

VMBT-100k/67G-100-1.6-1.85X

FEATURES

- ◆ Frequency Range, 100KHz~67GHz
- ◆ The Voltage, 100V DC Max.
- ◆ The Current, 0.4A DC Max.
- ◆ Excellent Group Delay for All-band
- ◆ Low VSWR, 1.3:1@100KHz~67GHz Typ.
- ◆ High RF performance, ultra-competitive price
- ◆ Low Insertion loss, 1.75dB@100KHz~67GHz Max.

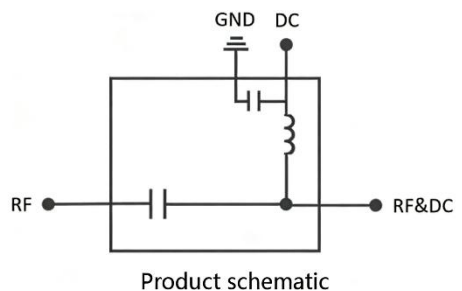


TYPICAL APPLICATIONS

- ◆ 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-100k/67G-100-1.6-1.85X is an ultra-broadband, low loss, and supports a maximum 32dBm RF power input coaxial bias-tee, which covers the frequency of 100KHz to 67GHz, 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-100k/67G-100-1.6-1.85A -RF port: 1.85mm male, RF&DC port: 1.85mm female
- ◆ VMBT-100k/67G-100-1.6-1.85B -RF port: 1.85mm female, RF&DC port: 1.85mm male
- ◆ VMBT-100k/67G-100-1.6-1.85C -RF port: 1.85mm male, RF&DC port: 1.85mm male
- ◆ VMBT-100k/67G-100-1.6-1.85D -RF port: 1.85mm female, RF&DC port: 1.85mm female

There are four configurations of this bias-tee. The model VMBT-100k/67G-100-1.6-1.85X 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	-		0.1	-	67000	MHz
Nominal Impedance	-		-	50	-	Ω
Insertion Loss	100KHz~67GHz		-	1.5	1.75	dB
VSWR	RF port	100KHz~67GHz	-	1.3	1.8	:1
	RF&DC port	100KHz~67GHz	-	1.3	1.8	:1
Isolation	RF to DC port	100KHz~67GHz	30	40	-	dB
	RF&DC to DC port	100KHz~67GHz	30	40	-	dB
Operating RF input Power	100KHz~67GHz		-	-	32	dBm
Group Delay Ripple	40MHz~67GHz		-	± 50	-	ps
DC Resistance	DC to RF&DC port		-	3.0	-	Ω
DC Voltage	-		-	-	100	V
DC Current	-		-	-	0.4	A

MECHANICAL SPECIFICATIONS

Item	Spec.	Units
RF/RF&DC Connectors	1.85-male/1.85-female	-
DC Connectors	SMA-female	-
Physical Dimensions(L*W*H)	40 * 12.9 * 13	mm
Net Weight	≈ 44.2	g
Material	Aluminum alloy & Copper	-
Surface Finish	Conductive oxidation & Gold-plated copper	-
Color	Aluminum color & Golden	-

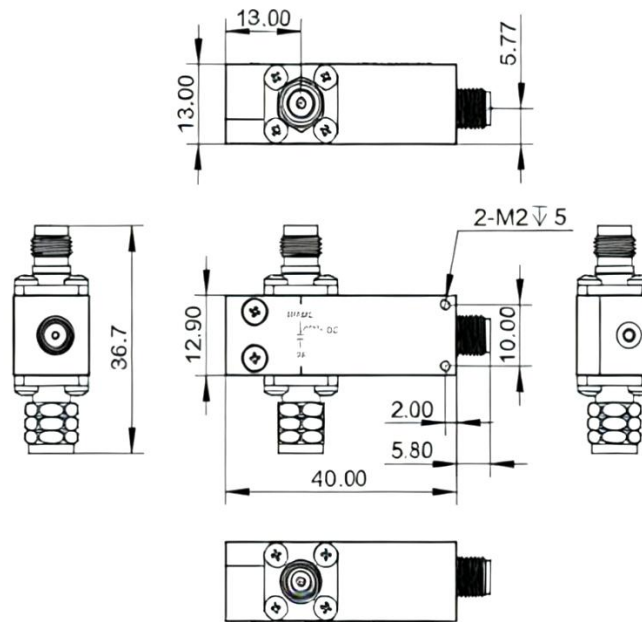
* **Note:** Package Dimensions & Gross Weight are subject to the actual delivery.

OTHER SPECIFICATIONS

Item	Spec.	Units
Operating Temperature	+20 ~ +60	$^{\circ}\text{C}$
Storage Temperature	-45 ~ +85	$^{\circ}\text{C}$

OUTLINE DRAWING

Unit: mm



INTERFACE INFORMATION

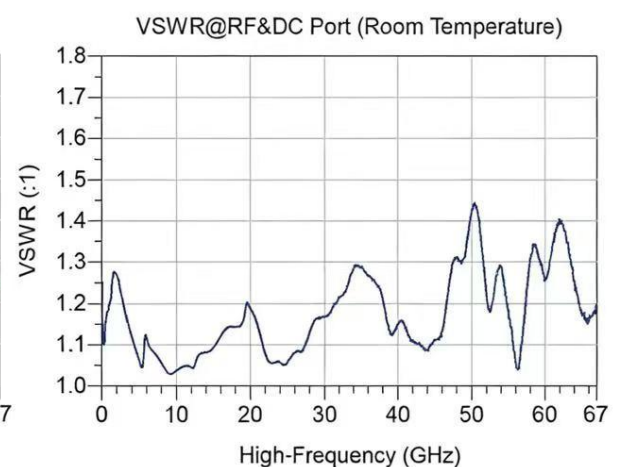
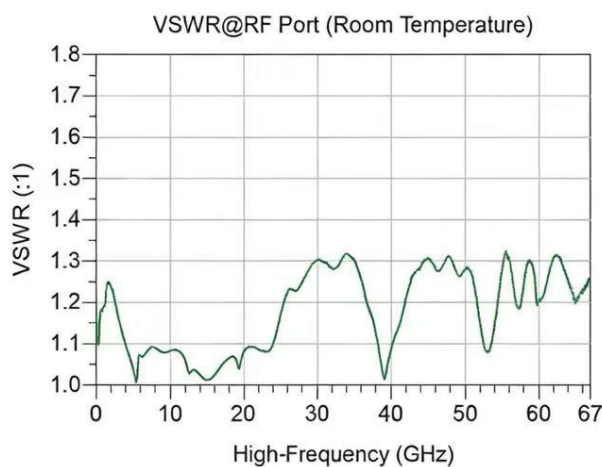
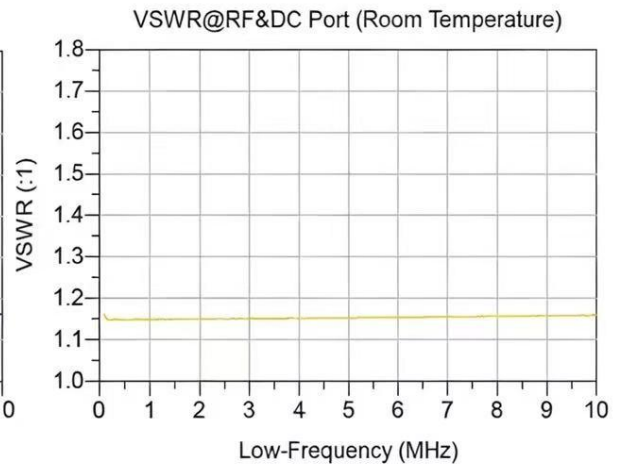
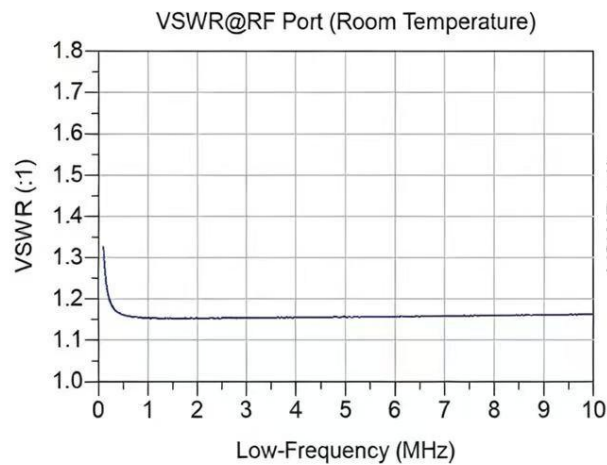
NO.	Function	Description
1	RF Port	RF signal input port
2	RF&DC Port	RF signal and DC output port
3	DC Port	DC input port

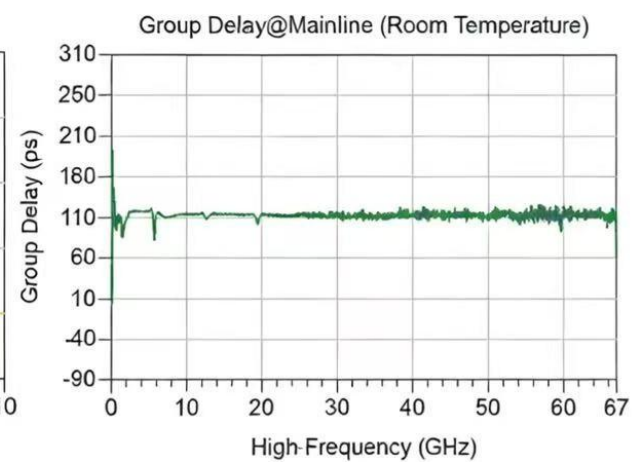
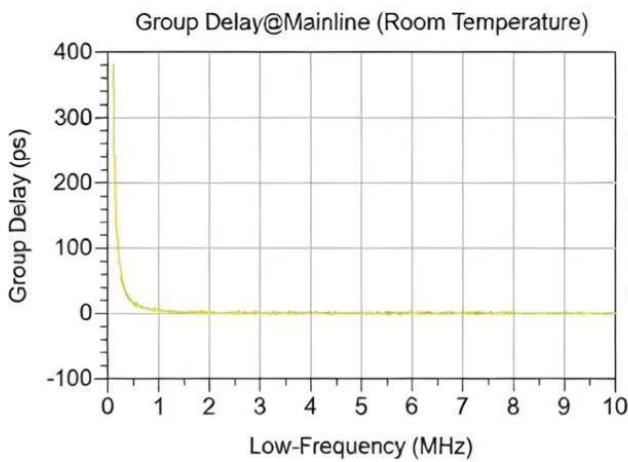
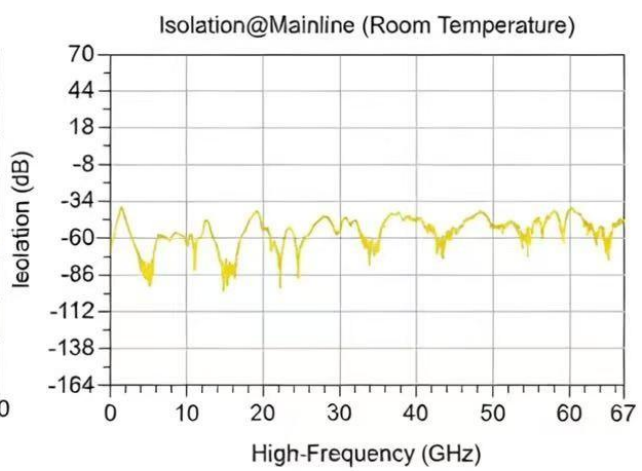
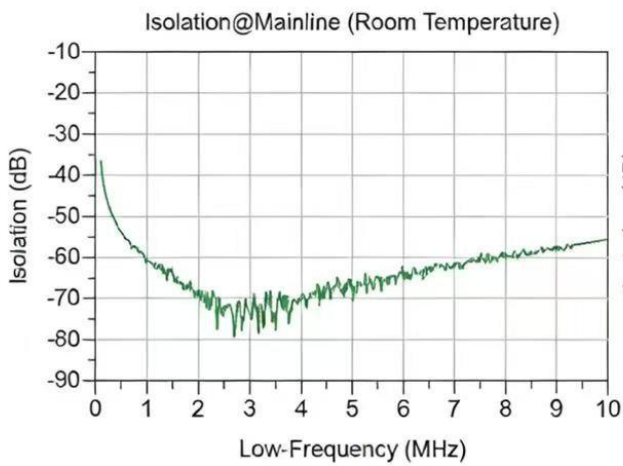
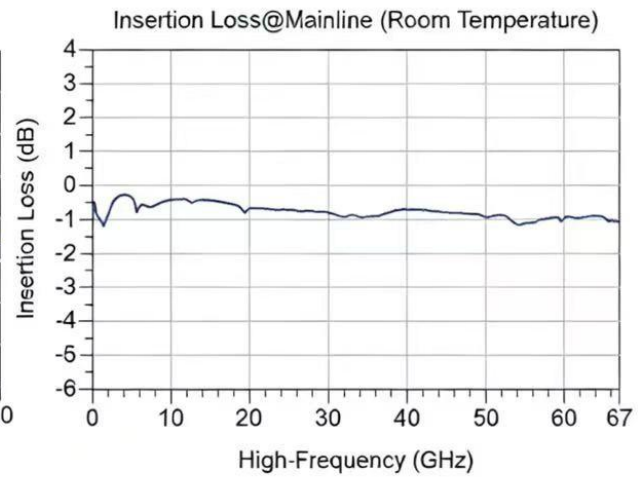
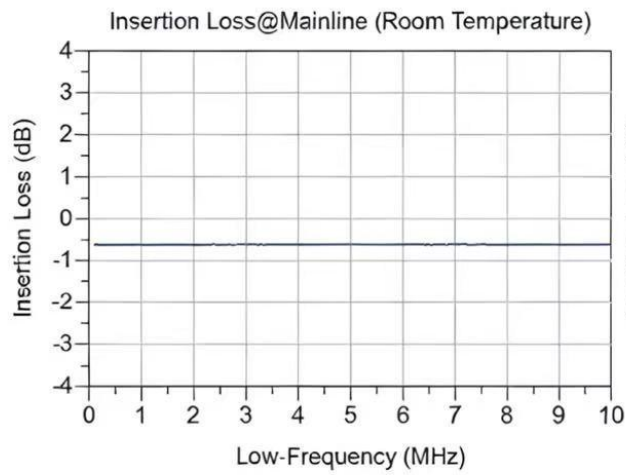
* Note: Please refer to the physical dimensions of the corresponding ports.

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
0.1	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	1.15	1.16	-0.65	-55.87
20	1.17	1.18	-0.75	-57.99
50	1.25	1.25	-1.04	-73.36
100	1.17	1.17	-0.66	-66.13
200	1.10	1.11	-0.51	-62.00
500	1.16	1.16	-0.80	-55.84

1000	1.19	1.20	-1.01	-45.72
2000	1.24	1.27	-0.85	-46.85
5000	1.04	1.06	-0.34	-90.11
10000	1.08	1.04	-0.43	-63.50
15000	1.01	1.09	-0.43	-74.89
20000	1.08	1.19	-0.68	-53.87
25000	1.17	1.06	-0.71	-61.84
30000	1.30	1.17	-0.80	-52.74
35000	1.30	1.29	-0.92	-63.32
40000	1.09	1.15	-0.70	-46.13
45000	1.31	1.11	-0.79	-56.96
50000	1.28	1.42	-0.92	-50.74
55000	1.28	1.18	-1.12	-52.26
60000	1.21	1.25	-0.96	-38.58
65000	1.20	1.18	-0.93	-75.22
67000	1.26	1.20	-1.07	-51.13





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