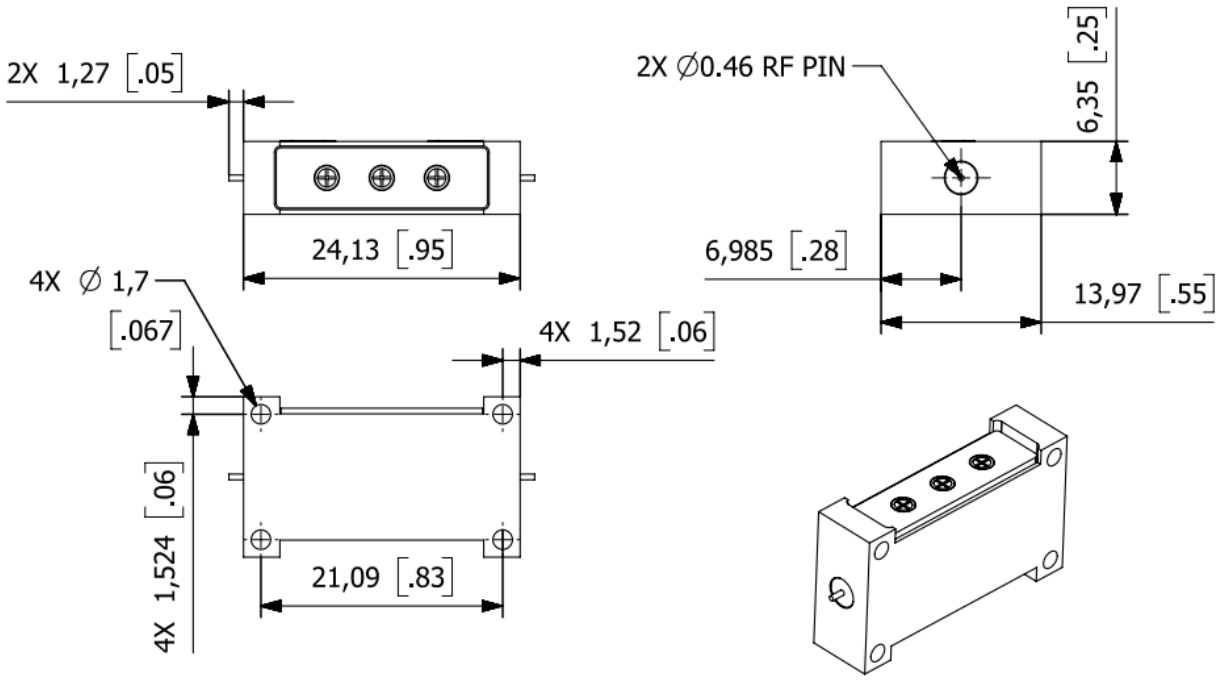
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	12000 MHz
1dB BW [min]	400 MHz
Passband IL [max]	1.1dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	39 dBc @ 10500 MHz 42 dBc @ 13500 MHz
Dimensions	0.95 x 0.55 x 0.25 inç. (24.13 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



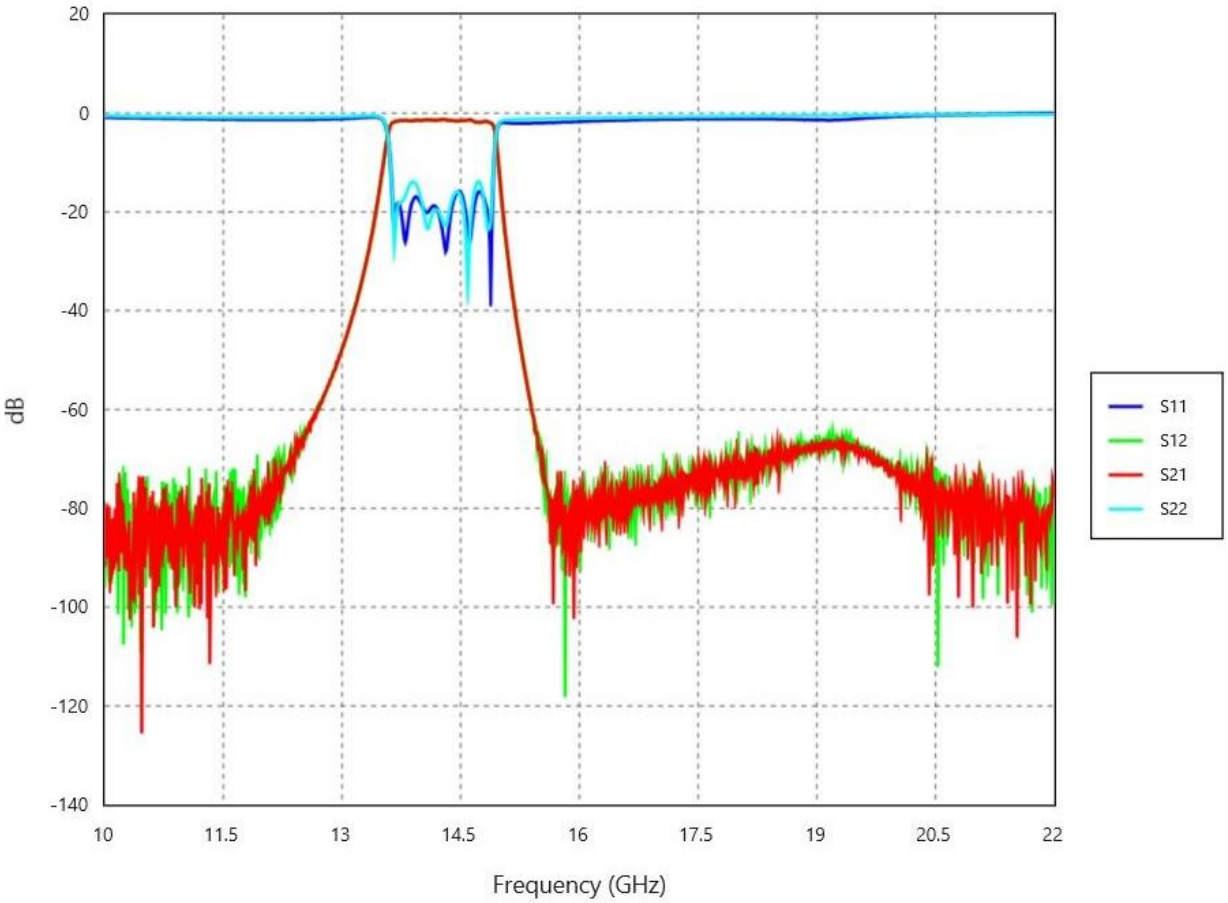
FB4014

14.25 GHz BANDPASS FILTER

DESCRIPTION

FB4014 is a 13.7-14.8GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

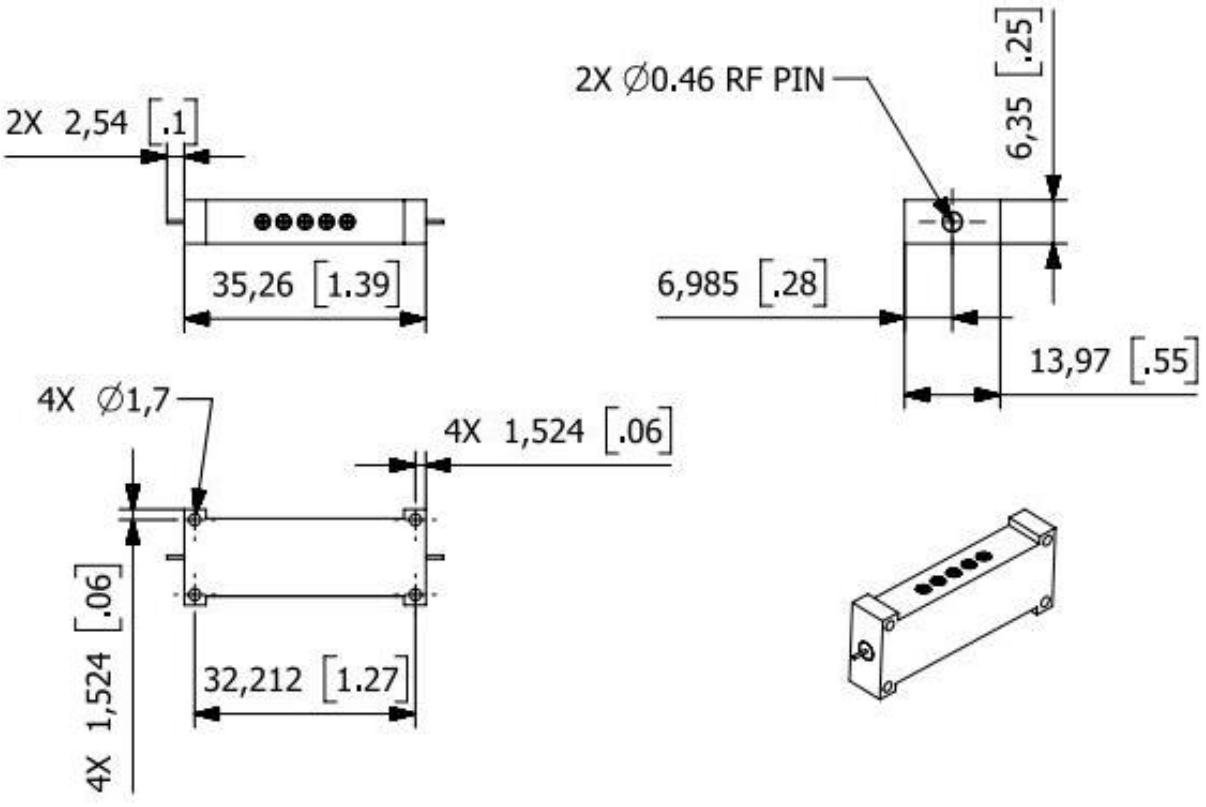
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	14250 MHz
1dB BW [min]	1100 MHz
Passband IL [max]	1.3dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	18 dBc @ 13375 MHz 60 dBc @ 16000 MHz
Dimensions	1.39 x 0.55 x 0.25 in. (35.26 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



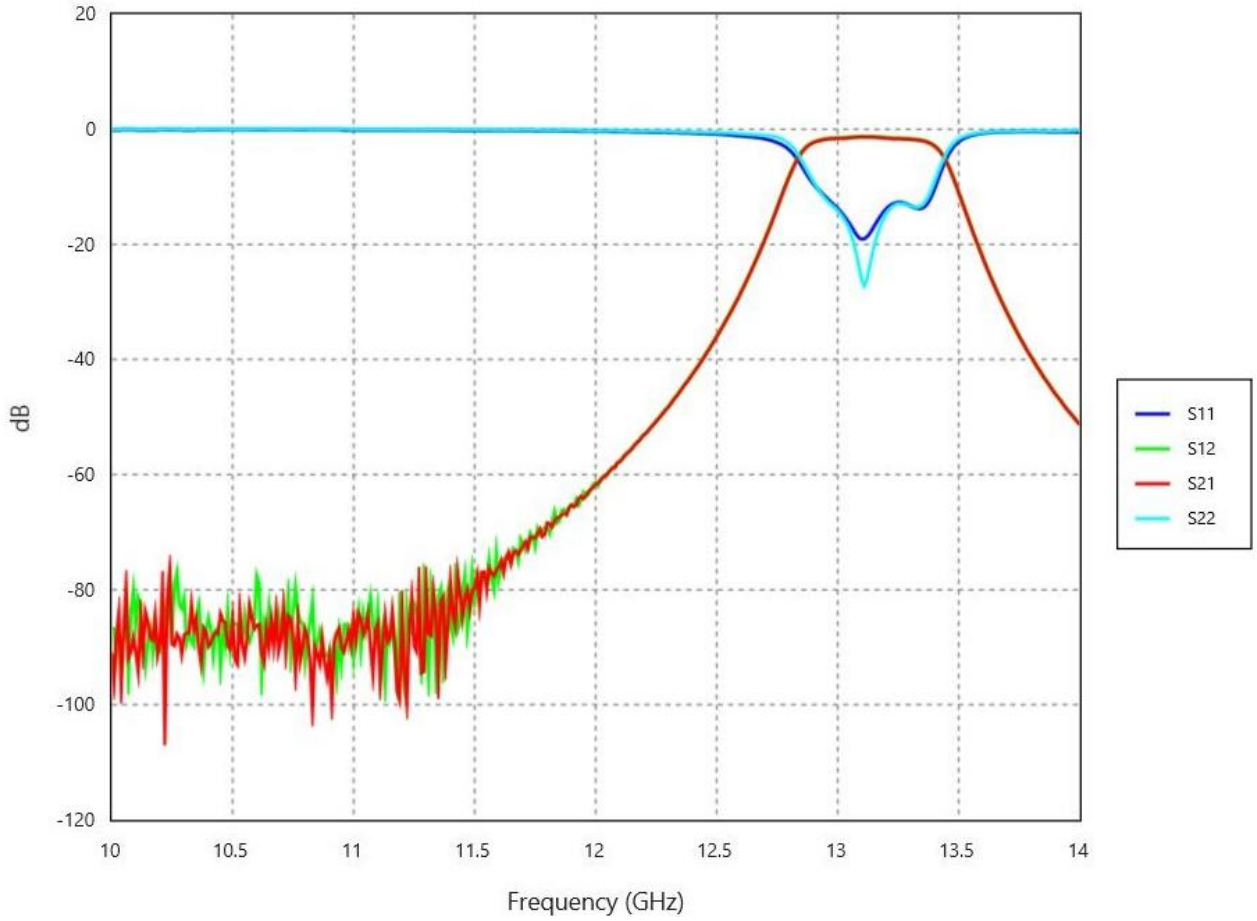
FB4015

13.125 GHz BANDPASS FILTER

DESCRIPTION

FB4015 is a 12.875-13.375GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

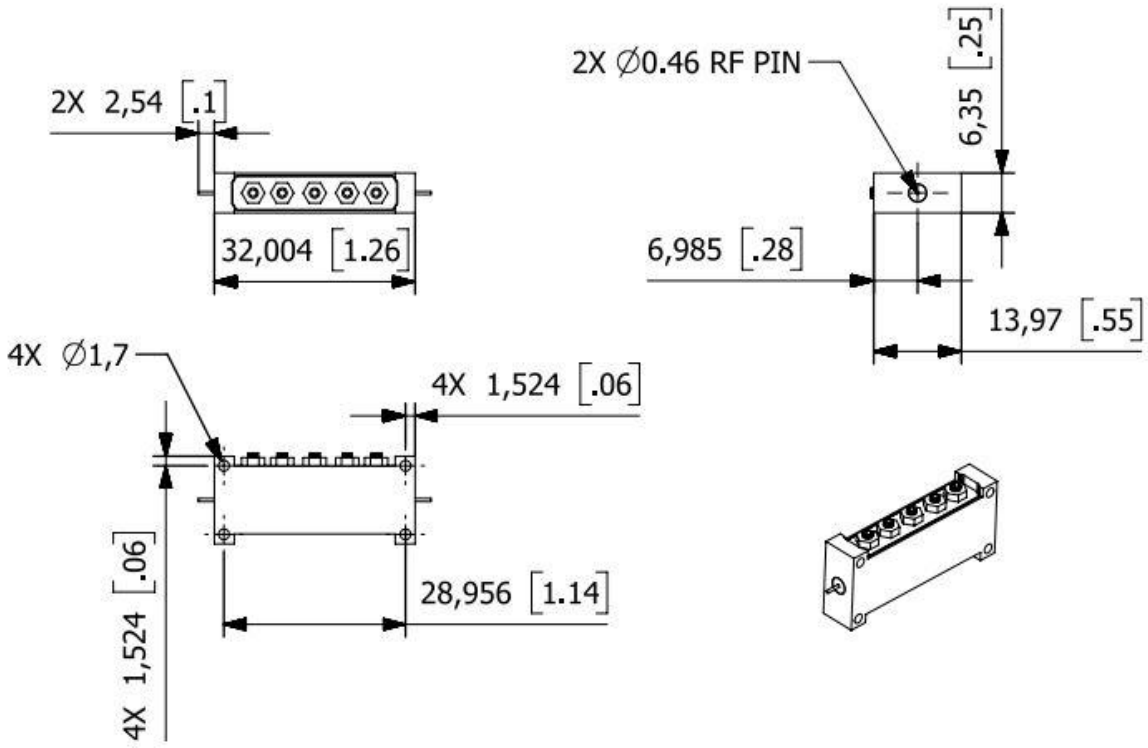
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	13125 MHz
3dB BW [min]	588 MHz
Passband IL [max]	1.5dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	47 dBc @ 12125 MHz 50 dBc @ 14125-27562.5 MHz
Dimensions	1.26 x 0.55 x 0.25 in. (32.08 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



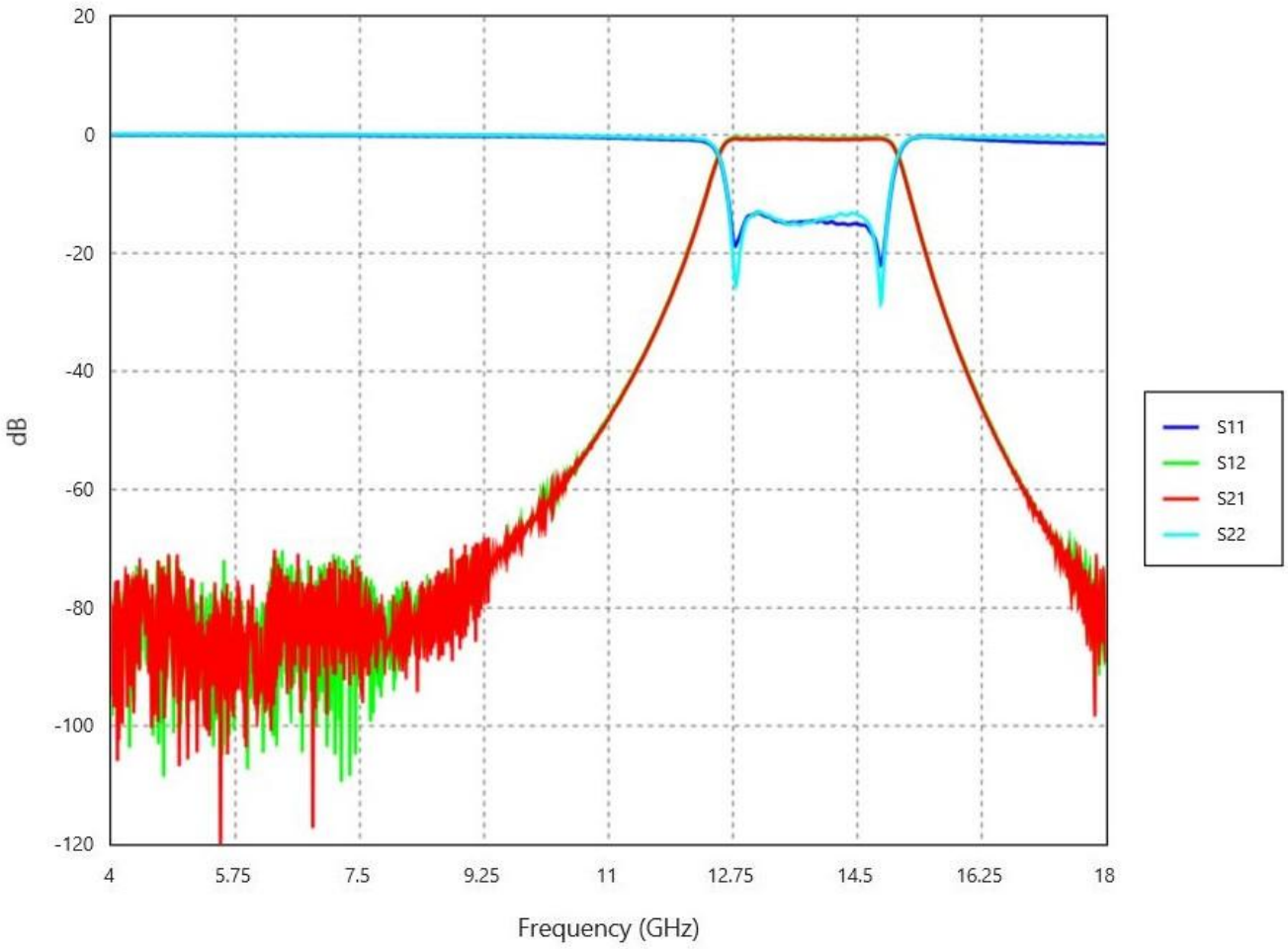
FB4016

13.8 GHz BANDPASS FILTER

DESCRIPTION

FB4016 is a 12.7-14.9GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

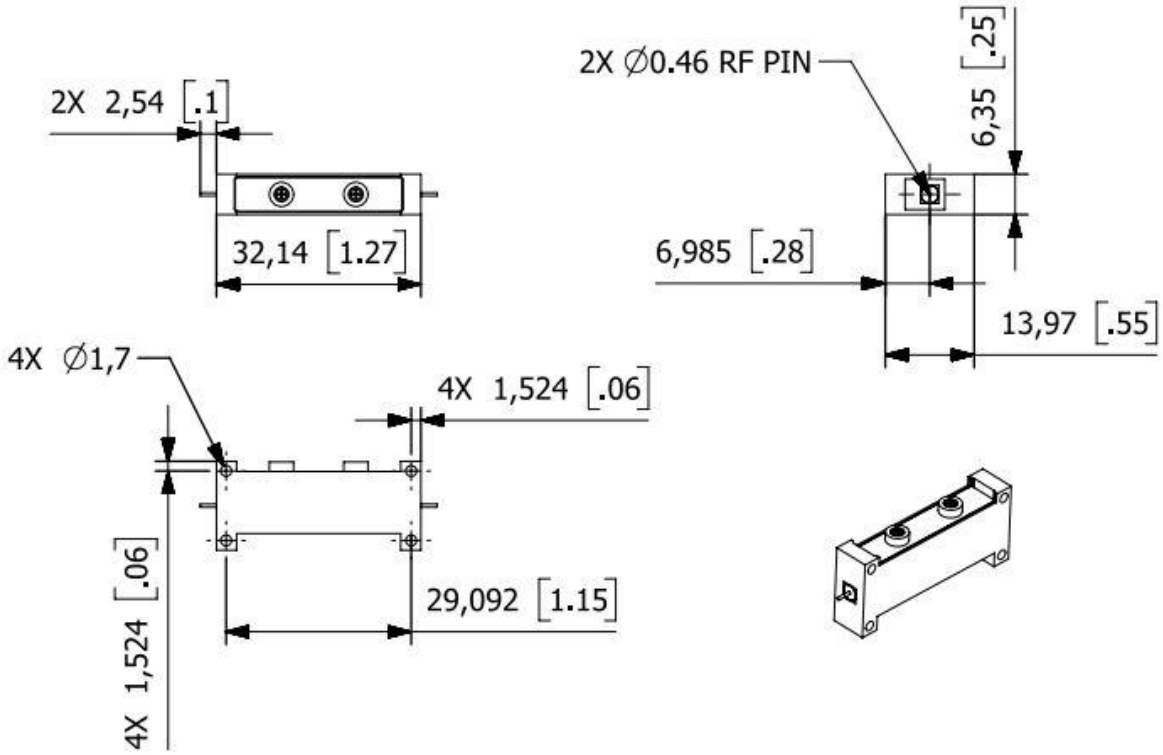
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	13800 MHz
1dB BW [min]	2200 MHz
Passband IL [max]	0.8dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	39 dBc @ 11400 MHz 42 dBc @ 16450 MHz
Dimensions	1.27 x 0.55 x 0.31 in. (32.14 x 13.97 x 7.87 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



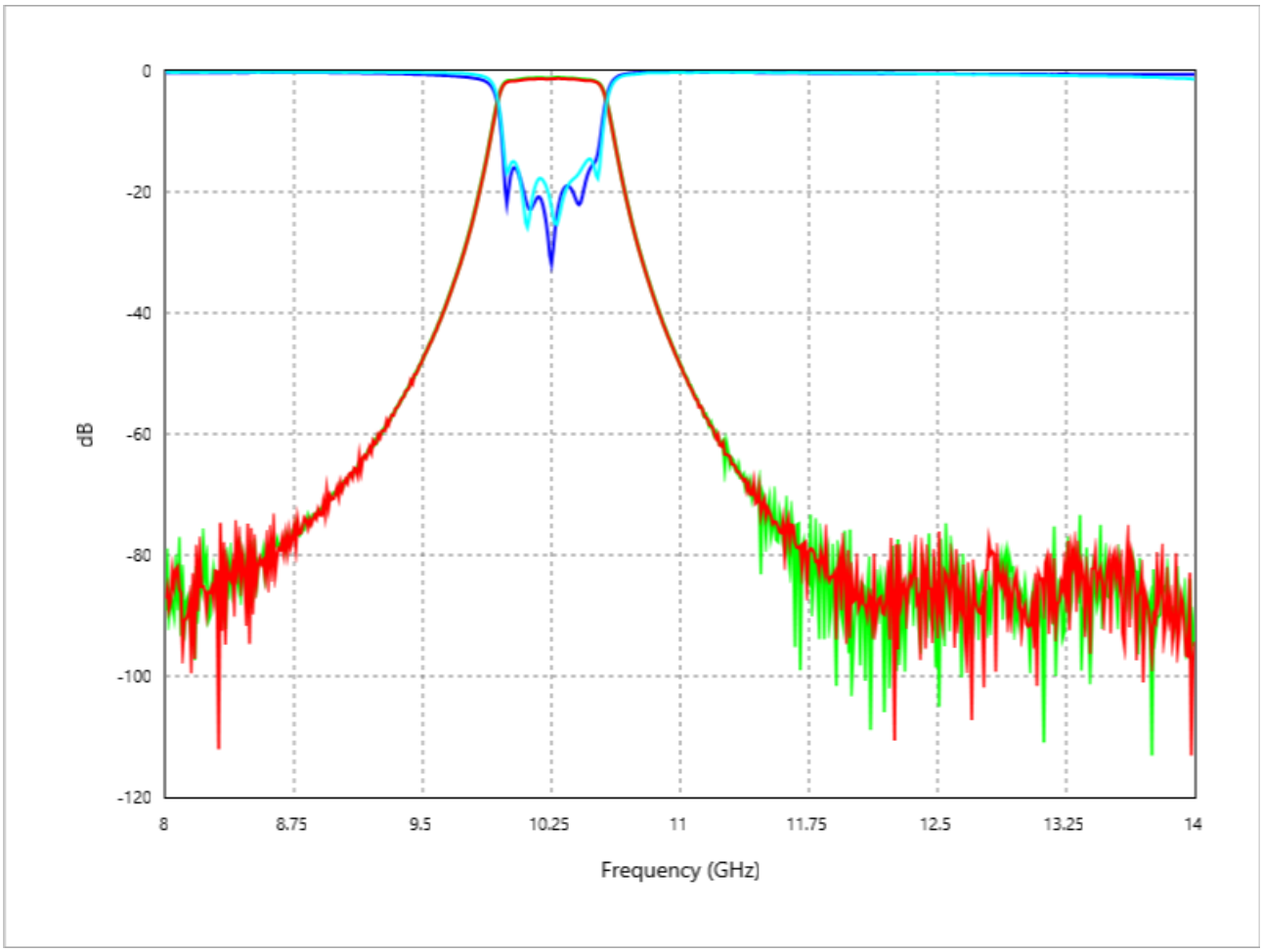
FB4017

10.25 GHz BANDPASS FILTER

DESCRIPTION

FB4017 is a 10-10.5GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

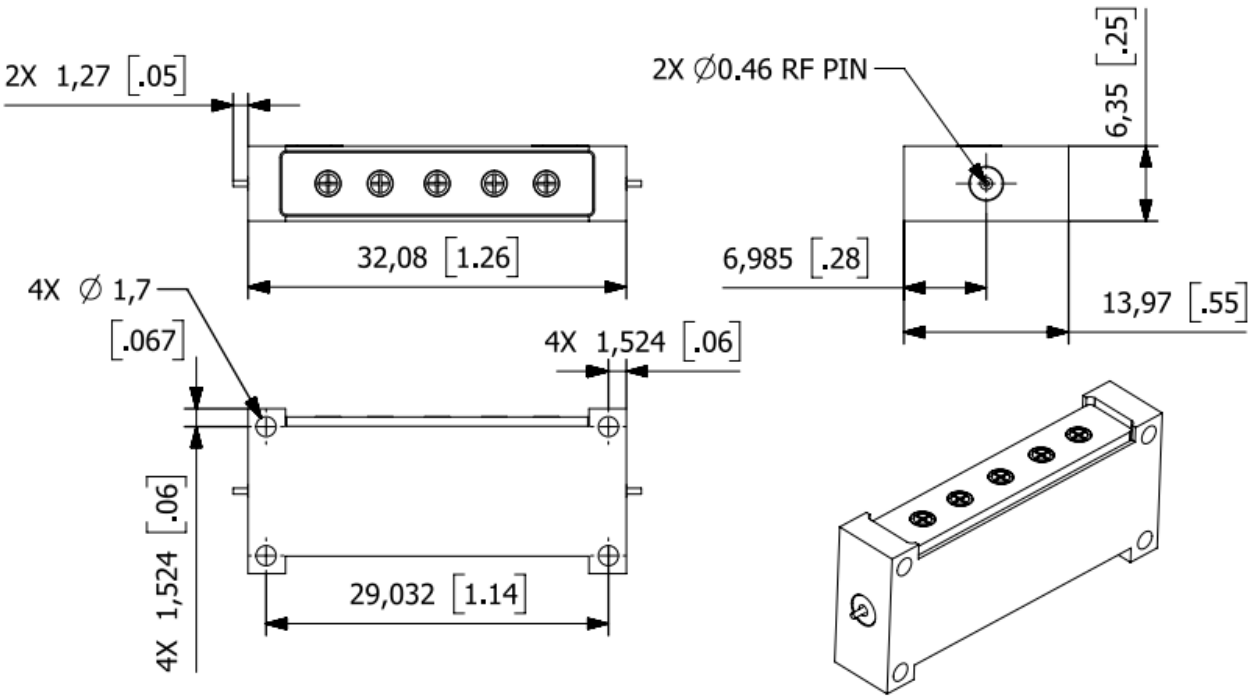
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	10250 MHz
3dB BW [min]	588 MHz
Passband IL [max]	1.3dBa
VSWR [max]	1.5:1
Passband RL [min]	14 dB
Out of Band Rejection	19 dBc @ 9750 MHz 43 dBc @ 10750 MHz
Dimensions	1.26 x 0.55 x 0.25 in. (32.08 x 13.97 x 6.35 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



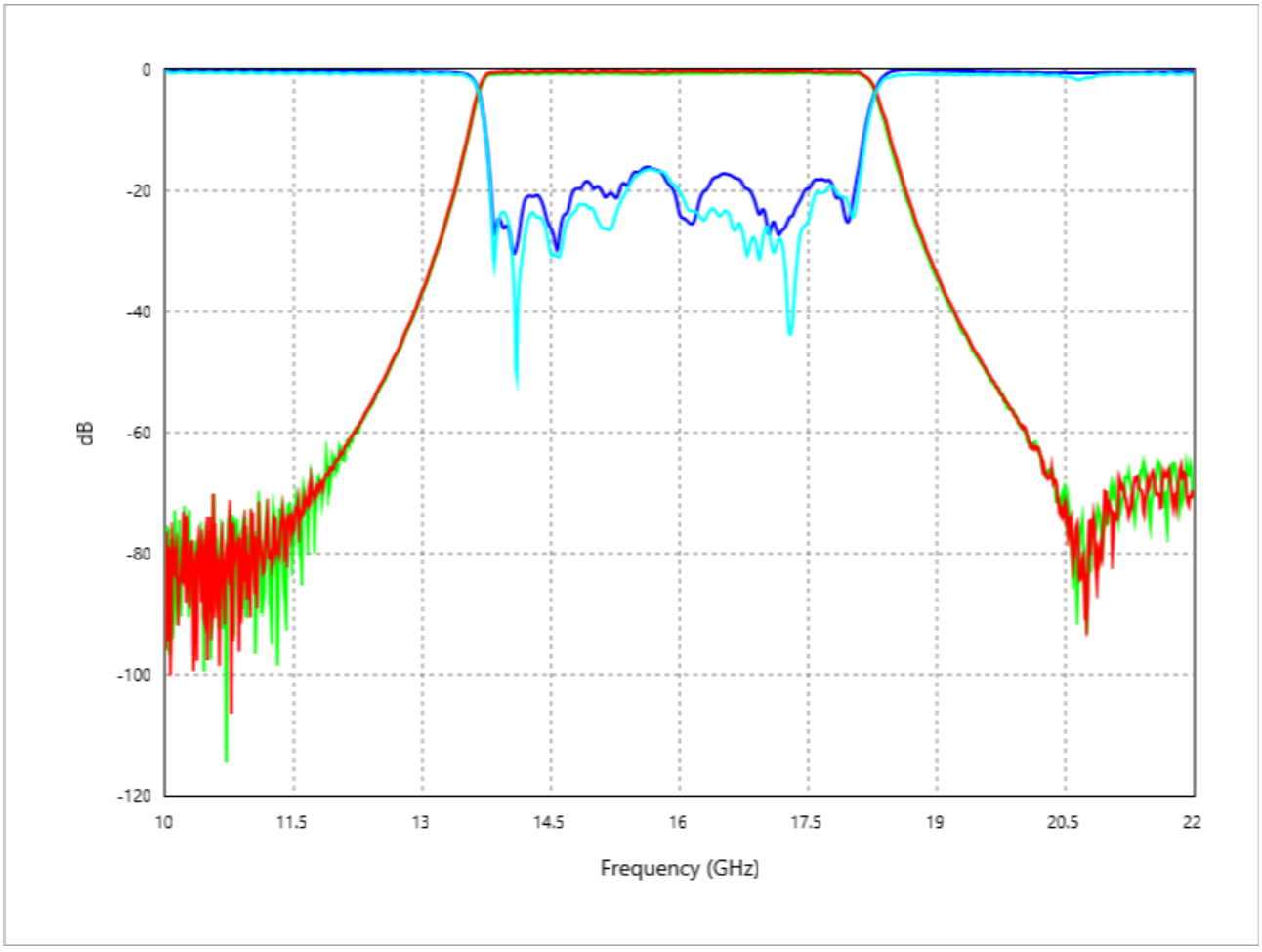
FB4021

16 GHz BANDPASS FILTER

DESCRIPTION

FB4021 is a 13.9-18.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

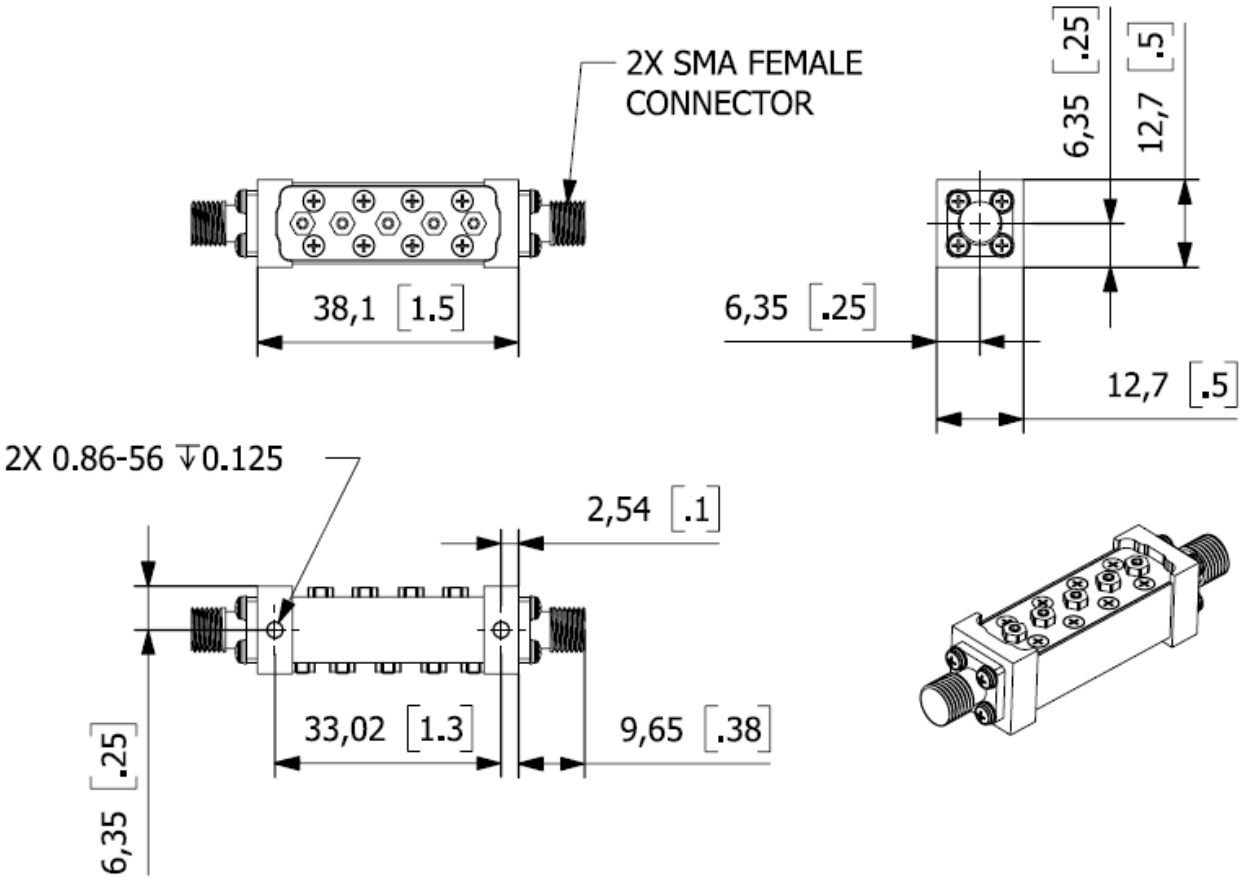
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	16000 MHz
3dB BW [min]	4200 MHz
Passband IL [max]	0.6dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	62 dBc @ 11500 MHz 58 dBc @ 20500 MHz
Dimensions	1.5 x 0.5 x 0.5 in (38.10 x 12.70 x 12.70 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



