



Mini-Circuits

SUSPENDED SUBSTRATE STRIPLINE COAXIAL

Diplexer

ZDSS-3G4G-25WS+

50Ω DC to 8000 MHz (DC-3000, 4000-8000MHz) SMA Female

KEY FEATURES

- Low passband Insertion Loss, 0.3 dB Typ.
- High Power Handling 25 W
- High Rejection, 80 dB Typ.
- Connectorized Package



Generic photo used for illustration purposes only

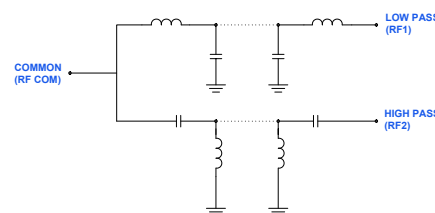
APPLICATIONS

- Aerospace
- Defense
- Ground Radio Communications

PRODUCT OVERVIEW

Mini-Circuits' Suspended Substrate Stripline filters offer low insertion loss combined with wide stopband, good power handling & temperature stability, small form factor with rugged build ideal for harsh operating environments making them an excellent choice for wideband instruments and systems like ECM, ECCM, ELINT and ultrabroadband receivers. Low pass, high pass, band pass, diplexer and multiplexer designs can be realized with this technology with passband, stopband up to 40GHz and stopband width greater than 6x cutoff frequency.

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS¹ AT +25°C

Parameter		Function (Port)	Frequency (MHz)	Min.	Typ.	Max.	Unit
Passband	Insertion Loss	Low Pass (RF COM-RF1)	DC -3000	—	0.3	0.9	dB
		High Pass (RF COM-RF2)	4000 - 8000	—	0.3	1.0	
	Return Loss	Low Pass (RF1)	DC - 3000	—	15	—	dB
		High Pass (RF2)	4000 - 8000	—	12	—	
		Common (RF COM)	DC - 3000 4000 - 8000	— —	15 12	— —	
Stopband Rejection		Low Pass (RF COM-RF1)	4000 - 8000	15	30	—	dB
		High Pass (RF COM-RF2)	DC - 2000	60	80	—	
			2000 - 3000	—	15	—	

1. RF COM & (RF1, RF2) can be used as input / output. See S-Parameters for actual performance.

ABSOLUTE MAXIMUM RATINGS²

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power (RF COM - RF1) ³	25 W @ +25°C
Input Power (RF COM - RF2) ³	25 W @ +25°C

2. Permanent damage may occur if any of these limits are exceeded.

3. Power rating applies only to signals within the passband.

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www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. OR
ECO-027032
ZDSS-3G4G-25WS+
EDU4959
URJ
250919

