COAXIAL REFLECTIONLESS

Bandpass Filters

ZXBF SERIES

50Ω 2 to 21 GHz

THE BIG DEAL

- Patented design terminates Stopband signals
- Stopband up to 40 GHz
- High Stopband rejection, up to 60 dB

PRODUCT OVERVIEW

Mini-Circuits' ZXBF Series reflectionless filters employs a novel filter topology which absorbs and terminates stopband signals internally rather than reflecting them back to the source. Reflectionless filters eliminate stopband reflections, allowing them to be paired with sensitive devices and used in applications that otherwise require circuits such as isolation amplifiers or attenuators. This is developed in a new broadband, stable connectorized package.

KEY FEATURES

Feature	Advantages
Easy integration with sensitive reflective components, e.g. mixers, multipliers	Reflectionless filters absorb unwanted signals, preventing reflections back to the source. This reduces generation of additional unwanted signals without the need for extra components like attenuators, improving system dynamic range.
Cascadable	Reflectionless filters can be cascaded in multiple sections to provide sharper and higher attenuation, while also preventing any standing waves that could affect passband signals.
Excellent stability over temperature	Minimal variation in electrical performance across temperature.
Operating temperature up to 105˚C	Suitable for operation close to high power components.
Broadband connectorized package	The connectorized package works well even in high frequencies and easy to interface with other devices. This is well-suited for test setups.

REV. A
ECO-027515
ZXBF-K183+
EDU3921
URJ
251101

COAXIAL REFLECTIONLESS

Bandpass Filter

ZXBF-K183+

50Ω 17.5 to 18.5 GHz

FEATURES

- Match to 50Ω in the stopband, eliminates undesired reflections
- Cascadable
- Good stopband rejection, 47dB typ.
- Temperature stable, up to 105°C
- Protected by US Patents 8,392,495; 9,705,467, additional patent pending
- Protected by China Patent 201080014266.1
- Protected by Taiwan Patent I581494

Generic photo used for illustration purposes only

Model No.	ZXBF-K183+
Case Style	UK3042
Connectors	2.92mm-F

APPLICATIONS

- Telecomm
- Microwave Point-to-Point Links

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

ELECTRICAL SPECIFICATIONS AT 25°C

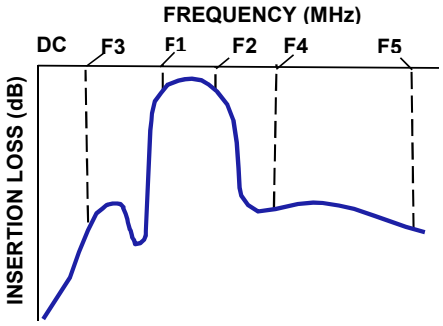
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	F1-F2	17500 - 18500	—	5.2	6.5	dB
	Return Loss	F1-F2	17500 - 18500	—	12.7	—	dB
Stopband, Lower	Insertion Loss	DC-F3	DC - 9000	43	51	—	dB
	Return Loss	DC-F3	DC - 9000	—	20	—	dB
Stopband, Upper	Insertion Loss	F4-F5	27000 - 32000	30	47	—	dB
	Return Loss	F4-F5	27000 - 32000	—	8.5	—	dB

MAXIMUM RATINGS[3]

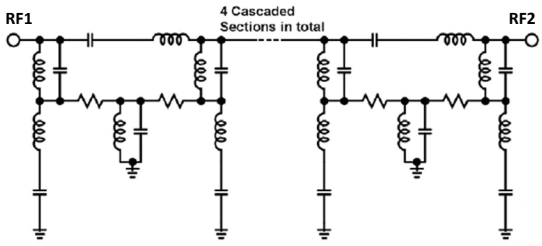
Parameter	Ratings
Operating temperature	-55°C to +105°C
Storage temperature	-55°C to +105°C
RF Power Input, Passband (F1-F2)[1]	0.5W at 25°C
RF Power Input, Stopband (DC-F1, F2-F5)[2]	0.16W at 25°C

1. Passband rating derates linearly to 0.25W at 105°C ambient
2. Stopband rating derates linearly to 0.08W at 105°C ambient
3. Permanent damage may occur if any of these limits are exceeded

TYPICAL FREQUENCY RESPONSE



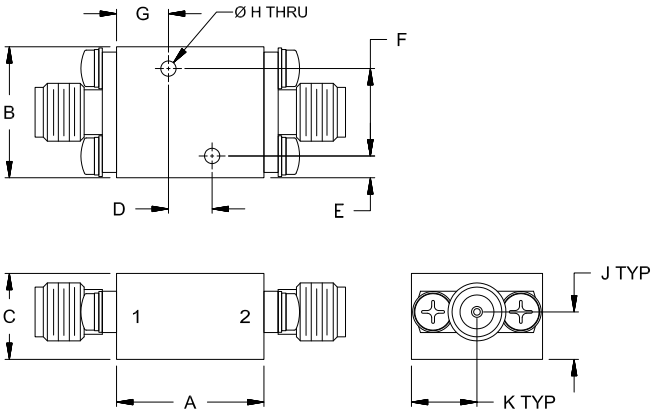
FUNCTIONAL SCHEMATIC



COAXIAL CONNECTIONS

RF1	2.92mm-Female
RF2	2.92mm-Female

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F
.68	**.60**	**.39**	**.200**	**.10**	**.400**
17.1	15.2	10.0	5.08	2.5	10.16

G	H	J	K		Wt.
.24	**.070**	**.22**	**.30**		grams
6.0	1.78	5.5	7.6		**24**

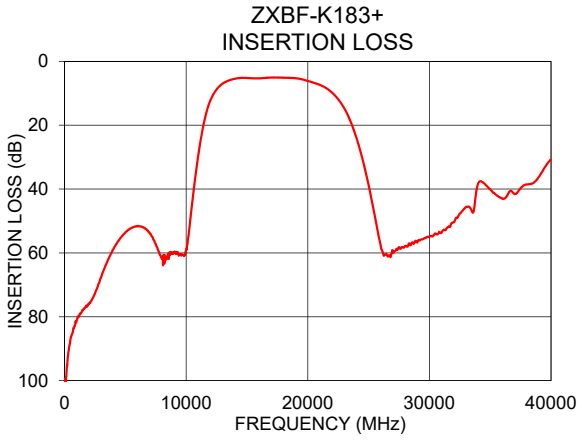
Note: Please refer to case style drawing for details

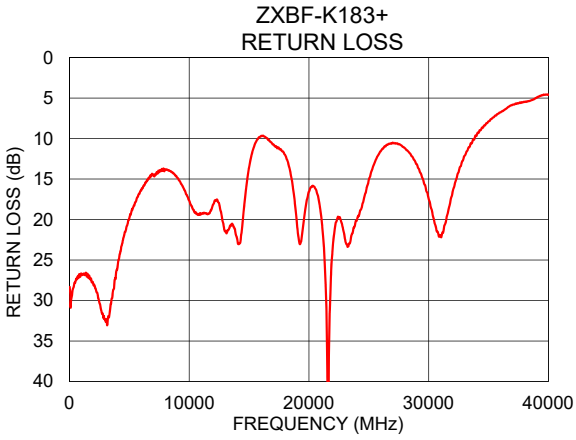
ESD RATING

Human Body Model (HBM): Class 1C (Pass 1000V) in accordance with ANSI/ESD STM 5.1 - 2001

TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
25	101.62	28.33
500	86.79	27.70
5000	53.59	19.88
9000	60.02	14.83
10975	30.04	19.30
11400	20.41	19.21
17500	5.08	11.20
17700	5.09	11.43
18000	5.12	11.99
18500	5.18	14.59
23650	20.09	21.67
24475	30.25	18.05
27000	59.66	10.51
32000	50.35	16.58
40000	30.62	4.60





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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp