Satellite MuxTee

Bias-Tee/Diplexer

Z4BT-2R15G+

50Ω 10 to 2150MHz (10MHz, 950-2150MHz)



CASE STYLE: CC1823

The Big Deal

- Compact L-Band all-in-one DC and Reference Inject Bias Tee
- Integrated 10 MHz Diplexer and DC Bias-Tee
- DC pass through: 2A, 48V
- Low RF Insertion Loss: 0.5 dB Typ. over 950-2150 MHz

Product Overview

The Z4BT-2R15G+ is a combination of bias tee and diplexer designed to support L-Band communications application. Ideally suited for satellite communication installations, the Z4BT-2R15G+ combines wide band, flat response bias tee performance with additional functionality to inject 10 MHz reference clock in a single compact design. Built in a rugged shielded case, the Z4BT-2R15G+ is equipped with SMA Female connectors for all ports.
The Z4BT-2R15G+ is ideally suited for powering Satellite up converters and LNBs where IF, DC and 10 MHz clock reference are all injected on a single coax cable.

Key Features

Feature	Advantages
Compact Integration	Combines the features and capability of two coaxial components into one single compact assembly. Bias tee + Reference injection to enable remote LNB / BVC installations.
Filtered 10 MHz Port	Allows easy coupling of 10 MHz signals to coax for PLL reference clocks reducing cable runs. Blocks 10MHz from RF port reducing unwanted 10 MHz leakage.
DC pass through / DC Feed	Enables remote powering of antenna mounted amplifiers while splitting the RF signal. Eliminates additional cable runs. Designed to handle up to 2A at 48 Volts, the Z4BT-2R15G+ can also support a wide variety of remotely powered RF equipment.
Connectors	All connectors are SMA Female.
Bi-Directional Operation	Can be used at both ends of a feed to inject RF, DC and 10 MHz.

Notes
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Connectors	Model
SMA FEMALE	Z4BT-2R15G+

+RoHS Compliant

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

Features

- Integrated multifunctional L-Band+DC Bias- tee + Common reference inject
- DC pass through: 2A, 48V
- Low insertion loss, 0.5dB Typ.
- Good Isolation, 50dB Typ.

Applications

- Satellite IF band
- Satellite Receivers / Transmitters
- Test accessory

Maximum Ratings

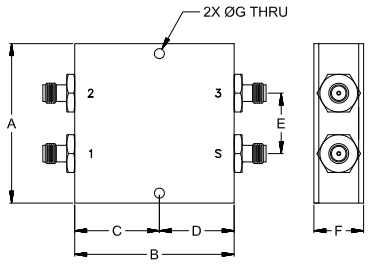
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	30dBm Max.
Voltage at DC port	+48V Max.
Input Current	2A
DC resistance from DC to RF&REF&DC port	0.5Ohm Typ.

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

Coaxial Connections

RF	1 (SMA female)
COMMON (RF+DC+10 MHz)	2 (SMA female)
REF (10 MHz)	3 (SMA female)
DC	S (SMA female)

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	Wt.
2.000	**2.000**	**1.062**	**.938**	**.758**	**.624**	**.125**	grams
50.80	50.80	26.97	23.83	19.25	15.85	3.18	99

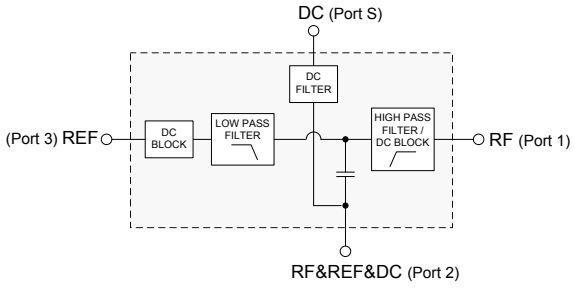
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	REF to Common	10	-	0.5	0.8	dB
		RF to Common	950-2150	-	0.7	1.5	
	VSWR	Common & REF	10	-	1.4	1.8	:1
		RF & Common	950-2150	-	1.2	1.6	
Stop Band Isolation		REF to RF	10	70	90	-	dB
		RF to DC	10	27	40	-	
		Common to DC	10	27	40	-	
		REF to DC	10	27	40	-	
		RF to REF	950-2150	35	65	-	dB
		RF to DC	950-2150	30	50	-	
		Common to DC	950-2150	30	50	-	
		REF to DC	950-2150	30	50	-	

Typical Performance Data

FREQ. (MHz)	INSERTION LOSS (dB) With 2A Port		ISOLATION (dB) With 2A Port				VSWR (:1) With 2A Port		
	3 to 2	2 to 1	3 to 1	1 to S	2 to S	3 to S	RF	Common	REF
1	2.83	98.66	101.89	98.76	7.05	11.21	24598.95	1.23	2.65
5	0.52	103.97	111.34	108.81	31.78	32.29	14008.37	1.06	1.10
10	0.40	95.25	92.64	106.05	41.07	39.96	28842.40	1.06	1.04
15	0.36	94.08	93.13	97.98	45.75	43.24	6238.07	1.08	1.05
50	0.63	73.02	71.08	107.43	62.49	67.70	1910.14	1.68	1.60
100	5.44	48.68	55.86	99.61	65.95	62.67	730.07	7.76	8.60
500	60.90	2.59	60.07	45.82	48.03	68.19	2.23	2.62	182.44
900	73.17	0.35	73.48	59.78	60.48	72.16	1.12	1.12	102.39
950	71.88	0.35	73.09	60.18	61.63	68.84	1.14	1.14	94.55
1000	71.57	0.36	72.63	60.41	62.45	66.00	1.16	1.16	89.61
1100	71.36	0.37	72.22	60.18	60.31	62.48	1.21	1.22	77.89
1250	68.74	0.41	69.40	58.20	56.23	58.31	1.27	1.29	65.31
1400	64.89	0.45	65.20	54.98	52.89	54.98	1.30	1.33	55.16
1500	62.02	0.47	62.32	52.45	50.27	52.94	1.31	1.35	49.53
1700	56.22	0.54	56.42	48.94	45.60	49.35	1.34	1.38	40.97
1800	53.60	0.57	53.71	48.84	44.20	47.78	1.35	1.40	37.72
1900	51.01	0.60	51.11	49.84	43.57	46.29	1.35	1.40	35.09
2000	48.34	0.62	48.50	49.79	42.92	44.84	1.35	1.39	32.32
2100	45.63	0.65	45.79	47.87	41.50	43.37	1.34	1.39	30.12
2150	44.24	0.67	44.47	46.92	40.54	42.62	1.34	1.38	29.24

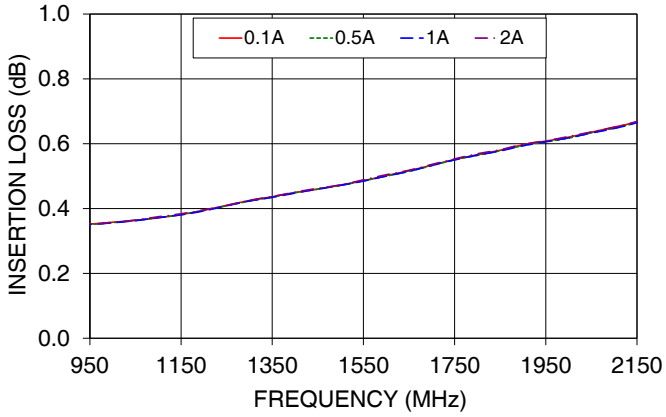
Functional Block Diagram



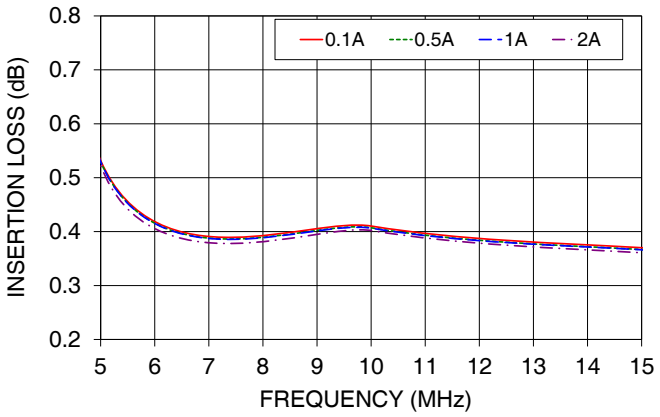
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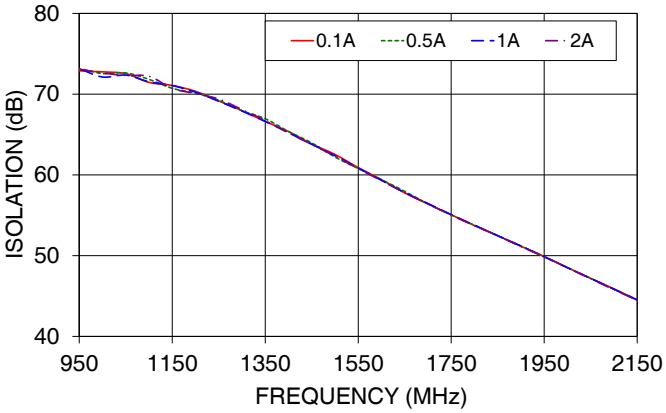
Z4BT-2R15G+
RF to Common port
INSERTION LOSS WITH CURRENT (P_{in}= 0dBm)



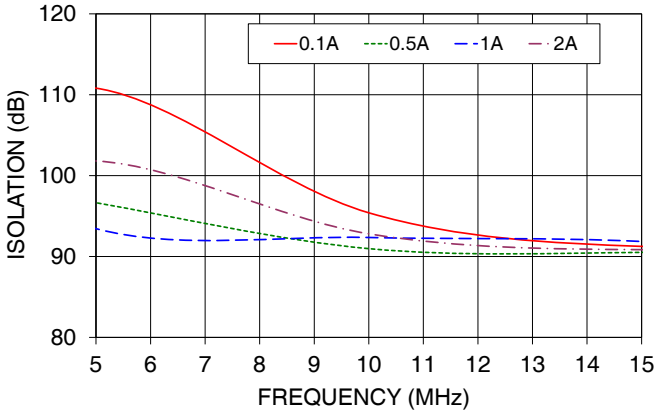
Z4BT-2R15G+
REF to Common port
INSERTION LOSS WITH CURRENT (P_{in}= 0dBm)



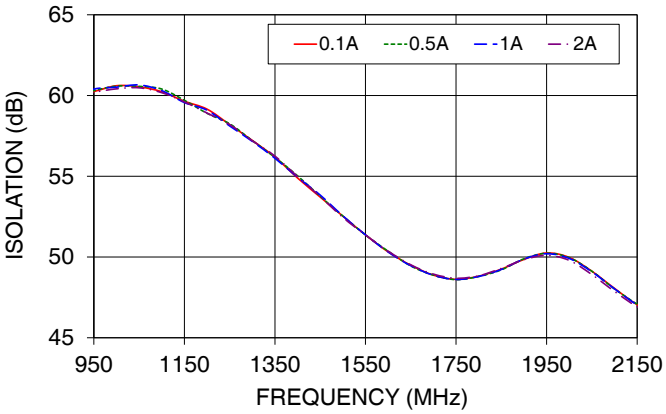
Z4BT-2R15G+
RF to REF port
ISOLATION WITH CURRENT (P_{in}= 0dBm)



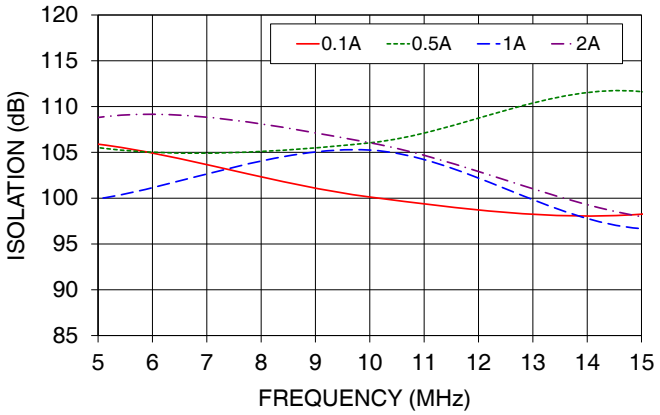
Z4BT-2R15G+
REF to RF port
ISOLATION WITH CURRENT (P_{in}= 0dBm)



Z4BT-2R15G+
RF to DC port
ISOLATION WITH CURRENT (P_{in}= 0dBm)

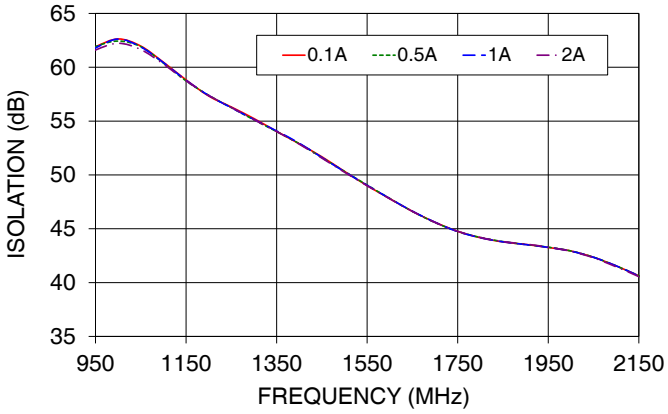


Z4BT-2R15G+
RF to DC port
ISOLATION WITH CURRENT (P_{in}= 0dBm)

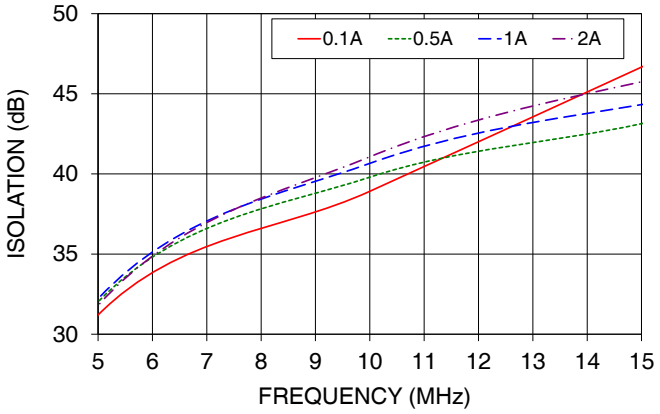


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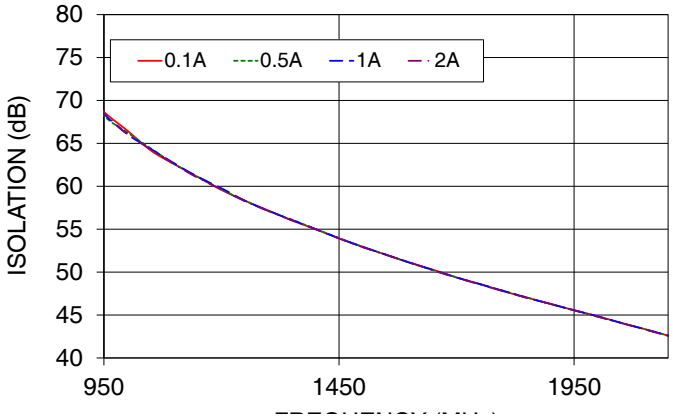
Z4BT-2R15G+
Common port to DC port
ISOLATION WITH CURRENT (P_{in}= 0dBm)



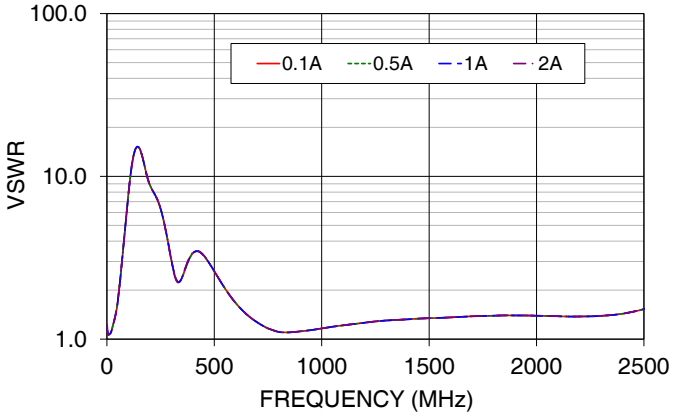
Z4BT-2R15G+
Common port to DC port
ISOLATION WITH CURRENT (P_{in}= 0dBm)



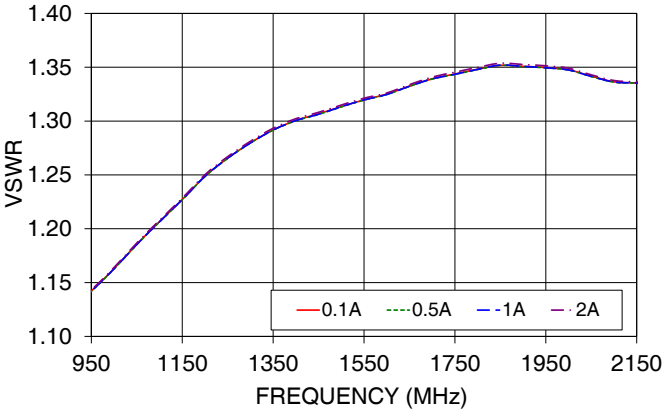
Z4BT-2R15G+
REF to DC port
ISOLATION WITH CURRENT (P_{in}= 0dBm)



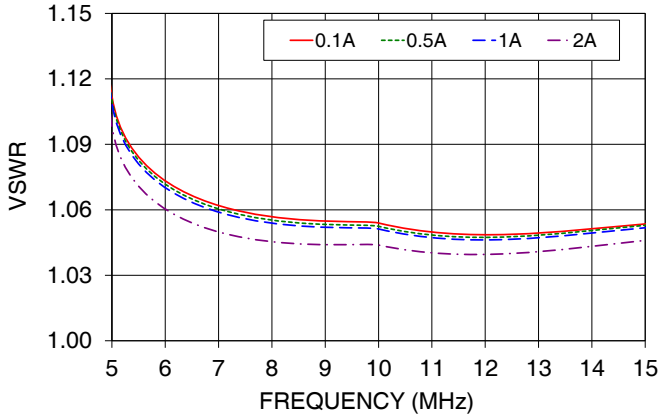
Z4BT-2R15G+
Common port
VSWR (P_{in}= 0dBm)



Z4BT-2R15G+
RF port
VSWR (P_{in}= 0dBm)



Z4BT-2R15G+
REF port
VSWR (P_{in}= 0dBm)



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