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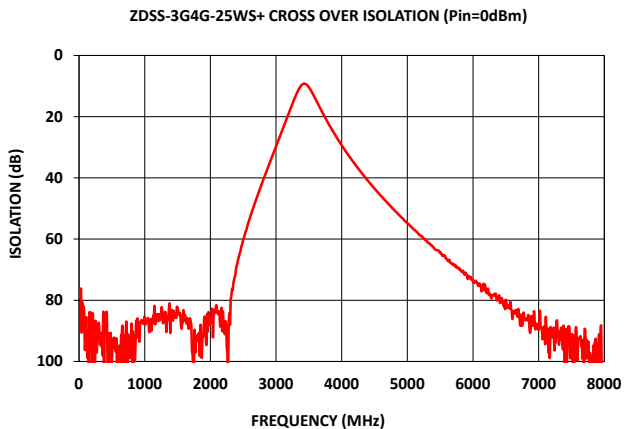
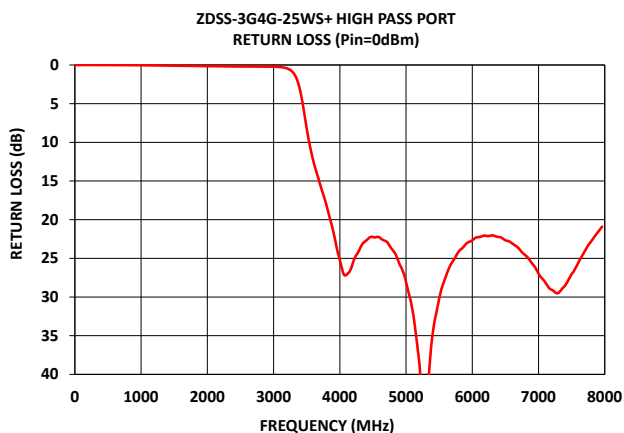
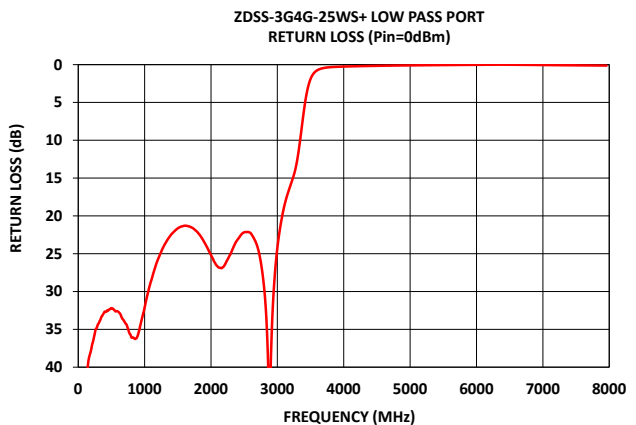
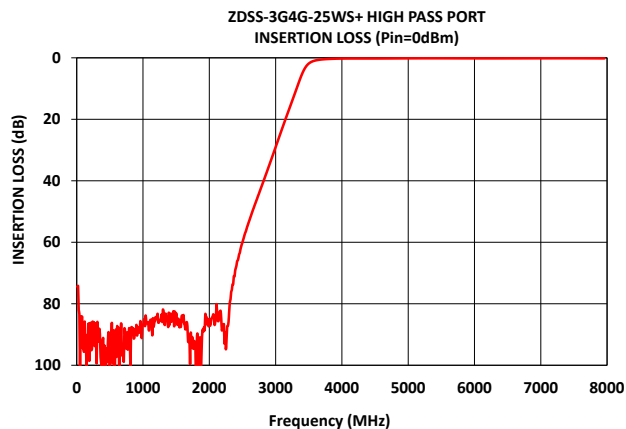
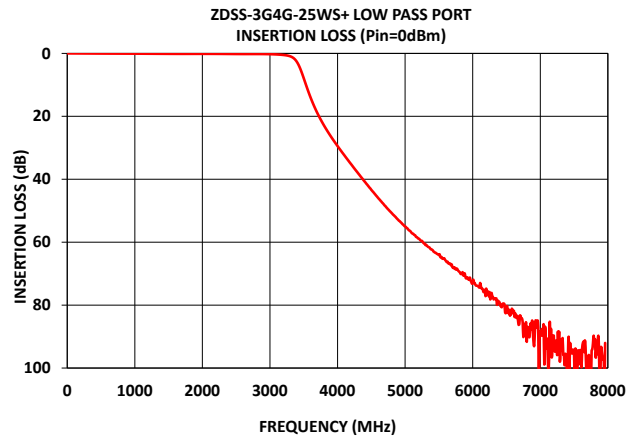
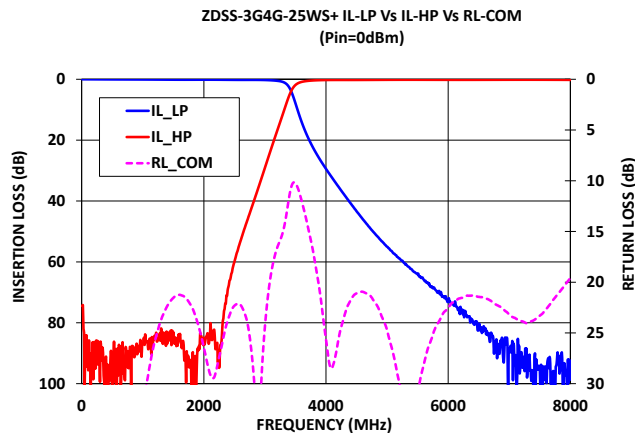
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TYPICAL PERFORMANCE GRAPHS





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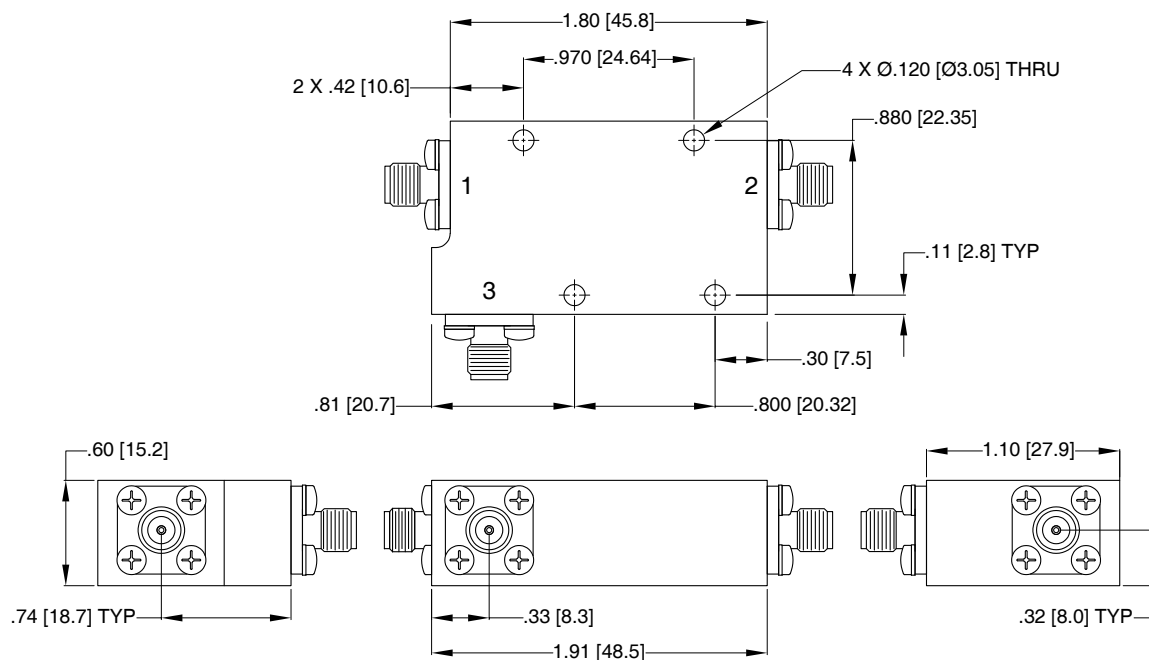
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50Ω DC to 8000 MHz (DC-3000, 4000-8000MHz) SMA Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF COM	1	SMA Female
RF1	2	SMA Female
RF2	3	SMA Female

CASE STYLE DRAWING



Unit Weight: 65 Grams.

Dimensions are in inches [mm]. Tolerances: 2 Pl. $\pm .06$; 3 Pl. $\pm .015$

PRODUCT MARKING*: ZDSS-3G4G-25WS+

*Marking may contain other features or characters for internal lot control.





