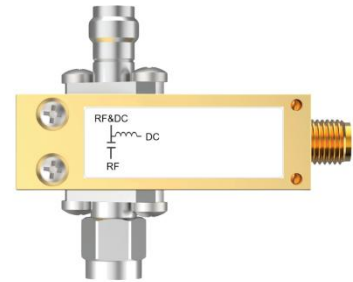


VMBT-50k/40G-16-1.6-2.92X

FEATURES

- ◆ Frequency Range, 50KHz~40GHz
- ◆ The Voltage, 16V DC Max.
- ◆ The Current, 0.4A DC Max.
- ◆ Excellent Group Delay for All-band
- ◆ Low VSWR, 1.2:1@50KHz~40GHz Typ.
- ◆ High RF performance, ultra-competitive price
- ◆ Low Insertion loss, 1.4dB@50KHz~40GHz Max.

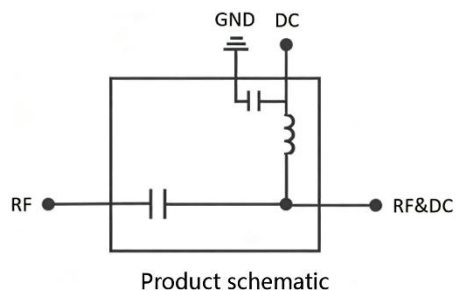


TYPICAL APPLICATIONS

- ◆ Ultra-Broadband amplifier bias power supply
- ◆ Spatial Light Modulator bias power supply
- ◆ Photo-Communication & laser driver bias power supply
- ◆ Active antenna bias power supply

PRODUCT OVERVIEW

The VMBT-50k/40G-16-1.6-2.92X is an ultra-broadband, low loss, and supports a maximum 32dBm RF power input coaxial bias-tee, which covers the frequency of 50KHz to 40GHz, to provide a bias power supply for amplifiers, photodiodes or optical modulators, mainly used in biasing amplifiers, laser diodes, active antennas and other applications.



CONFIGURATIONS

- ◆ VMBT-50k/40G-16-1.6-2.92A -RF port: 2.92mm male, RF&DC port: 2.92mm female
- ◆ VMBT-50k/40G-16-1.6-2.92B -RF port: 2.92mm female, RF&DC port: 2.92mm male
- ◆ VMBT-50k/40G-16-1.6-2.92C -RF port: 2.92mm male, RF&DC port: 2.92mm male
- ◆ VMBT-50k/40G-16-1.6-2.92D -RF port: 2.92mm female, RF&DC port: 2.92mm female

There are four configurations of this bias-tee. The model VMBT-50k/40G-16-1.6-2.92X is used as an example in this datasheet. For more information, please refer to the Physical Dimensions section. The DC-port is always SMA female.

ELECTRICAL SPECIFICATIONS

Item	Condition		Min.	Typ.	Max.	Units
Frequency Range	-		0.05	-	40000	MHz
Nominal Impedance	-		-	50	-	Ω
Insertion Loss	50KHz~40GHz		-	1.1	1.4	dB
VSWR	RF port	50KHz~40GHz	-	1.2	1.5	:1
	RF&DC port	50KHz~40GHz	-	1.2	1.5	:1
Isolation	50KHz~40GHz		-	40	-	dB
Operating RF input Power	50KHz~40GHz		-	-	32	dBm
Group Delay Ripple	1GHz~40GHz		-	± 50	-	ps
DC Resistance	DC to RF&DC port		-	3.2	-	Ω
DC Voltage	-		-	-	16	V
DC Current	-		-	-	0.4	A

MECHANICAL SPECIFICATIONS

Item	Spec.	Units
RF/RF&DC Connectors	2.92-male/2.92-female	-
DC Connectors	SMA-female	-
Physical Dimensions(L*W*H)	40 * 13 * 12.6	mm
Net Weight	≈ 44.2	g
Material	Aluminum alloy & Copper	-
Surface Finish	Conductive oxidation & Gold-plated copper	-
Color	Aluminum color & Golden	-

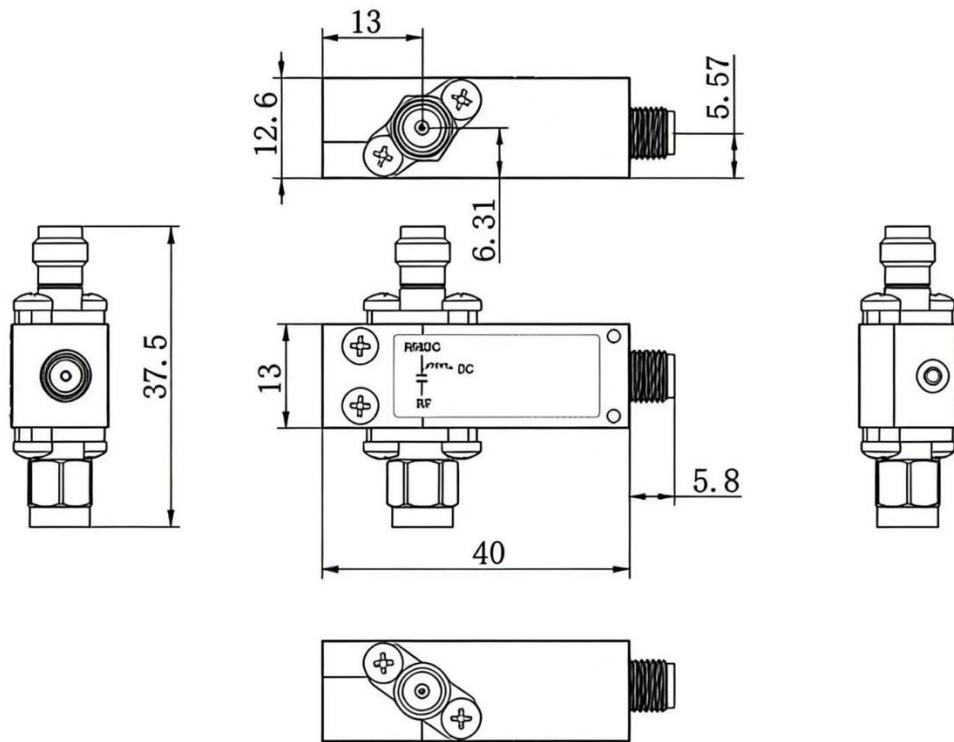
* **Note: Package Dimensions & Gross Weight are subject to the actual delivery.**

OTHER SPECIFICATIONS

Item	Spec.	Units
Operating Temperature	+10 ~ +50	$^{\circ}\text{C}$
Storage Temperature	-45 ~ +85	$^{\circ}\text{C}$
Humidity range	<93%@40 $^{\circ}\text{C}$	%rh
Altitude Range	<4600	m

OUTLINE DRAWING

Unit: mm



INTERFACE INFORMATION

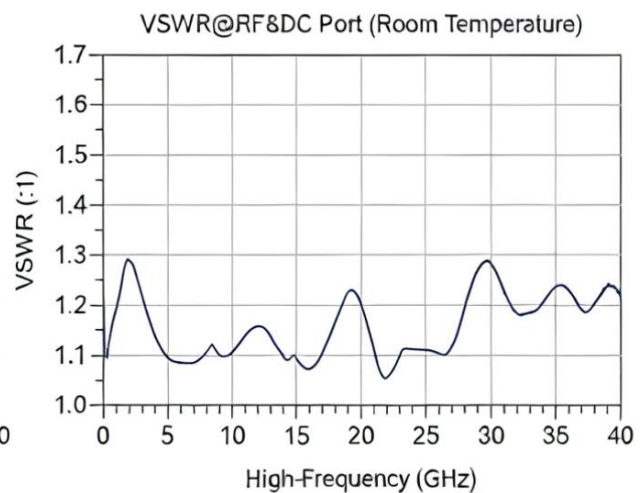
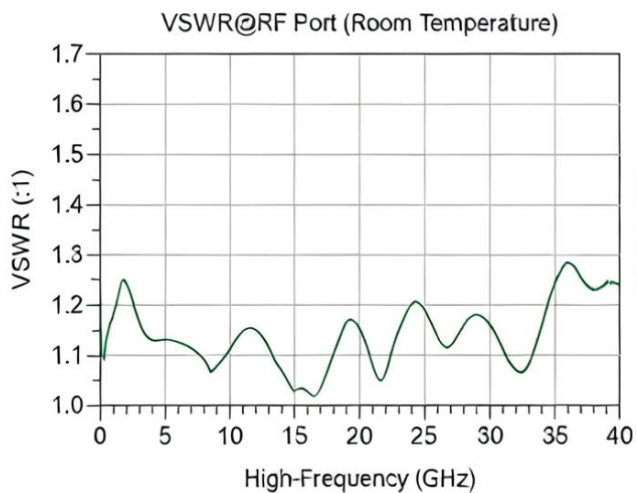
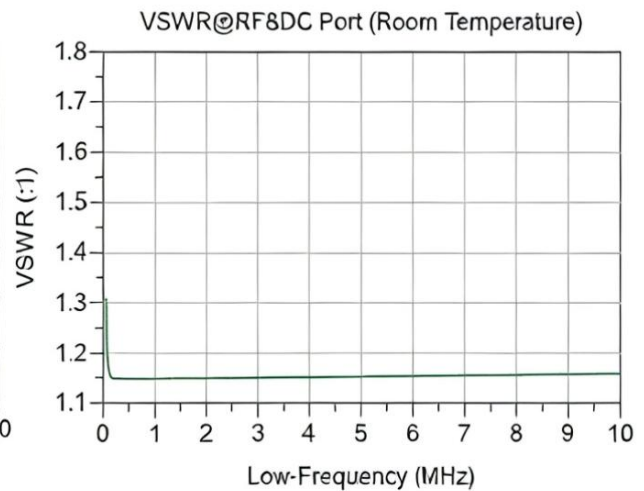
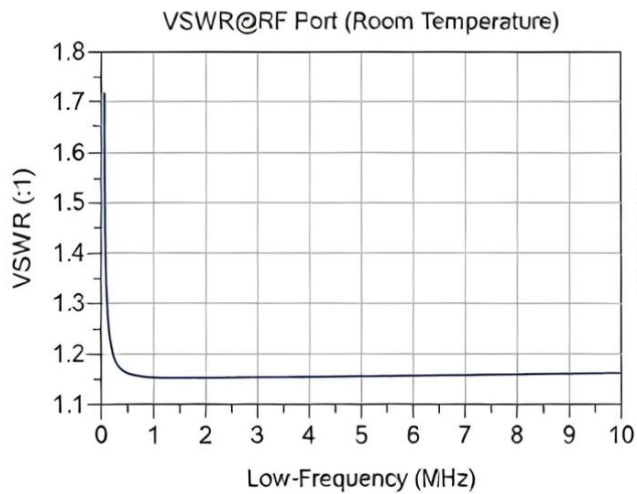
NO.	Function	Description
1	RF Port	RF signal input port
2	RF&DC Port	RF signal and DC output port
3	DC Port	DC input port

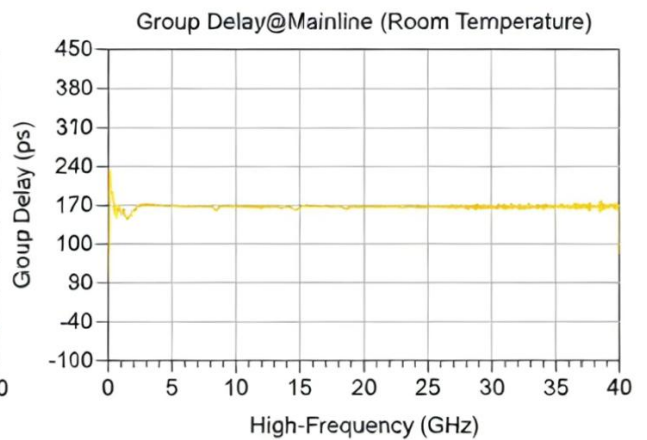
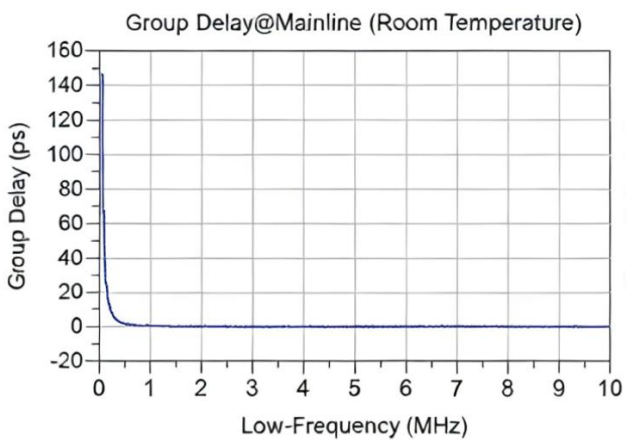
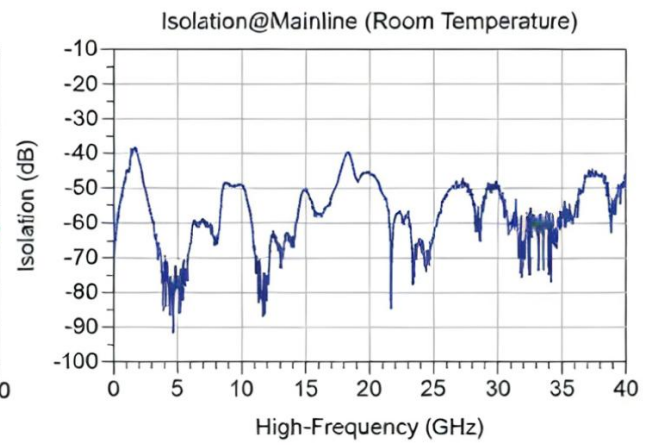
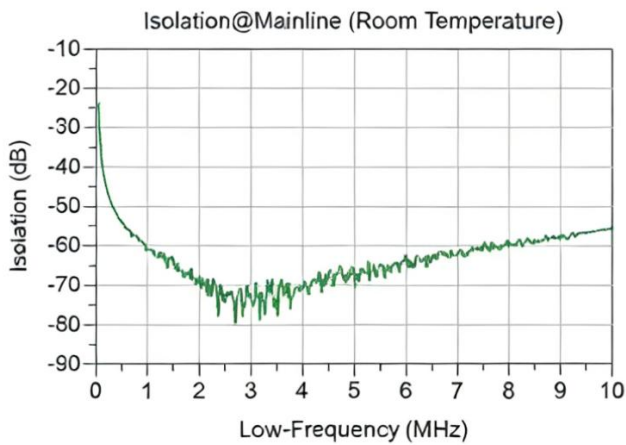
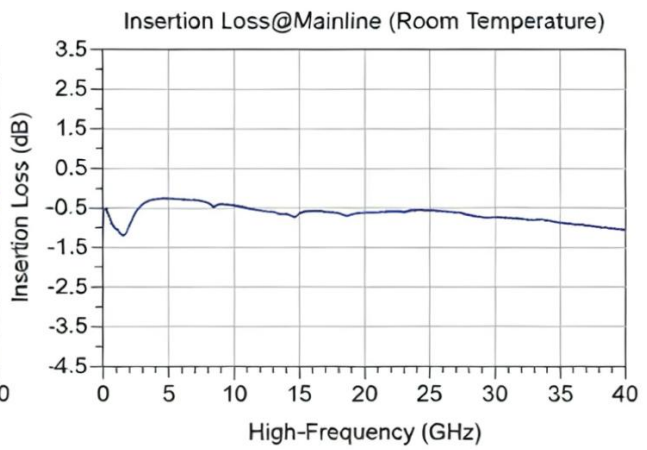
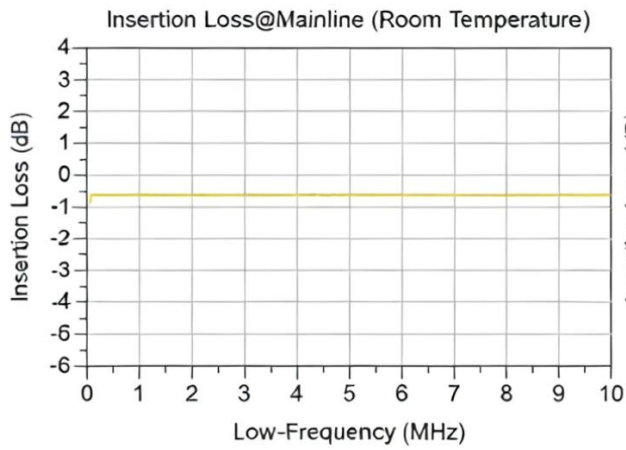
* Note: Please refer to the physical dimensions of the corresponding ports.