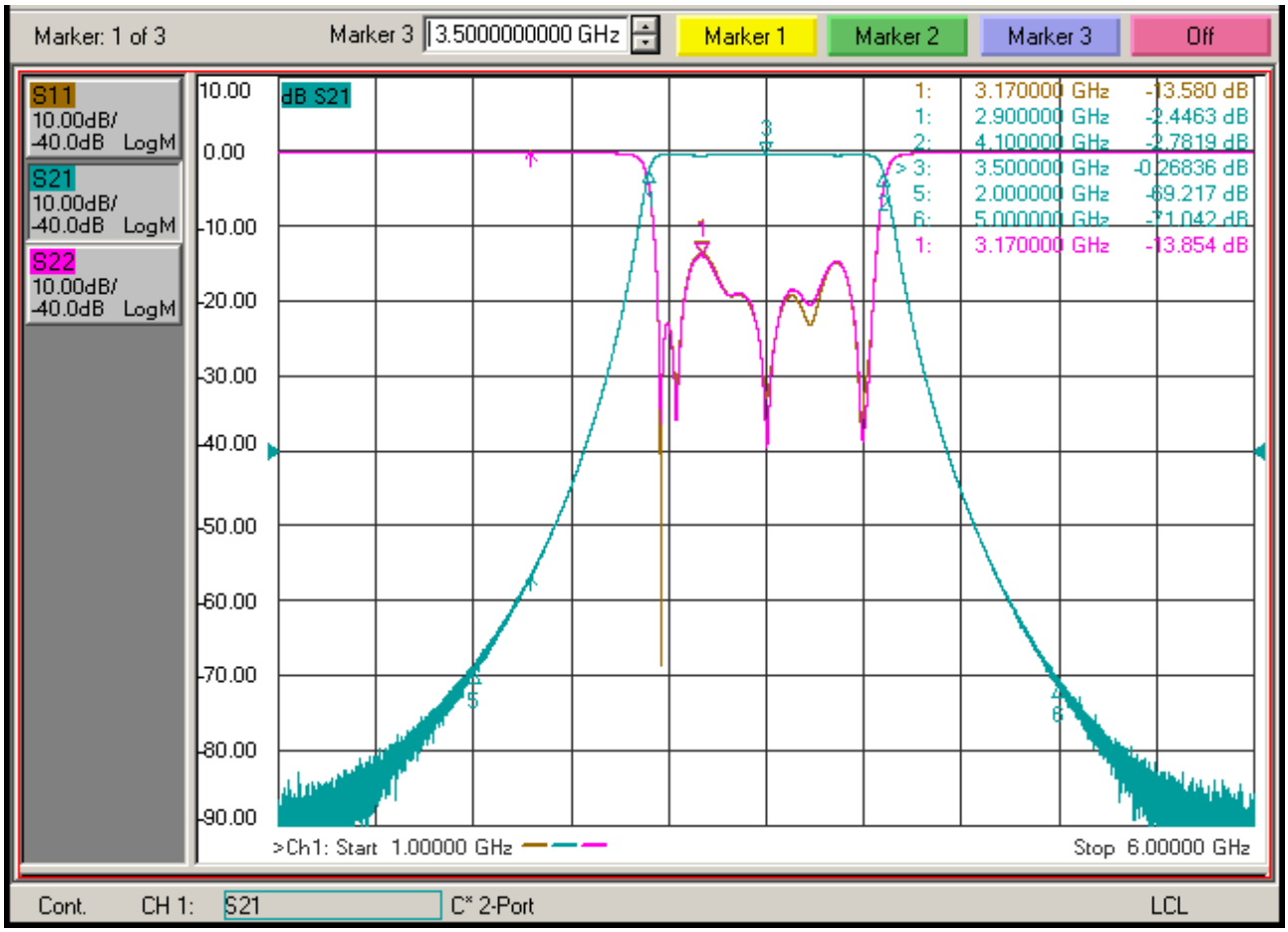
FB4024

3.5 GHz BANDPASS FILTER

DESCRIPTION

FB4024 is a 2.9-4.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

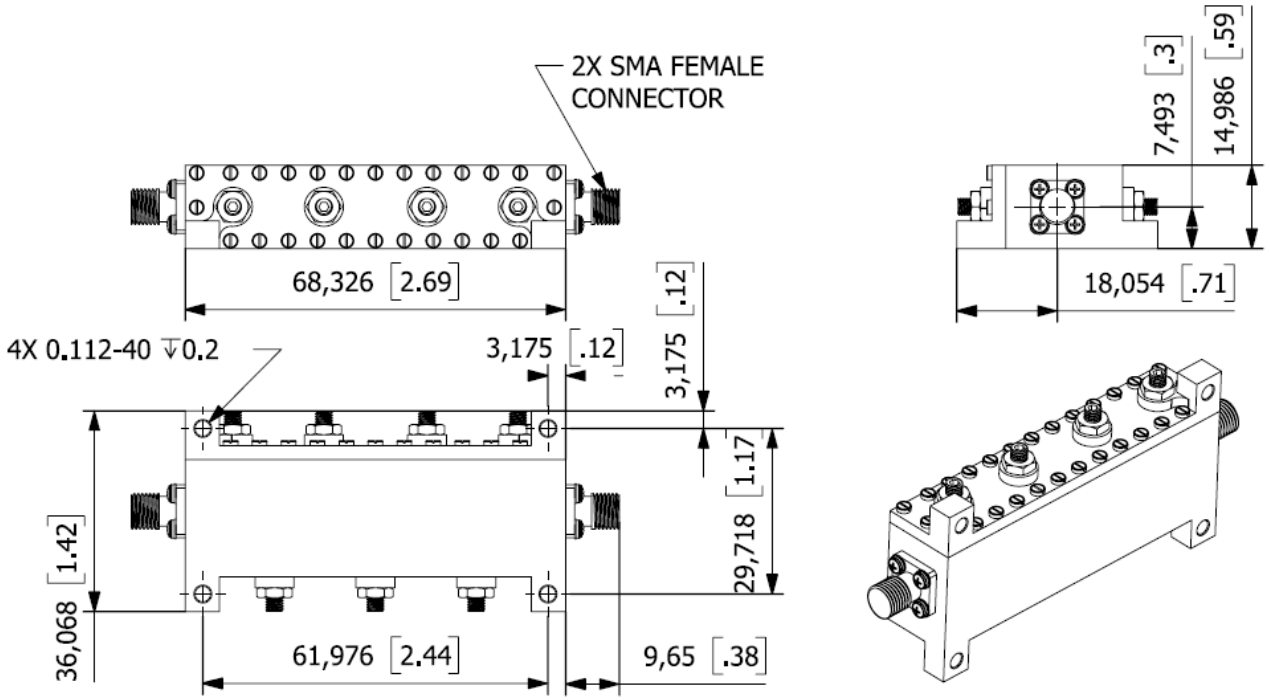
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	3500 MHz
3dB BW [min]	1200 MHz
Passband IL [max]	0.3dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	66 dBc @ 2000 MHz 58 dBc @ 5000-7350 MHz
Dimensions	2.69 x 1.42 x 0.59 in (68.36 x 36.15 x 15.06 mm)
Operational/Storage Temp	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



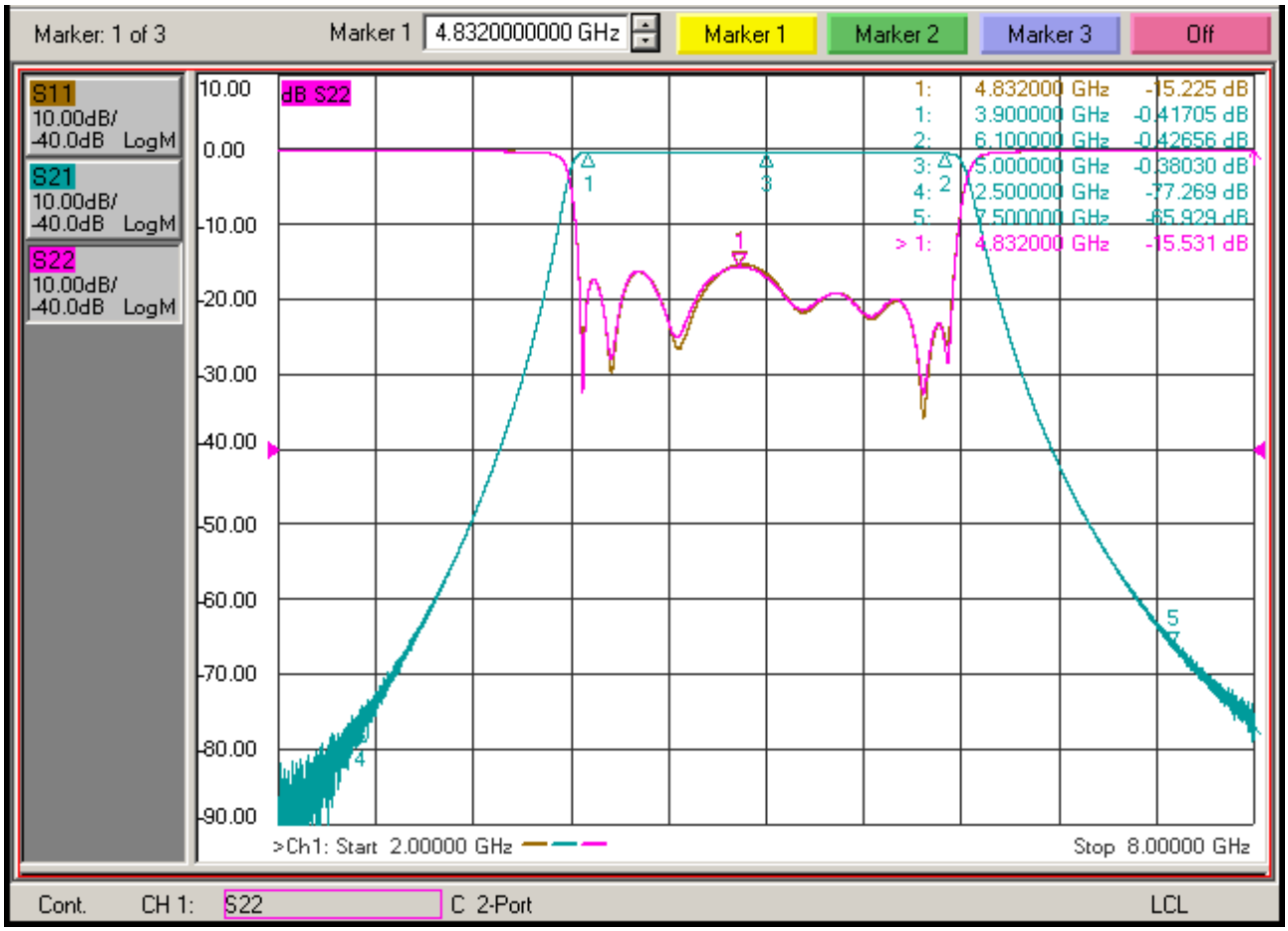
FB4025

5 GHz BANDPASS FILTER

DESCRIPTION

FB4025 is a 3.9-6.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

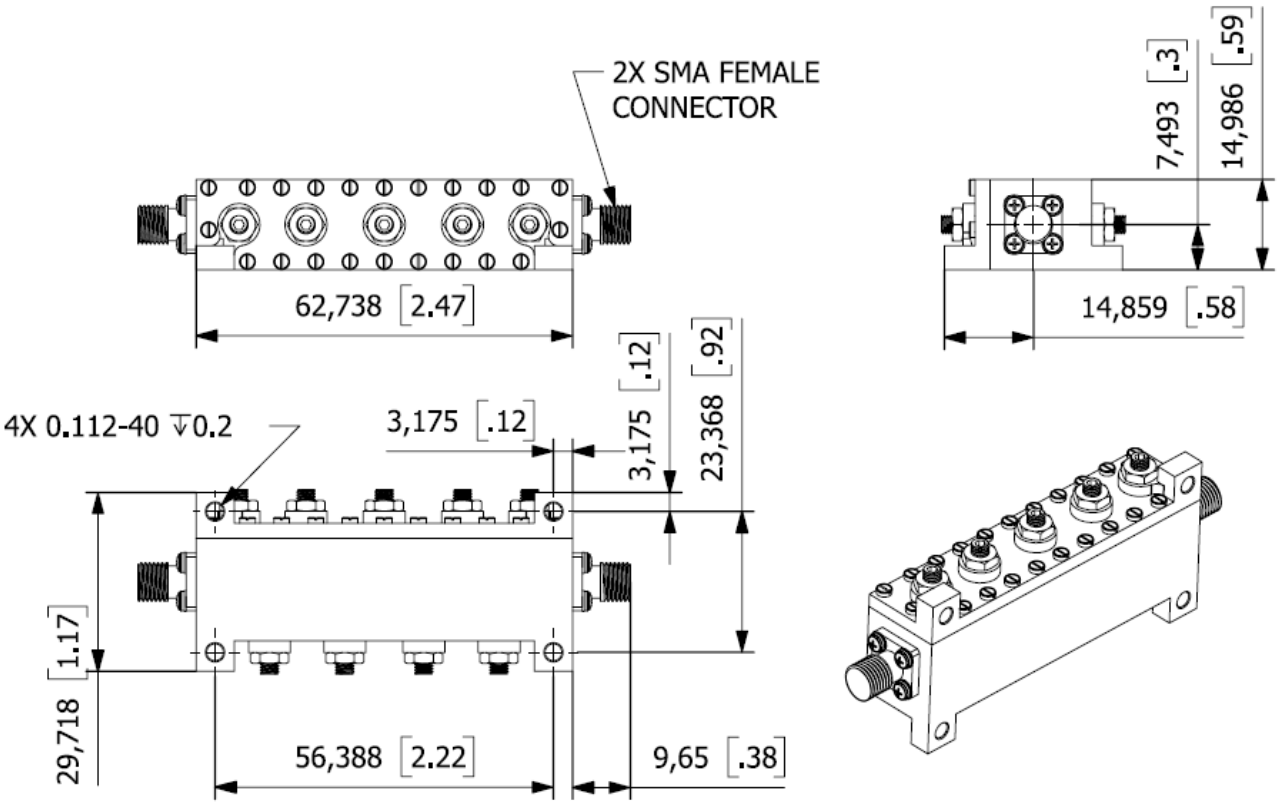
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	5000 MHz
3dB BW [min]	2200 MHz
Passband IL [max]	0.3dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	63 dBc @ 2500 MHz 53 dBc @ 7500-10500 MHz
Dimensions	2.47 x 1.17 x 0.59 in (62.79 x 29.72 x 15.06 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



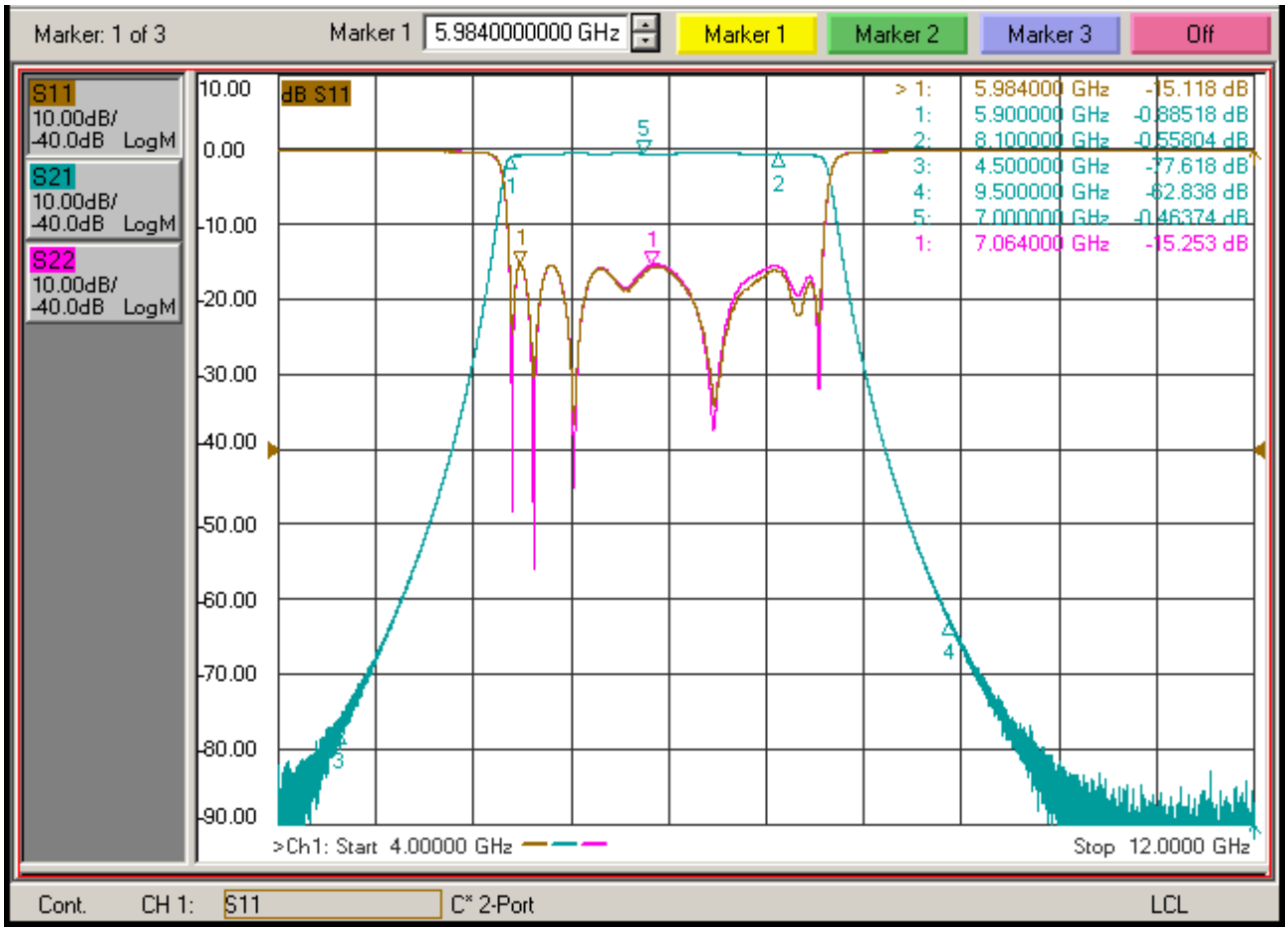
FB4027

7 GHz BANDPASS FILTER

DESCRIPTION

FB4027 is a 5.9-8.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

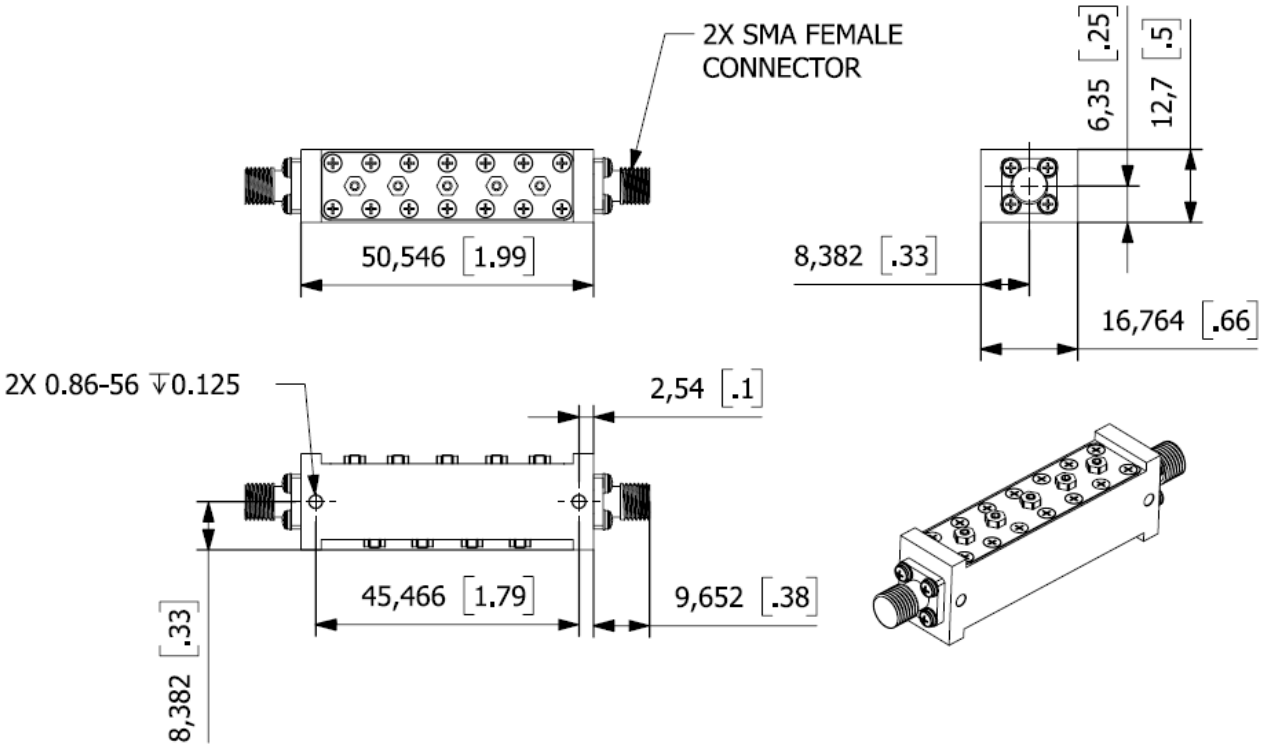
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	7000 MHz
3dB BW [min]	2200 MHz
Passband IL [max]	0.4dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	58 dBc @ 4500 MHz 53 dBc @ 9500 MHz
Dimensions	1.99 x 0.66 x 0.50 in (50.55 x 16.80 x 12.70 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



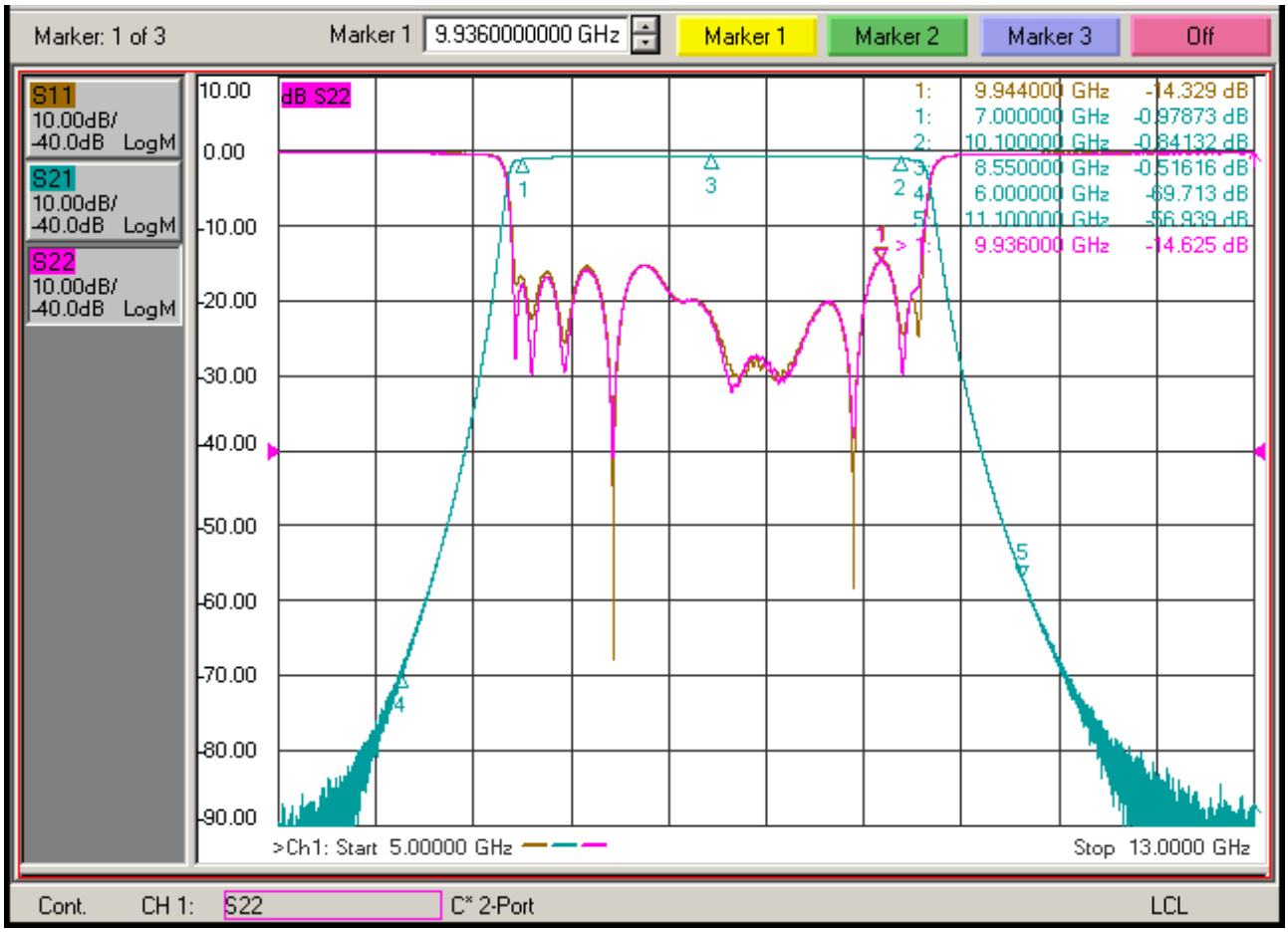
FB4028

8.55 GHz BANDPASS FILTER

DESCRIPTION

FB4028 is a 6.950-10.050GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

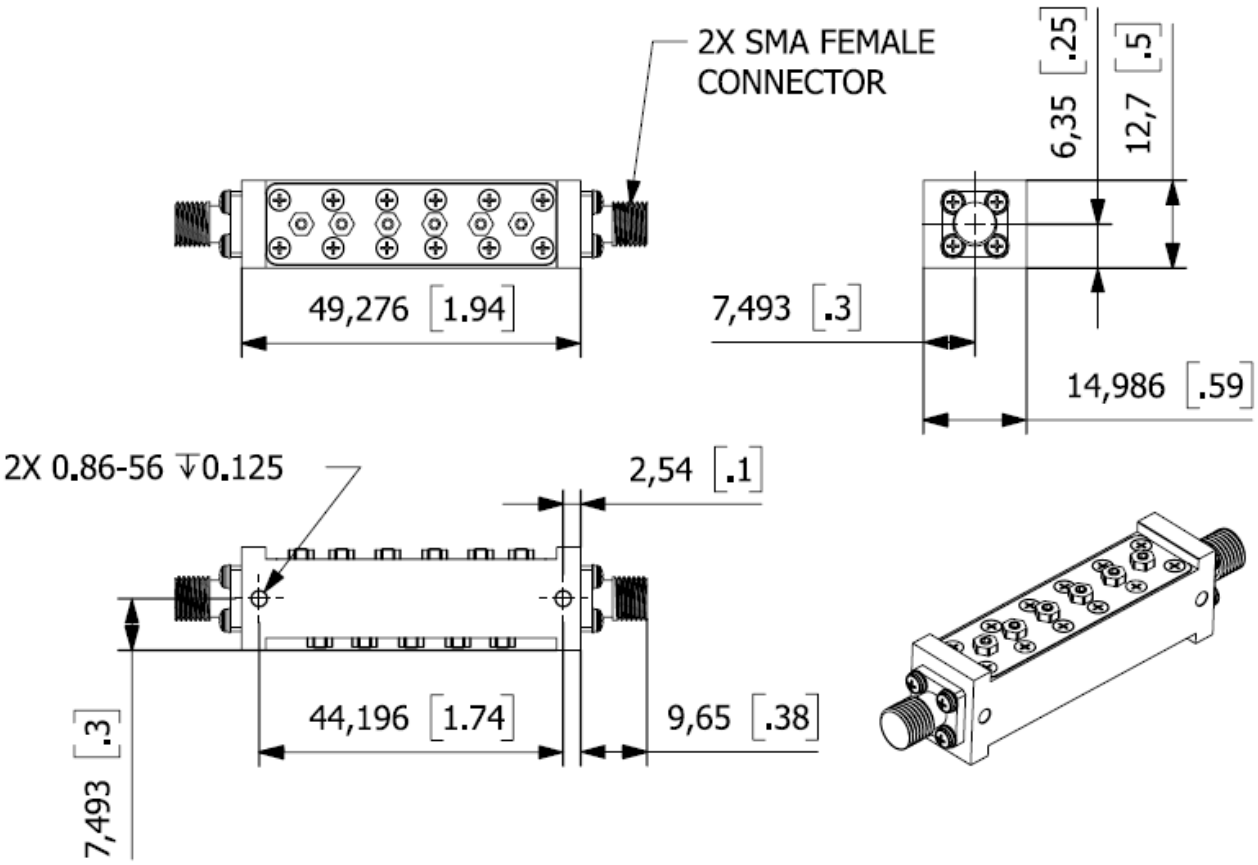
The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.



SPECIFICATIONS

Parameter	Limits
Center Freq	8550 MHz
3dB BW [min]	3100 MHz
Passband IL [max]	0.5dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	58 dBc @ 6000 MHz 53 dBc @ 11100 MHz
Dimensions	1.94 x 0.59 x 0.50 in (49.17 x 14.86 x 12.70 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



FB4029

12 GHz BANDPASS FILTER

DESCRIPTION

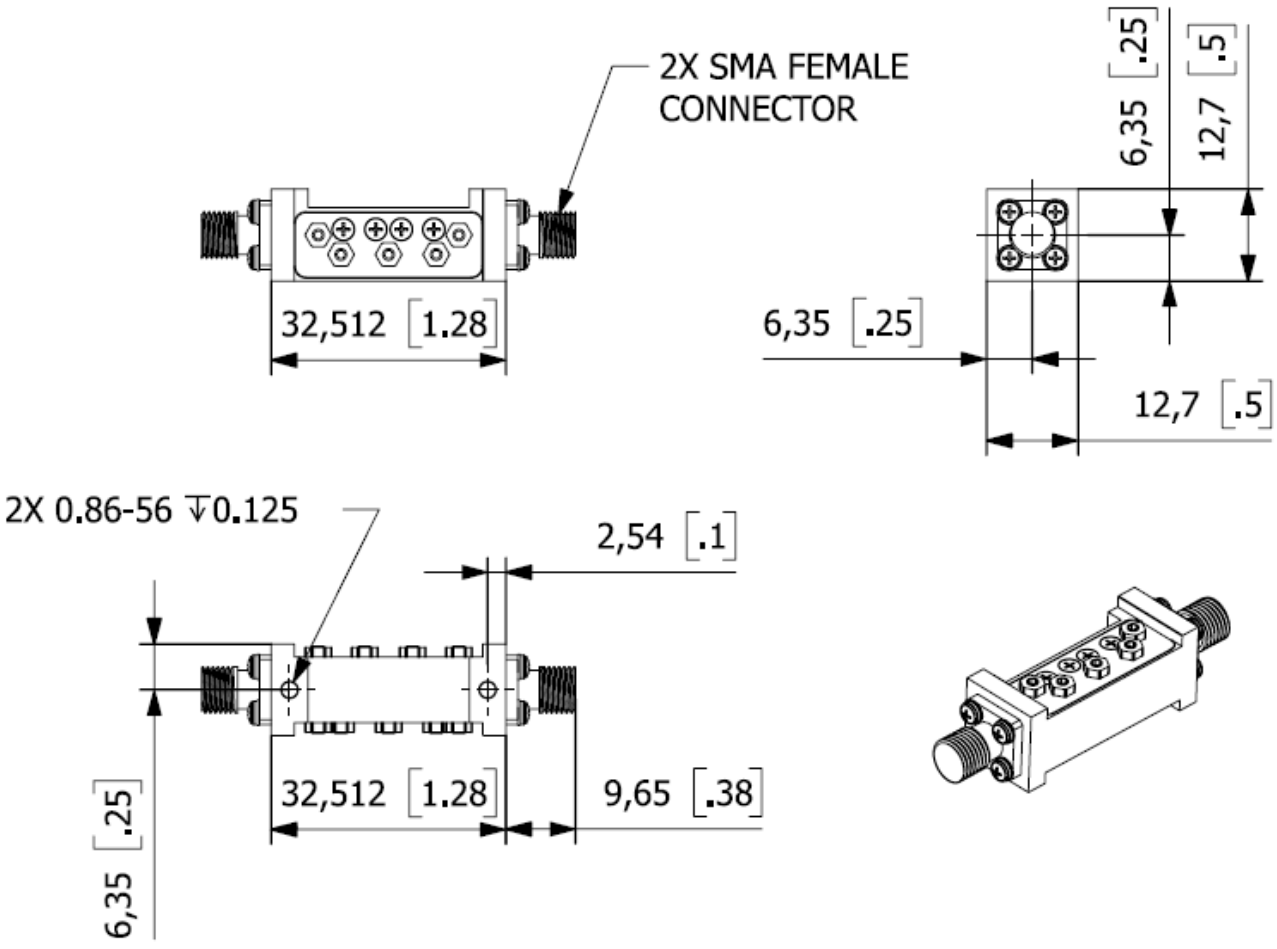
FB4029 is a 9.9-14.1GHz low-loss microwave bandpass filter. The unit is used in front-end RF and typically EW applications as preselector filtering.

The filter enclosure is silver-plated machined aluminum with SMA female connectors on input and output.

SPECIFICATIONS

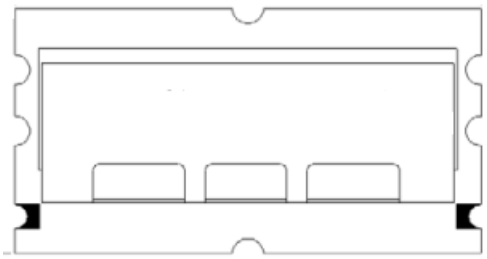
Parameter	Limits
Center Freq	12000 MHz
3dB BW [min]	4200 MHz
Passband IL [max]	0.5dBa
VSWR [max]	1.7:1
Passband RL [min]	11.7 dB
Out of Band Rejection	55 dBc @ 7500 MHz 49 dBc @ 16500-25200 MHz
Dimensions	1.28 x 0.50 x 0.50 in (32.45 x 12.70 x 12.70 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



FB5007

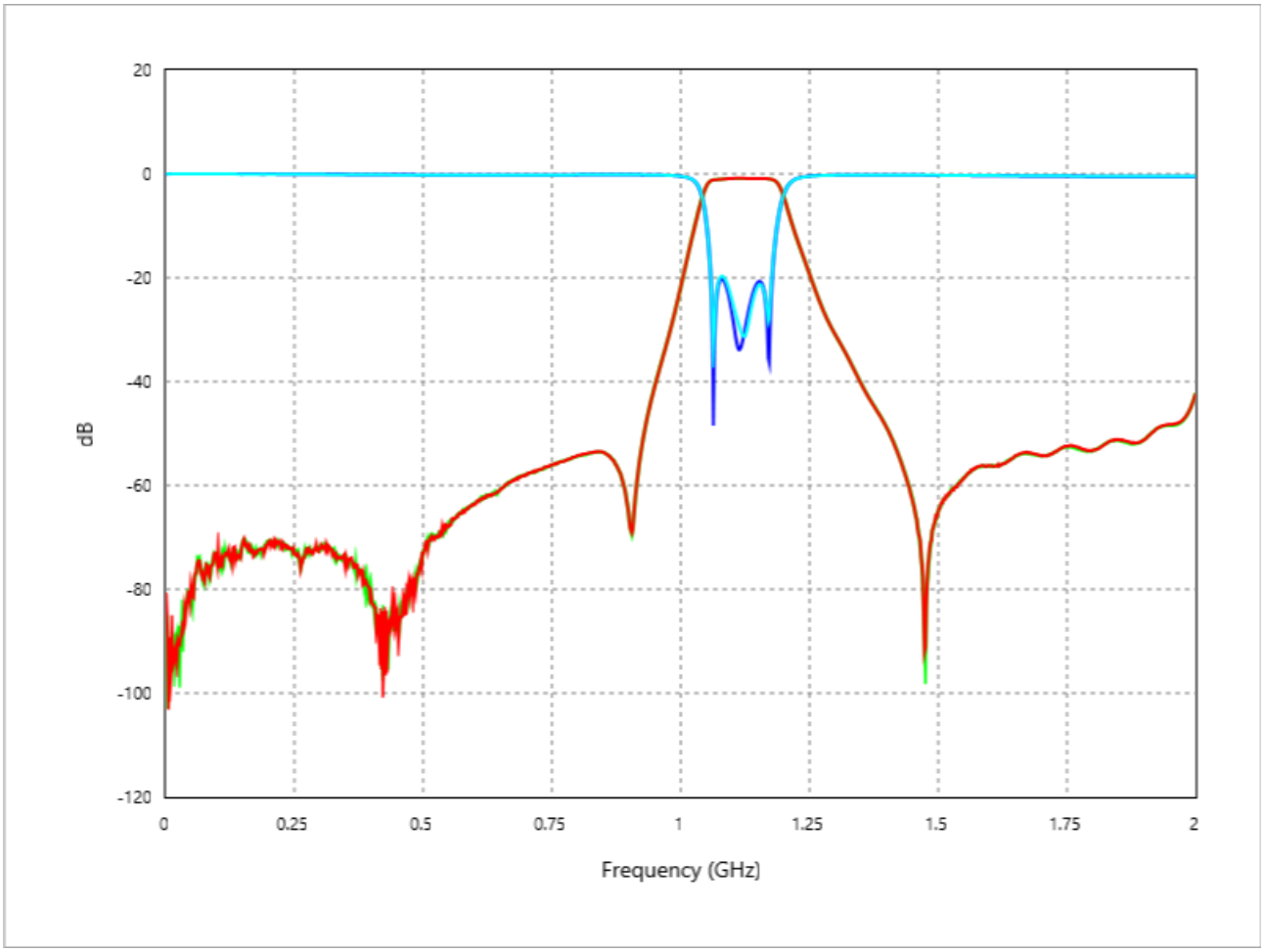
1.125 GHz BANDPASS FILTER



DESCRIPTION

FB5007 (1075-1175MHz) is a low loss, high rejection, compact size ceramic bandpass filter. The unit is used as an IF filter in front-end RF and typically EW applications.

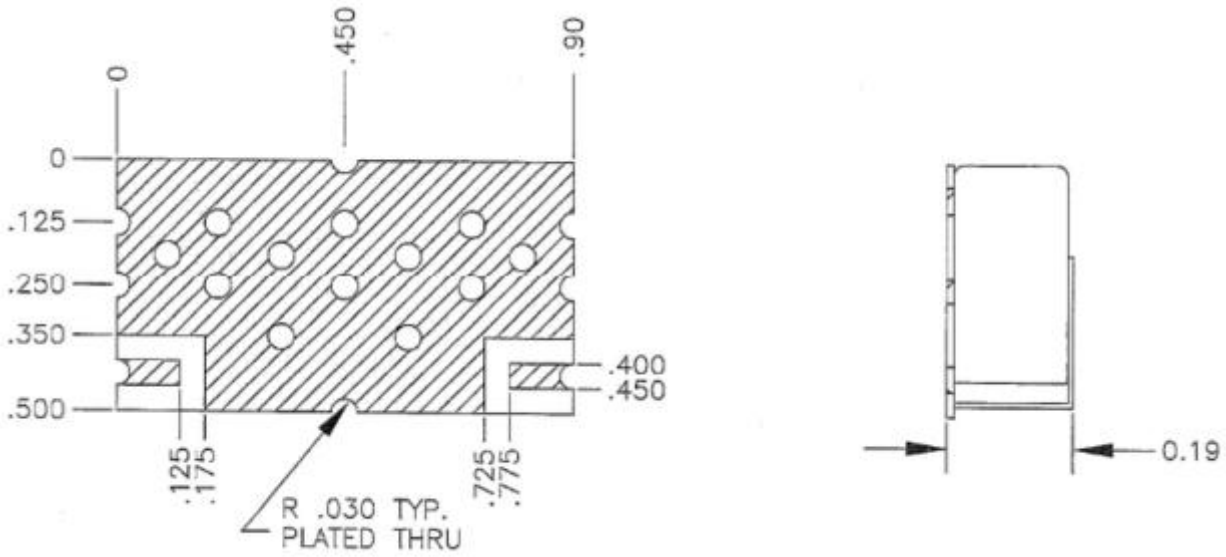
The filter is an SMD filter which makes it ideal for PCB based applications.



SPECIFICATIONS

Parameter	Limits
Center Freq	1125 MHz
0.5dB BW [min]	100 MHz
Passband IL [max]	1.0dB
VSWR [max]	2.0:1
Passband RL [min]	10 dB
Out of Band Rejection	50 dB @ 825 MHz 50 dB @ 1425 MHz
Dimensions	0.9 x 0.5 x 0.19 in. (22.86 x 12.70 x 4.83 mm)
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA (Female)

MECHANICAL



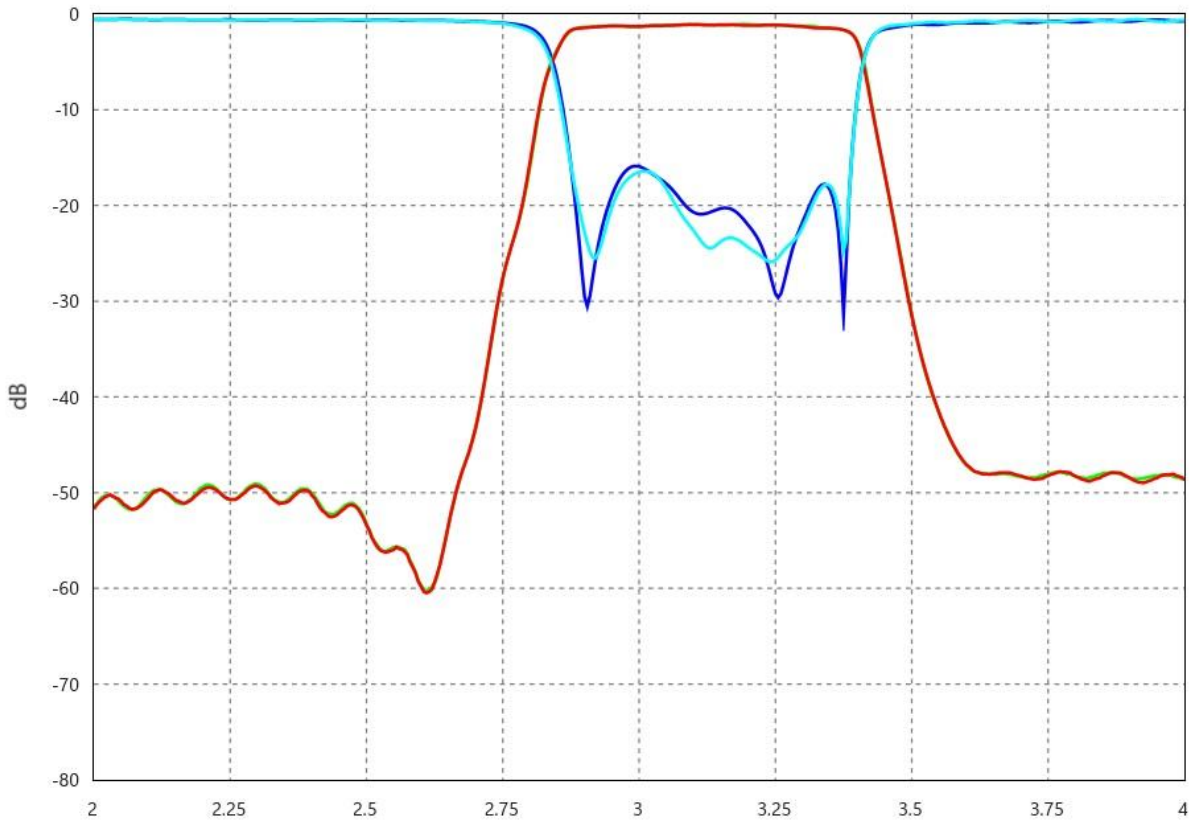
FB5009

3.1 GHz BANDPASS FILTER

DESCRIPTION

FB5009 (2.875-3.325 GHz) is a low loss, high rejection, compact size monoblock ceramic bandpass filter. The unit is used in front-end and TR modules for phased array modules in commercial and military applications.