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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data
	Graphs
	S-Parameter (S3P Files) Data Set (.zip file)
Case Style	BAF3587
RoHS Status	Compliant
Environmental Ratings	ENV001

NOTES

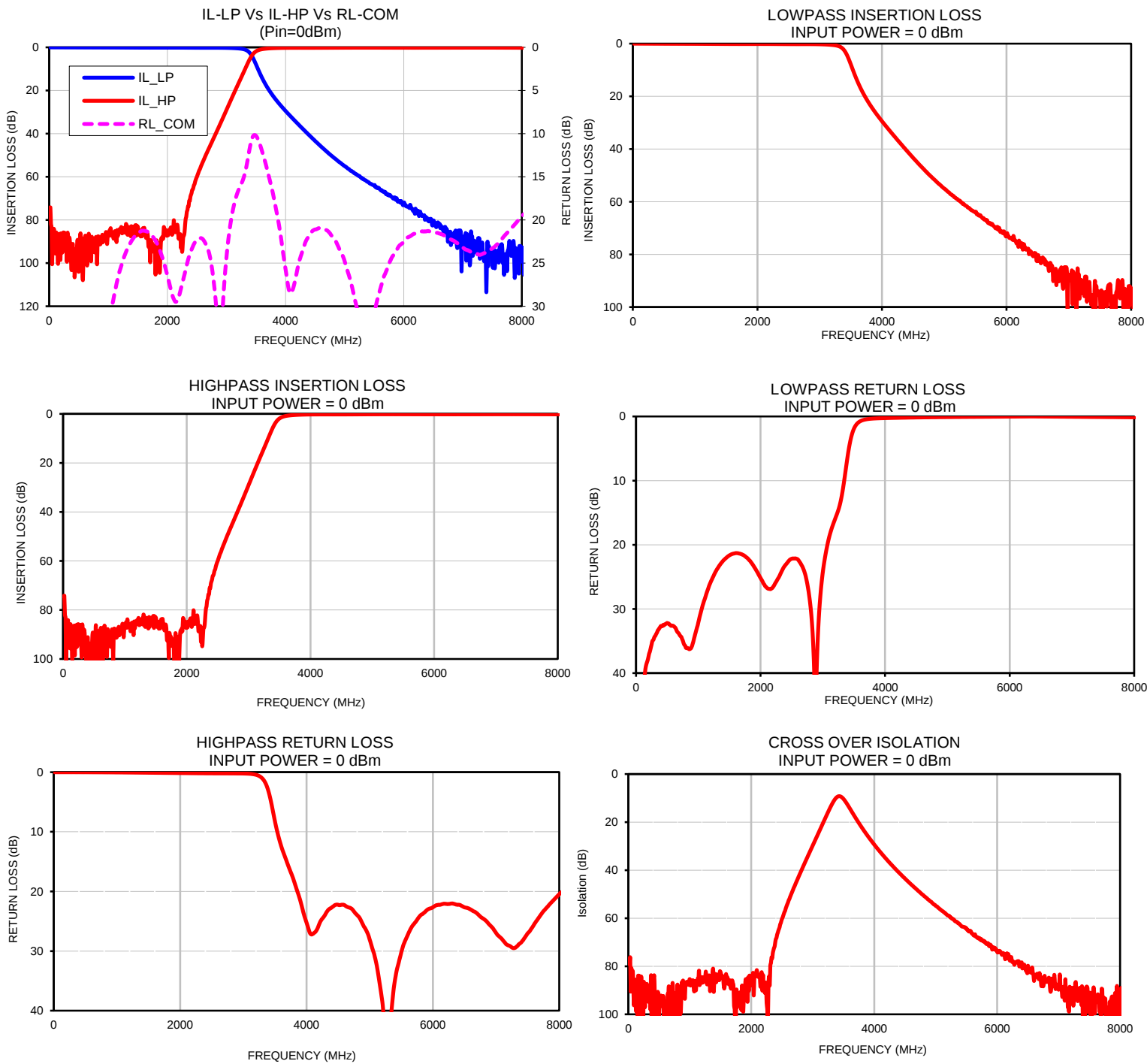
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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Typical Performance Data