TYPICAL PERFORMANCE DATA

Freq. (MHz)	VSWR (:1)		Insertion Loss (dB) (with current)	Isolation (dB) (with current)
	RF	RF&DC	RF to RF&DC	RF to RF&DC
0.05	1.72	1.31	-0.86	-23.76
0.1	1.33	1.16	-0.63	-36.59
0.2	1.21	1.15	-0.62	-45.24
0.5	1.16	1.15	-0.62	-54.04
1	1.15	1.15	-0.62	-60.99
2	1.15	1.15	-0.62	-68.76
5	1.16	1.15	-0.62	-68.11
10	1.16	1.15	-0.65	-57.21
20	1.17	1.16	-0.70	-58.61

50	1.21	1.20	-0.85	-65.09
100	1.17	1.17	-0.68	-65.85
300	1.09	1.09	-0.53	-57.63
600	1.14	1.14	-0.80	-51.03
900	1.17	1.18	-0.97	-47.13
1000	1.17	1.19	-0.99	-44.68
2000	1.24	1.29	-0.94	-42.84
5000	1.13	1.10	-0.26	-75.25
10000	1.11	1.10	-0.44	-49.24
15000	1.03	1.10	-0.65	-50.31
20000	1.15	1.20	-0.62	-45.64
25000	1.19	1.11	-0.56	-64.21
30000	1.16	1.28	-0.73	-49.78
35000	1.25	1.24	-0.85	-57.48
40000	1.24	1.22	-1.05	-45.89





* Note: The above is typical data and is not used as an acceptance reference.