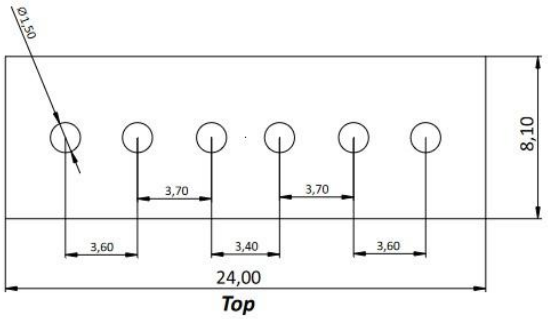
The filter is an SMD filter which makes it ideal for PCB based applications.

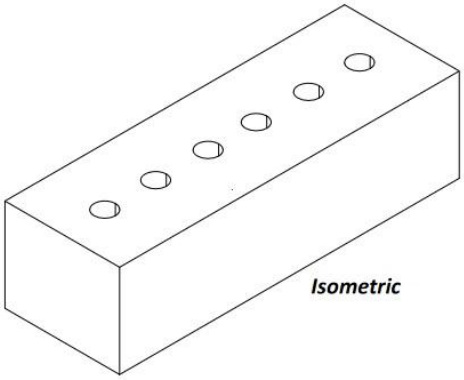


SPECIFICATIONS

Parameter	Limits
Center Freq	3.1 GHz
Passband IL [max]	0.9 dB
Passband RL [min]	14 dB
Out of Band Rejection	30 dB @ 2200 MHz 20 dB @ 2690 MHz 20 dB @ 3600-4200 MHz 30 dB @ 5700-6700 MHz 10 dB @ 8500-9300 MHz
Dimensions	23 x 10.3 x 7.8 mm
Operational Temp Range	-40 °C / +85 °C
Storage Temp Range	-40 °C / +85 °C
RF Connectors	SMA

MECHANICAL





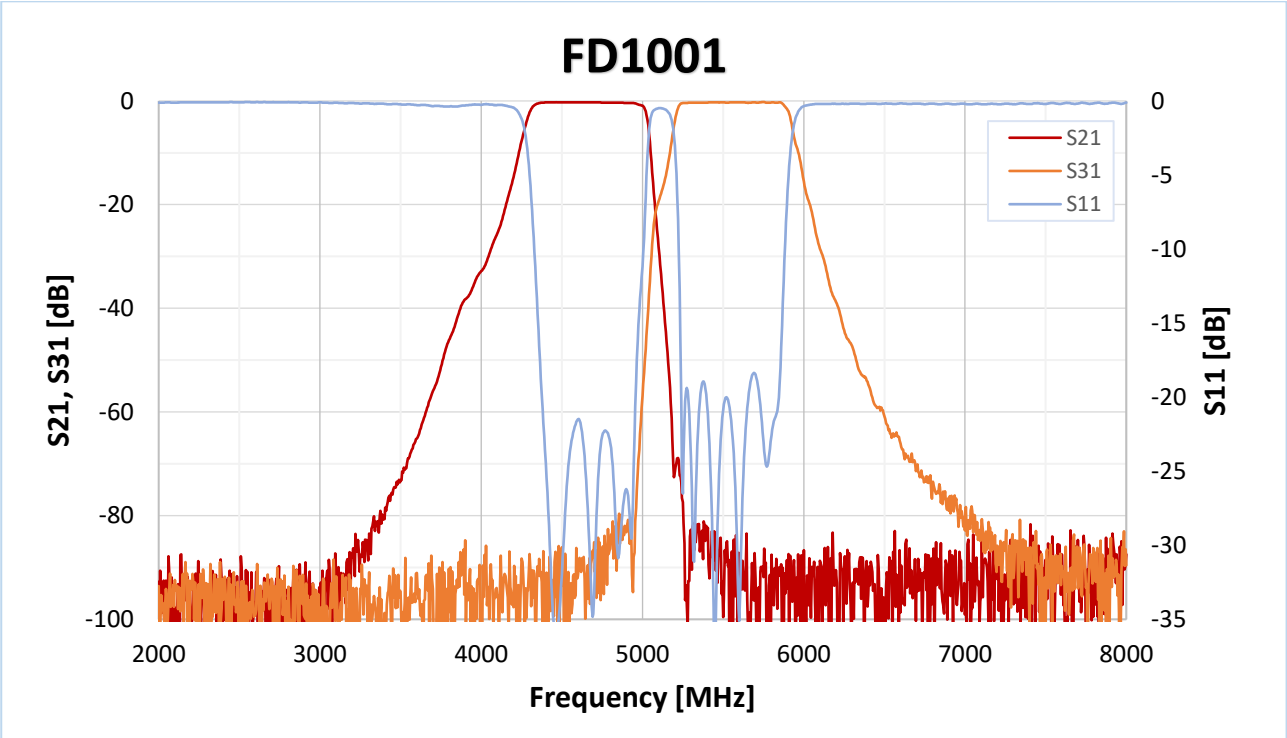
FD1001

C-BAND DIPLEXER

DESCRIPTION

FD1001[3] is a Bandpass Diplexer that is designed to address challenging needs of C Band communication requirements in 4 to 6GHz. The unit boasts two low-loss cavity channels which are diplexed with a band gap of 300MHz.

FD1001 is equipped with 3 SMA(F) connectors on the input and diplexed RX and TX channels. The unit can handle RF power up to 20W CW with 1.0 dB max insertion loss on either channel.

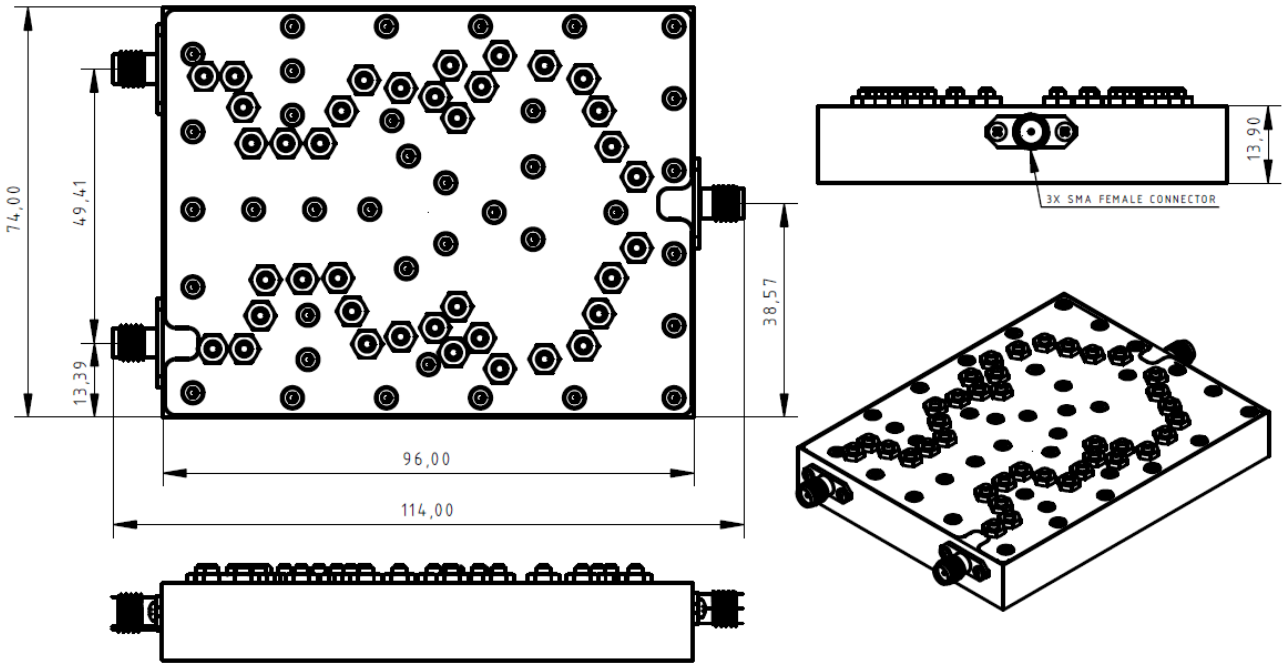


[3] This product has been developed with the support the program of The Scientific and Technological Research Council of Turkey (TÜBTAK) (Project No: 3205062) but all the responsibility concerning the product/service belongs to ASARTECH ARGE TASARIM MÜHENDİSLİK A.Ş.

SPECIFICATIONS

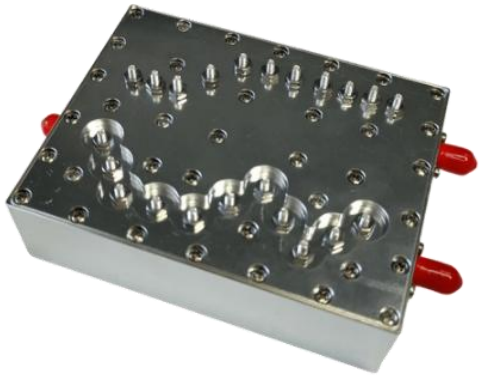
Parameter	Low Band Limits	High Band Limits
Center Freq	4675 MHz	5550 MHz
Bandwidth	4400 – 4950 MHz	5200 – 5850 MHz
Insetion Loss	1.0 dB max	1.0 dB max
VSWR	1.3:1 max	1.3:1 max
Peak Ripple	0.5 dB	0.5 dB
Attenuation	80 dB min @ DC-2000 MHz 80 dB min @5250-11700 MHz	80 dB min @ DC-4400 MHz 80 dB min @ 6500-11700 MHz
Power Handling (Watt)	20 CW max	
IN/OUT Impedance	50 Ohm	
Operational Temp. Range	-45°C - + 85°C	
Connector	SMA (Female) – All Ports	
Finish	Black Painting	
Mechanical Dimensions	72 mm x 53,5 mm x 14,5 mm	

MECHANICAL



FD1002

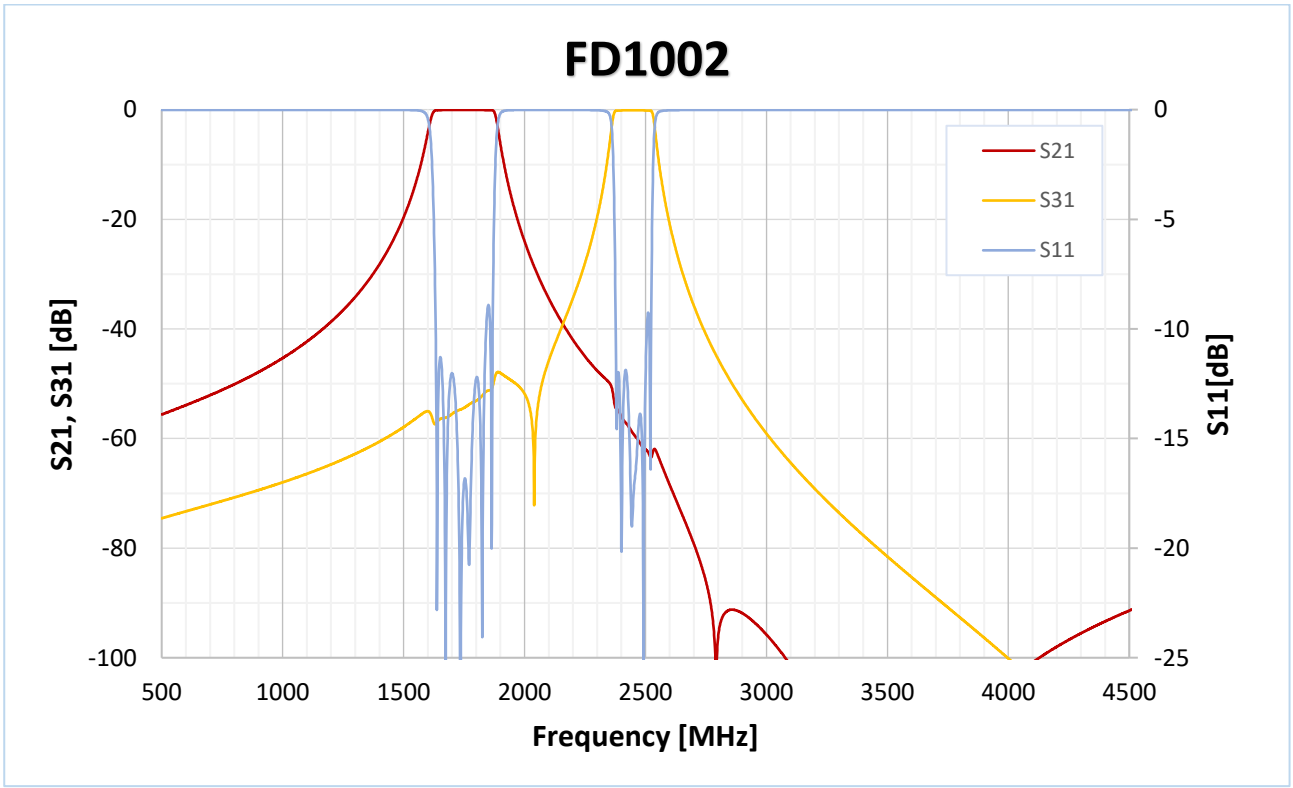
L/S-BAND DIPLEXER



DESCRIPTION

FD1002[4] is a Bandpass Diplexer that is designed to address challenging needs of L/S Band communication requirements. The unit boasts two low-loss cavity channels which are diplexed with a band gap of 100MHz. Each channel bandwidth is 90 MHz.

FD1002 is equipped with a Type SMA connector at common port and two SMA(F) connectors on the diplexed RX and TX channels. The unit can handle RF power up to 20W CW with 1.0dB max insertion loss on either channel.

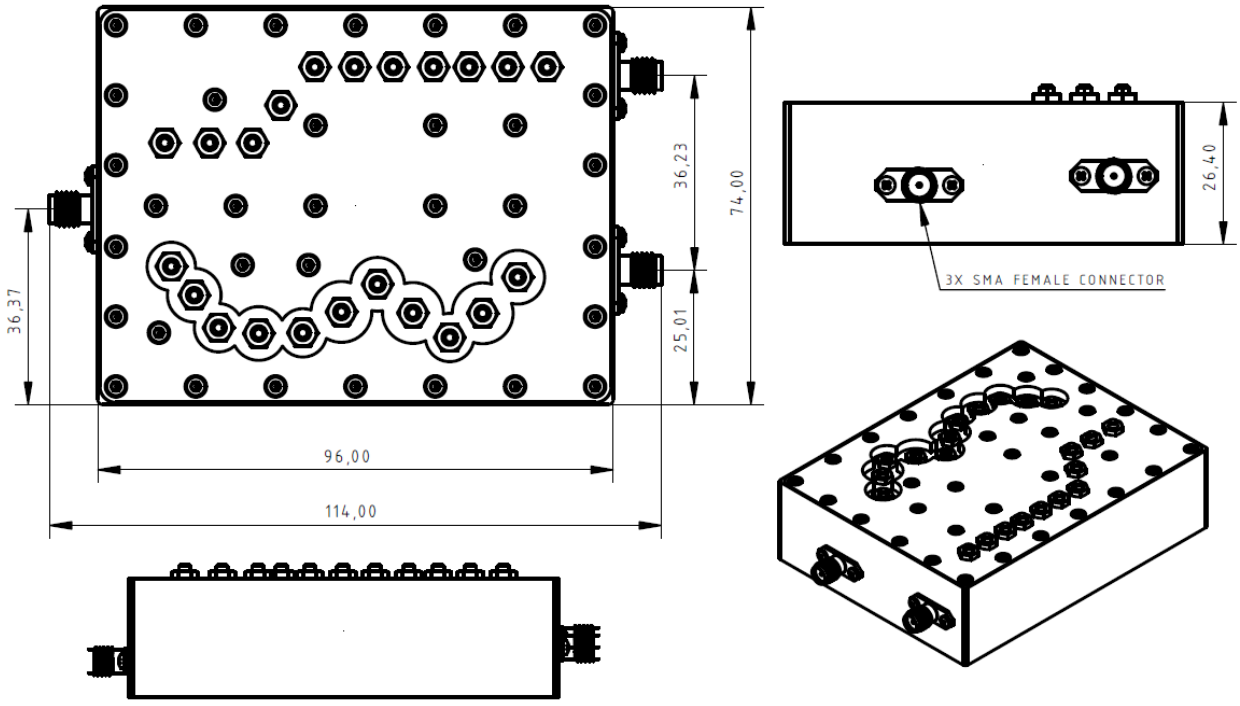


[4] This product has been developed with the support the program of The Scientific and Technological Research Council of Turkey (TÜBTAK) (Project No: 3205062) but all the responsibility concerning the product/service belongs to ASARTECH ARGE TASARIM MÜHENDİSLİK A.Ş.

SPECIFICATIONS

Parameter	Limits	
	Low Path	High Path
Center Frequency	1750 MHz	2450 MHZ
Bandwidth	1650 – 1850 MHz	2400 – 2500 MHz
Insertion Loss	1.0 dB max	1.0 dB max
VSWR	1.3:1 max	1:3.1 max
Attenuation	80 dB min. @ 1000 MHz 70 dB min @ 2400-2500 MHz 80 dB min @ 3300 MHz	80 dB min. @ 1000 MHz 70 dB min. @ 1650-1850 MHz 80 dB min. @ 1650-1850 MHz
Isolation Between Bands	80 dB min. @ 2400-2500	80 dB min. @ 1650-1850 MHz
Power Handling	20 Watt CW max.	
IN/OUT Impedance	50 Ohm	
Operational Temp. Range	-45° - +85°C	
Connector	SMA (Female) – All Ports	
Finish	Black Painting	
Mechanical Dimensions	96 mm x 74 mm x 45 mm	

MECHANICAL

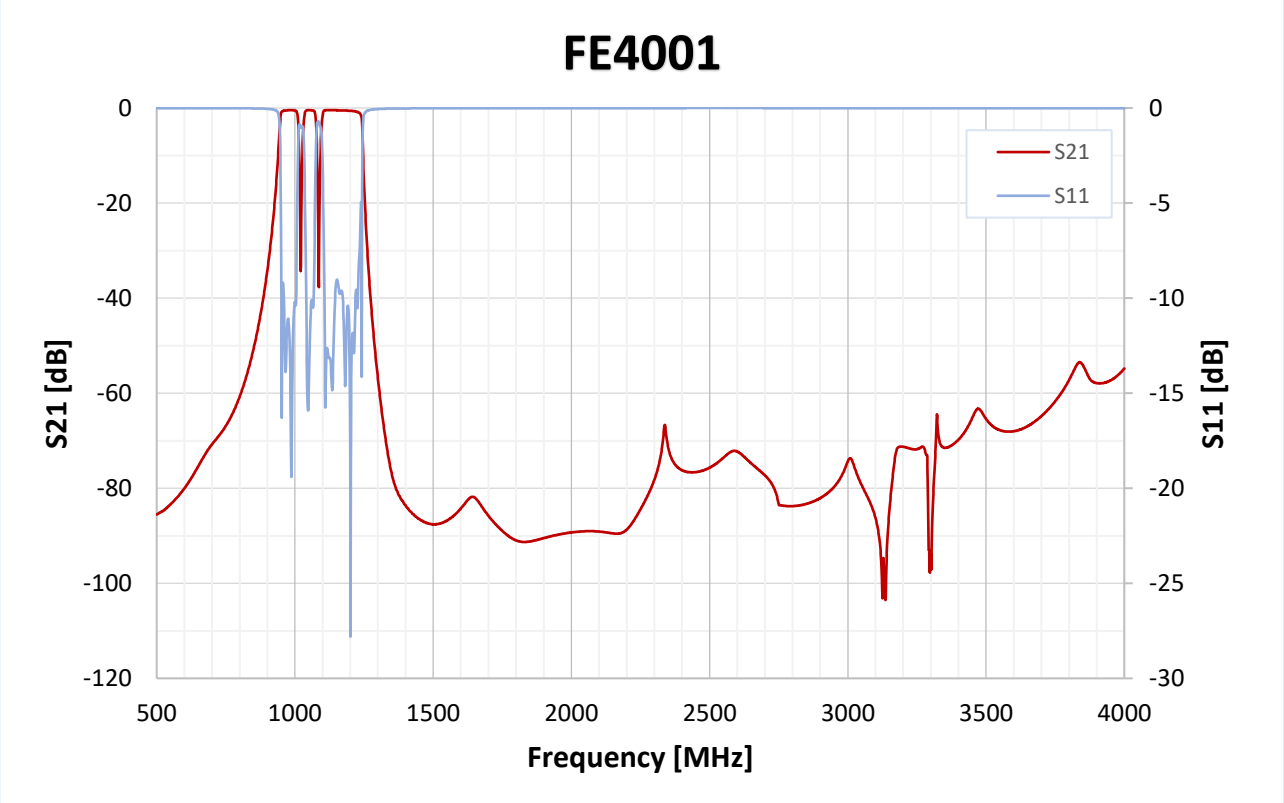


FE4001

L-BAND TRIPLE BAND BANDPASS FILTER

DESCRIPTION

FE4001[5] is a multiband filter covering LINK16/TACAN band having excellent IFF band rejection. The unit boasts low passband insertion loss, sharp roll off and having suppression of 60 dBc minimum beyond 3rd harmonic band. FE4001 is equipped with two SMA(F) connectors. The unit can handle powers of up to 200W.

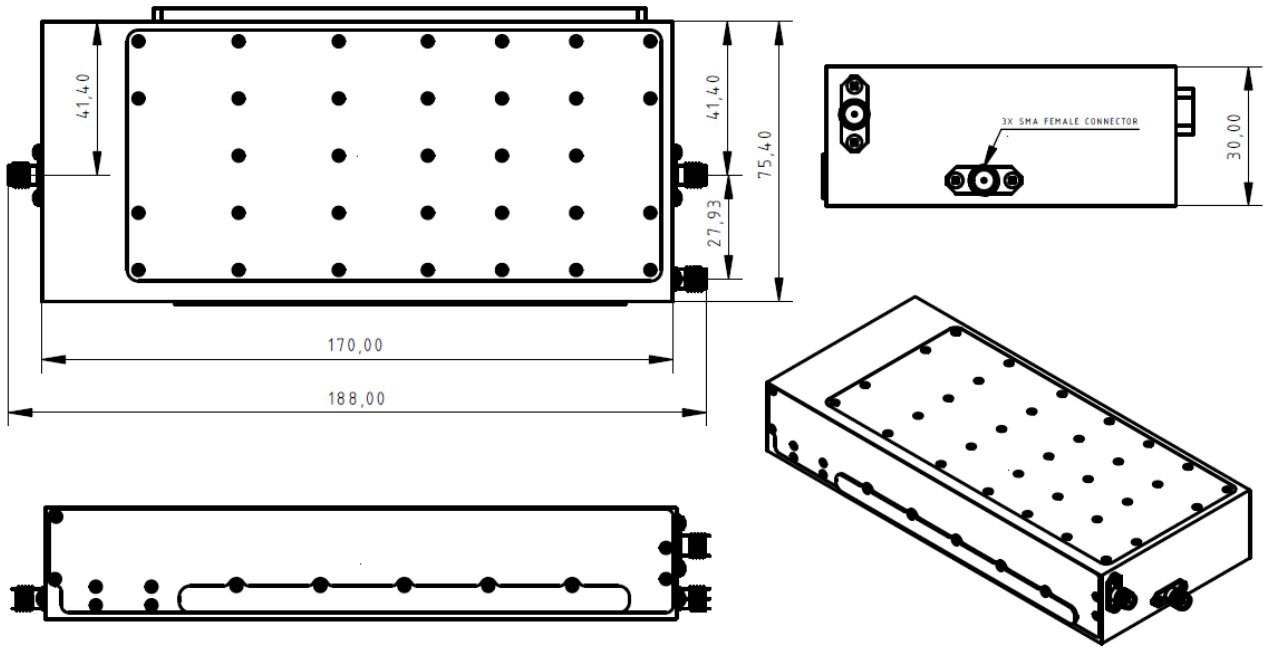


[5] This product has been developed with the support the program of The Scientific and Technological Research Council of Turkey (TÜBTAK) (Project No: 3205062) but all the responsibility concerning the product/service belongs to ASARTECH ARGE TASARIM MÜHENDİSLİK A.Ş.

SPECIFICATIONS

Parameter	Limits		
	Passband 1	Passband 2	Passband 3
Bandwidth	960-1010 MHz	1050-1072 MHz	1110-1215 MHz
Insertion Loss	2.0 dB max.		
Return Loss BW	16 dB min.		
Peak Ripple	1.0 dB max.		
Attenuation	60 dB min. @ DC-900 MHz 60 dB min. @ 1030 MHz 60 dB min. @ 1090 MHz 60 dB min. @ 1300-1400 MHz		
Power Handling	20 Watt CW max.		
IN/OUT Impedance	50 Ohm		
Operational Temp. Rate	-45°C - +85°C		
Connector	SMA (Female) – All Ports		
Finish	Black Painting		
Mechanical Dimensions	170 mm x 80 mm x 32 mm		

MECHANICAL

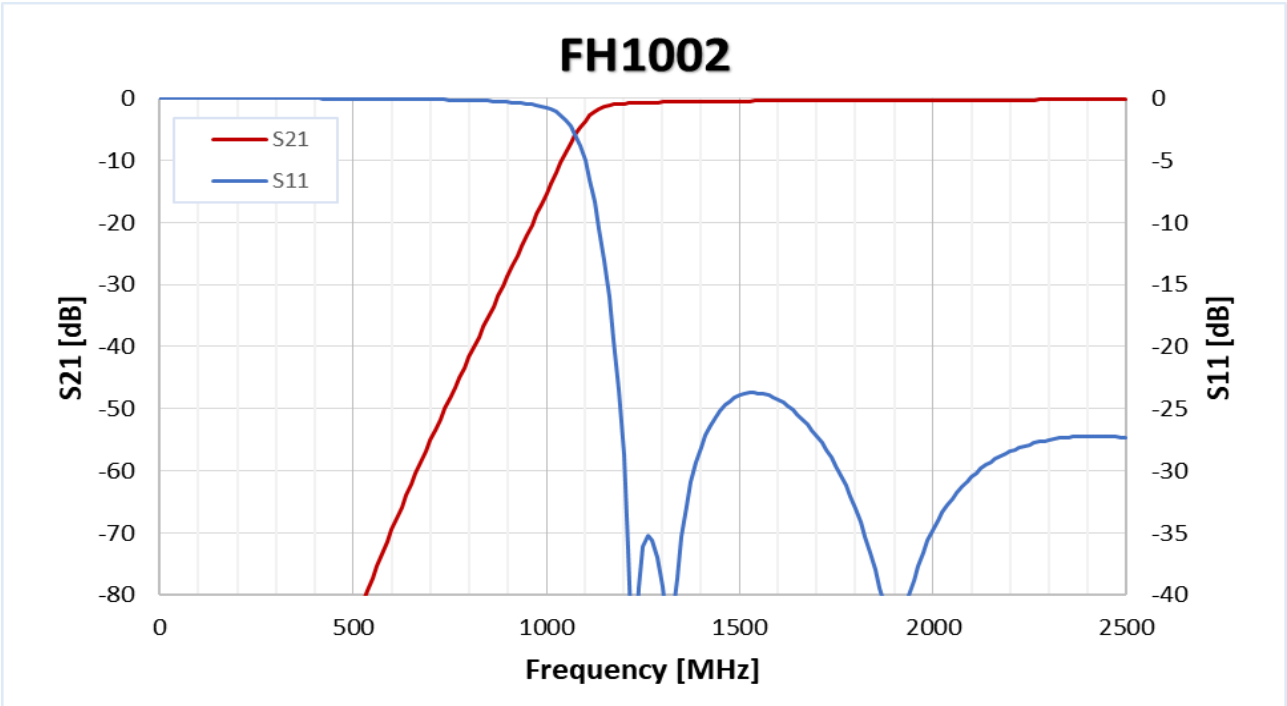


FH1002

1200 MHz HIGHPASS FILTER

DESCRIPTION

FH1002 is a general purpose 1200MHz high pass filter. It's a lumped element filter housed in a standard Asartech FG1002 housing, i.e., 39.25x16.7x11mm aluminum box. The input and output connectors are standard SMA. The unit can be used for filtering out GSM signals as well as a good fit for low order Nyquist zones of anti-alias filtering of ultra-high-speed ADCs.

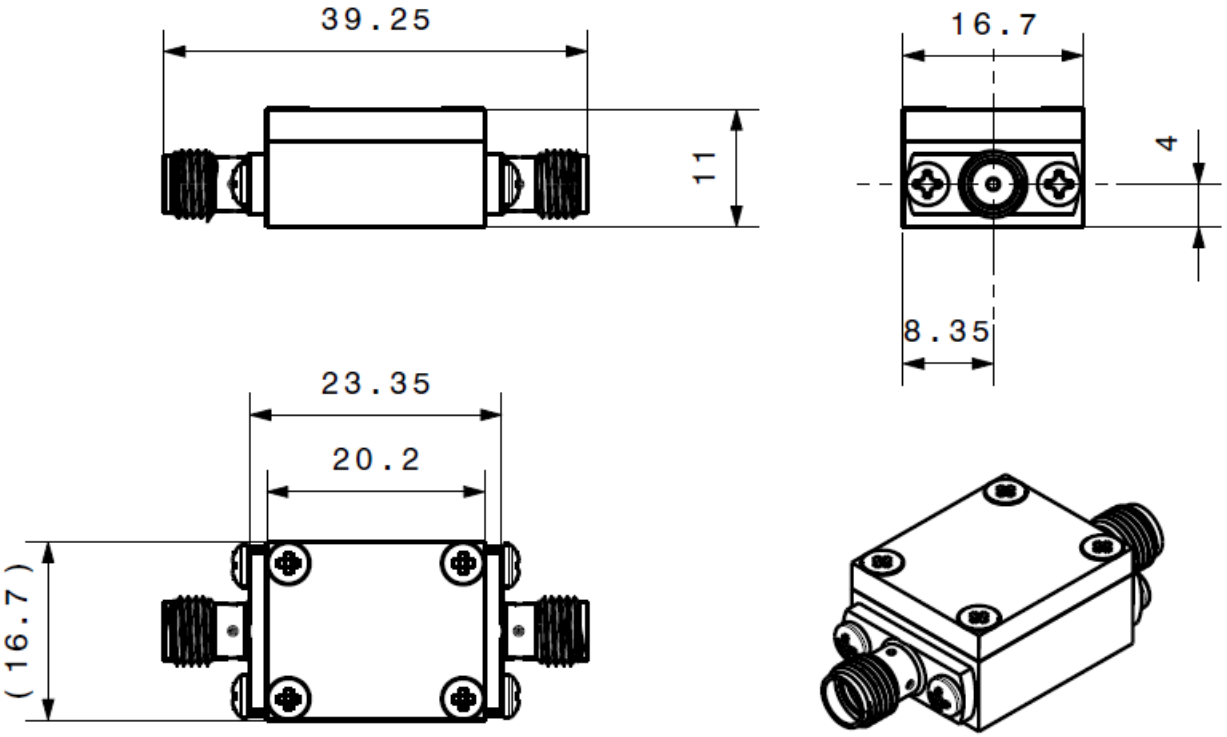


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	1200-3000 MHz		0.8dB	1.2dB
	Return Loss	1200-3000 MHz		20dB	16dB
	Power Handling	1200-3000 MHz			5W
Stopband	**Attenuation**	DC - 800MHz	35dB	40dB	

Other specifications available upon request.

MECHANICAL

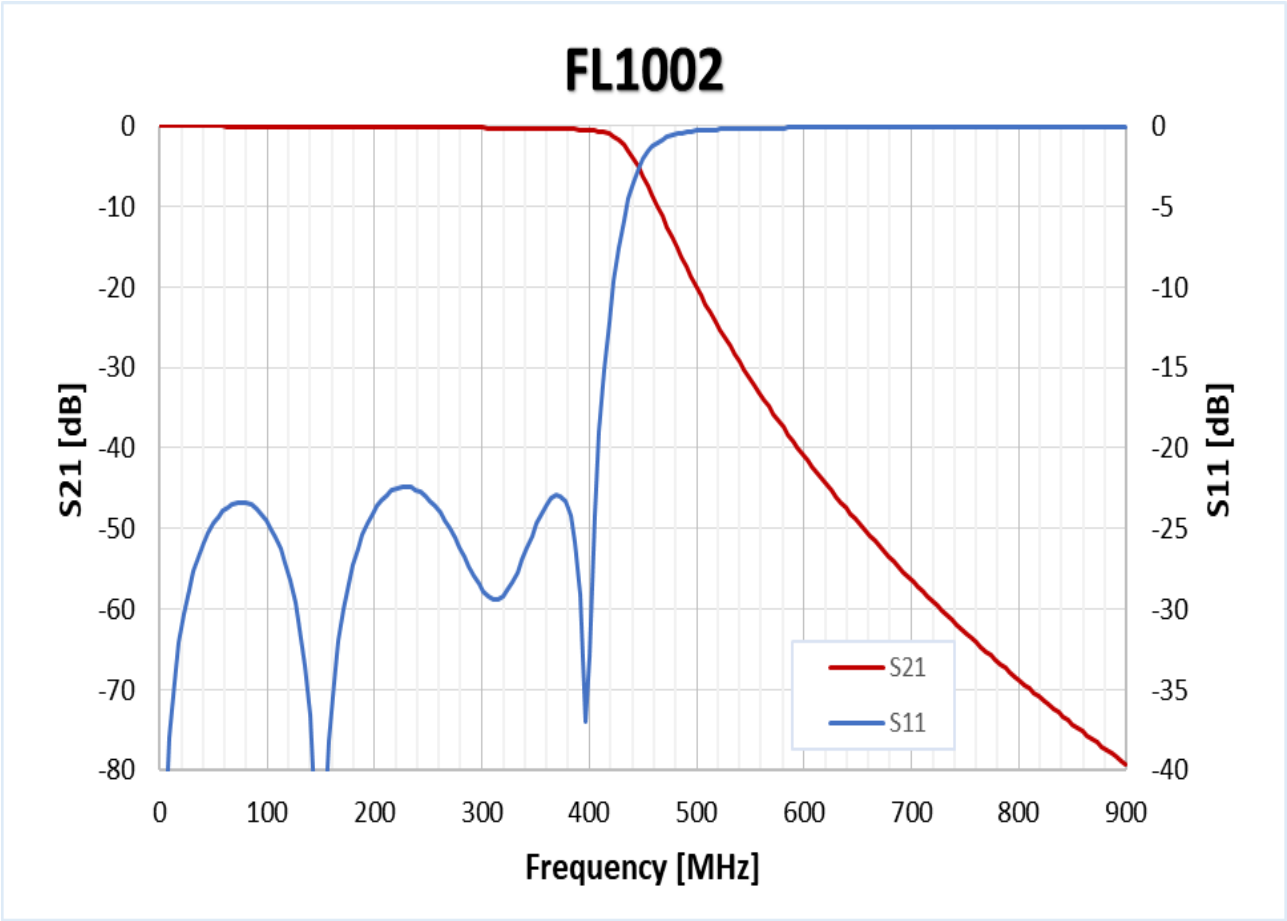


FL1002

400MHz LOWPASS FILTER

DESCRIPTION

FL1002 is a general purpose 400MHz lowpass filter. It's a lumped element filter housed in a standard Asartech FG1001 housing, i.e., 54.25 x 16.8 x 11mm aluminum box. The input and output connectors are standard SMA. The unit can be used for filtering out harmonics of PA driver amplifiers, as well as a good fit for anti-alias filtering of high-speed ADCs.

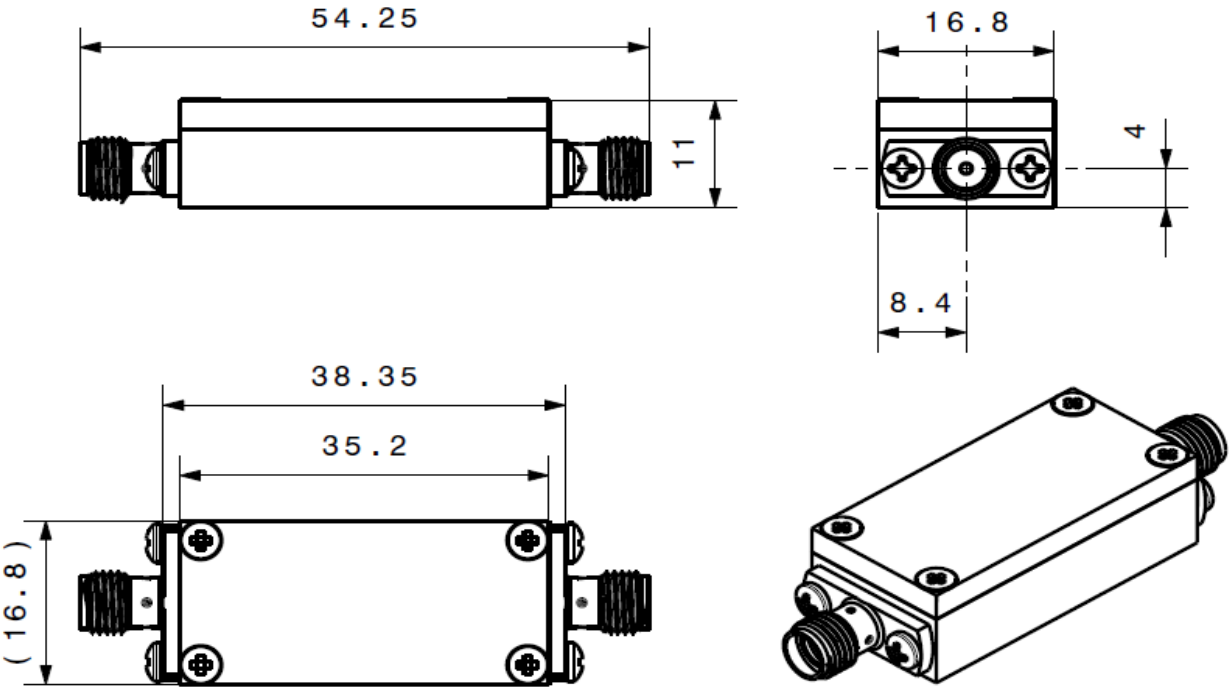


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	DC – 400 MHz		0.5dB	1.0dB
	Return Loss	DC – 400 MHz		20dB	18dB
	Power Handling	DC – 400 MHz			5W
Stopband	**Attenuation**	600 – 3000 MHz	35dB	40dB	

Other specifications available upon request.

MECHANICAL



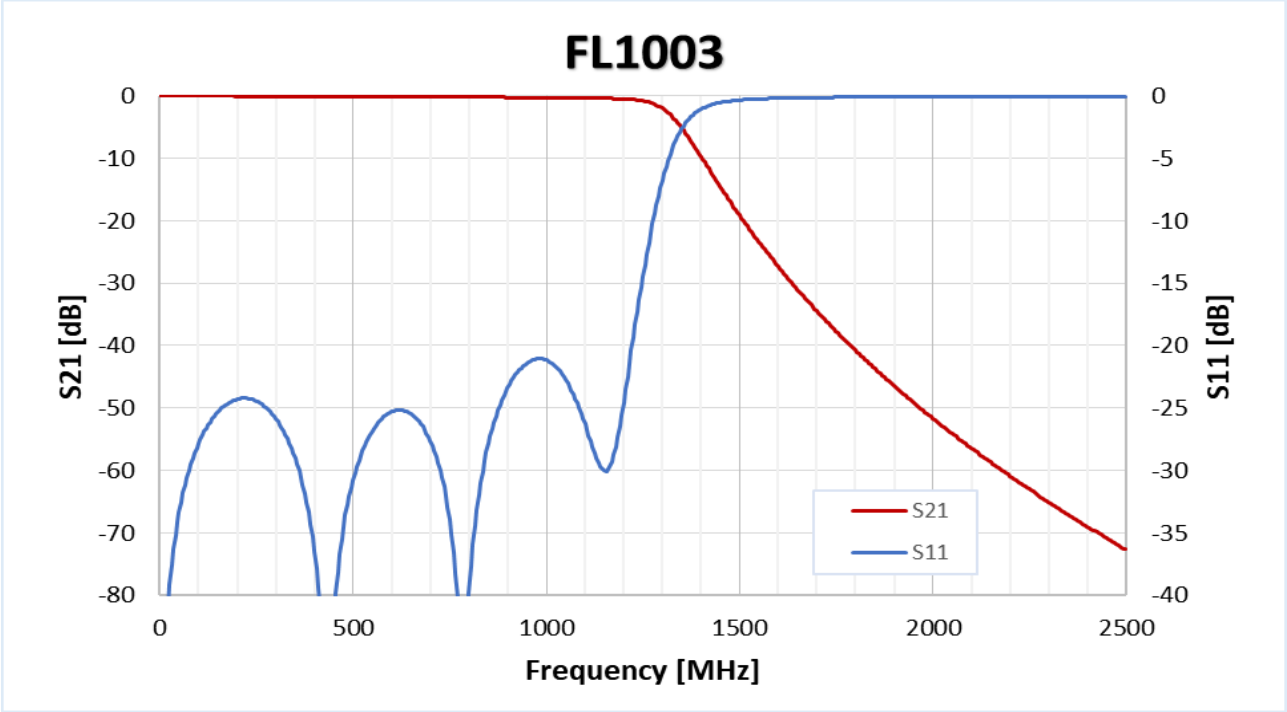
FL1003

1200 MHz LOWPASS FILTER

DESCRIPTION

FL1003 is a general purpose 1200MHz lowpass filter. It's a lumped element filter housed in a standard Asartech FG1002 housing, i.e., 39.25 x 16.7 x 11mm aluminum box.

The input and output connectors are standard SMA. The unit can be used for various applications including anti-alias filtering for ultra-high-speed ADCs.

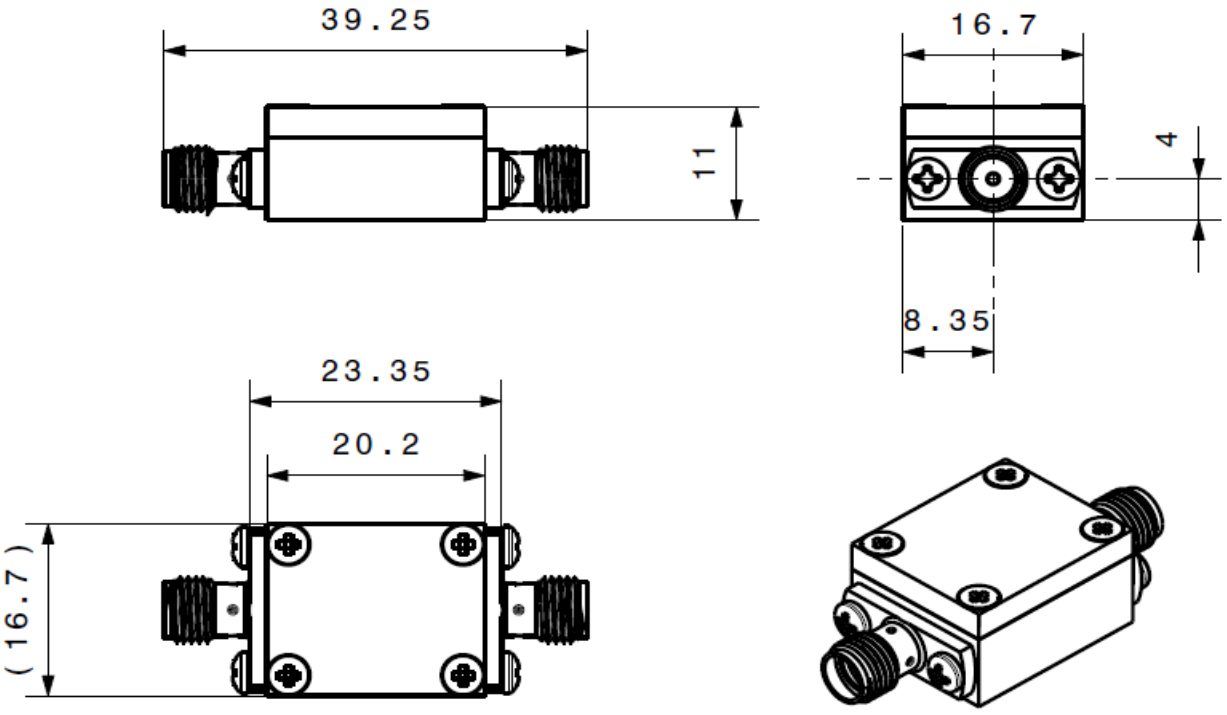


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	DC – 1200 MHz		0.5dB	1.0dB
	Return Loss	DC – 1200 MHz		20dB	16dB
	Power Handling	DC – 1200 MHz			5W
Stopband	**Attenuation**	1800 – 3000 MHz	40dB	45dB	

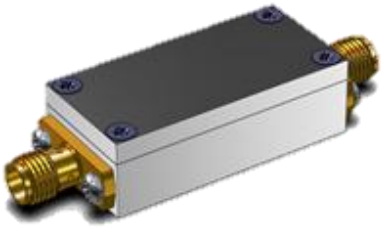
Other specifications available upon request.

MECHANICAL



FL2001

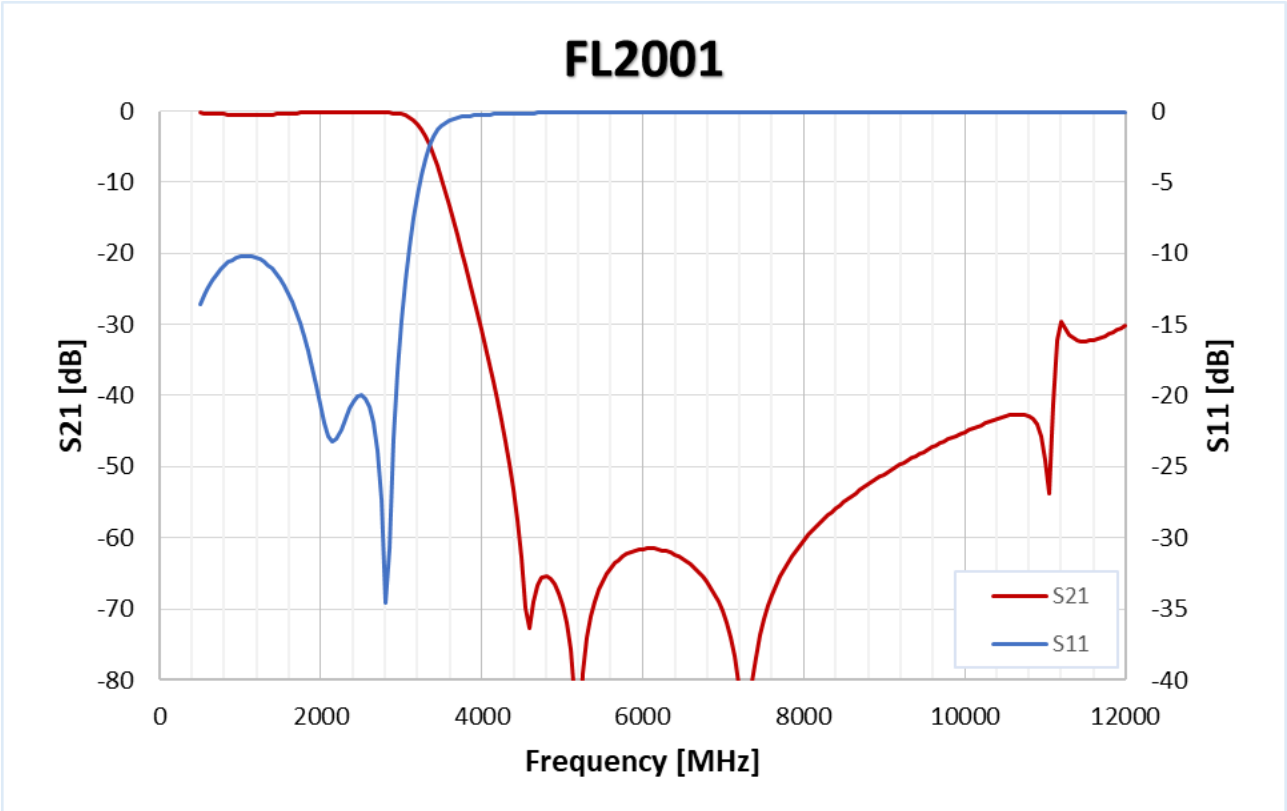
HIGH POWER 2850 MHz LOWPASS FILTER



DESCRIPTION

FL2001 is a 2850MHz harmonic lowpass filter. It's a distributed element filter housed in a 45.25 x 16.1 x 11mm aluminum box (inc connectors).

The input and output connectors are standard SMA. The unit is intended for filtering out harmonics and spurii of 2.4GHz PA drivers.

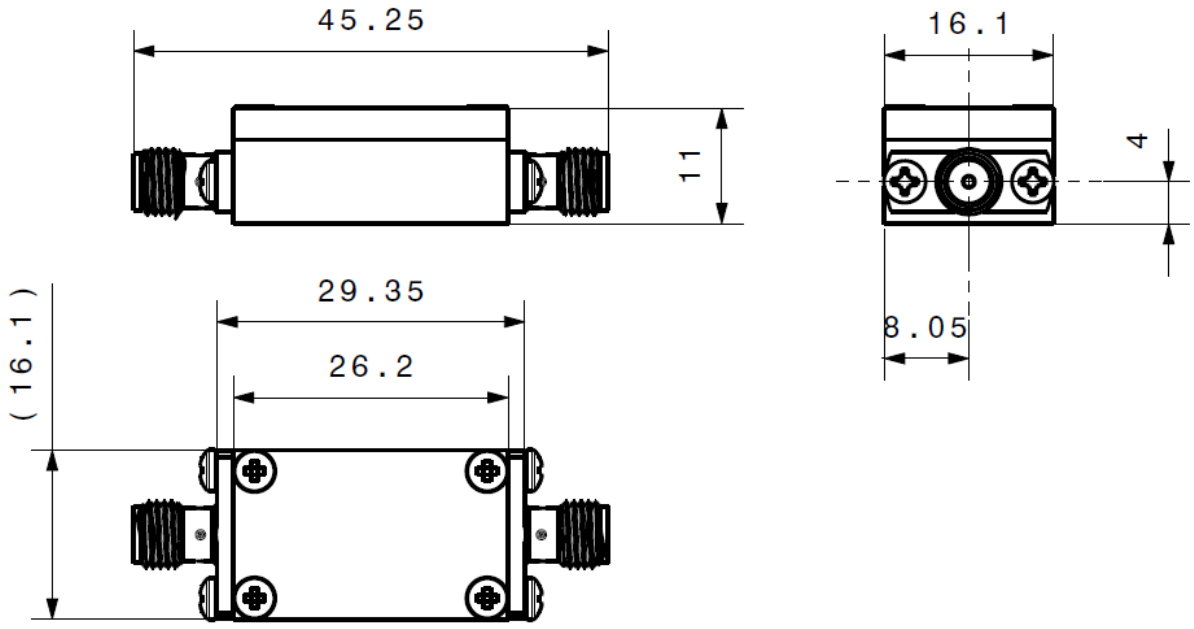


SPECIFICATIONS

Parameter		Frequency Range	Min	Typ	Max
Passband	**Insertion Loss**	DC to 2850 MHz		0.5 dB	1.0 dB
	Return Loss	DC to 2850 MHz		20 dB	18 dB
	Power Handling	DC to 2850 MHz		20W	150W(peak)
Stopband	**Attenuation**	4400-10000MHz	45 dB	40 dB	

Other specifications available upon request.

MECHANICAL



asartech

R&D DESIGN ENGINEERING

SIGNAL GENERATORS

Asartech designs custom RF and microwave high fidelity signal generators up to and including Ka-band.

- Ultra-Stable, Ultra Low Noise Frequency References (typ 10 MHz, 100 MHz, and 1 GHz)
- Wideband Frequency Synthesizers involving phase locked loops
- Ultra-Low Noise Local Oscillators for Radar Applications
- Frequency Hopping Synthesizers

Available in Module or Rack Mount

SG1001

WIDEBAND SIGNAL GENERATOR

DESCRIPTION

SG1001 is a USB-controlled wideband signal generator for portable applications. It incorporates an internal 10MHz TCXO. The frequency accuracy is ±1ppm.

The output power is controlled by a digital attenuator in 0.5dB steps with 30dB attenuation range.

Device consumes 1W at a single 7.5Vdc input.

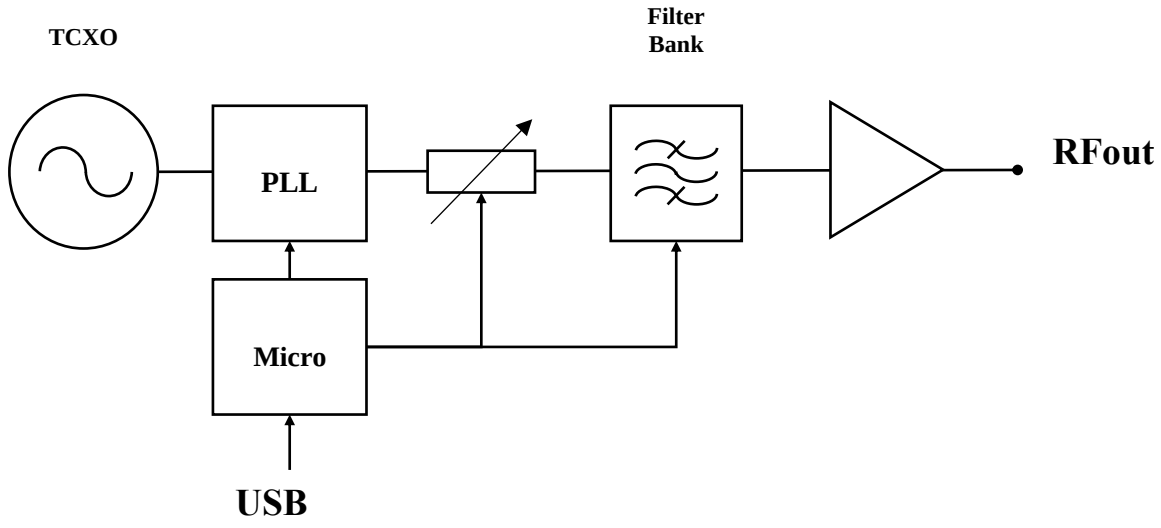
FEATURES

- Wideband Frequency Generation
- Frequency and Amplitude Control
- Low Phase Noise
- Low power consumption

SPECS AT A GLANCE

- 10MHz to 20GHz output
- 20dBm to +10dBm output power
- Low Phase Noise
- 105dBc/Hz @ 10kHz offset at 9GHz
- 96dBc/Hz @ 10kHz offset at 20GHz
- - 20us switching speed

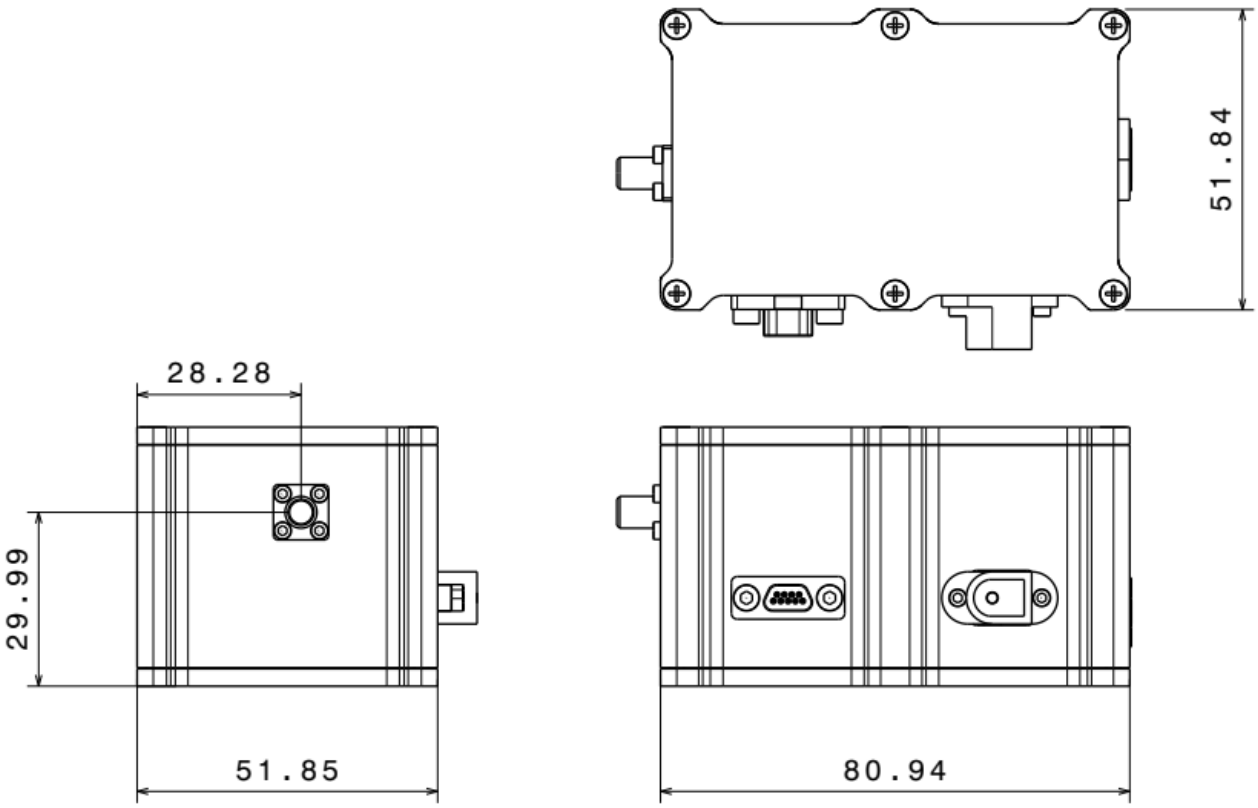
BLOCK DIAGRAM



SPECIFICATIONS

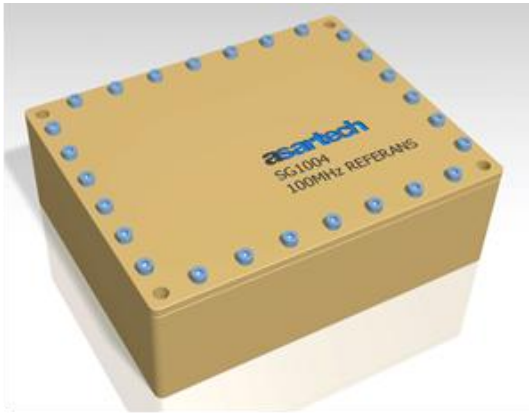
Parameter	Limit
Output Frequency Range	10 MHz to 20 GHz
Frequency Steps	1kHz
Output Level	-20 to +10dBm
Level Control	0.5dB steps
Output Phase Noise at 3GHz	-113dBc/Hz @ 10kHz offset -125dBc/Hz @ 1MHz offset
Output Phase Noise at 9GHz	-105dBc/Hz @ 10kHz offset -120dBc/Hz @ 1MHz offset
Output Phase Noise at 20GHz	-96dBc/Hz @ 10kHz offset -112dBc/Hz @ 1MHz offset
DC Power Consumption	1W typ
Operational Temp Range	5°C to 65°C
Storage Temp Range	0°C to 125°C
DC Input Voltage – 7.5V	10V max
DC Input Current	0.5A max

MECHANICAL



SG1004

LOW NOISE, STABLE FREQUENCY REFERENCE



DESCRIPTION

SG1004 is an ultra-stable, ultra-low noise frequency reference. It consists of a low noise 100MHz Voltage Controlled Crystal Oscillator (VCXO), locked to a stable Oven Controlled Crystal Oscillator (OCXO).

Device consumes 5W during warm-up of 5 minutes and settles at 2.5W at steady state at 20°C ambient temperature.

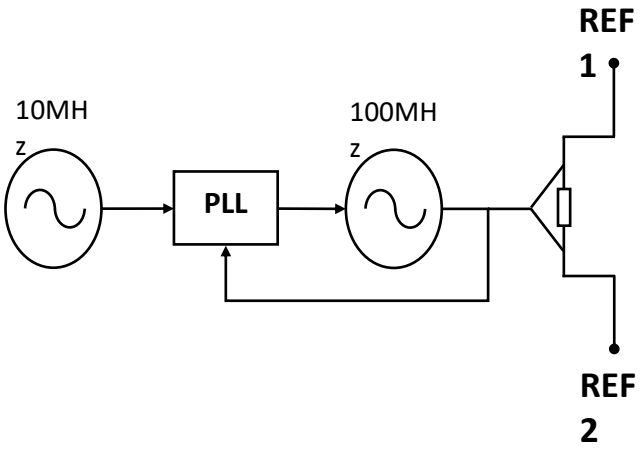
FEATURES

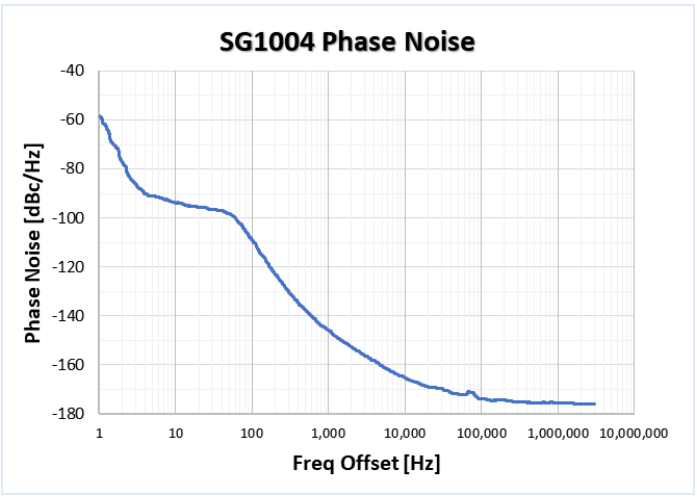
- Sinewave output
- Ultra Temperature Stable
- Very Low Ageing
- Ultra Low Phase Noise

SPECS AT A GLANCE

- 100MHz fixed output
- 2ppb Stability within 0 to 50°C
- 30ppb/year Ageing
- Ultra Low Phase Noise
  - -140dBc/Hz @ 10kHz
  - -165dBc/Hz @ 1MHz

BLOCK DIAGRAM



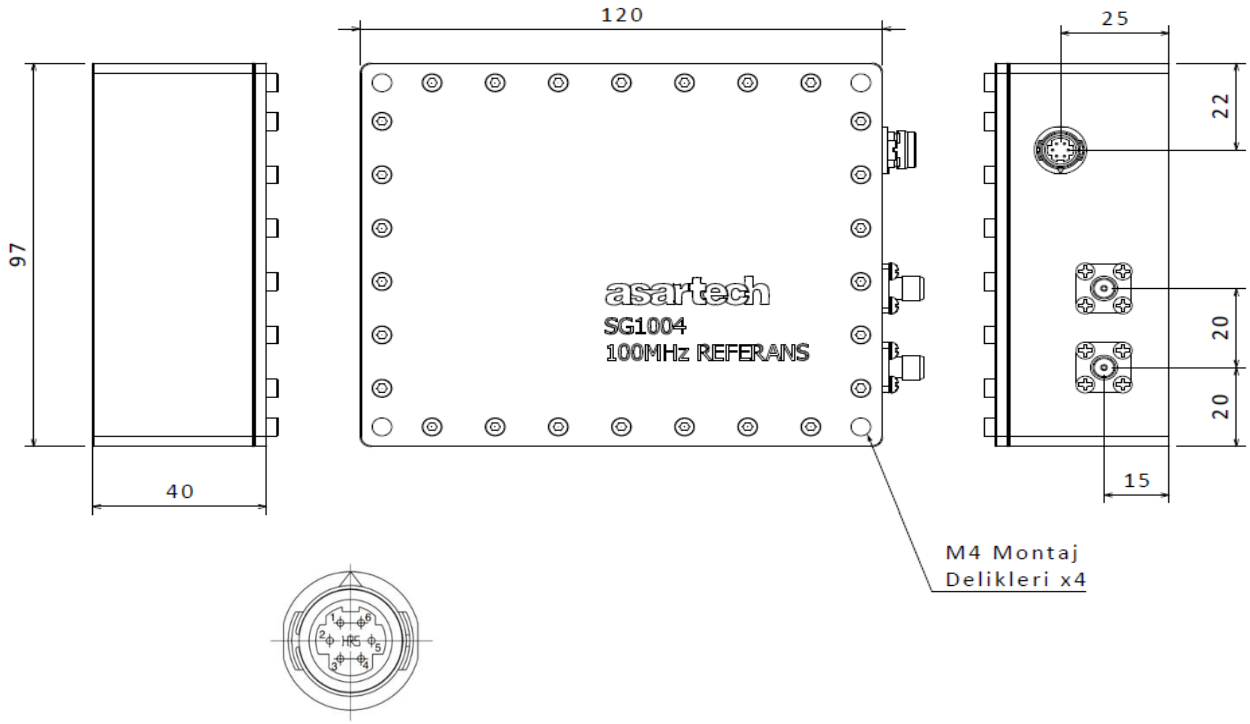


SPECIFICATIONS

Parameter	Limit
REF outputs Freq	100MHz
REF outputs Level	5dBm ± 2dB
Temperature Stability	± 2ppb within 0 to 50°C
Ageing / day	0.5ppb typ
Ageing / year	30ppb typ
Output Phase Noise	-140dBc/Hz @ 10kHz -165dBc/Hz @ 1MHz
DC Power Consumption	5W max during warmup 2.5W typ at steady state
Operational Temp Range	5°C to 65°C (NOTE-1)
Storage Temp Range	0°C to 125°C (NOTE-1)
DC Input Voltage – 18V	24V max
DC Input Voltage – 6V	10V max
DC Input Current	0.5A max @ 18V 0.2A max @ 6V

NOTE-1: It is assumed that the device will sit within a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL



Hirose HR30-6R-6P Panel mount Connector

LO1001

C-BAND LOCAL OSCILLATOR

DESCRIPTION

LO1001 is a low phase noise, voltage-controlled oscillator for use with C-band transceivers.

LO1001 features a very low phase noise ceramic resonator oscillator with -160dBc/Hz phase noise floor. Device consumes 5W typically.

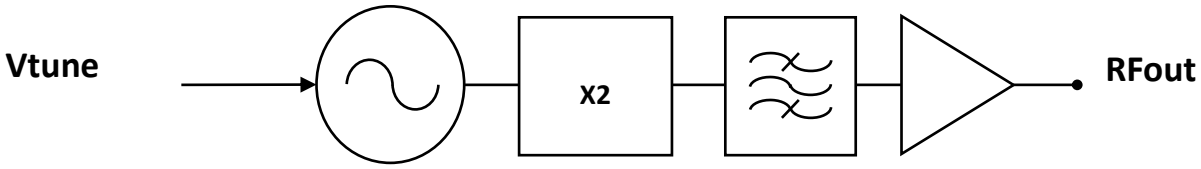
FEATURES

- Excellent Phase Noise
- High Output Power – no extra LO drive needed

SPECS AT A GLANCE

- 5-6 GHz Output Frequency Range
- +16dBm output power
- P/N -100dBc/Hz @ 10kHz offset
- P/N -142dBc/Hz @ 1MHz offset
- 60MHz/V Tuning Sensitivity

BLOCK DIAGRAM

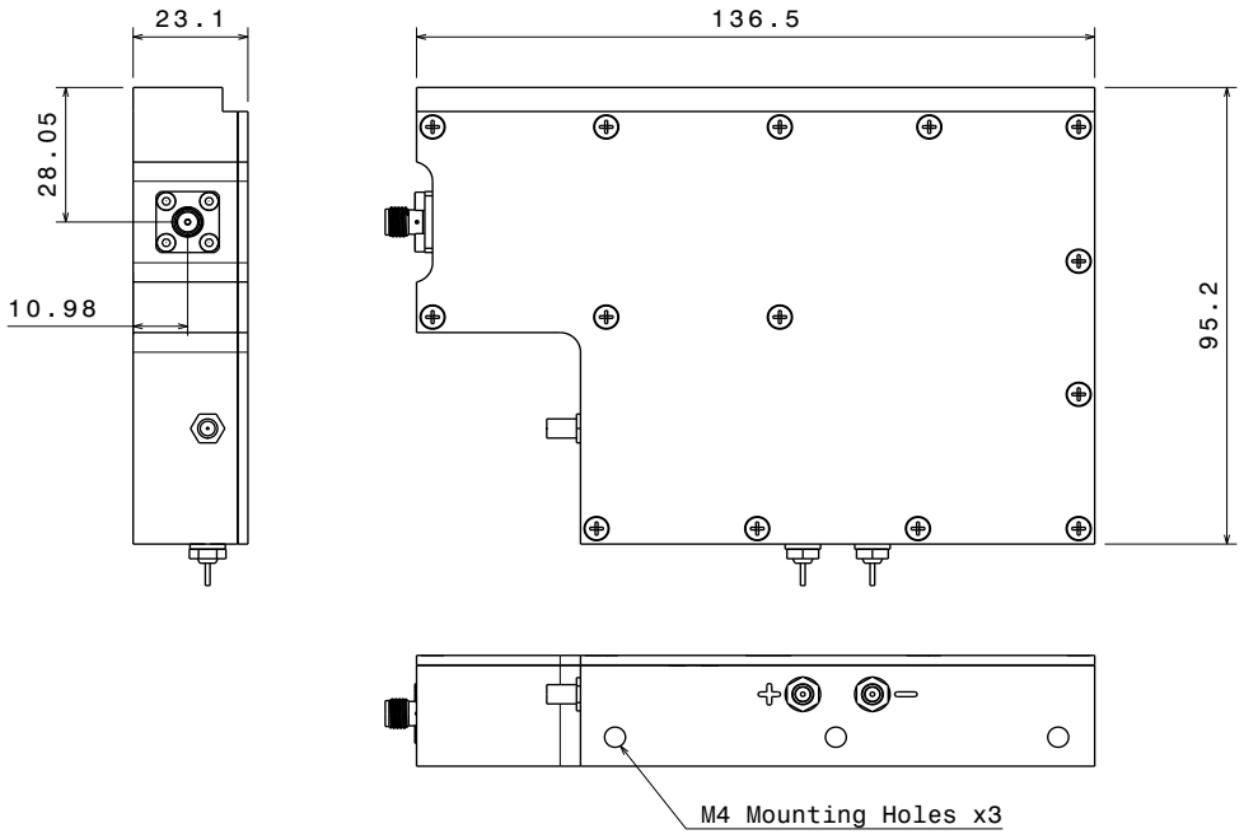


SPECIFICATIONS

Parameter	Limit
Frequency Range	C-Band
Output Power	16dBm typ
Tuning Voltage	5V to 25V
Harmonics	-25dBc
Spurious	-60dBc
Phase Noise	-100dBc/Hz @ 10kHz -124Bc/Hz @ 100kHz -142dBc/Hz @ 1MHz -157dBc/Hz Noise Floor
DC Power Consumption	5W max
Operational Temp Range	5°C to 65°C (NOTE-1)
Storage Temp Range	0°C to 125°C (NOTE-1)

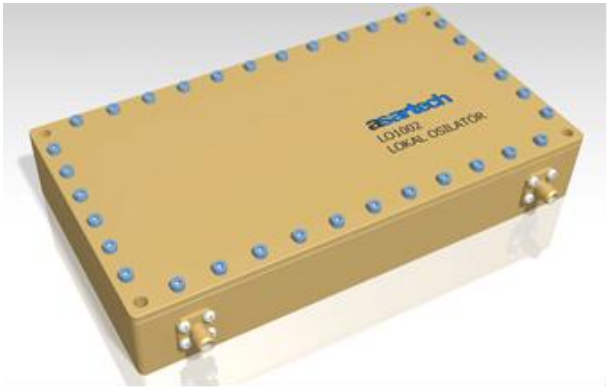
Note 1: It is assumed that the device will sit within inside a conditioned enclosure. Consult factory for conditions otherwise.

MECHANICAL



LO1002

2-CHANNEL DUAL BAND LOCAL OSCILLATOR



DESCRIPTION

LO1002 is a 2-channel dual band local oscillator for use with frequency converters. LO1 is a fast frequency variable oscillator whereas LO2 is a fixed oscillator. Frequency ranges can be customized to specifications within specified ranges.

LO1002 features fast PLLs with LO1 settling in 150ns which allow fast frequency hopping. Device incorporates very low noise voltage-controlled oscillators (VCOs), with LO1 reaching -135dBc/Hz and LO2 reaching -145dBc/Hz at 1MHz offset.

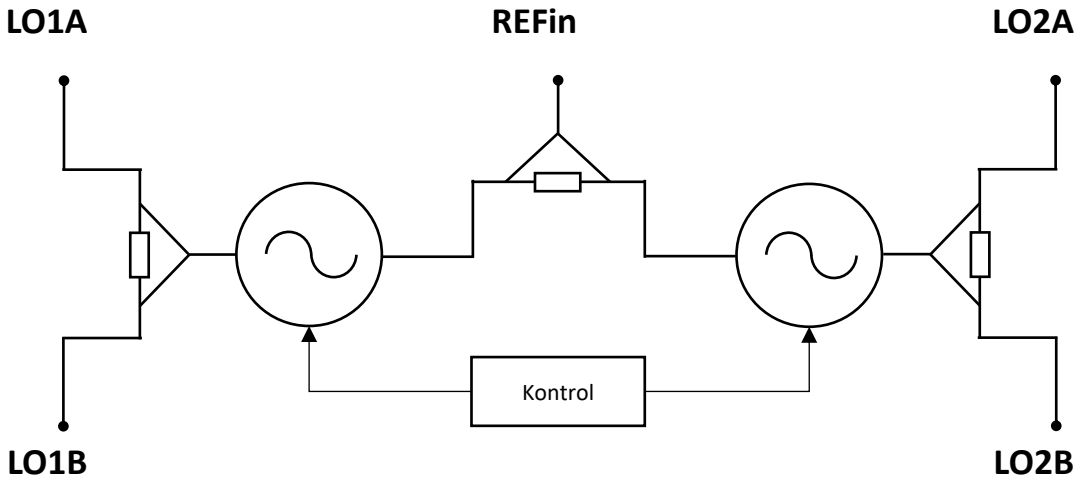
FEATURES

- Ultra-Low Phase Noise Oscillators
- 150ns LO1 frequency switching time
- Fast Phase Locked Loops (PLLs) locked to a single frequency reference
- Both LOs amplitude and phase matched for A and B outputs

SPECS AT A GLANCE

- 6.5 – 8.0 GHz LO1 output
- 1.6 – 2.0 GHz LO2 output
- -60dBc spurii and harmonics

BLOCK DIAGRAM

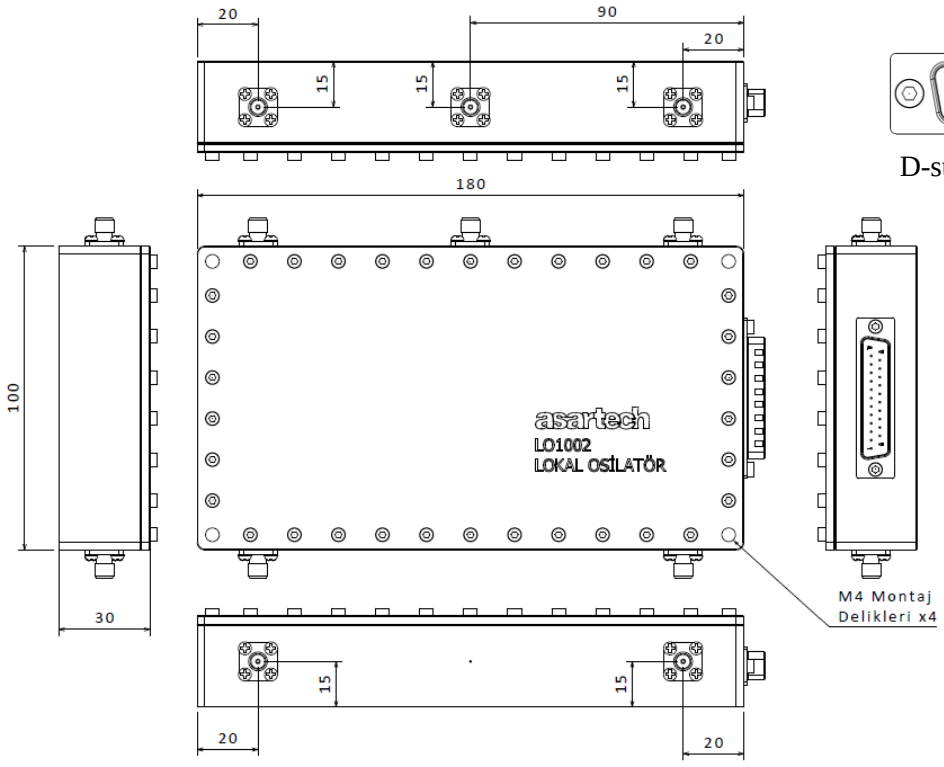


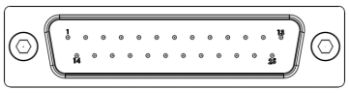
SPECIFICATIONS

Parameter	Limit
LO1 Frequency Range	6.5 – 8.0GHz
LO2 Frequency Range	1.6 – 2.0GHz
LO1 Frequency Steps	10MHz minimum
LO1 Frequency Settling Time	150ns typ
LO1 Frequency Selection	5-bit TTL
LO1 Phase Noise	-100dBc/Hz @ 10kHz -135dBc/Hz @ 1MHz
LO2 Phase Noise	-110dBc/Hz @ 10kHz -145dBc/Hz @ 1MHz
LO1 Output Level	3dBm ± 3dB
LO2 Output Level	3dBm ± 2dB
REF Input Frequency	100MHz
REF Input Level	0dBm ± 2dB
DC Power Consumption	5W typ
Operational Temp Range	5°C to 65°C (Note 1)
Storage Temp Range	0°C to 125°C (Note 1)

Note 1: It is assumed that the device will sit within a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL





D-sub 25-pin Plug (Male)

asartech

R&D DESIGN ENGINEERING

SIGNAL PROCESSING PRODUCTS

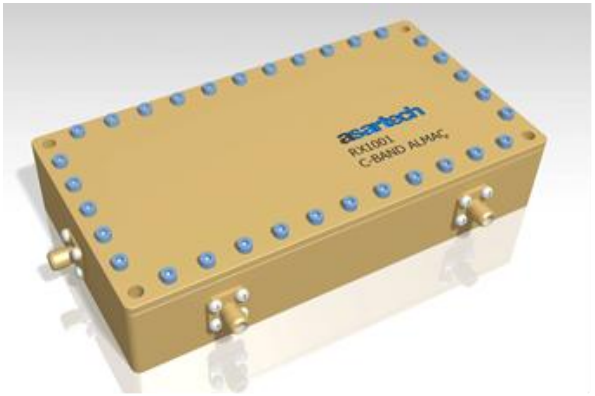
Asartech designs custom RF and microwave signal processing products up to 40 GHz:

- Wideband Frequency Converters
- Narrowband Receivers for Radar Applications
- Frequency Upconverters for Transmitters
- RF Switches integrated with Receiver Protection
- Block Downconverters

Available in Module or Rack Mount

RX1001

C-BAND RECEIVER



DESCRIPTION

RX1001 is a 2-stage frequency downconverter designed to work in C-band. RF input frequency band lies within 5-6GHz and can be customized for the customer. IF output frequency is normally centered at 240MHz and can be similarly customized. IF bandwidth is limited to 60MHz.