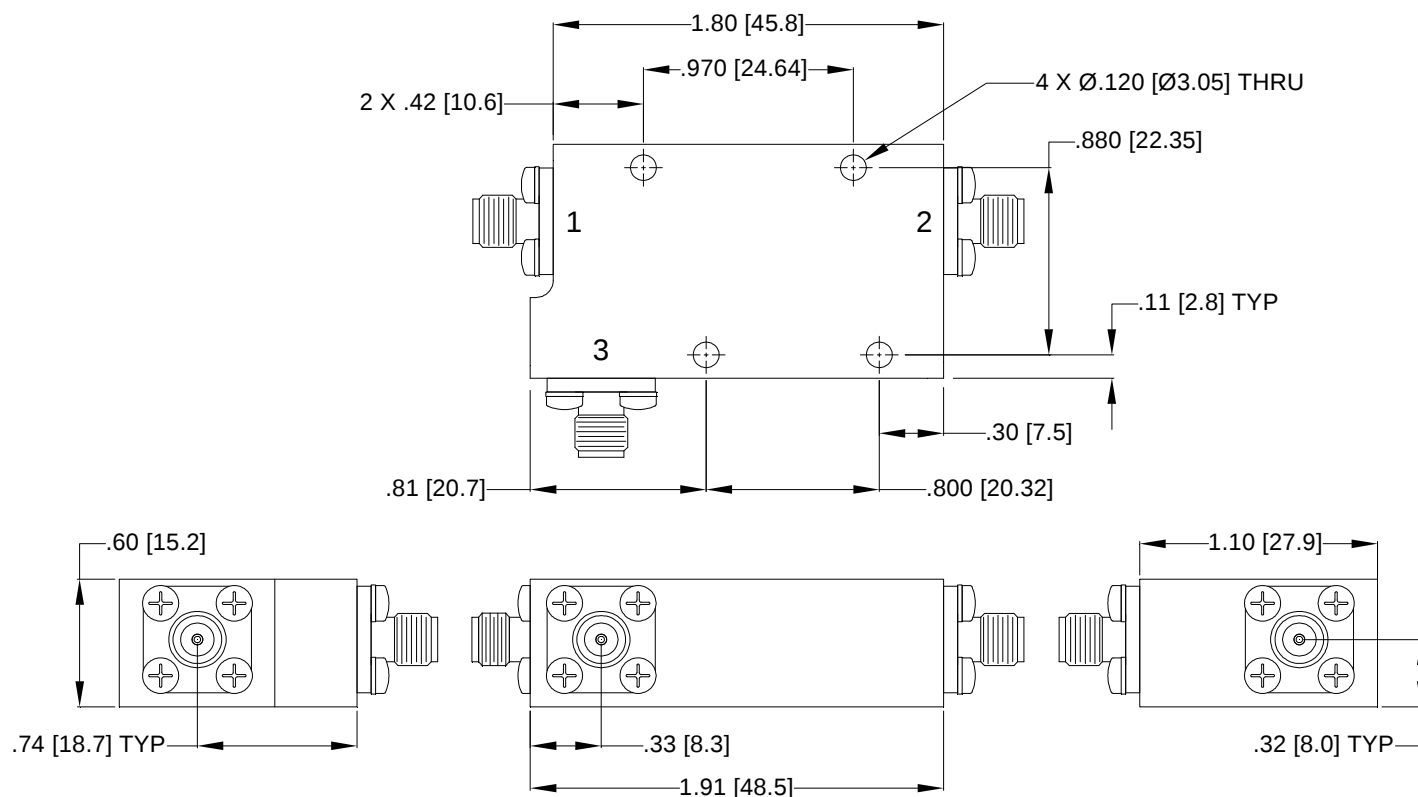
FREQUENCY (MHz)	INSERTION LOSS (dB)		Cross over isolation (dB) (between LPF and HPF)	RETURN LOSS (dB)		
	Lowpass port	Highpass port		Common port	Lowpass port	Highpass port
10	0.00	74.44	78.36	45.50	48.56	0.00
20	0.00	74.16	78.97	49.87	49.63	0.00
50	0.00	100.53	80.75	51.42	50.41	0.00
60	0.01	84.20	89.73	47.10	46.80	0.00
70	0.01	90.57	81.95	46.40	45.53	0.00
80	0.01	84.12	85.98	47.02	45.32	0.00
90	0.01	94.19	96.26	45.30	44.67	0.00
100	0.01	91.75	89.58	43.11	43.23	0.00
150	0.02	100.36	100.48	39.52	39.37	0.00
160	0.02	90.07	83.90	39.47	38.84	0.00
180	0.02	86.37	84.01	38.40	38.18	0.00
200	0.02	87.25	101.00	37.43	37.43	0.00
220	0.02	95.06	96.21	36.44	36.70	0.00
230	0.02	94.62	92.59	36.05	36.32	0.00
250	0.02	91.43	86.70	35.57	35.51	0.00
260	0.03	85.96	88.72	35.22	35.07	0.00
280	0.03	86.30	91.59	34.69	34.79	0.00
300	0.03	99.40	87.33	34.29	34.29	0.00
320	0.03	90.15	94.44	33.80	33.95	0.00
340	0.03	88.10	94.90	33.43	33.58	0.00
350	0.03	89.91	90.61	33.23	33.33	0.00
360	0.04	97.38	98.01	33.01	33.24	0.00
370	0.04	99.52	83.72	32.92	33.06	0.00
380	0.04	103.04	110.10	32.87	32.93	0.00
390	0.04	92.15	89.76	32.76	32.77	0.00
400	0.04	91.21	89.59	32.68	32.64	0.01
420	0.04	93.62	83.75	32.61	32.68	0.00
440	0.04	99.89	111.72	32.36	32.45	0.01
460	0.05	98.97	91.28	32.27	32.40	0.01
480	0.05	89.20	90.63	32.12	32.31	0.01
490	0.05	93.25	100.06	32.11	32.24	0.01
500	0.05	104.05	100.79	32.24	32.18	0.01
520	0.05	94.82	94.85	32.31	32.25	0.01