Equipped with filtered and low noise LDO regulators, and highly selective filters, harmonic and spurii output are suppressed below -60dBc.

IF output is limited to +10dBm for ADC applications. It can be removed at factory if desired.

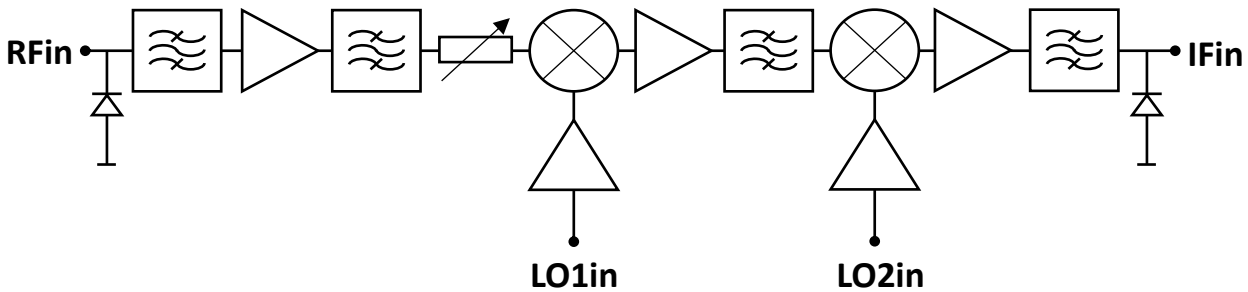
FEATURES

- RF power limiting at input and output
- High Side LO1 and LO2 mixing
- Selective SAW Filtering

SPECS AT A GLANCE

- 5-6 GHz RF input
- 240 MHz IF output
- 70dB SFDR typ (1MHz BW)
- 4dB NF typ

BLOCK DIAGRAM

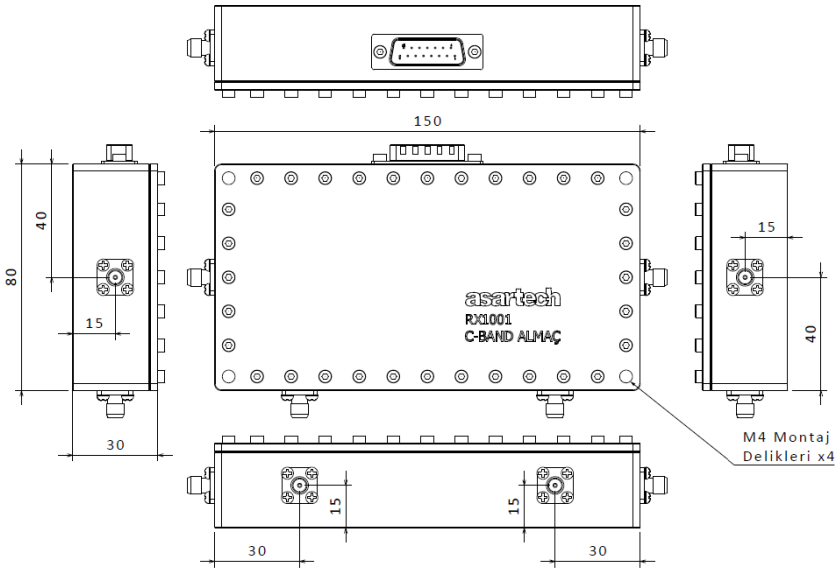


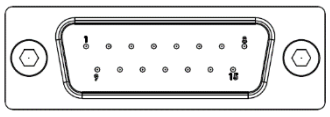
SPECIFICATIONS

Parameter	Limit	Notes
RF Input Band	5-6 GHz	Actual freq band specified upon order
IF Output Band	210-270 MHz	
RF-IF Gain	40dB typ	
RF Output P1dB	9dBm	Can be customized within 7 to 13dBm
RF Output Power	-30dBm typ +10dBm max	10% duty
Noise Figure	4dB typ	
SFDR	70dB typ	
LO Frequencies	--	LO frequencies available upon order
LO Input Power	0dBm ± 2dB	LO1 and LO2
IF Output Spurii	-60dBc max	At IF output
Out of Band Signal Suppression	-80dBm max	Measured IF output for 0dBm input at 200MHz away from RF input band corners
RF-IF Gain Adjust	31dB typ	
RF-IF Gain Adjustment Steps	1dB	
RF-IF Gain Control	5-bit, 0/5V	
Gain Adjustment Settling	200ns max	From 50% VCTRL to %90 RF
DC Power Consumption	4W max	
Operational Temp Range	5°C to 65°C	Note 1
Storage Temp Range	0°C to 125°C	Note 1

Note 1: It is assumed that the device will sit within a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL

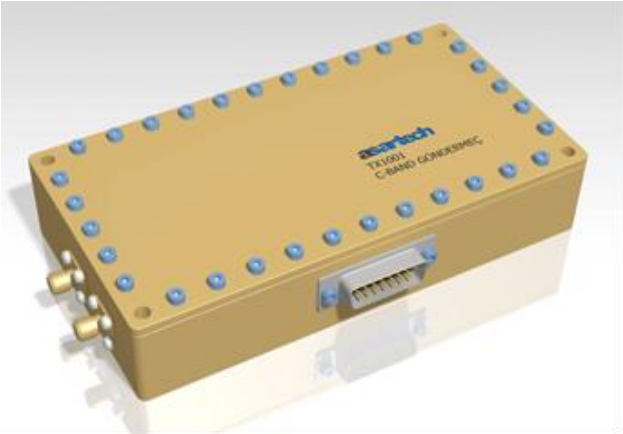




D-sub 15-pin Plug
(Male)

TX1001

C-BAND TRANSMITTER



DESCRIPTION

TX1001 is a 2-stage frequency upconverter designed to work in C-band. RF input frequency band lies within 5-6GHz and can be customized for the customer. IF input frequency is normally centered at 240MHz and can be similarly customized. IF bandwidth is limited to 60MHz.

Equipped with filtered and low noise LDO regulators, and highly selective filters, harmonic and spurii output are suppressed below -60dBc.

TX1001 features a BITE output for use in automated system tests.

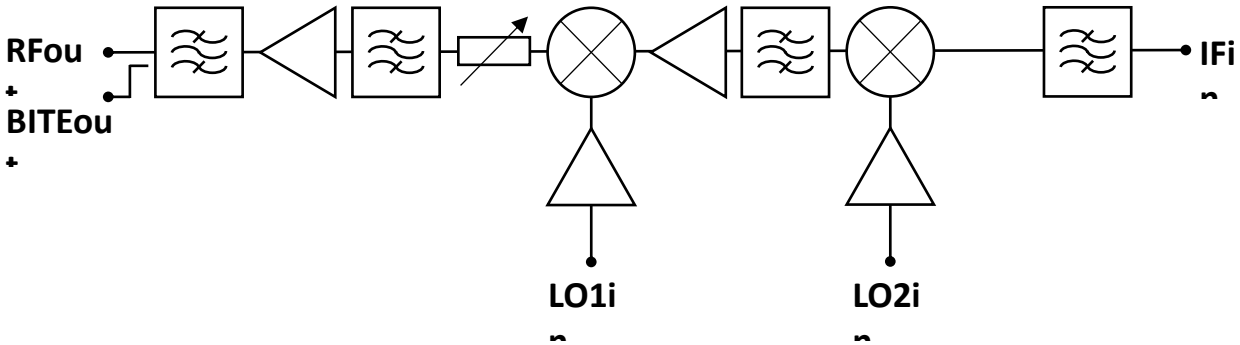
FEATURES

- DAC alias filtering
- High Side LO1 and LO2 mixing
- Selective SAW Filtering
- BITE output

SPECS AT A GLANCE

- 240 MHz IF input
- 5-6 GHz RF output
- +19dBm linear output
- -60dBc max spurii

BLOCK DIAGRAM

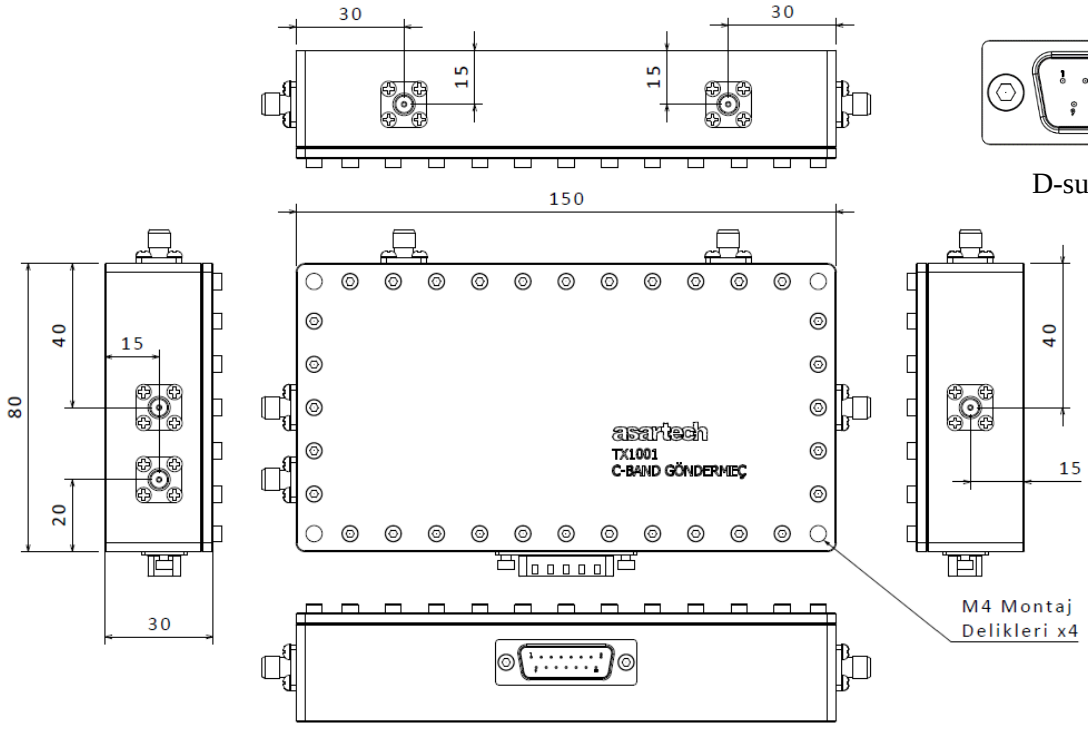


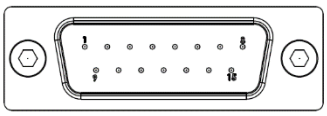
SPECIFICATIONS

Parameter	Limit	Notes
IF Input Band	210-270 MHz	
IF Input Level	0dBm max	
Output RF Band	5-6 GHz	Actual freq band specified upon order
RF-IF Gain	19dB typ	
Linear RF Output	19dBm	Harmonic output < -60dBc
RF Output P1dB	22dBm	
BITE Output	-20dBc	20dB coupled to RF output
LO Frequencies	--	LO frequencies available upon order
LO Input Power	0dBm ± 2dB	LO1 and LO2
IF-RF Gain	31dB typ	
IF-RF Gain Adjustment	1dB	
IF-RF Gain Adjustment Steps	5-bit, 0/5V	
Gain Adjustment Settling	200ns max	From 50% VCTRL to %90 RF
DC Power Consumption	5W max	
Operational Temp Range	5°C to 65°C	Note 1
Storage Temp Range	0°C to 125°C	Note 1

Note 1: It is assumed that the device will sit a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL

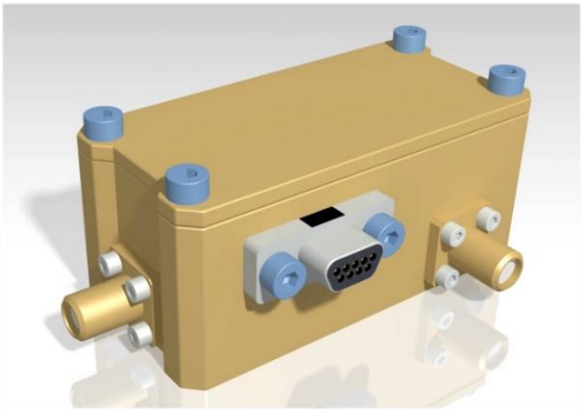




D-sub 15-pin Plug (Male)

MC1001

WIDEBAND DOWNCONVERTER



DESCRIPTION

MC1001 is wideband downconverter for wideband receiver applications.

The RF to IF signal chain contains IF amplification and digitally controlled attenuator for gain control.

IF output ranges from 0.4 to 2.5GHz. For fixed frequency narrowband applications, the IF output can be externally filtered to reduce the noise output.

Device consumes 1.5W typically.

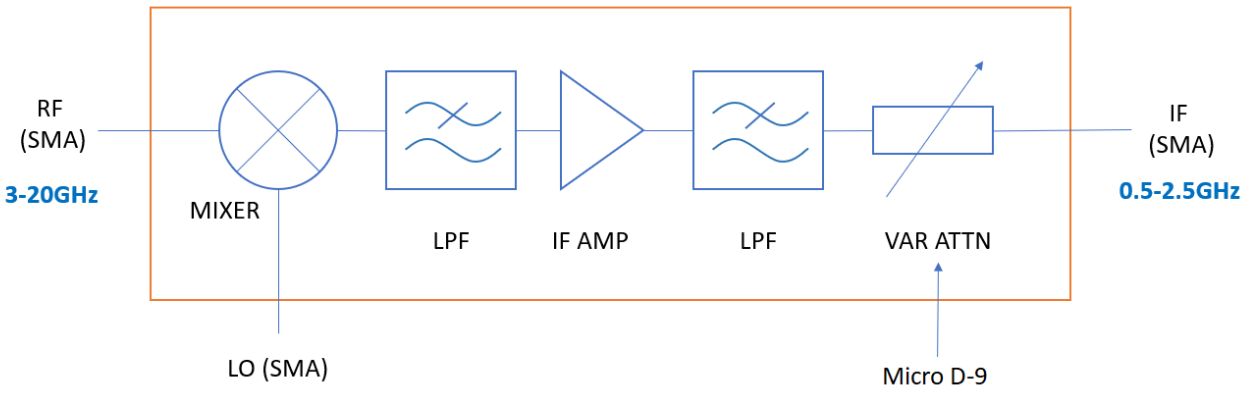
FEATURES

- Adjustable Conversion Gain
- Suitable for high speed ADCs

SPECS AT A GLANCE

- 3-20 GHz RF Input
- 0.5-19.5GHz LO Input
- 0.4-2.5GHz IF Output
- 10dB Noise Figure

BLOCK DIAGRAM

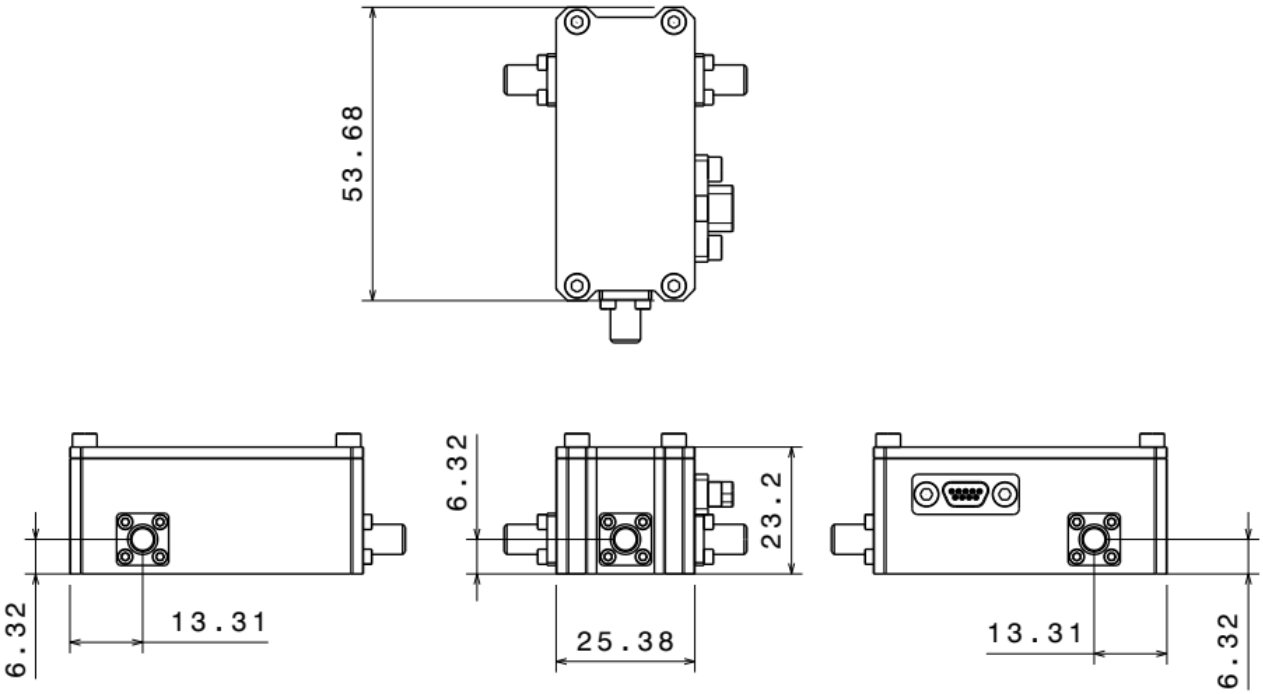


SPECIFICATIONS

Parameter	Limit
RF Frequency	3 to 20 GHz
IF Frequency	0.5 to 2.5 GHz
LO Frequency	0.5 to 19.5 GHz
Conversion Gain	-27.5 to +5dB with 0.5dB steps
Image Rejection	45dBc min
LO/RF Isolation	50dB typ
Noise Figure	10dB max
Input P1dB	10dBm min @ 10GHz typ
DC Power Consumption	1.5W typ
Operational Temp Range	5°C to 65°C (Note 1)
Storage Temp Range	0°C to 125°C (Note 1)

Note 1: It is assumed that the device will sit a rack unit inside a conditioned cabinet. Consult factory for conditions otherwise.

MECHANICAL



MZ1026

6-12GHz RF SWITCHED FILTER

DESCRIPTION

MZ1026 is 6-12 GHz RF switched filter bank. The module consists of 2 SPDT and 2 BPF.

The module has 6.5 dB insertion loss @12 GHz.

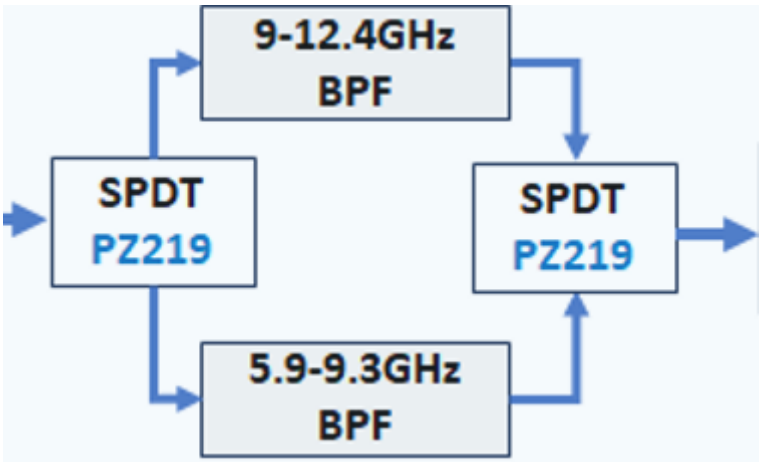
APPLICATIONS

- Test instrumentation
- Microwave & VSAT Radios
- Military EW & ECM
- Fiber optics and broadband telecommunications

SPECS AT A GLANCE

- IL: 4-6.5 dB
- Switching Speed 1us
- Supply Voltage: 6-20 V
- Control Voltage 3.3V

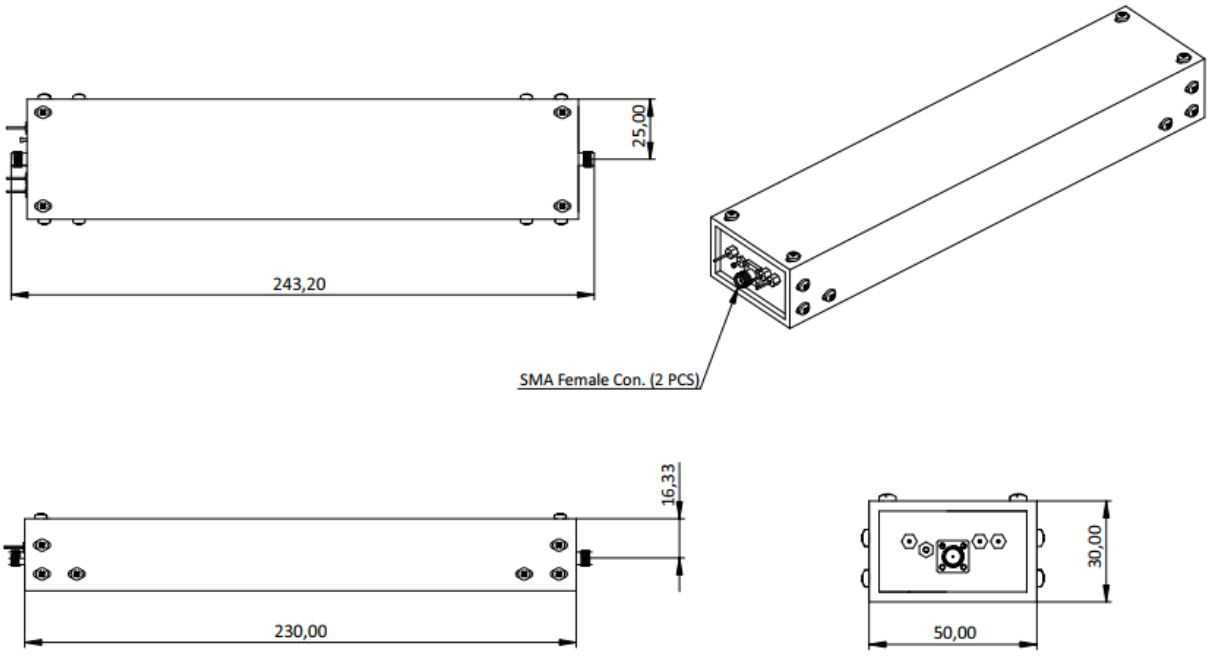
BLOCK DIAGRAM



SPECIFICATIONS, T_A = +25° C

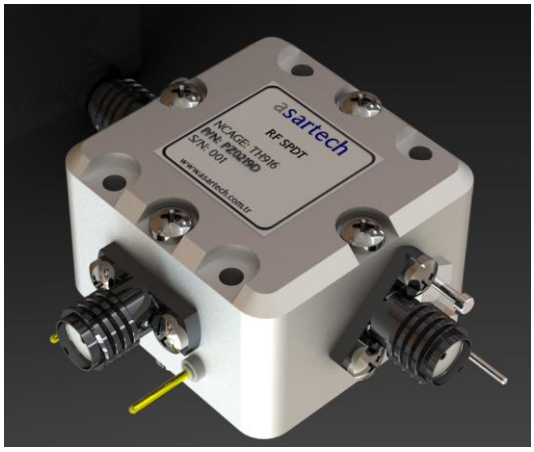
Parameter	Limits
Frequency Range	6-12 GHz
Insertion Loss	4dB @6GHz 5dB @9GHz 6.5dB @12GHz
Return Loss	15dB @6GHz 15dB @9GHz 15dB @12GHz
Switching Speed	1 us
Supply Voltage	6-20 V
Supply Current	200 uA

MECHANICAL



PZ0219D

DC-20GHz RF SPDT



DESCRIPTION

The PZ0219D is a versatile, broadband, high isolation SPDT switch.

The combination of broadband performance along with very fast switching and excellent settling time make this device ideal for many applications, including Test & Measurement, EW and broadband communication systems.

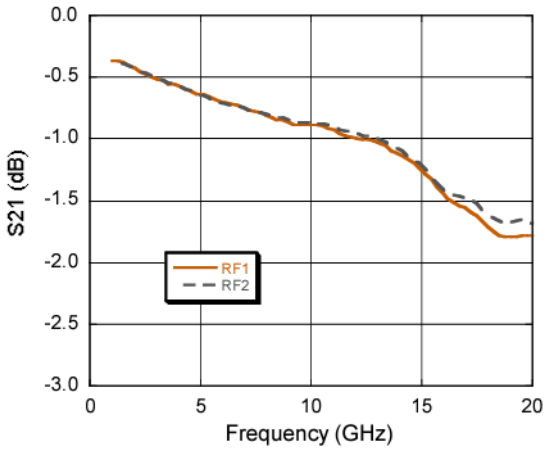
APPLICATIONS

- Multi Market
- Test & Measurement
- Broadband Communications

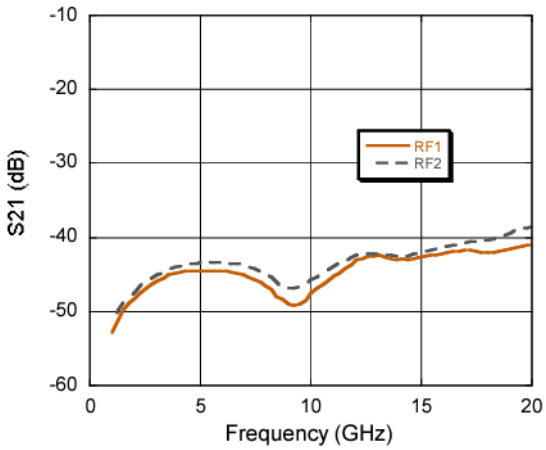
SPECS AT A GLANCE

- Low Insertion Loss: 1.9 dB Typical @ 20 GHz
- High Isolation: 40 dB Typical @ 20 GHz
- Fast Switching Speed

Insertion Loss



Isolation



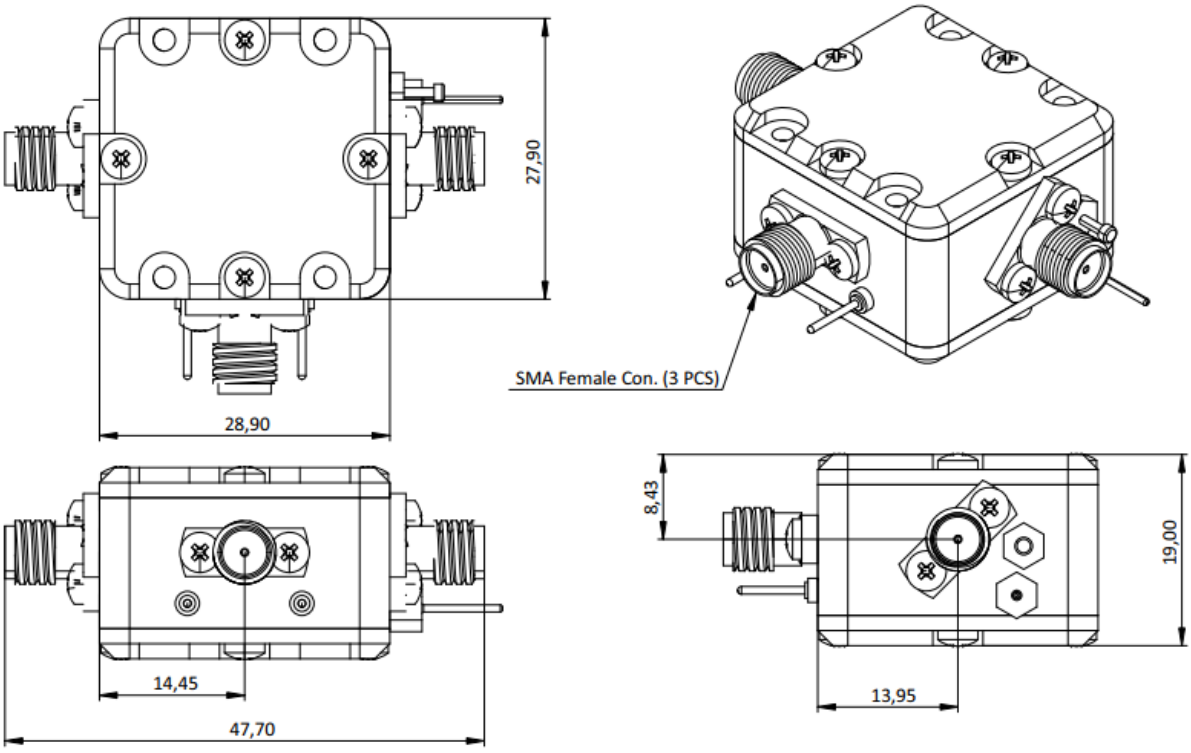
SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	DC-20 GHz
Insertion Loss	0.55dB @1GHz 1dB @10GHz 1.5dB @18GHz 2.5dB @20GHz
Isolation	50dB @1GHz 48dB @10GHz 43dB @18GHz 39dB @20GHz
Input P1dB	30dBm
Control Voltage	6-7.5 V
Control Current	3 µA
Operating Temperature	-40 to +85°C

TRUTH TABLE

Control Inputs		Condition of Switch	
V1	**V2**	**RF1**	**RF2**
High	Low	Off	On
Low	High	On	Off

MECHANICAL



PZ0221D

6-12GHz RF AMPLIFIER

DESCRIPTION

Power Amplifier which operates between 6 and 12 GHz.

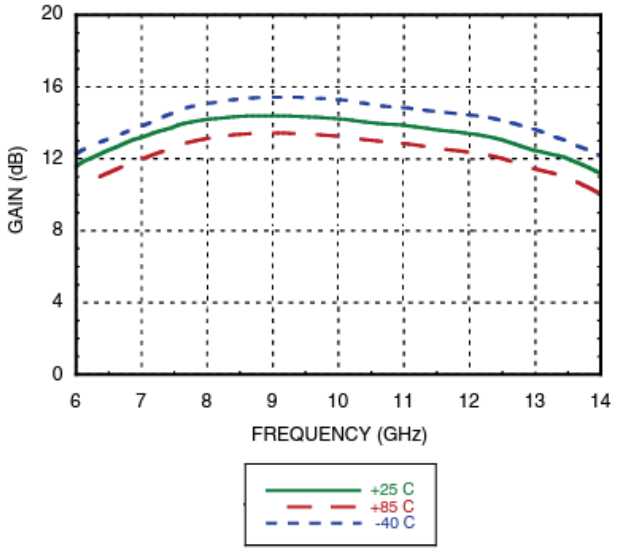
The amplifier provides 13.5 dB of gain, +20 dBm of saturated power from a +7.5V supply voltage.

APPLICATIONS

- Point-to-Point and Point-to-Multi-Point Radios
- VSAT
- LO Driver for mixers
- Military EW & ECM

SPECS AT A GLANCE

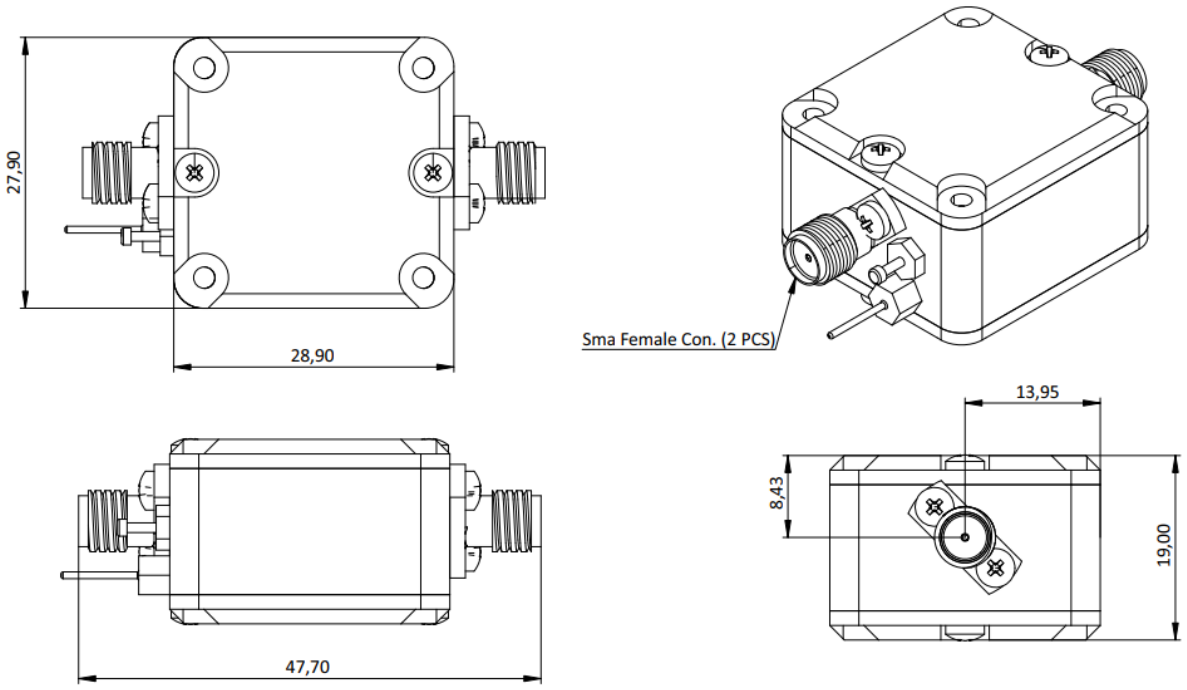
- Gain: 13.5 dB
- Saturated Power: +20 dBm
- Supply Voltage: 6-7.5 V



SPECIFICATIONS, T_A = +25° C

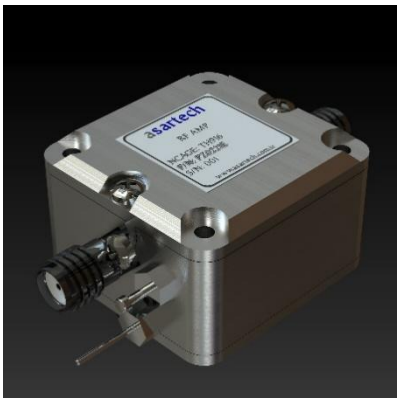
Parameter	Limits
Frequency Range	6-12 GHz
Gain	10.5dB @6GHz 13.5dB @9GHz 13dB @12GHz
Output Power for 1 dB Compression (P1dB)	15dBm @6GHz 17dBm @9GHz 16dBm @12GHz
Saturated Output Power (Psat)	+19 dBm
Supply Voltage	6-7.5 V
Supply Current	90 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0221E

6-18 GHz RF AMPLIFIER



DESCRIPTION

Power Amplifier which operates between 4 and 20 GHz.

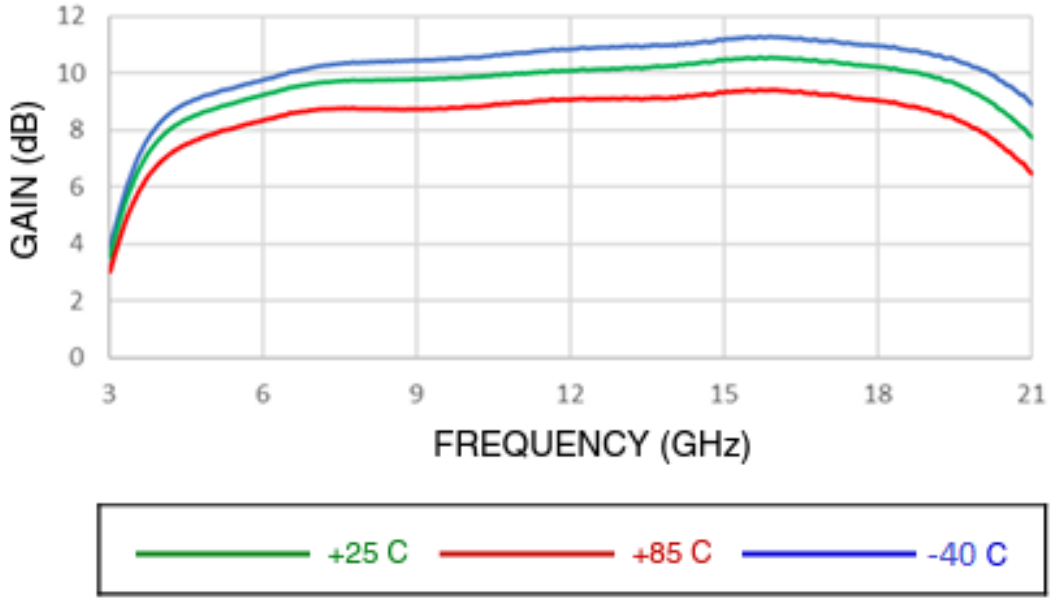
The amplifier provides 10 dB of gain, +20 dBm of saturated power from a +7.5V supply voltage.

APPLICATIONS

- Fixed wireless access (FWA)
- 5G infrastructure & backhaul
- X-band (8 – 12GHz)
- PA Modules

- Gain: 10dB
- Saturated Power: +20 dBm
- Supply Voltage: 6-7.5 V

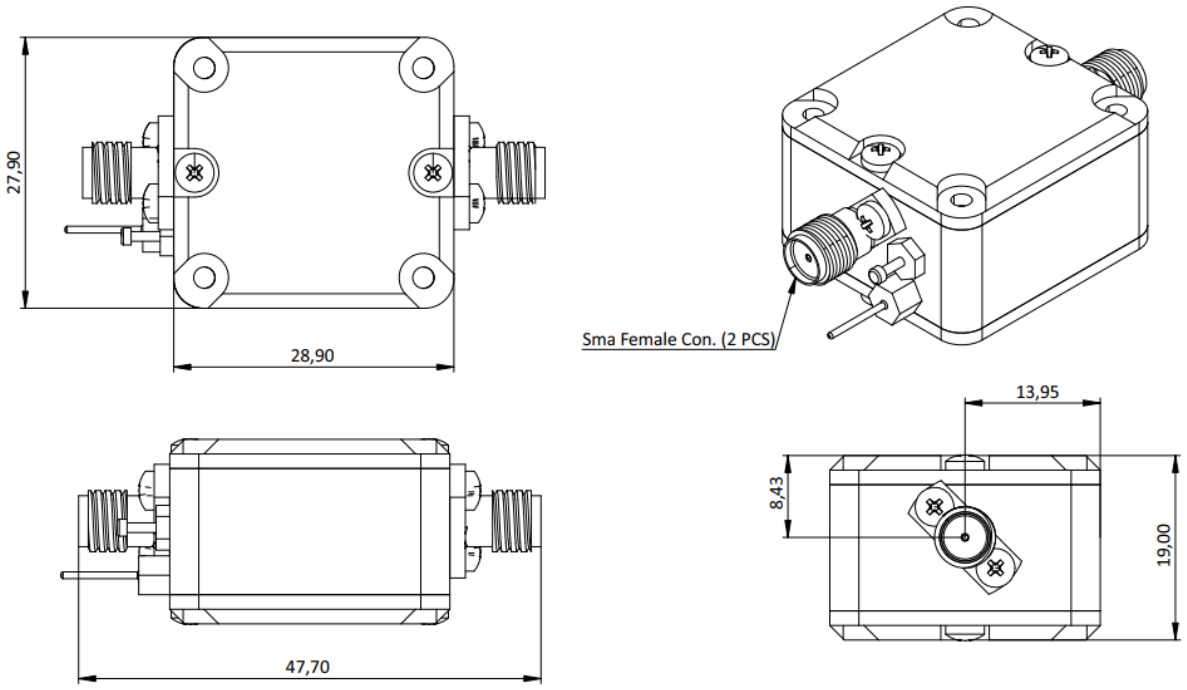
SPECS AT A GLANCE



SPECIFICATIONS, T_A = +25° C

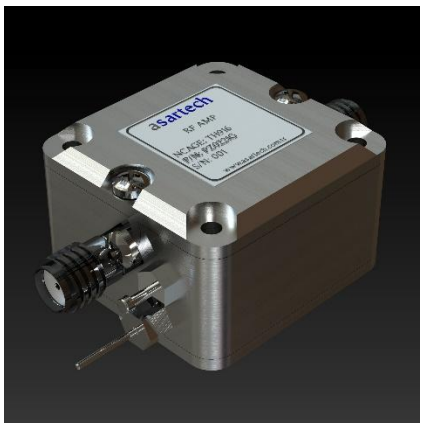
Parameter	Limits
Frequency Range	6-18 GHz
Gain	9.4dB @6GHz 10dB @12GHz 10.2dB @18GHz
Output Power for 1 dB Compression (P1dB)	9.3dBm @6GHz 10dBm @12GHz 12.4dBm @18GHz
Saturated Power (Psat)	+12 dBm
Supply Voltage	6-7.5 V
Supply Current	22 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0221G

4-20 GHz RF AMPLIFIER



DESCRIPTION

Power Amplifier which operates between 4 and 20 GHz.

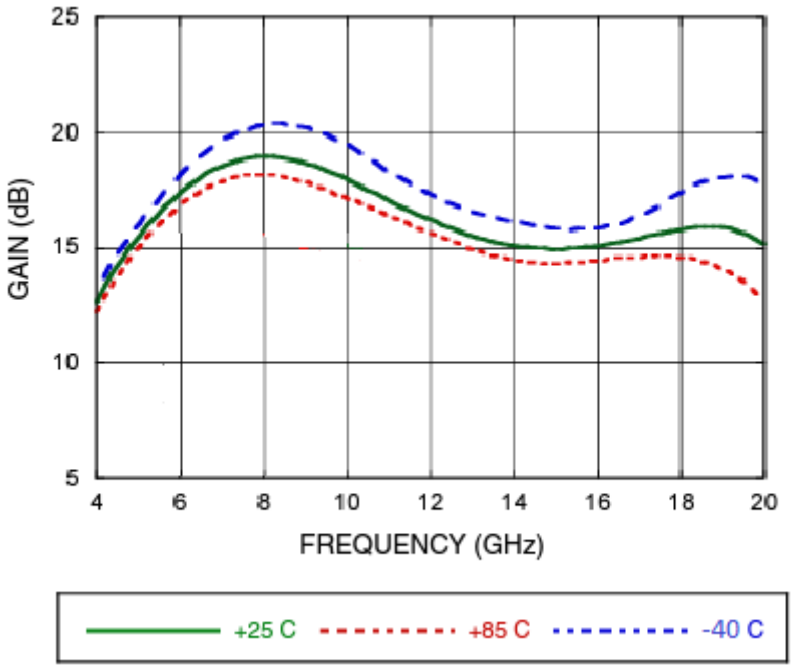
The amplifier provides 14 dB of gain, +20 dBm of saturated power from a +7.5V supply voltage.

APPLICATIONS

- Point-to-Point Radios
- Gain block
- LO Driver for mixers
- Military EW & ECM

SPECS AT A GLANCE

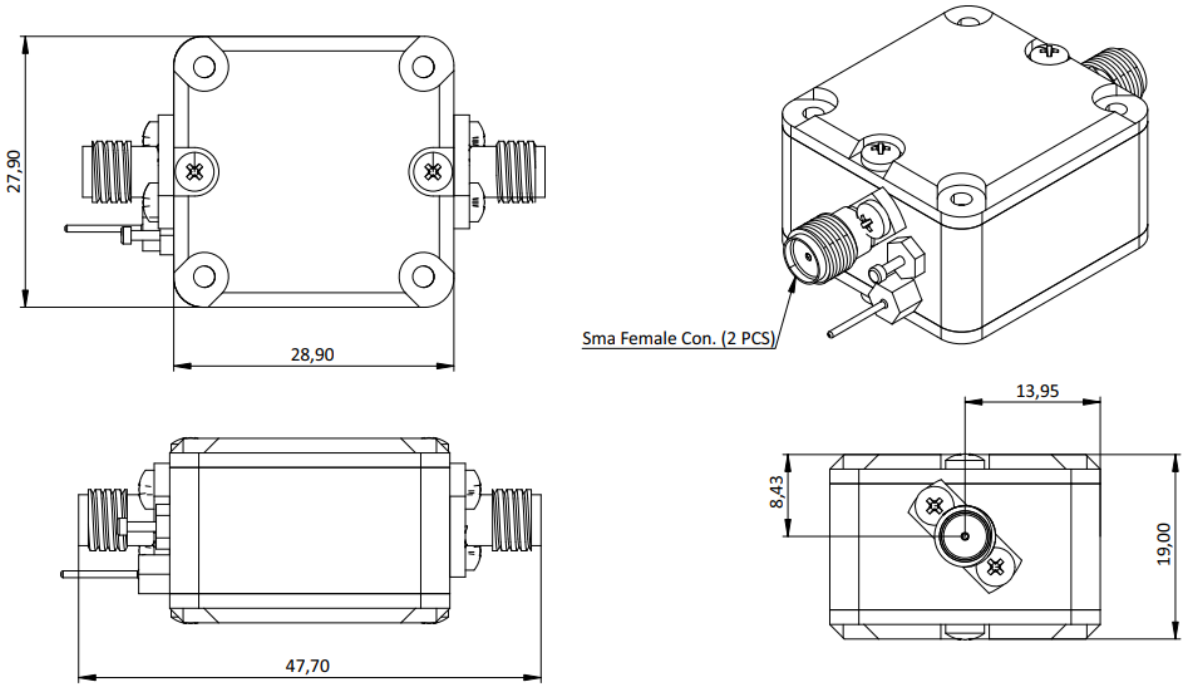
- Gain: 14dB
- Saturated Power: +20 dBm
- Supply Voltage: 6-7.5 V



SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	4-20 GHz
Gain	13dB @4GHz 14.5dB @12GHz 14dB @20GHz
Output Power for 1 dB Compression (P1dB)	15dBm @4GHz 19dBm @12GHz 18dBm @20GHz
Saturated Output Power (Psat)	+20 dBm
Supply Voltage	6-7.5 V
Supply Current	45 mA
Operating Temperature	-40 to +85°C

MECHANICAL



RA1011

3-CHANNEL AMPLIFIER

DESCRIPTION

RA1011 is 3-channel combined IF amplifier.
It has 3 attenuator sections for 3 separate IF video channels.

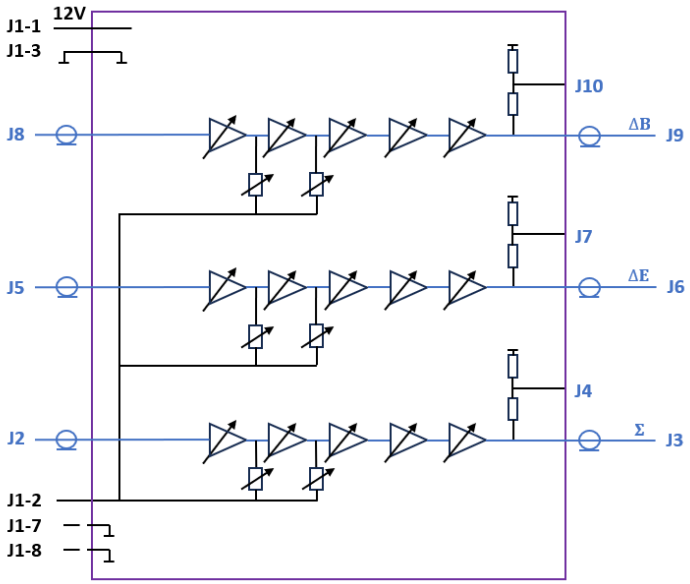
APPLICATIONS

- Receiver Band Selection
- Receiver Gain Adjustment
- Signal Condition

SPECS AT A GLANCE

- Gain: 70dB
- Attenuation Range: 0-60dB
- Frequency Range: 20-35MHz
- Supply Voltage: 12V ±1V

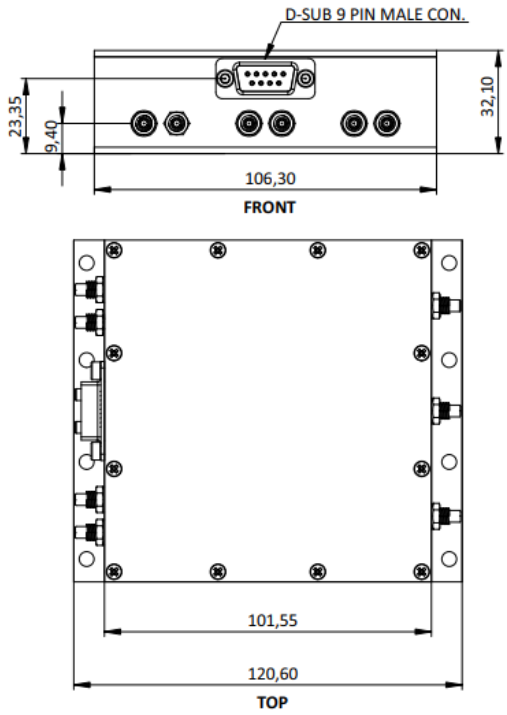
BLOCK DIAGRAM

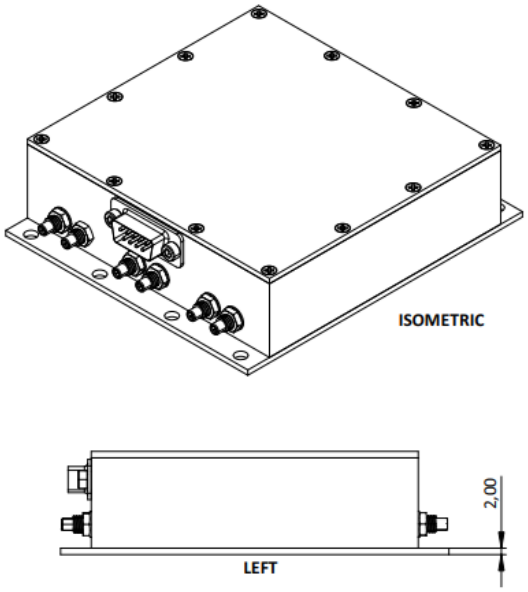


SPECIFICATIONS

Parameter	Limit
Frequency Range	20MHz to 35MHz
RF Gain	CH1 70±%5 CH2 70±%5 CH3 70±%5
Output P1dB	4dBm
Supply Voltage	12V ±1V
Supply Current	215 mA ±%10
RF Isolation Between Channels	>45dBc

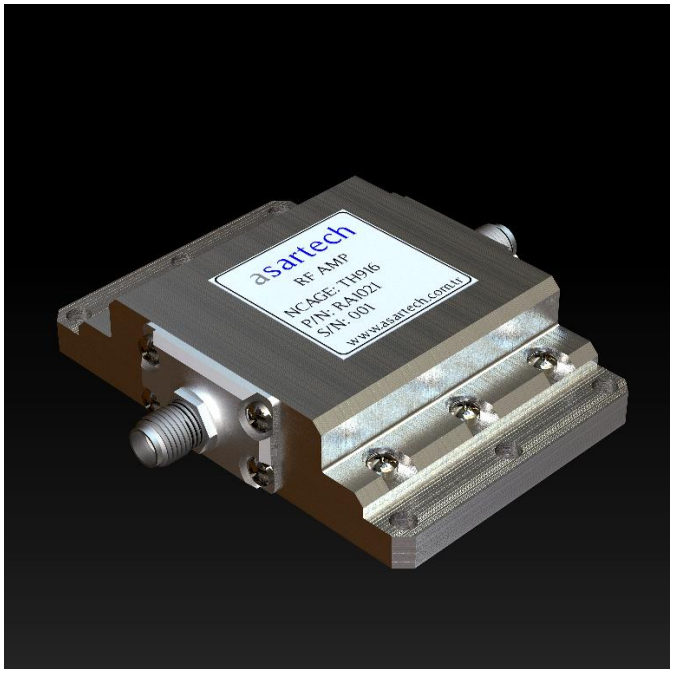
MECHANICAL





RA1021

2-WATT AMPLIFIER



DESCRIPTION

RA1021 is 4.4 - 5.9 GHz 2W high efficiency linear power amplifier. This linear power amplifier has high gain. Ideal applications include the driver and the output power stage of WiMax and WLAN infrastructures and access points. It also can be used for point to point radio applications for this band.

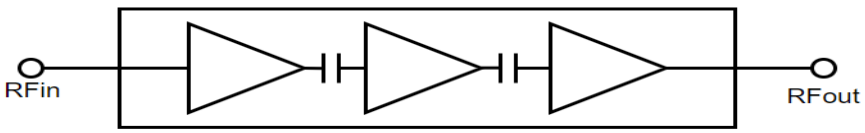
APPLICATIONS

- Test and Measurement
- Rf Amplification
- Transmitter

SPECS AT A GLANCE

- Gain: 31dB
- Frequency Range: 4.4-5.9GHz
- Supply Voltage: 7.5V

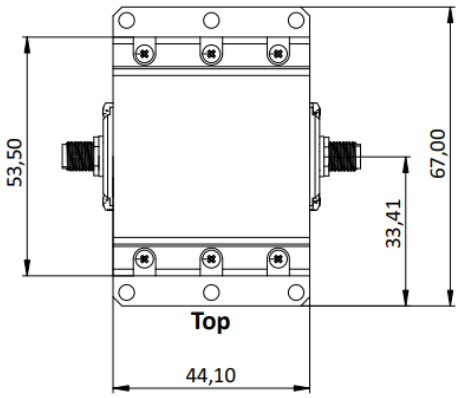
BLOCK DIAGRAM

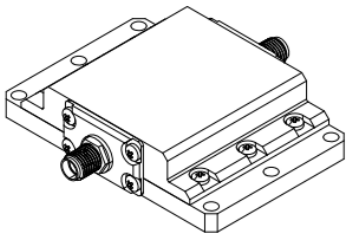


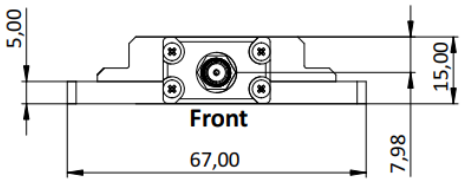
SPECIFICATIONS

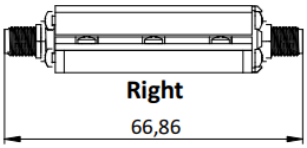
Parameter	Limit
Frequency Range	4.4-5.9GHz
Gain	31dB
P1dB	33dBm
OIP3	45dBm
Supply Voltage	7.5V
Supply Current	1A

MECHANICAL



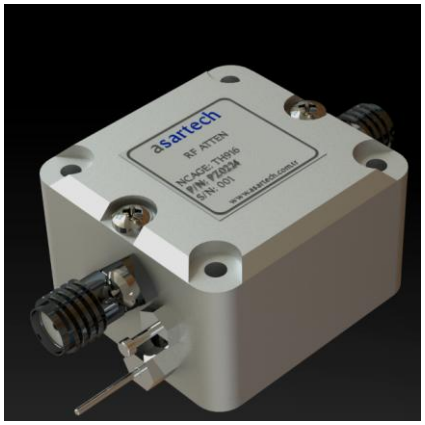






PZ0224

DC-13GHz RF ATTENUATOR



DESCRIPTION

The PZ0224 is a 6-bit digital attenuator with a 31.5 dB attenuation control range in 0.5 dB steps.

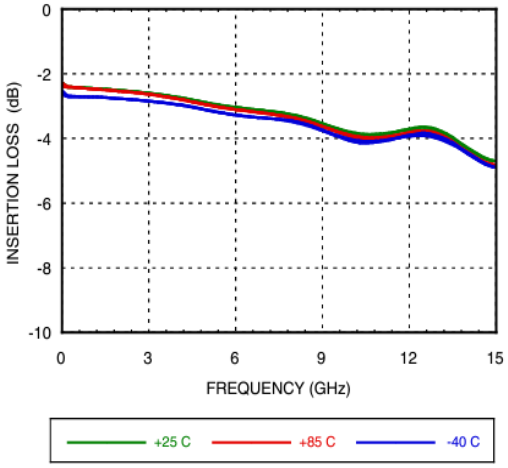
The PZ0224 offers excellent attenuation accuracy and high input linearity over the specified frequency range from DC to 13 GHz.

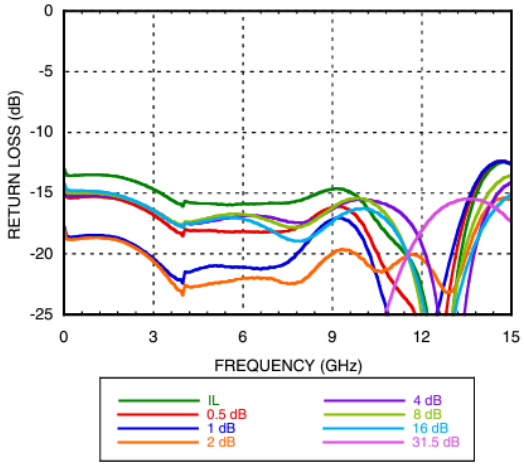
APPLICATIONS

- Cellular infrastructure
- VSATs
- Test equipment and sensors

SPECS AT A GLANCE

- Attenuation range: 0.5 dB (LSB) steps to 31.5 dB
- Single Control Line Per Bit



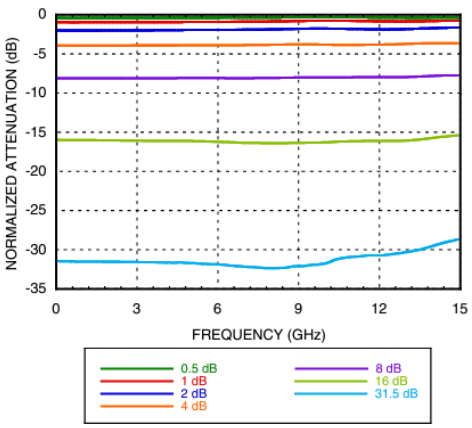


SPECIFICATIONS, T_A = +25° C

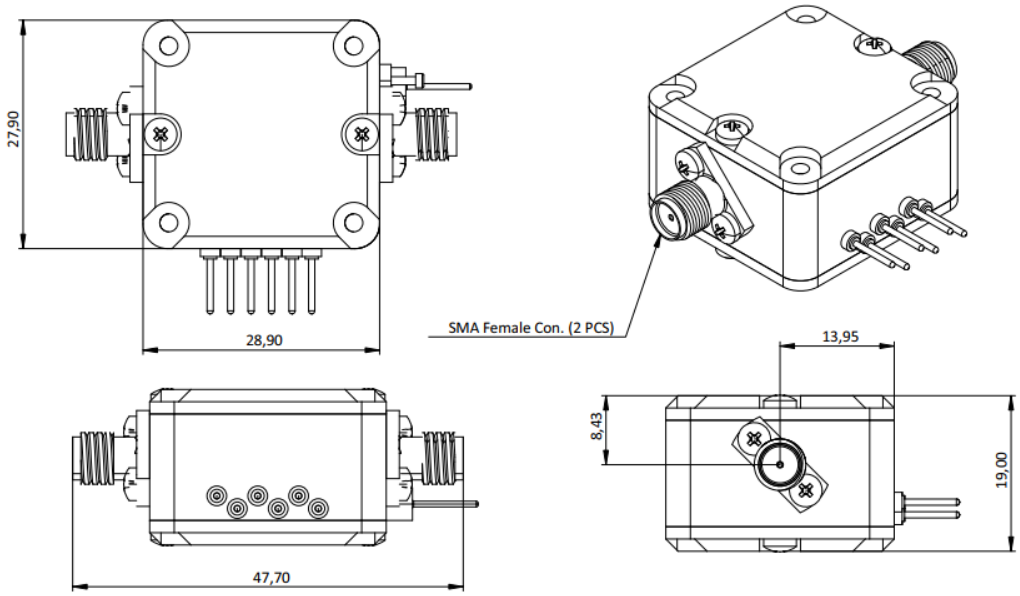
Parameter	Limits
Frequency Range	DC-13 GHz
Insertion Loss	1.6dB @0.1GHz 1.6dB @3GHz 2.3dB @6GHz
Return Loss	13 dB
Attenuation	31.5 dB
Step Size	0.5 dB
Step Error	<±0.3 dB
0.1 dB Compression	23 dBm

TRUTH TABLE

Digital Control Inputs						Attenuation State (dB)
D5	**D4**	**D3**	**D2**	**D1**	**D0**	
Low	Low	Low	Low	Low	Low	0 (reference)
Low	Low	Low	Low	Low	High	0.5
Low	Low	Low	Low	High	Low	1.0
Low	Low	Low	High	Low	Low	2.0
Low	Low	High	Low	Low	Low	4.0
Low	High	Low	Low	Low	Low	8.0
High	Low	Low	Low	Low	Low	16.0
High	High	High	High	High	High	31.5



MECHANICAL



PZ0225

0.1-6 GHz RF ATTENUATOR

DESCRIPTION

The PZ0225 is a 6-bit digital attenuator with a 31.5 dB attenuation control range in 0.5 dB steps.

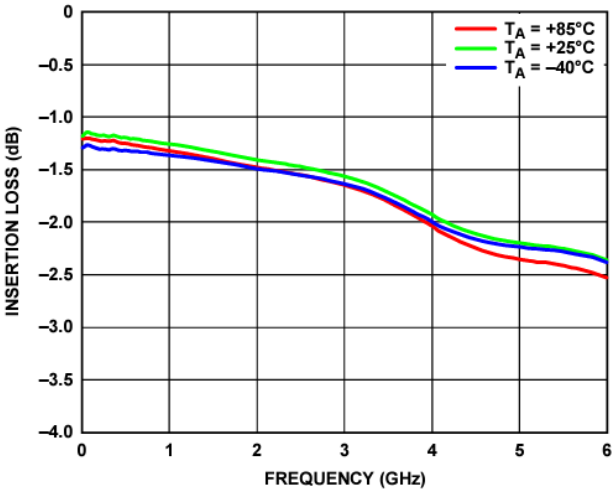
The PZ0225 offers excellent attenuation accuracy and high input linearity over the specified frequency range from 100 MHz to 6.0 GHz.

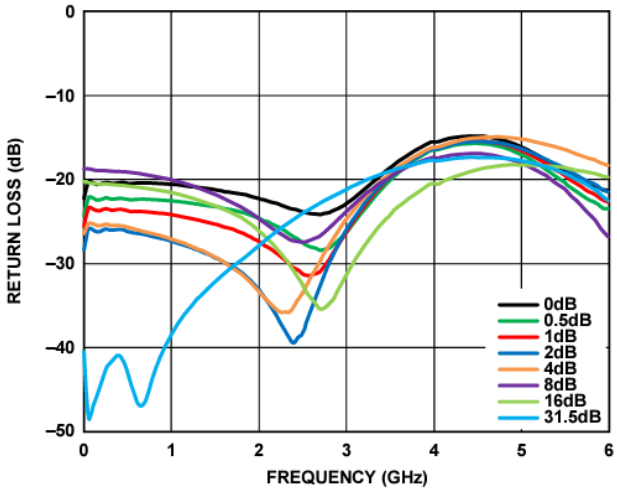
APPLICATIONS

- Cellular infrastructure
- VSATs
- Test equipment and sensors

SPECS AT A GLANCE

- Attenuation range: 0.5 dB (LSB) steps to 31.5 dB
- Low insertion loss: 1.6 dB at 3 GHz
- Excellent attenuation accuracy



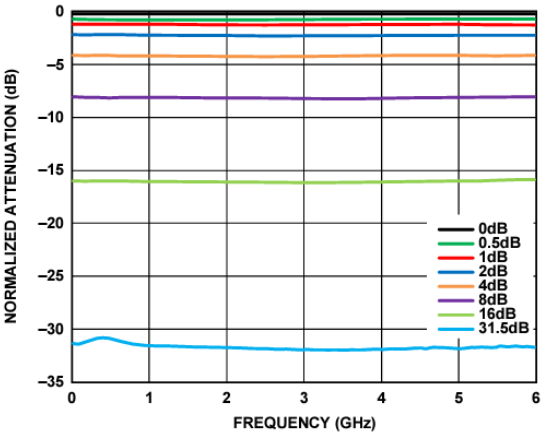


SPECIFICATIONS, T_A = +25° C

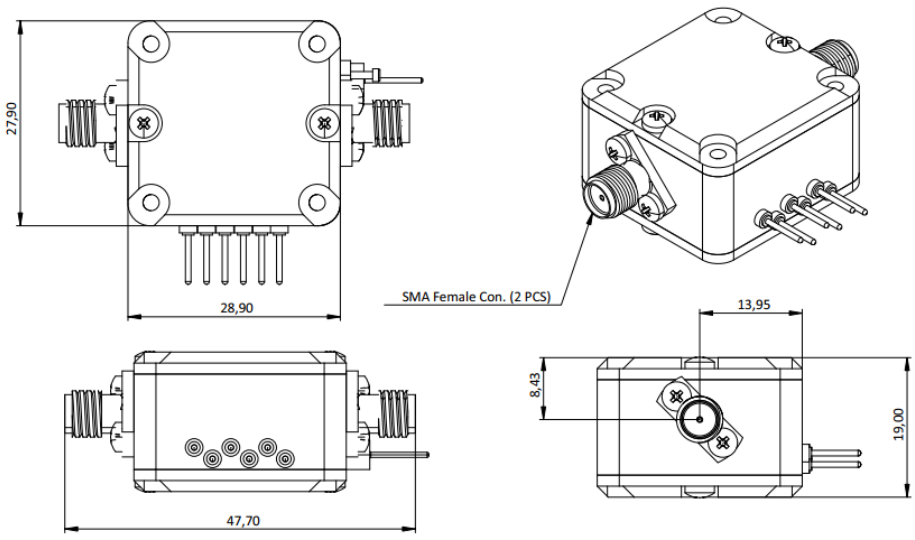
Parameter	Limits		
Frequency Range	0.1-6 GHz		
Insertion Loss	1.6dB @0.1GHz	1.6dB @3GHz	2.3dB @6GHz
Return Loss	15 dB		
Attenuation	31.5 dB		
Step Size	0.5 dB		
Step Error	<±0.2 dB		
0.1 dB Compression	27 dBm		
Control Voltage	6-7.5 V		
Control Current	3 mA		
Operating Temperature	-40 to +85°C		

TRUTH TABLE

Digital Control Inputs						Attenuation State (dB)
D5	**D4**	**D3**	**D2**	**D1**	**D0**	
High	High	High	High	High	High	0 (reference)
High	High	High	High	High	Low	0.5
High	High	High	High	Low	High	1.0
High	High	High	Low	High	High	2.0
High	High	Low	High	High	High	4.0
High	Low	High	High	High	High	8.0
Low	High	High	High	High	High	16.0
Low	Low	Low	Low	Low	Low	31.5

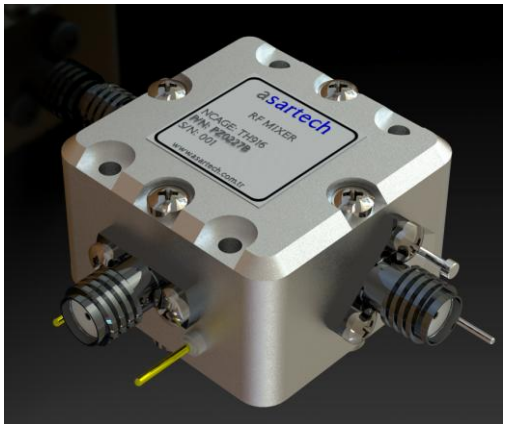


MECHANICAL



PZ0227

3-13 GHz RF MIXER



DESCRIPTION

The PZ0227 is a high performance, microwave double balanced passive mixer that can be used for frequency upconversion or downconversion.

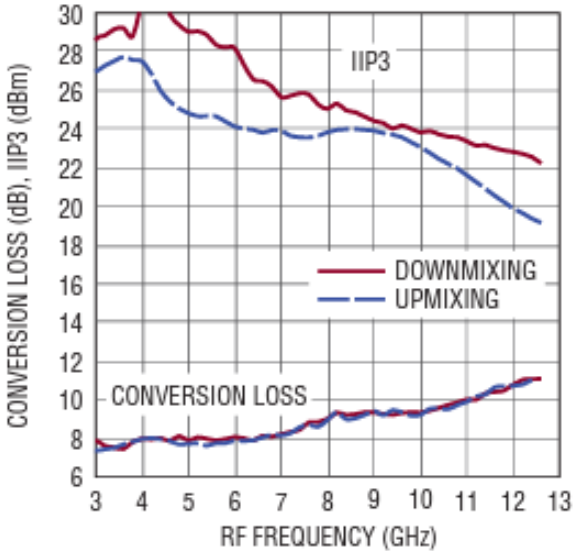
APPLICATIONS

- Point-to-Point Microwave
- C, X and Ku Band RADAR
- Microwave Transceivers
- Test Equipment

ABSOLUTE MAXIMUM RATINGS

- LO Input Power: +10dBm
- RF Power: +20dBm
- IF Power: +20dBm
- Supply Voltage: 7.5V

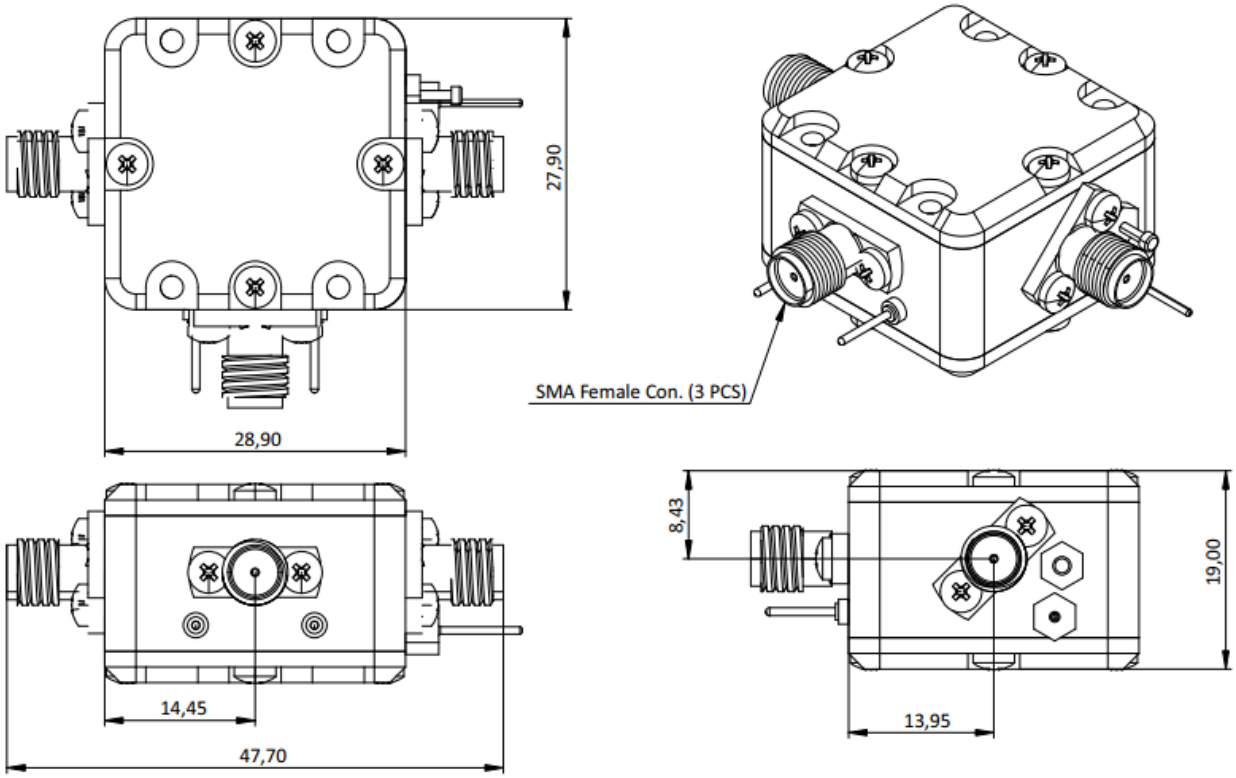
Conversion Loss and IIP3
(Low Side LO, IF = 1890MHz)



SPECIFICATIONS, T_A = +25° C

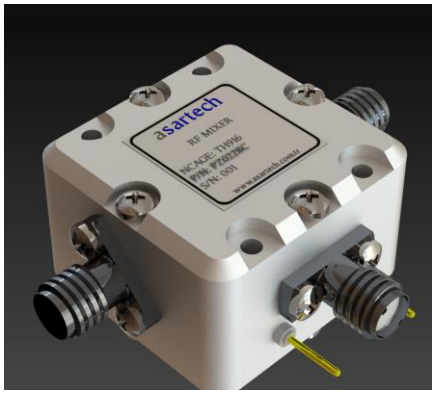
Parameter	Limits
Frequency Range	3-13 GHz
LO Frequency Range	1-12 GHz
RF Frequency Range	3-13 GHz
IF Frequency Range	500-6000 MHz
LO Input Power	±6 dBm
RF Return Loss	>9 dB
LO Input Return Loss	>10 dB
Operating Temperature Range	–40°C to 105°C
Supply Voltage	6-7.5 V
Supply Current	115 mA

MECHANICAL



PZ0228

4-19 GHz RF MIXER



DESCRIPTION

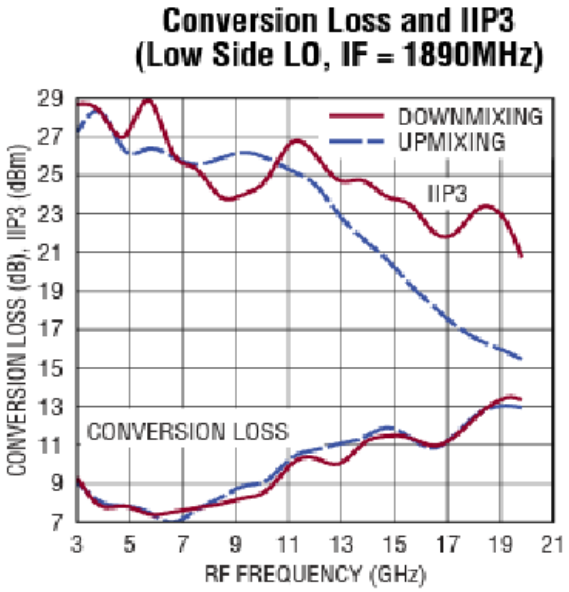
The PZ0228 is a high performance, microwave double balanced passive mixer that can be used for frequency upconversion or downconversion.

APPLICATIONS

- Point-to-Point Microwave
- C, X and Ku Band RADAR
- Microwave Transceivers
- Test Equipment

ABSOLUTE MAXIMUM RATINGS

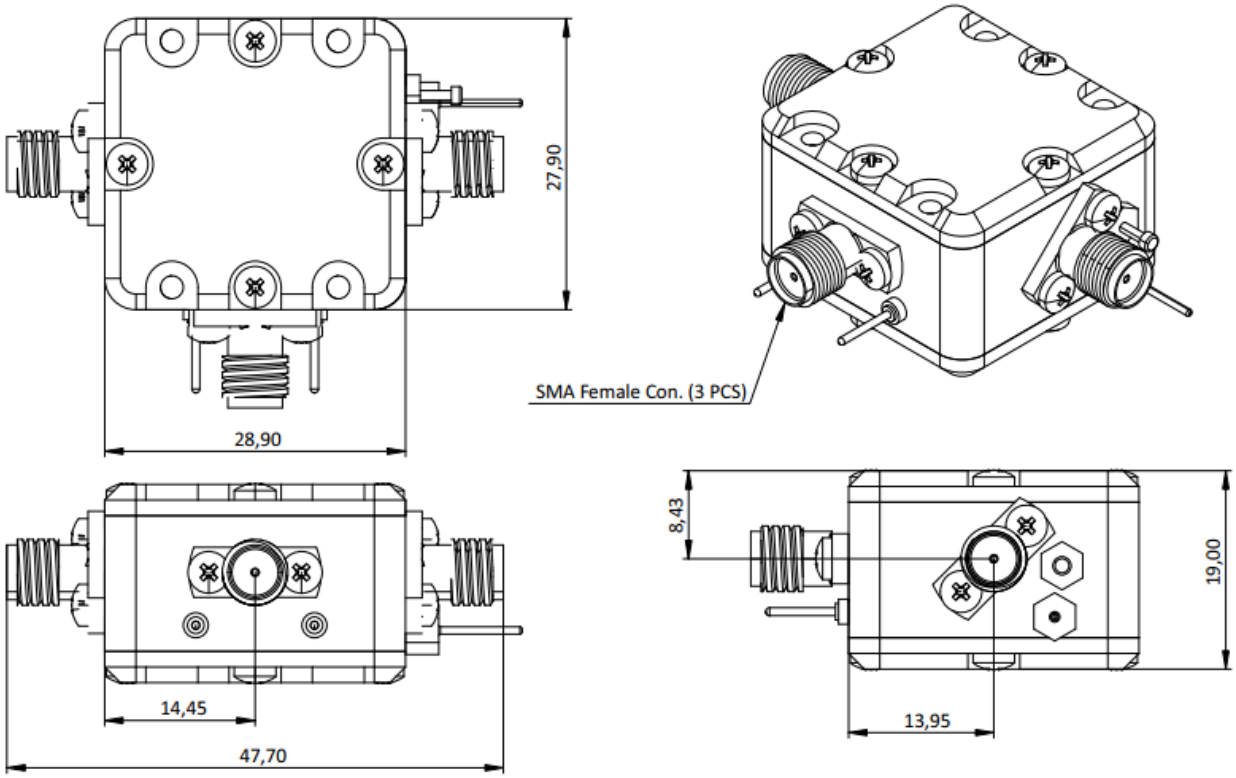
- LO Input Power: +10dBm
- RF Power: +20dBm
- IF Power: +20dBm
- Supply Voltage: 7.5V



SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	4-19 GHz
LO Frequency Range	1-20 GHz
RF Frequency Range	4-19 GHz
IF Frequency Range	500-9000 MHz
LO Input Power	±6 dBm
RF Return Loss	>9 dB
LO Input Return Loss	>10 dB
Operating Temperature Range	–40°C to 105°C
Supply Voltage	6-7.5 V
Supply Current	132 mA

MECHANICAL



PZ0229

0.5-4 GHz RF AMPLIFIER

DESCRIPTION

Power Amplifier which operates between 0.5 and 4 GHz.

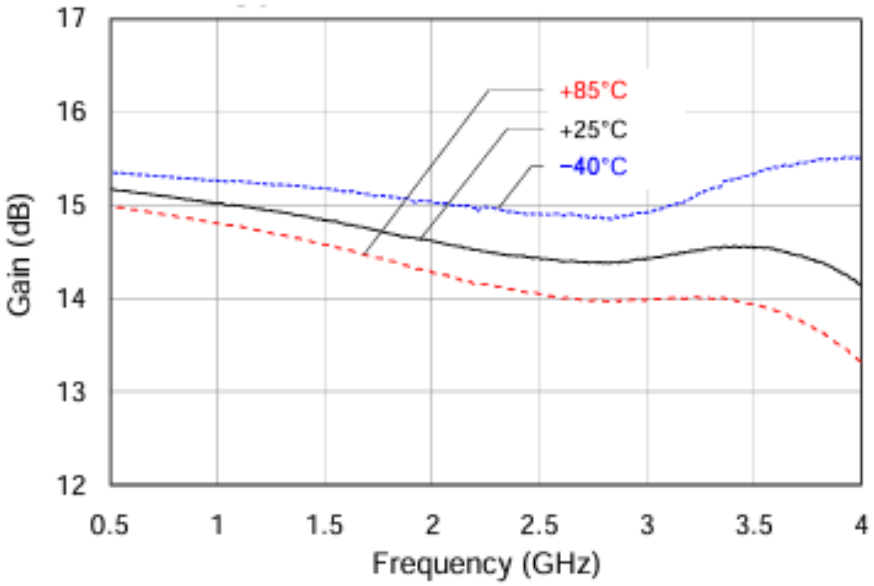
The amplifier typically provides 14.7 dB gain, +40 dBm OIP3, and 1.8 dB Noise Figure while only drawing 85 mA current.

APPLICATIONS

- Point-to-Point and Point-to-Multi-Point Radios
- VSAT
- LO Driver for mixers
- Military EW & ECM

ABSOLUTE MAXIMUM RATINGS

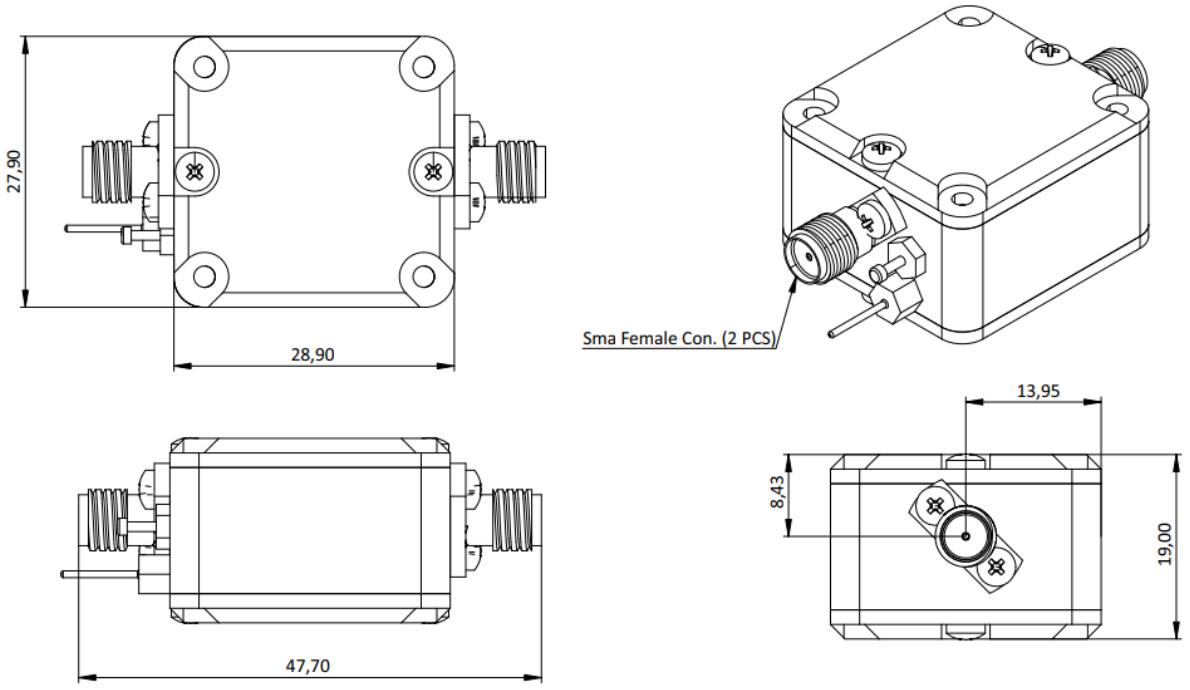
- Gain: 14.7 dB
- 1.8 dB Noise Figure @ 1900 MHz
- Supply Voltage: 6-7.5 V



SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	6-12 GHz
Gain	15.2dB @0.5GHz 14.4dB @2.7GHz 14.2dB @4GHz
Output Power for 1 dB Compression (P1dB)	21.5dBm @0.5GHz 19.8dBm @2.7GHz 18.1dBm @4GHz
Supply Voltage	6-7.5 V
Supply Current	85 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0274

10MHz-20GHz 2CH FREQUENCY SYNTHESIZER

DESCRIPTION

The PZ0274 two channels high-performance, wideband synthesizer that can generate any frequency from 10 MHz to 20GHz. The fast calibration algorithm allows changing frequencies faster than 1ms.

Module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

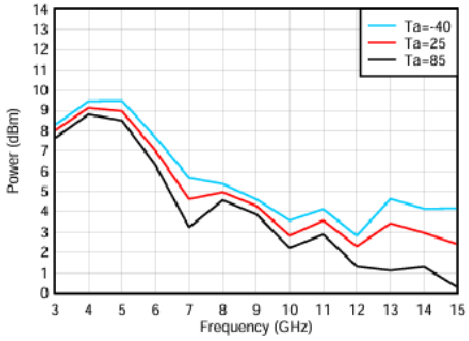
Devices consumes 2.5 W(@7V) typically.

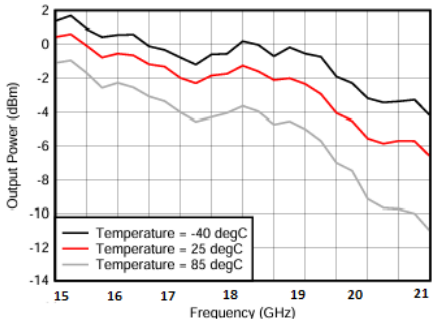
APPLICATIONS

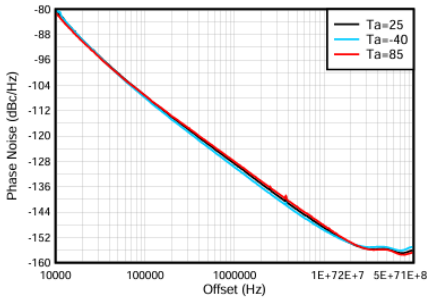
- 5G and mm-Wave wireless infrastructure
- Test and measurement equipment
- Radar
- High-speed data converter clocking

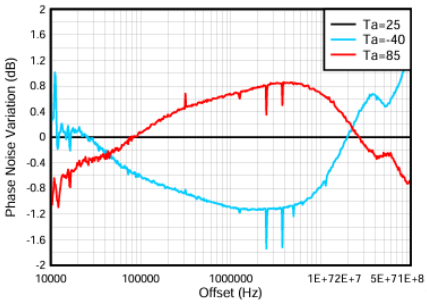
SPECS AT A GLANCE

- 10-MHz to 20GHz output frequency
- 2 output channels
- –110dBc/Hz phase noise at 100kHz offset with 15GHz carrier.
- Supply Voltage: 6-20 V





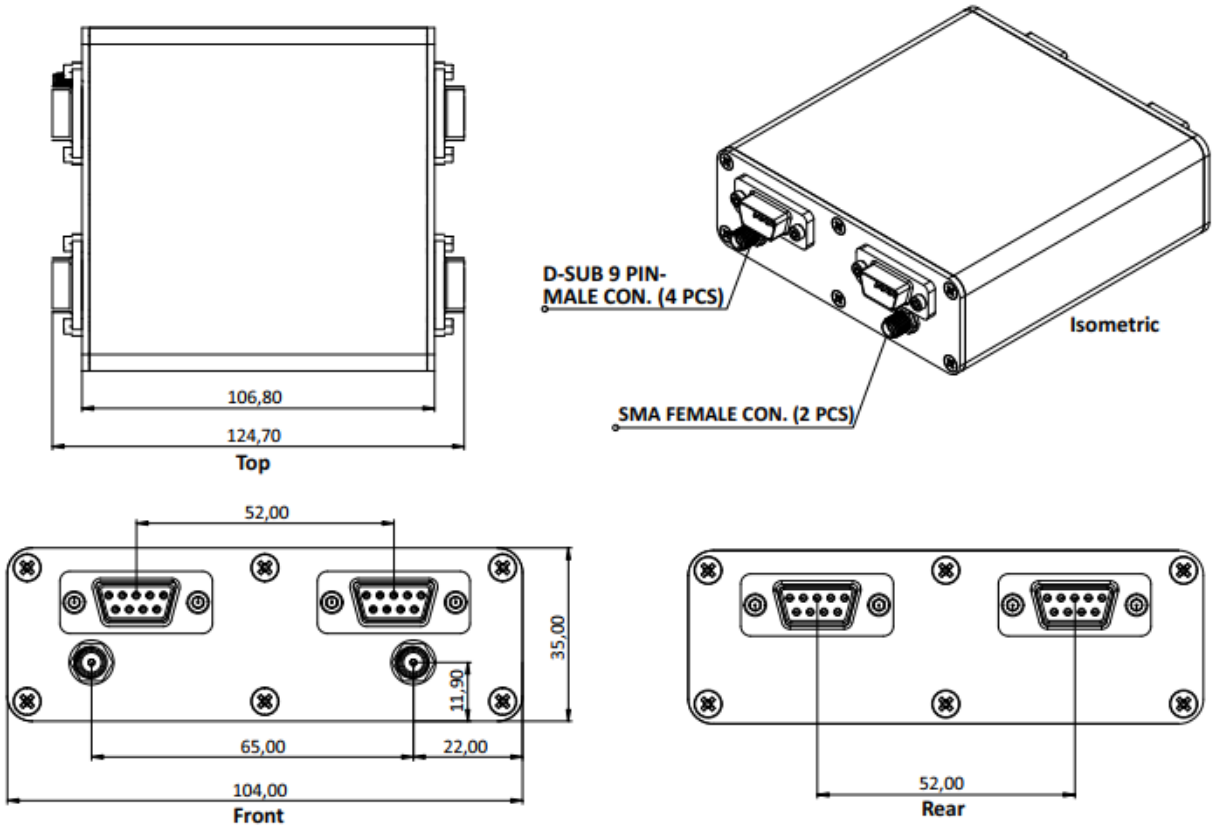




SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	10MHz-20GHz
Power	± 10dBm
Maximum Frequency Switching Speed	1ms
Supply Voltage	6-20 V
Supply Current	550 mA
Operating Temperature	-40 to +85°C
Frequency Range	10MHz-20GHz

MECHANICAL



PZ0275

0.1-20 GHz RF SP4T

DESCRIPTION

The PZ0275 is a general-purpose, nonreflective, single-pole, four-throw (SP4T) switch. This switch offers high isolation, low insertion loss.

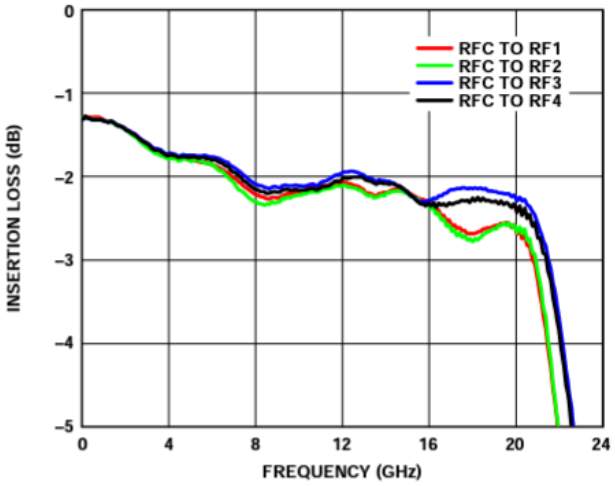
The switch operates with a supply voltage range of 6V to 7.5V.

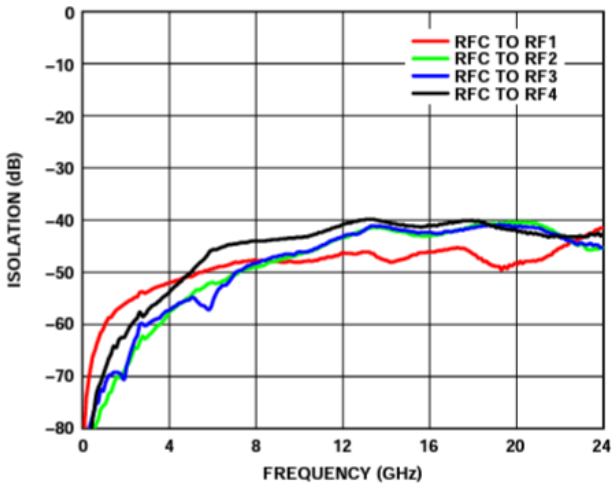
APPLICATIONS

- Test instrumentation
- ECMs
- VSATs
- Broadband telecommunications systems

SPECS AT A GLANCE

- Frequency range: 0.1 GHz to 20 GHz
- Low Insertion Loss: 3.0 dB at 20 GHz
- High Isolation: 40 dB at 20 GHz
- Fast Switching Speed





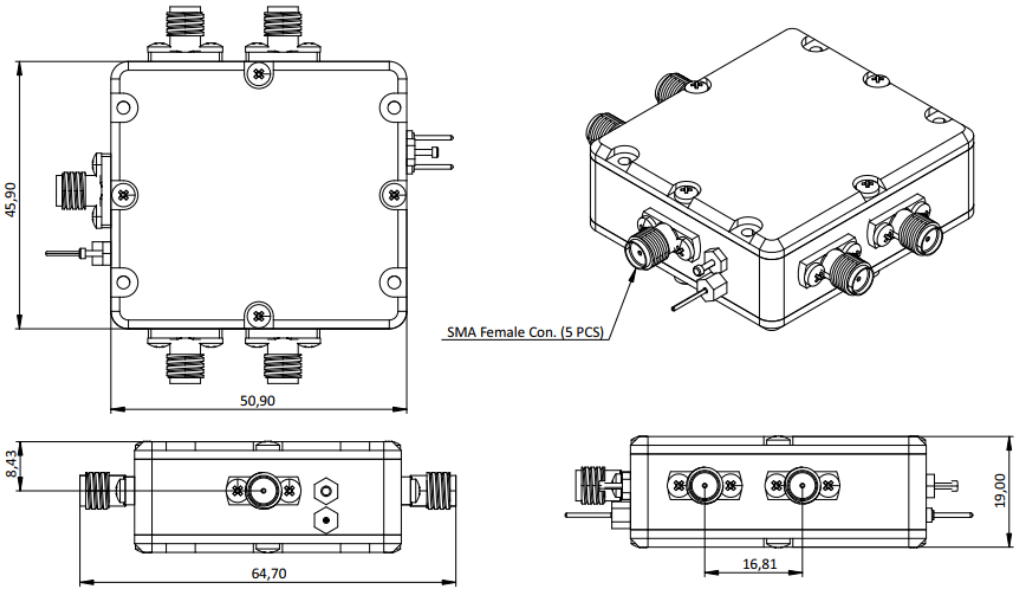
SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	DC-20 GHz
Insertion Loss	2dB @0.1GHz 2dB @12GHz 3dB @20GHz
Isolation	42dB @0.1GHz 42dB @12GHz 40dB @20GHz
Input P1dB	23dBm
Control Voltage	6-7.5 V
Control Current	3 mA
Operating Temperature	-40 to +85°C

TRUTH TABLE

Control Inputs		Condition of Switch			
CTRLA	**CTRLB**	**RF1**	**RF2**	**RF3**	**RF4**
High	High	On	Off	Off	Off
Low	High	Off	On	Off	Off
High	Low	Off	Off	On	Off
Low	Low	Off	Off	Off	On

MECHANICAL



PZ0485

10 MHz-20 GHz FREQUENCY SYNTHESIZER

DESCRIPTION

The PZ0485 high-performance, wideband synthesizer that can generate any frequency from 10 MHz to 20GHz. The fast calibration algorithm allows changing frequencies faster than 1ms.

Module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

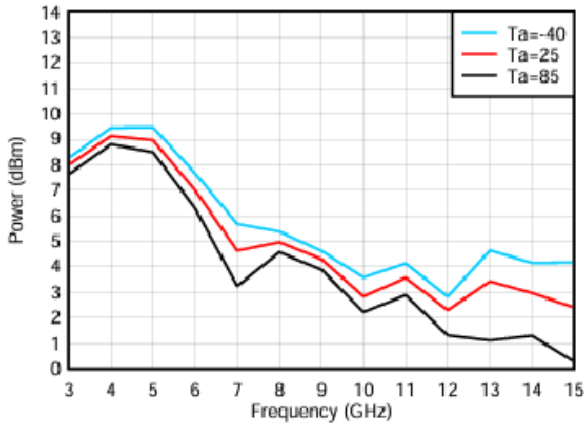
Devices consumes 2.5 W(@7V) typically.

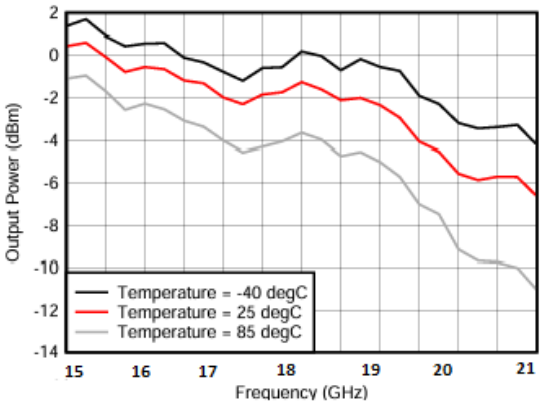
FEATURES

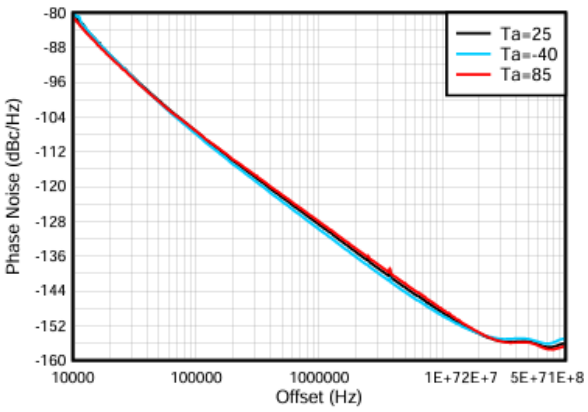
- 5G and mm-Wave wireless infrastructure
- Test and measurement equipment
- Radar
- High-speed data converter clocking

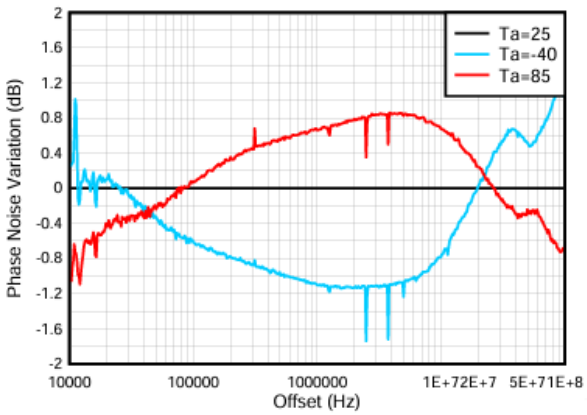
SPECS AT A GLANCE

- 10-MHz to 20GHz output frequency
- –110dBc/Hz phase noise at 100kHz offset with 15GHz carrier.
- Supply Voltage: 6-20 V





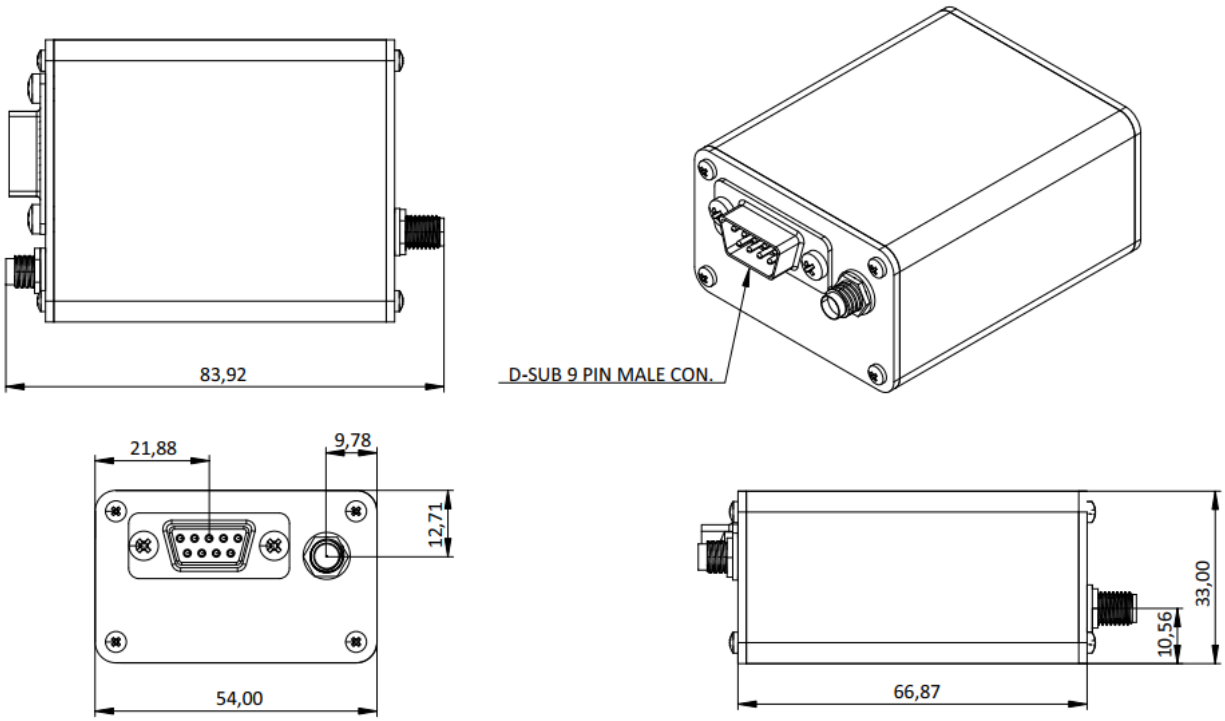




SPECIFICATIONS, TA = +25° C

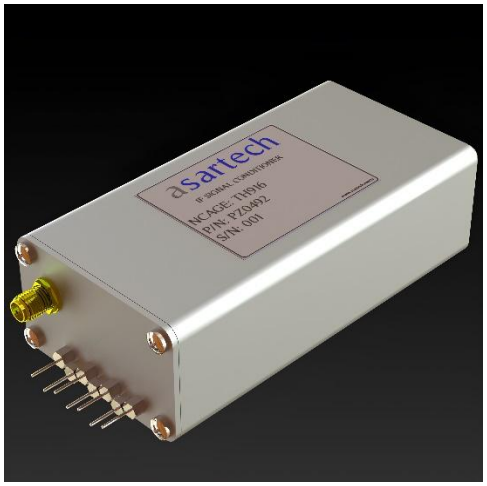
Parameter	Limits
Frequency Range	10MHz-20GHz
Power	± 10dBm
Auto Calibration Speed	<20us
Frequency Switching Speed	<1ms
Supply Voltage	6-20 V
Supply Current	550 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0492

1.2-1.8GHz SIGNAL CONDITIONER



DESCRIPTION

PZ0497 is 1.2-1.8 GHz RF signal conditioner. The module consists of 2 RF amplifiers and 2 digital step attenuators.

The module has total 63 dB adjustable attenuator and has 24 dB gain. The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

APPLICATIONS

- Base station Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

SPECS AT A GLANCE

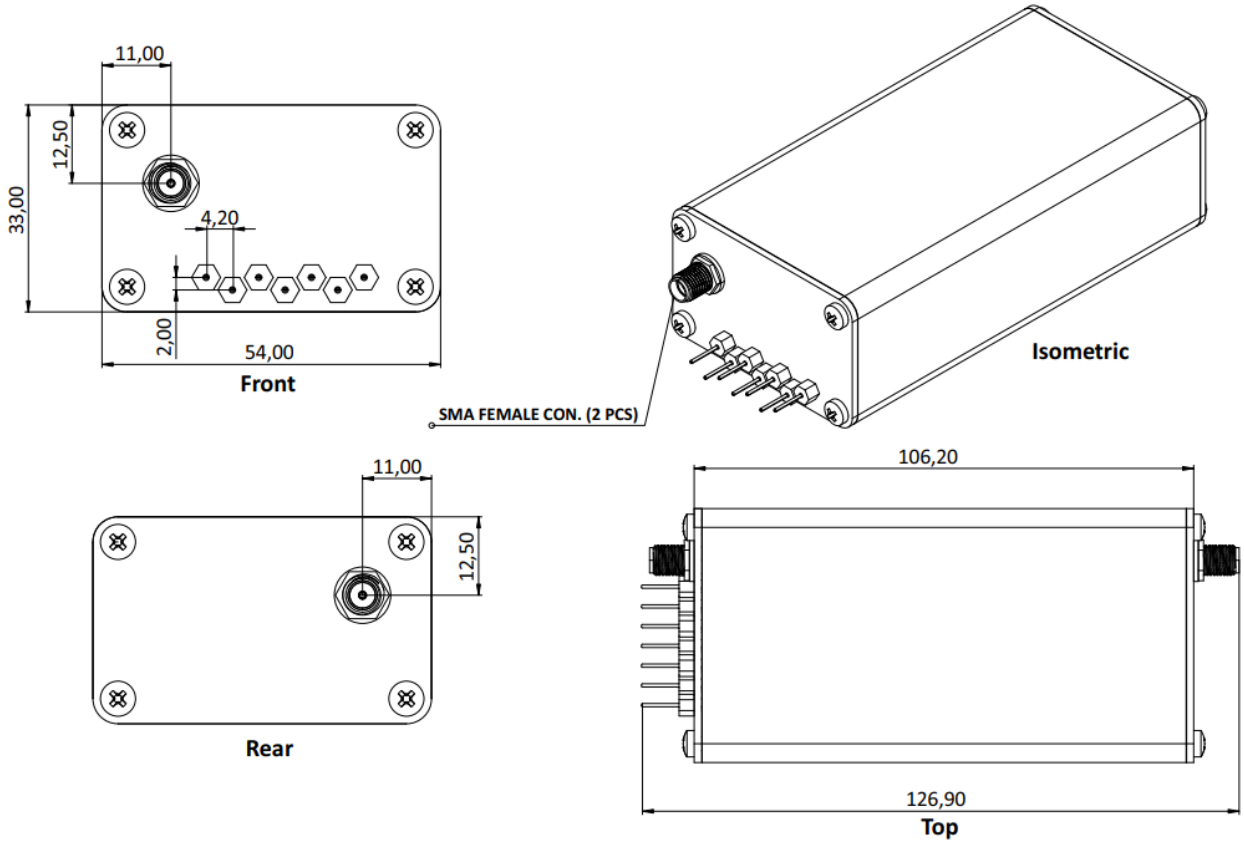
- Gain: 24dB
- Adjustable Attenuator: 63dB (step 0.5dB)
- Supply Voltage: 6-20 V

BLOCK DIAGRAM

SPECIFICATIONS, T_A = +25° C

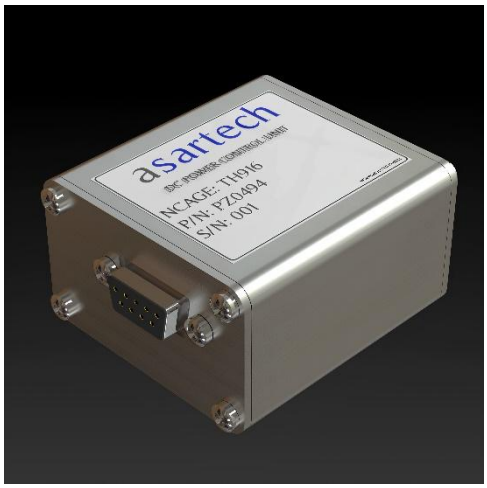
Parameter	Limits
Frequency Range	1.2-1.8 GHz
Gain	24dB @1.5GHz
Attenuation	63dB
Supply Voltage	6-20 V
Supply Current	840 mA
Operating Temperature	-40 to +85°C
Frequency Range	1.2-1.8 GHz

MECHANICAL



PZ0494

DC LDO AND FUSE



DESCRIPTION

The PZ0494 is a compact, feature rich eFuse with a full suite of protection functions.

The wide operating voltage allows control of many popular DC buses.

The precise ±2% current limit, at room temperature, provides excellent accuracy making the PZ0494 well suited for many system protection applications.

APPLICATIONS

- Smart Load Switch
- Adapter Power Devices
- USB Switch
- Power Control

SPECS AT A GLANCE

4.5V–18V Operating Voltage

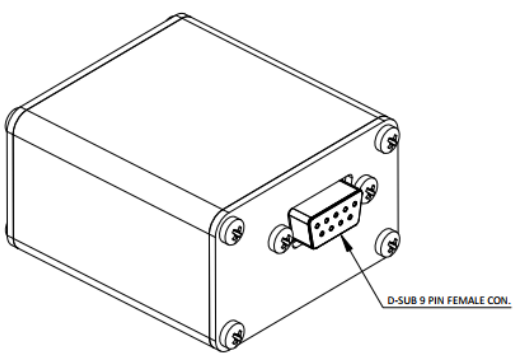
Fault Output for Thermal Shutdown, UVLO and OVP

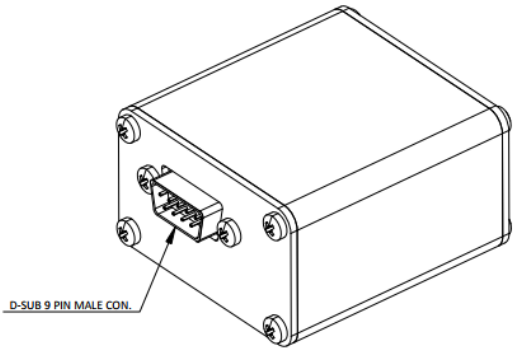
0.4 to 1.6 A Adjustable Current Limit

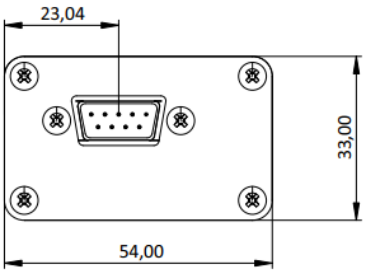
SPECIFICATIONS, T_A = +25° C

Parameter		Limits
Input Voltage Range	IN	4.5-18V
	OUT, OVP, ENUV, FLT	0-18V
	SS	0-6V
	ILIM	0-3.3V
Current Limit		0.4-1.6A
Operating Temperature		-40 to +125°C

MECHANICAL


D-SUB 9 PIN FEMALE CON.


D-SUB 9 PIN MALE CON.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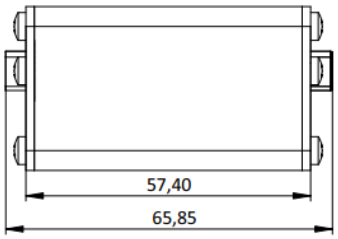
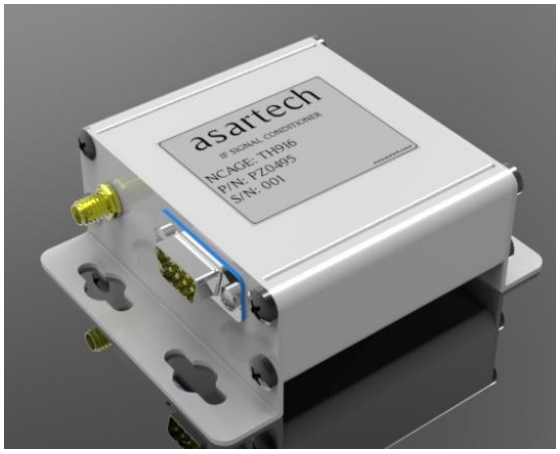
33,00
54,00


57,40
65,85

PZ0495

1.2-1.8 GHz SIGNAL CONDITIONER



DESCRIPTION

PZ0495 is 1.2-1.8 GHz RF signal conditioner. The module consists of 2 RF amplifiers and 1 digital step attenuators.

The module has total 31.5 dB adjustable attenuator and has 14 dB gain. The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

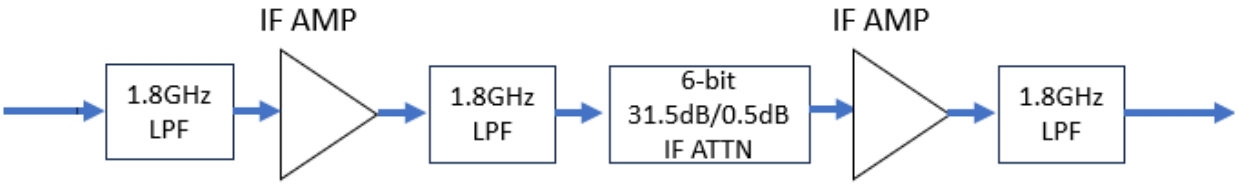
APPLICATIONS

- Basestation Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

SPECS AT A GLANCE

- Gain: 14dB
- Adjustable Attenuator: 31.5dB
- Supply Voltage: 6-20 V

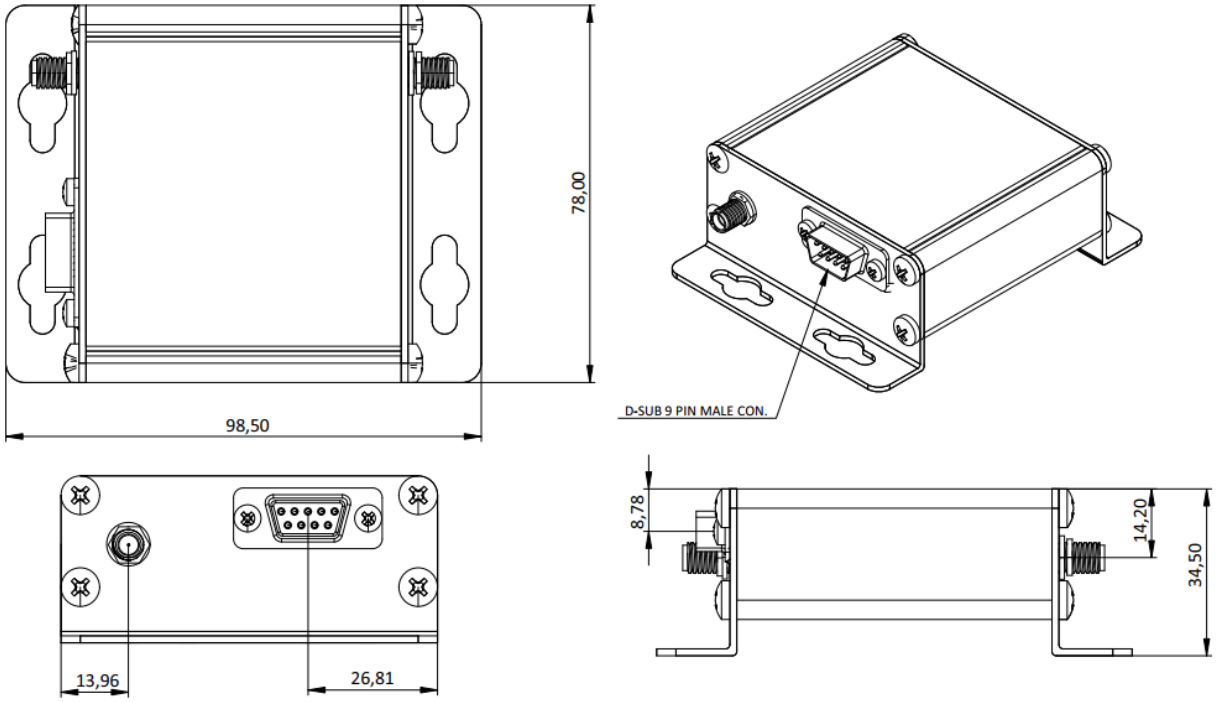
BLOCK DIAGRAM



SPECIFICATIONS, T_A = +25° C

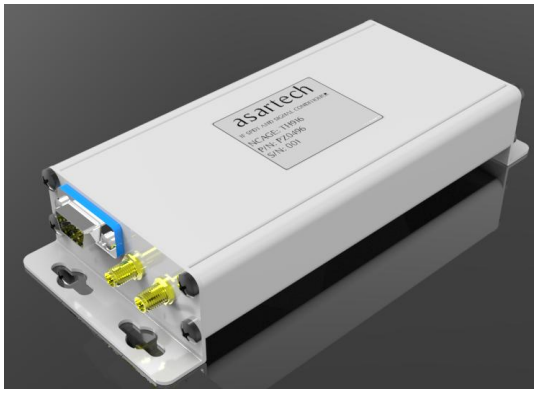
Parameter	Limits
Frequency Range	1.2-1.8GHz
Gain	14 dB
Max Attenuation	31.5 dB
Supply Voltage	6-20 V
Supply Current	280 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0496

1.2-1.8 GHz SIGNAL CONDITIONER



DESCRIPTION

PZ0496 is 1.2-1.8 GHz RF signal conditioner. The module has 2 inputs and 2 outputs.

The 1st input of the module consists of 2 RF amplifier and 1 digital step attenuator. The 2st input of the module consists of 1 RF amplifier.

The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

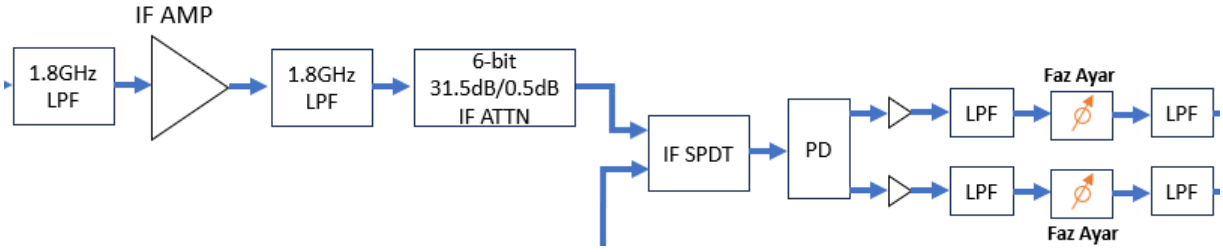
FEATURES

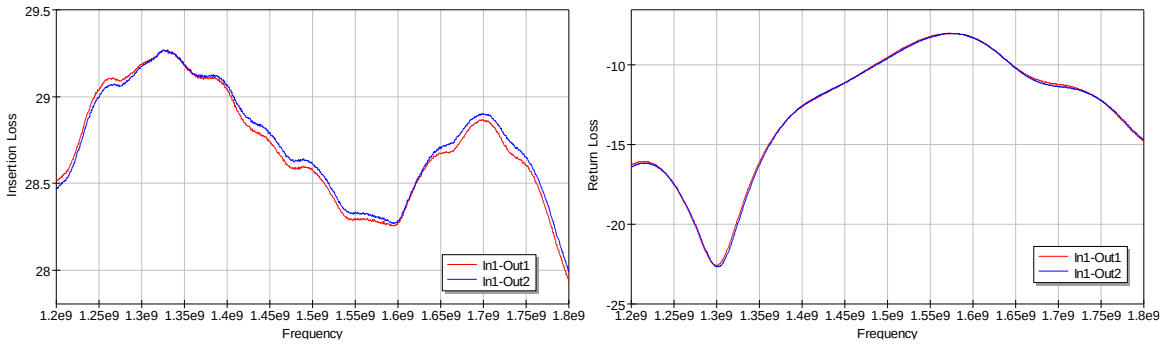
- Base station Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

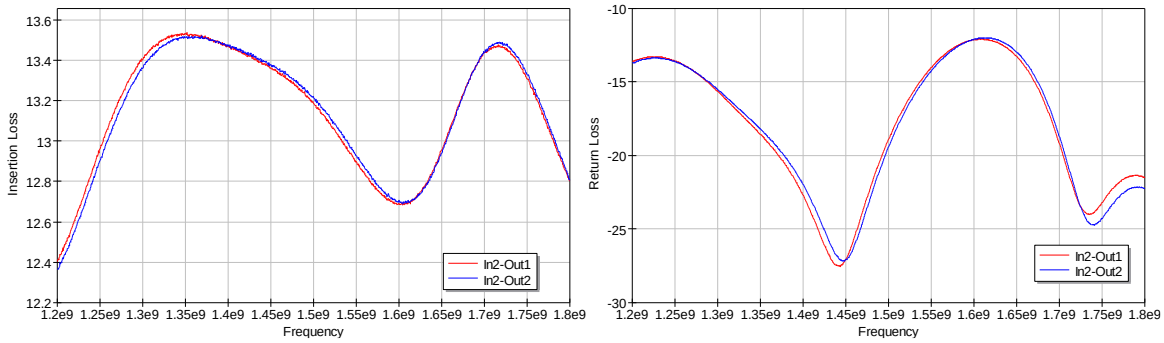
SPECS AT A GLANCE

- 1st Output Gain: 29dB
- 2nd Output Gain: 13dB
- Adjustable Attenuator: 31.5dB
- Supply Voltage: 6-20 V

BLOCK DIAGRAM



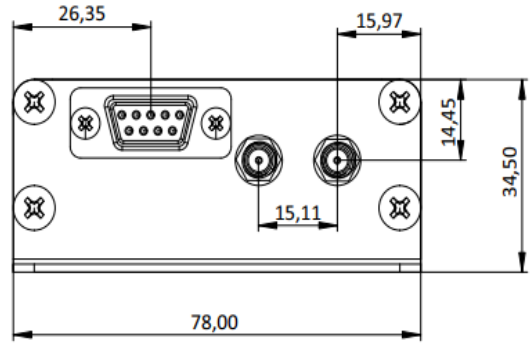


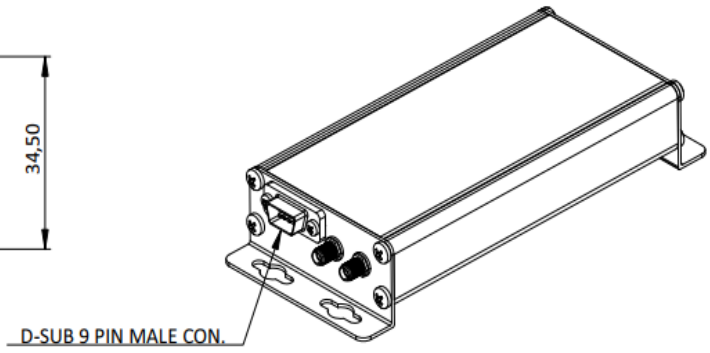


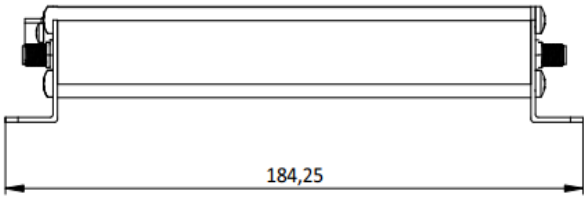
SPECIFICATIONS, T_A = +25° C

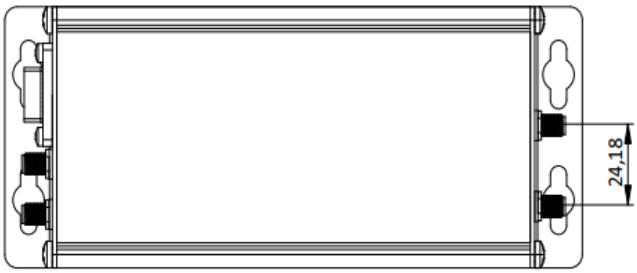
Parameter	Limits
Frequency Range	1.2-1.8GHz
Gain	1st Output :29dB 2st Output :13dB 14.5dB @9GHz 13.2dB @12GHz
Max Attenuation	31.5 dB
Supply Voltage	6-20 V
Supply Current	280 mA
Operating Temperature	-40 to +85°C

MECHANICAL



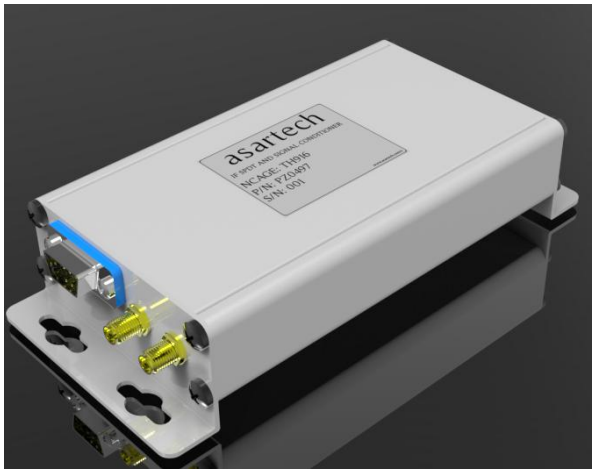






PZ0497

1.2-1.8 GHz SIGNAL CONDITIONER



DESCRIPTION

PZ0497 is 1.2-1.8 GHz RF signal conditioner. The module consists of 1 RF amplifiers and 4 digital step attenuators.

The module has total 99 dB adjustable attenuator and has 14 dB gain. The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

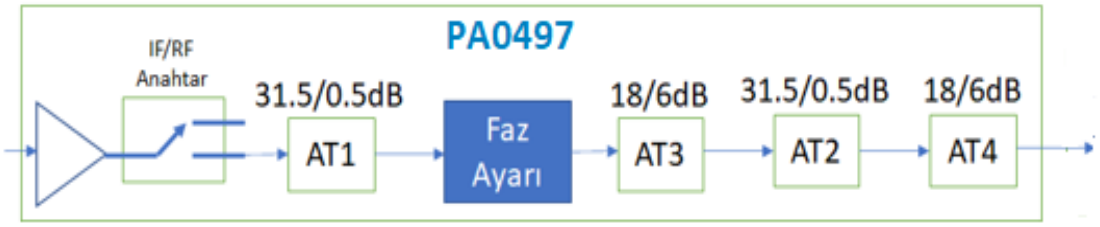
FEATURES

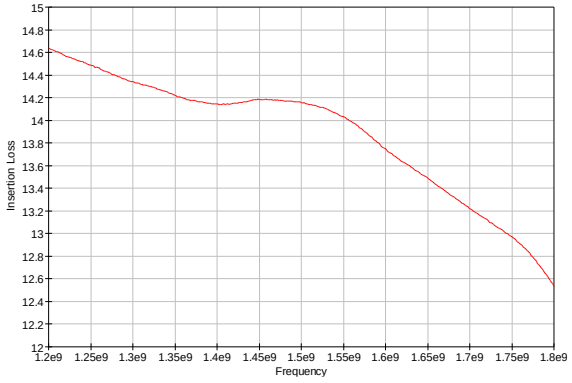
- Base station Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

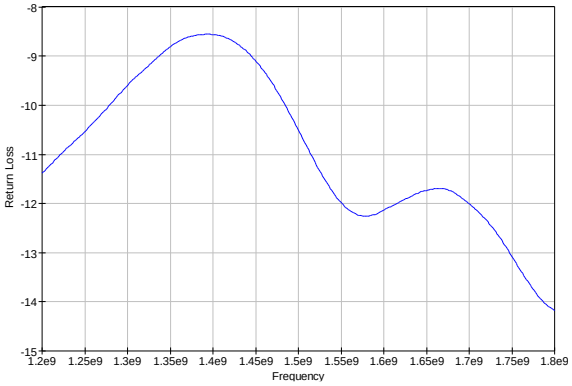
SPECS AT A GLANCE

- Gain: 14dB
- Adjustable Attenuator: 99dB
- Supply Voltage: 6-20 V

BLOCK DIAGRAM



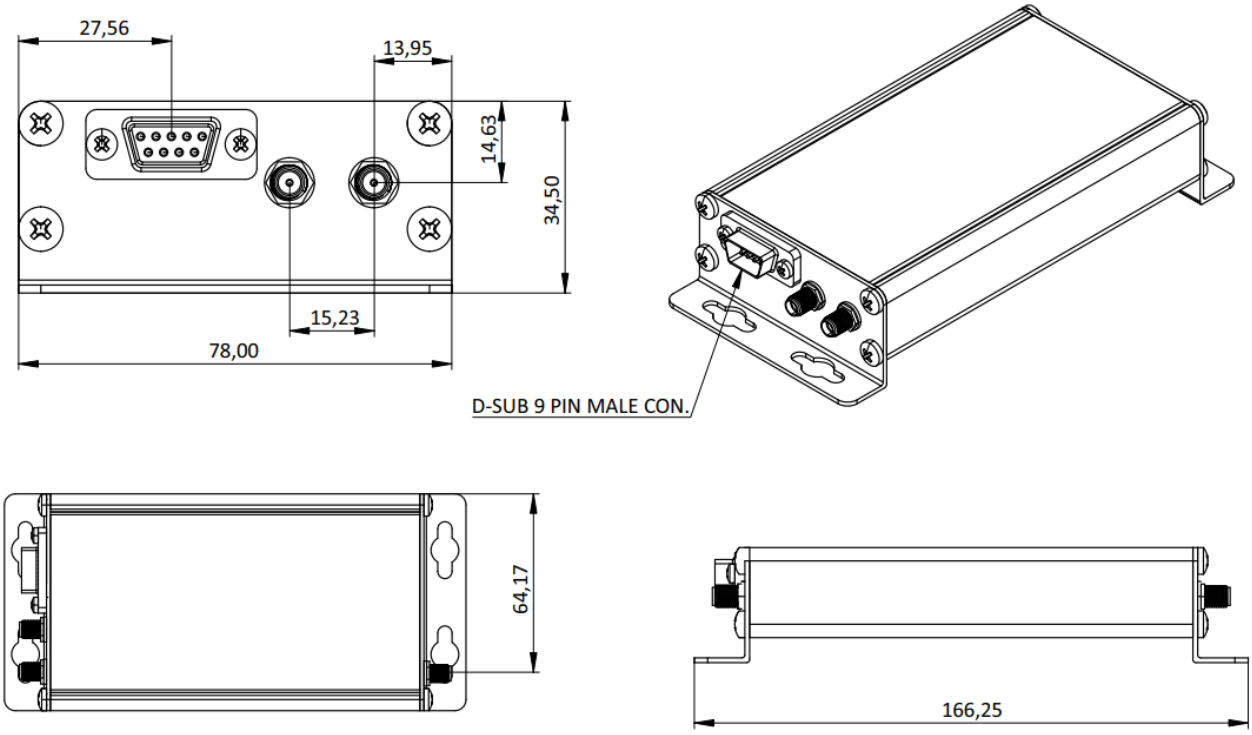




SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	1.2-1.8 GHz
Gain	14dB @1.5GHz
Attenuation	99dB
Supply Voltage	6-20 V
Supply Current	220 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0498

6-12 GHz SIGNAL CONDITIONER

DESCRIPTION

PZ0498 is 6-12 GHz RF signal conditioner. The module consists of 2 RF amplifiers and 1 digital step attenuators.

The module has total 31.5 dB adjustable attenuator and has 27 dB gain. The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

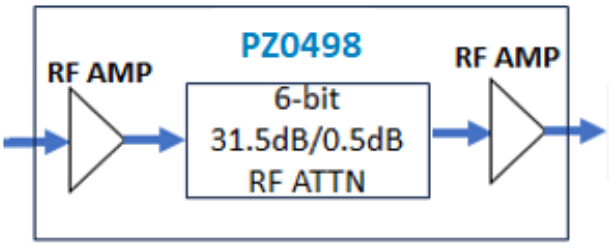
FEATURES

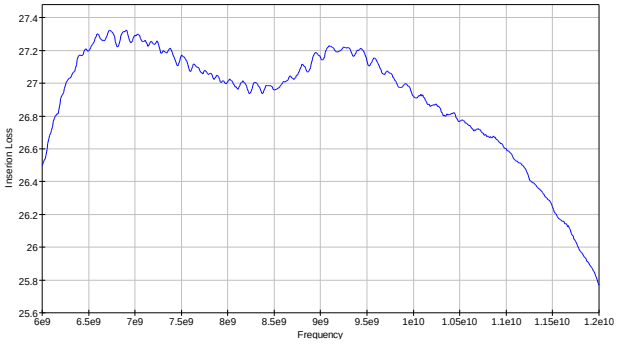
- Basestation Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

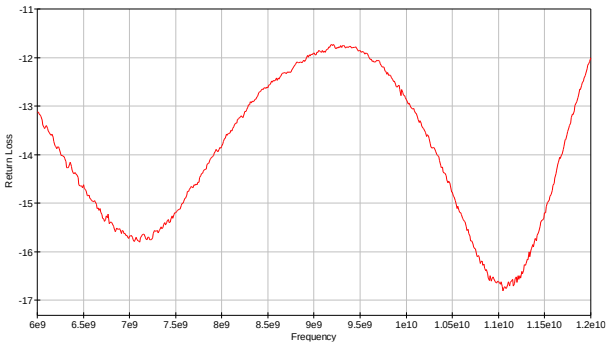
SPECS AT A GLANCE

- Gain: 27dB
- Adjustable Attenuator: 31.5dB
- Supply Voltage: 6-20 V

BLOCK DIAGRAM



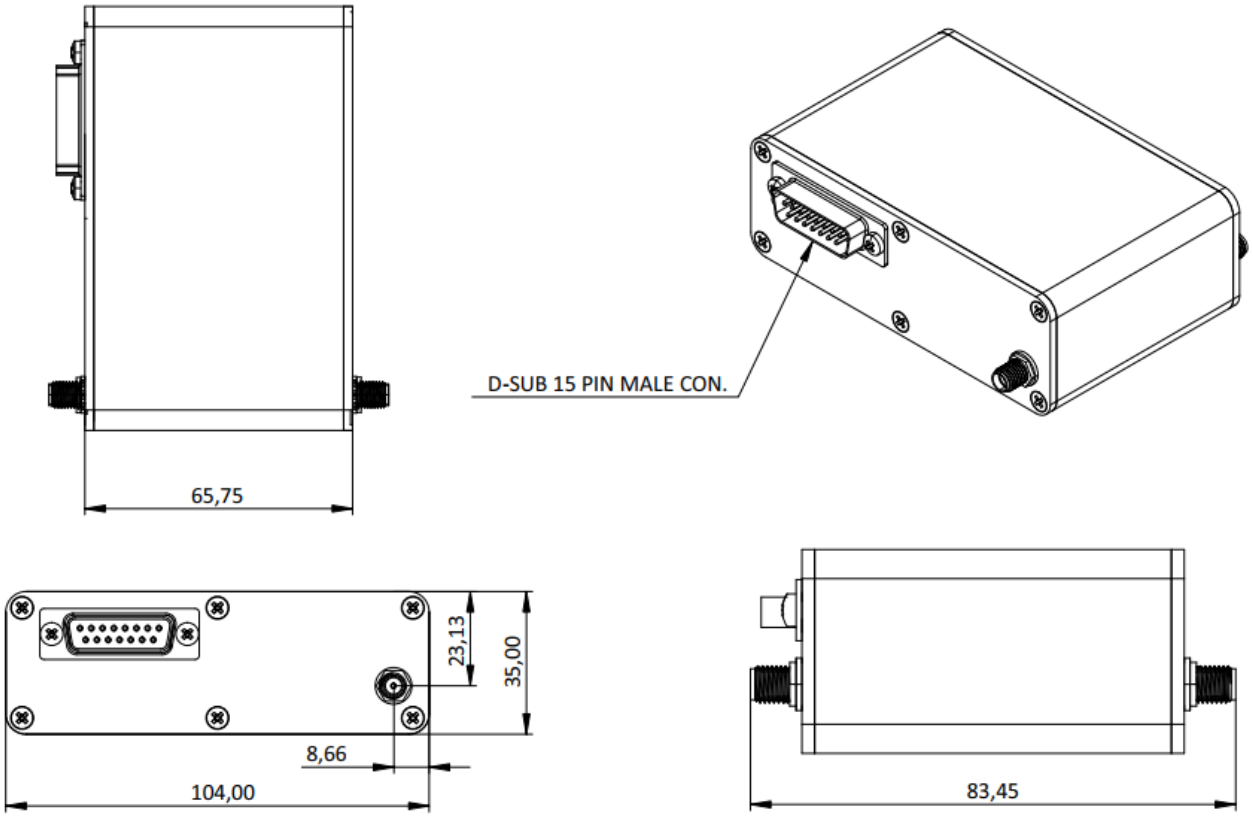




SPECIFICATIONS, T_A = +25° C

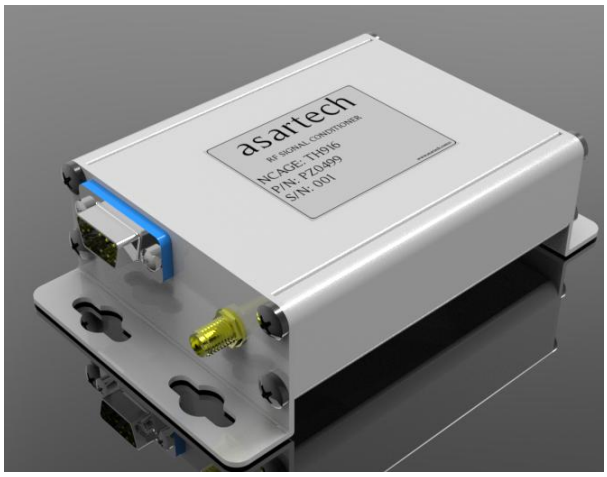
Parameter	Limits
Frequency Range	6-12 GHz
Gain	27dB @8GHz
Attenuation	31.5dB
Supply Voltage	6-20 V
Supply Current	280 mA
Operating Temperature	-40 to +85°C

MECHANICAL



PZ0499

6-12 GHz SIGNAL CONDITIONER



DESCRIPTION

PZ0499 is 6-12 GHz RF signal conditioner. The module consists of 3 RF amplifiers and 5 digital step attenuators.

The module has total 110 dB adjustable attenuator and has 23 dB gain. The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

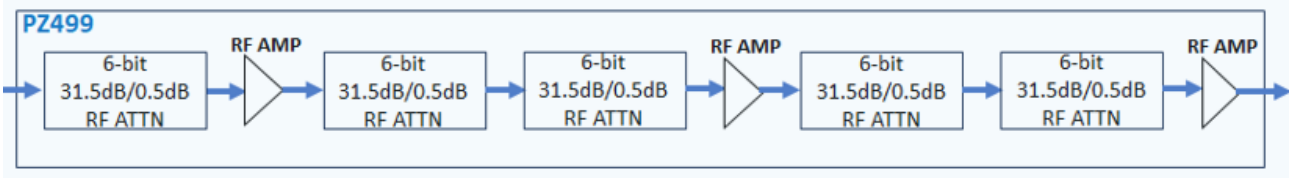
APPLICATIONS

- Basestation Infrastructure
- Fiber Optics & Broadband Telecom
- Microwave & VSAT Radios
- Military EW & ECM

SPECS AT A GLANCE

- Gain: 23 dB
- Adjustable Attenuator: 110dB
- Saturated Power: +20 dBm
- Supply Voltage: 6-20 V

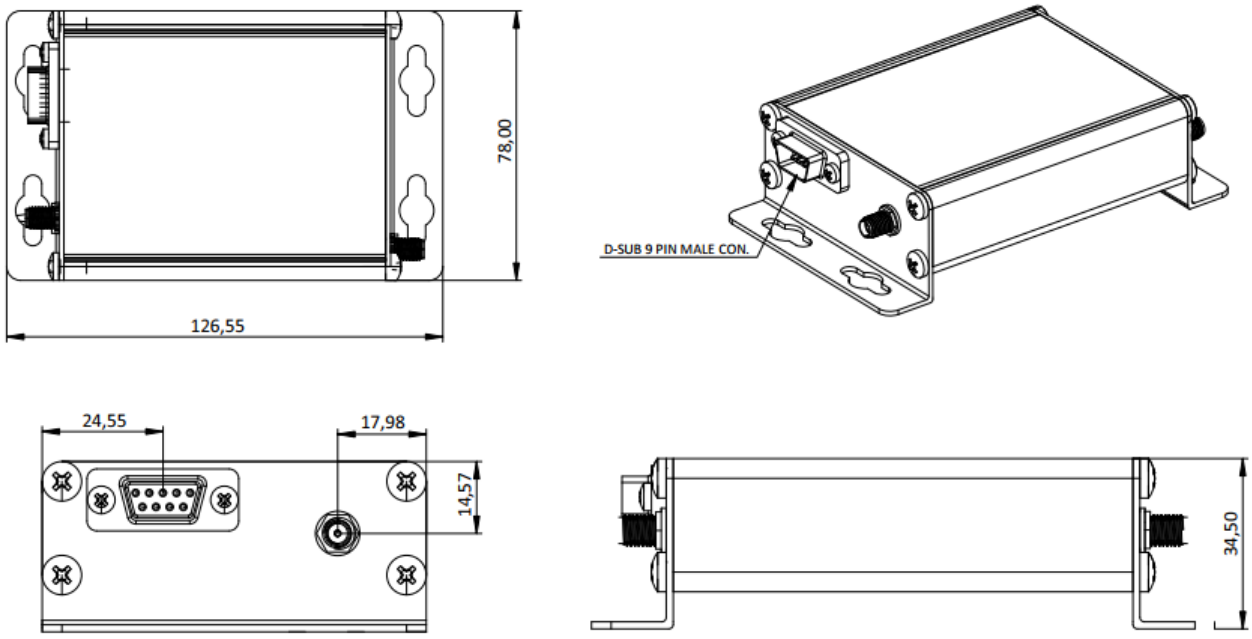
BLOCK DIAGRAM



SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	6-12 GHz
Gain	14.3dB @6GHz 14.5dB @9GHz 13.2dB @12GHz
Output Power for 1 dB Compression (P1dB)	20dBm @6GHz 20dBm @9GHz 19dBm @12GHz
Saturated Output Power (Psat)	+21 dBm
Supply Voltage	6-20 V
Supply Current	320 mA

MECHANICAL



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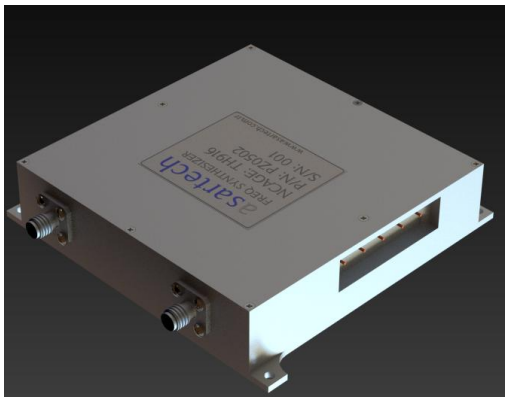
PZ0502

26-30 GHz FREQUENCY SYNTHESIZER



DESCRIPTION

PZ0502 is 26-30 GHz RF frequency synthesizer. Along with the module TCXO, there is also an external 100MHz input.

The module has two outputs. While the 1st output gives 6.5-7.5 GHz, it is multiplied by 4 and given to the 2nd output and 26-30GHz output is provided.

The module has RS485 interface for controlling the attenuators and monitoring module temperature and current consumption of amplifiers.

Devices consumes 2.5 W(@7V) typically.

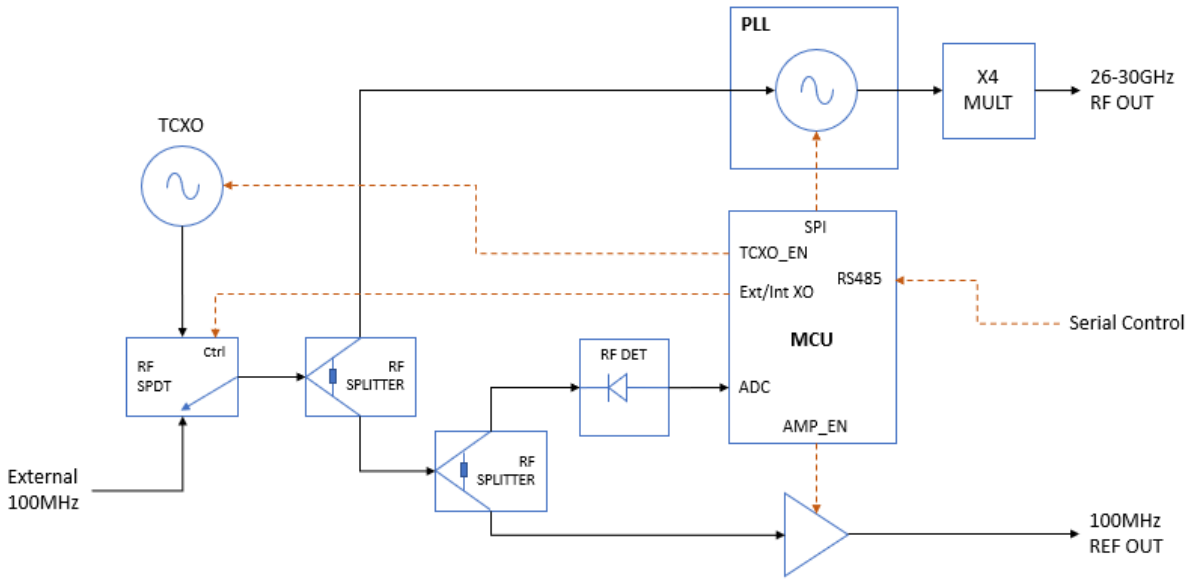
APPLICATIONS

- 5G and mm-Wave wireless infrastructure
- Test and measurement equipment
- Radar
- High-speed data converter clocking

SPECS AT A GLANCE

- Output frequency: 26-30GHz
- Output Signal Power: -13 dBm
- TCXO and external 100MHz input
- Supply Voltage: 6-20 V

BLOCK DIAGRAM



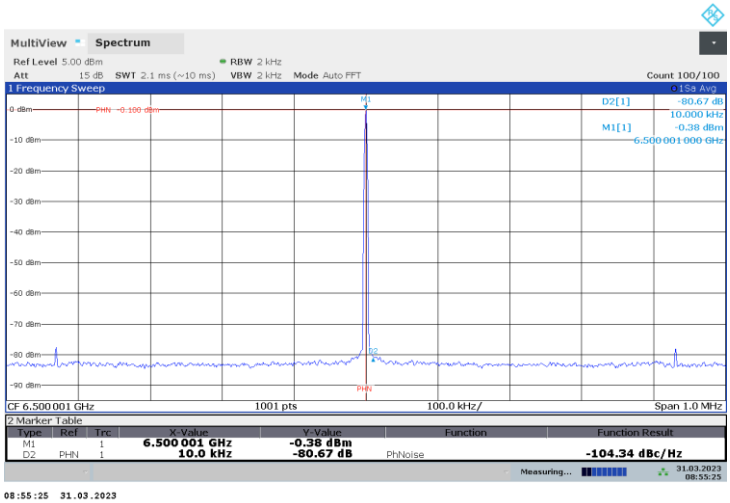


Figure 1. Phase Noise at 6.5GHz

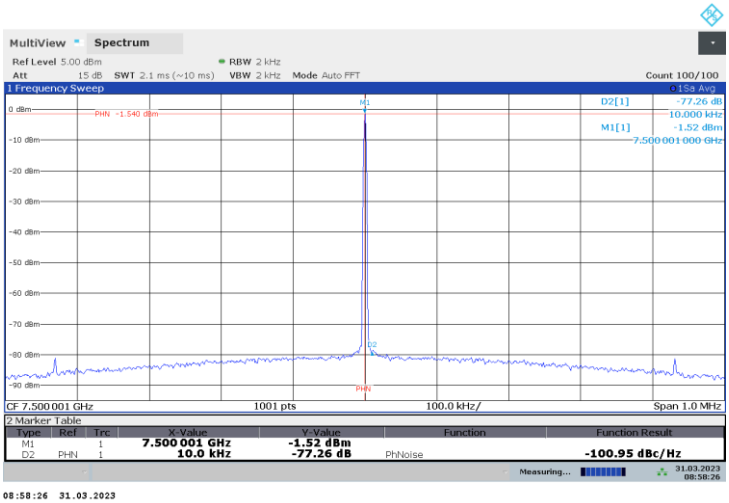
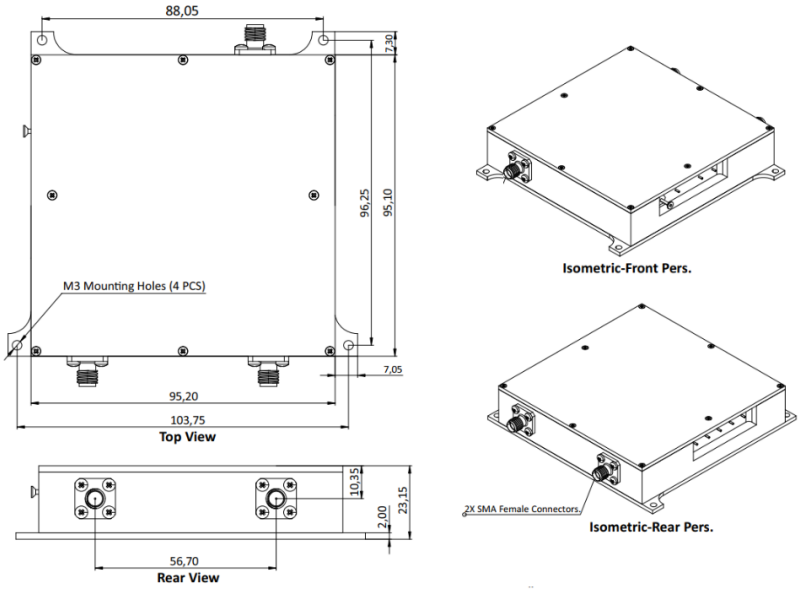


Figure 2. Phase Noise at 7.5GHz

SPECIFICATIONS, T_A = +25° C

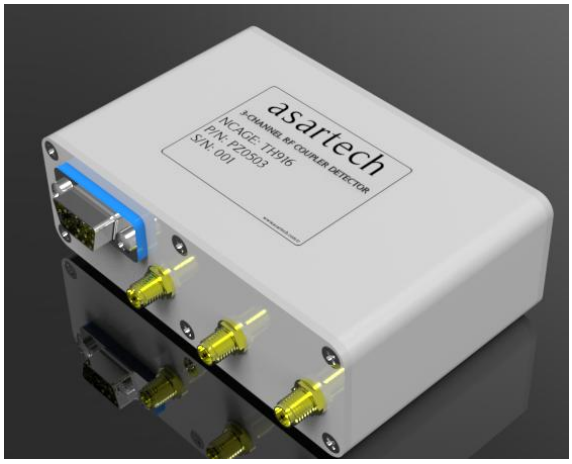
Parameter	Limits		
Frequency Range	26-30 GHz		
Output Signal Power	-13dBm		
Phase Noise	6.5GHz	10kHz 100kHz	-104.34dBc/Hz -113.78dBc/Hz
	7.5GHz	10kHz 100kHz	-102.96dBc/Hz -112.71dBc/Hz
	30GHz	10kHz	-91dBc/Hz
Supply Voltage	6-20 V		
Supply Current	230 mA		

MECHANICAL



PZ0503

6-18 GHz 3 CHANNEL RF DETECTOR



DESCRIPTION

PZ0503 is 6-18 GHz RF Detector. The module has 3 identical channels.

Each channel has 12 dB gain @18 GHz. The module has RS485 interface for monitoring RF Power Level and module temperature.

Device consumes 9 W(@7V) typically.

APPLICATIONS

- Power Control in Microwave Radios
- Test And Measurement Equipment
- Radar Applications

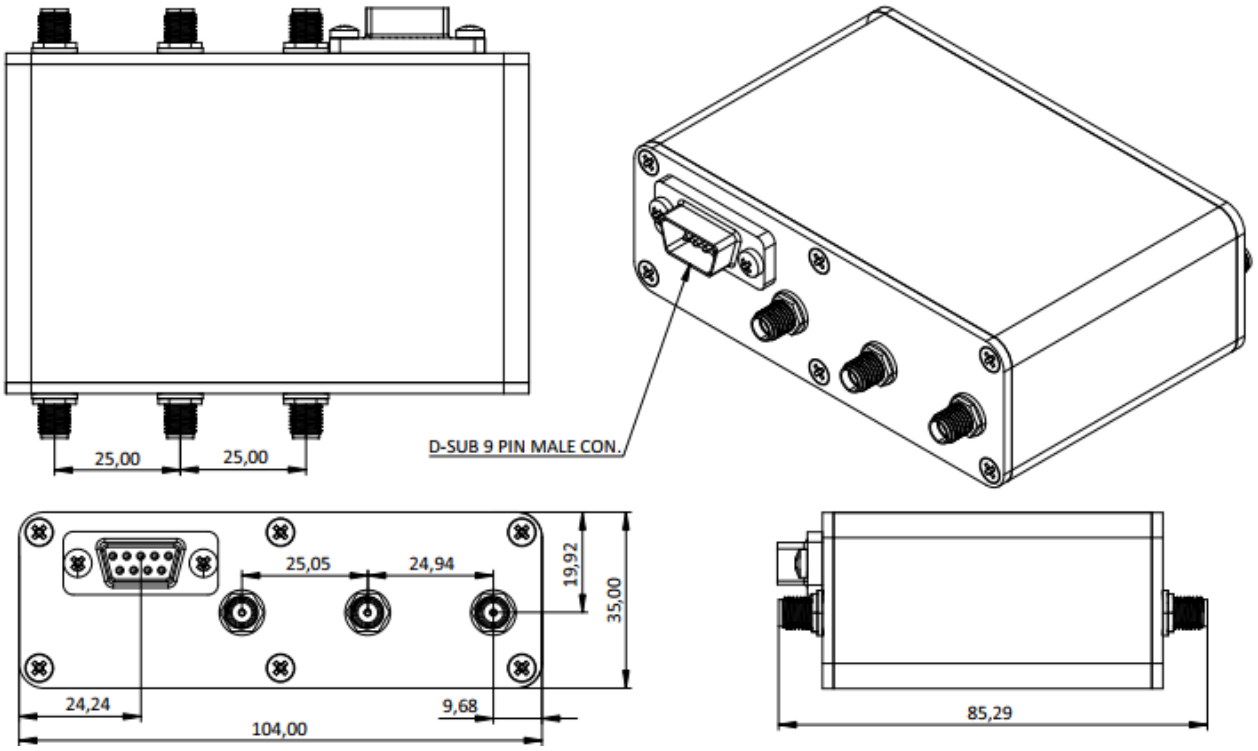
SPECS AT A GLANCE

- Gain: 12 dB
- Max Input Power: +3dBm
- Dynamic Range: 50 dB
- Supply Voltage: 6-20 V

SPECIFICATIONS, T_A = +25° C

Parameter	Limits
Frequency Range	6-18 GHz
Gain	14dB @6GHz 13dB @12GHz 12dB @18GHz
Dynamic Range	54dB @6GHz 51dB @12GHz 50dB @18GHz
Maximum Input Power	+3 dBm
Supply Voltage	6-20 V
Supply Current	1.1 A

MECHANICAL


25,00
25,00
D-SUB 9 PIN MALE CON.
25,05
24,94
19,92
35,00
24,24
9,68
104,00
85,29

PZ0504

6-12 GHz RF SWITCH MATRIX

DESCRIPTION

PZ0504 is 6-12 GHz RF switch matrix. The module consists of 2 SP4T and 4 SPDT.

The module has 5.7 dB insertion loss @12 GHz. The module has RS485 interface for controlling the RF switches and monitoring module temperature.

Devices consumes less than 0.1 W(@7V) typically.

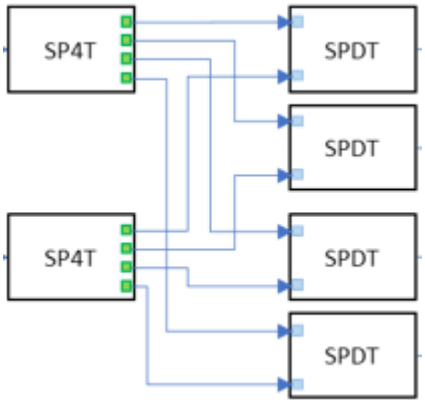
APPLICATIONS

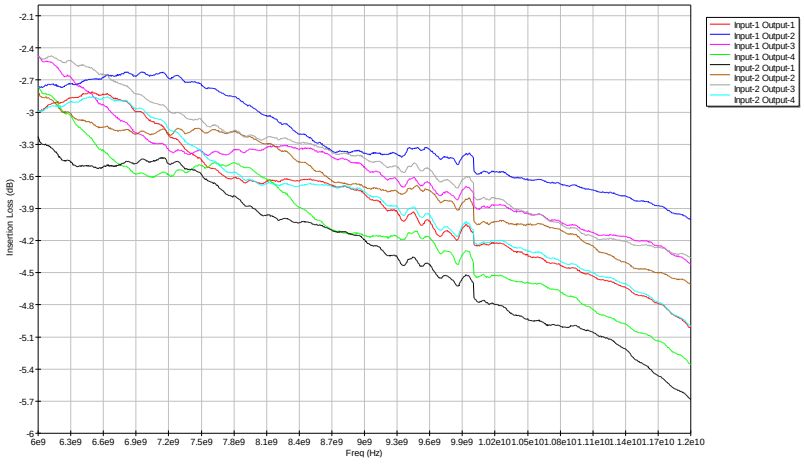
- Test instrumentation
- Microwave & VSAT Radios
- Military EW & ECM

SPECS AT A GLANCE

- IL: 2.4-5.7 dB
- Isolation 50 dB
- Supply Voltage: 6-20 V

BLOCK DIAGRAM

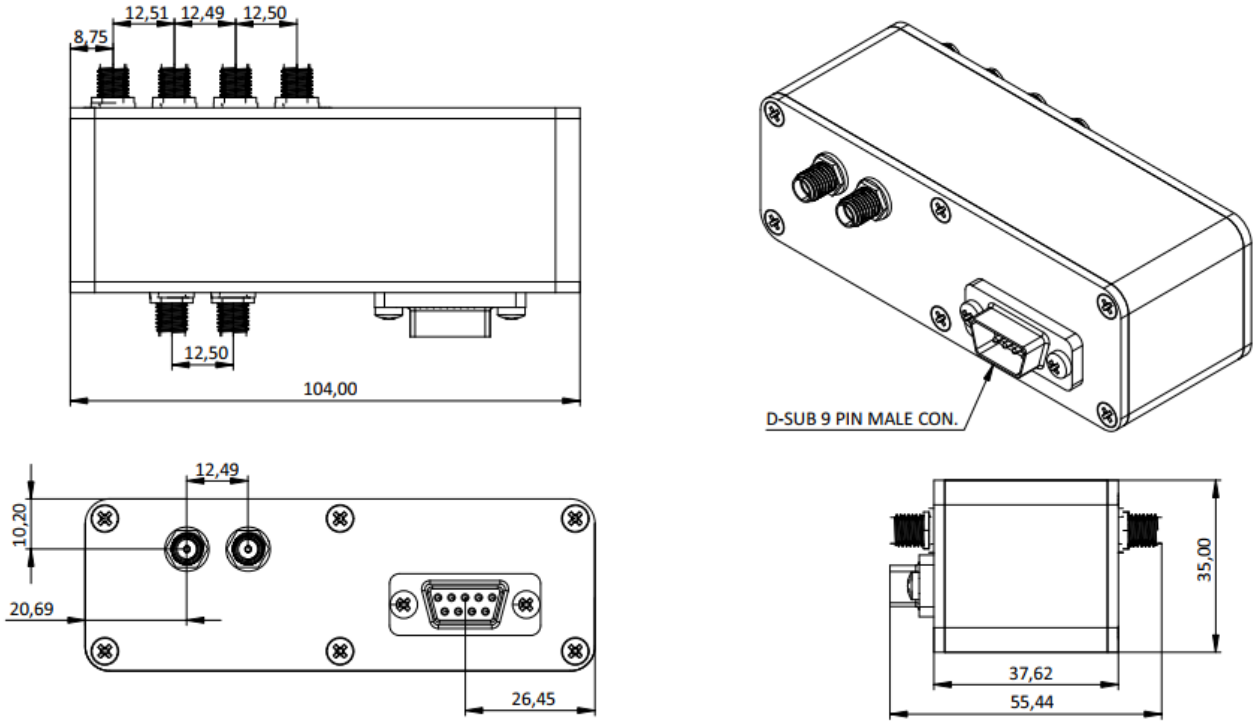




SPECIFICATIONS, T_A = +25° C

	Limits
Frequency Range	6-12 GHz
Insertion Loss	3.3dB @6GHz 4.2dB @9GHz 5.7dB @12GHz
Isolation Input to Output (Worst Case)	57dB @6GHz 55dB @9GHz 50dB @12GHz
Switching Speed	4 us
Supply Voltage	6-20 V
Supply Current	10 mA

MECHANICAL



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System Engineering & Integration

Mechanical Design and Electro Magnetic Analysis

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Integrated Logistic Support (ILS) for Radar, Communication and Navigation Systems for Prime Contractors and System Producers Lumped Element Filters

- Integration, Documentation, Configuration and Test
- Form-Fit-Function Activities

SYSTEMS ENGINEERING

The whole systems engineering life cycle can be implemented and applied to various systems, especially on RF and Microwave and Naval Systems.

- Conceptual Design
- Systems Requirements Engineering
- Systems Design
- Systems Integration
- Systems Test, Verification, and Validation

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The renovative design of obsolete components and systems according to newest and maintainable technologies.

- Form-Fit-Functional Design of obsolete systems and products
- Beginning from scratch or from a working sample
- Full design and verification
- Operational validation
- Mechanical Design and Electro Magnetic Analysis

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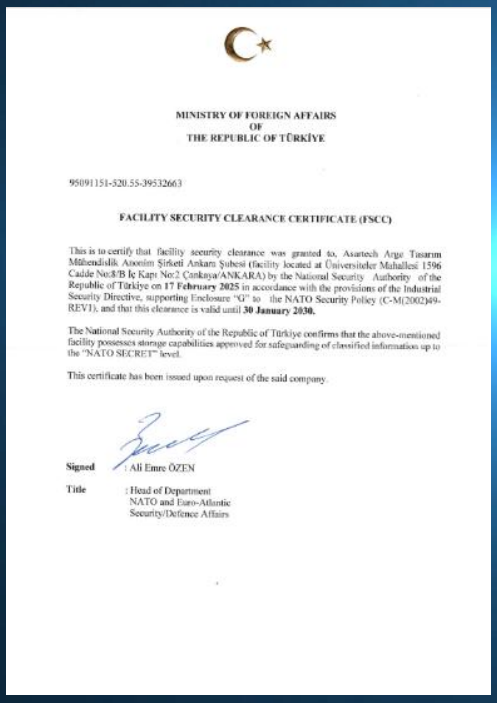

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