540	0.05	99.22	95.60	32.48	32.44	0.01
560	0.05	100.66	96.74	32.51	32.63	0.01
580	0.05	95.53	104.94	32.53	32.60	0.01
600	0.06	97.30	97.31	32.69	32.65	0.01
620	0.06	89.32	96.71	32.93	32.82	0.02
640	0.06	100.89	91.51	33.33	33.09	0.01
680	0.06	96.54	91.40	34.07	33.75	0.02
700	0.06	97.08	93.35	34.34	34.05	0.02
1000	0.08	86.87	85.41	32.88	32.09	0.04
1200	0.10	84.89	86.82	25.75	25.77	0.06
1400	0.12	86.87	83.74	22.36	22.46	0.08
1800	0.14	105.33	92.96	22.42	22.19	0.12
2000	0.14	84.90	87.07	26.44	25.18	0.15
2500	0.19	60.03	60.30	22.32	22.18	0.19
3000	0.25	29.06	29.74	24.36	24.21	0.22
3500	7.91	1.87	10.35	10.25	1.89	8.21
4000	29.45	0.25	29.33	25.67	0.25	25.21
4500	43.37	0.22	43.48	21.11	0.16	22.23
4600	45.92	0.22	45.95	20.95	0.14	22.29
5000	55.01	0.17	54.82	24.76	0.10	28.09
5500	64.08	0.16	64.17	30.90	0.06	30.23
6000	72.90	0.18	73.93	22.53	0.02	22.66
6500	81.00	0.18	79.79	21.45	0.01	22.67
7000	88.95	0.16	89.78	23.17	0.05	26.96
7200	89.72	0.15	92.07	23.84	0.07	29.07
7500	95.35	0.16	96.15	23.30	0.09	27.04
8000	98.69	0.19	100.27	19.60	0.13	20.48

Typical Performance Curves



Outline Dimensions

BAF3587



Dimensions are in inches [mm]. Tolerances: 2 Pl. ± 0.06 [1.5]; 3 Pl. ± 0.015 [0.38]

Notes:

1. Case material: Aluminum.
2. Case Finish: silver plating.
3. Unit Weight: 65 grams.
4. Refer to the individual model data sheet for the type of connectors available.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Temperature	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet