

VMBT-50k/120G-16-1.6-1.0X

FEATURES

- ◆ Frequency Range, 50kHz~120GHz
- ◆ The Voltage, 16V DC Max.
- ◆ The Current, 0.4A DC Max.
- ◆ Excellent Group Delay for All-band
- ◆ Low VSWR, 1.5:1@50kHz~120GHz Typ.
- ◆ High RF performance, ultra-competitive price
- ◆ Low Insertion loss, 3.0dB@50KHz~120GHz Max.

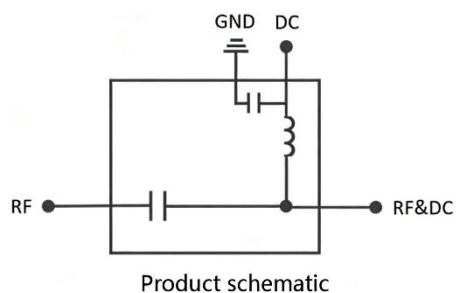


TYPICAL APPLICATIONS

- ◆ 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/120G-16-1.6-1.0X is an ultra-broadband, low loss, and supports a maximum 32dBm RF power input coaxial bias-tee, which covers the frequency of 50kHz to 120GHz, 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/120G-16-1.6-1.0A -RF port: 1.00mm male, RF&DC port: 1.00mm female
- ◆ VMBT-50k/120G-16-1.6-1.0B -RF port: 1.00mm female, RF&DC port: 1.00mm male
- ◆ VMBT-50k/120G-16-1.6-1.0C -RF port: 1.00mm male, RF&DC port: 1.00mm male
- ◆ VMBT-50k/120G-16-1.6-1.0D -RF port: 1.00mm female, RF&DC port: 1.00mm female

There are four configurations of this bias-tee. The model VMBT-50k/120G-16-1.6-1.0X 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	-	120000	MHz
Nominal Impedance	-		-	50	-	Ω
Insertion Loss	50kHz~120GHz		-	1.8	3.0	dB
VSWR	RF port	50kHz~120GHz	-	1.5	1.8	:1
	RF&DC port	50kHz~120GHz	-	1.5	1.8	:1
Operating RF input Power	50KHz~120GHz		-	-	32	dBm
DC Resistance	DC to RF&DC port		-	2.75	-	Ω
DC Voltage	-		-	-	16	V
DC Current	-		-	-	0.4	A

MECHANICAL SPECIFICATIONS

Item	Spec.	Units
RF/RF&DC Connectors	1.0-male/1.0-female	-
DC Connectors	SMA-female	-
Physical Dimensions(L*W*H)	40 * 13 * 13	mm
Net Weight	≈44	g
Material	Aluminum alloy & Copper	-
Surface Finish	Conductive oxidation & Gold-plated copper	-
Color	Aluminum color & Golden	-

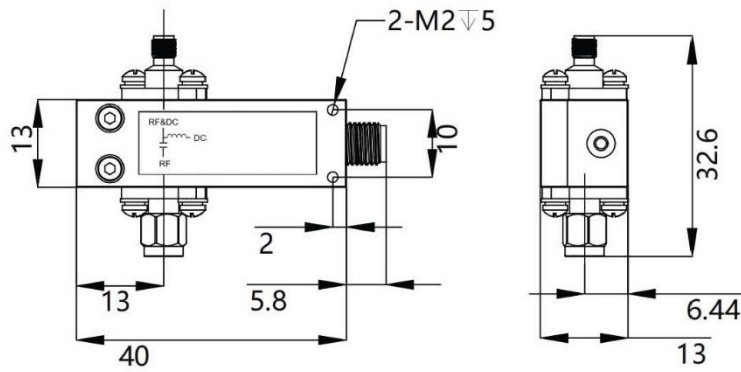
* **Note: Package Dimensions & Gross Weight are subject to the actual delivery.**

OTHER SPECIFICATIONS

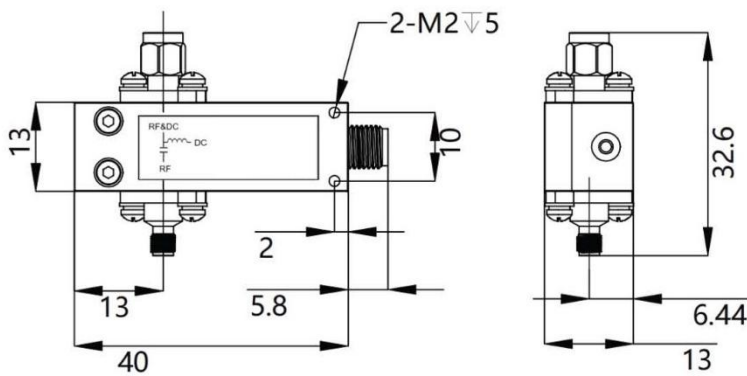
Item	Spec.	Units
Operating Temperature	+10 ~ +50	°C
Storage Temperature	-45 ~ +85	°C
Humidity range	<93%@40°C	%rh
Altitude Range	<4600	m

OUTLINE DRAWING

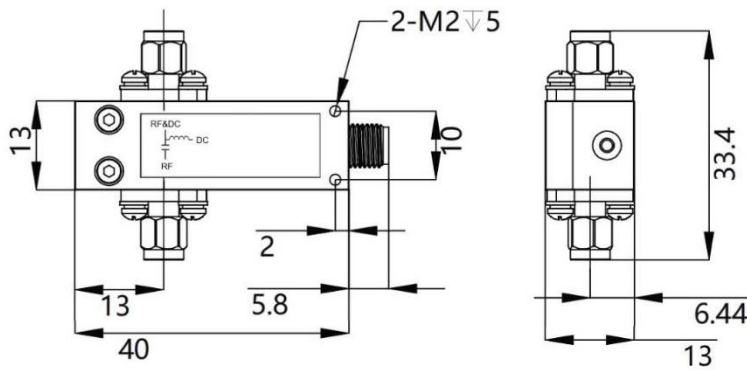
Unit: mm



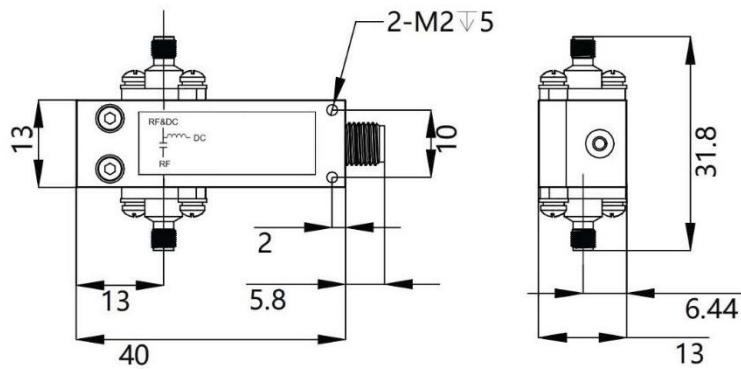
VMBT-50k/120G-16-1.6-1.0A



VMBT-50k/120G-16-1.6-1.0B



VMBT-50k/120G-16-1.6-1.0C



VMBT-50k/120G-16-1.6-1.0D

INTERFACE INFORMATION

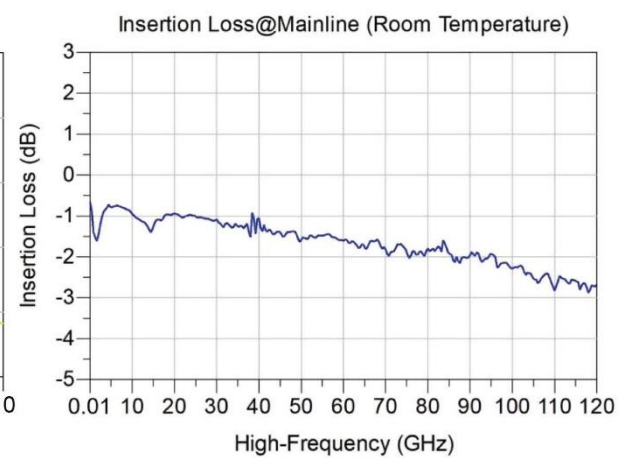
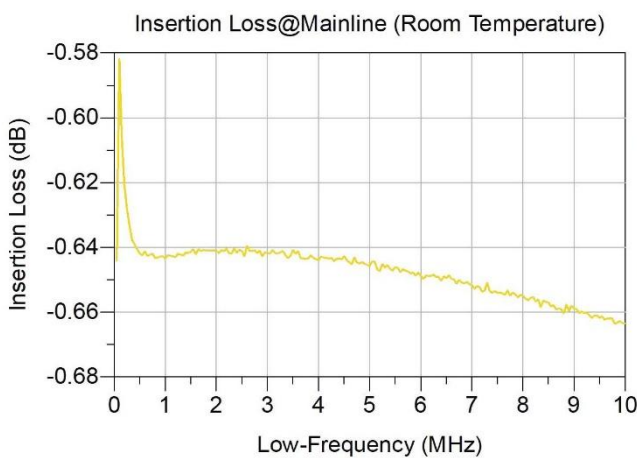
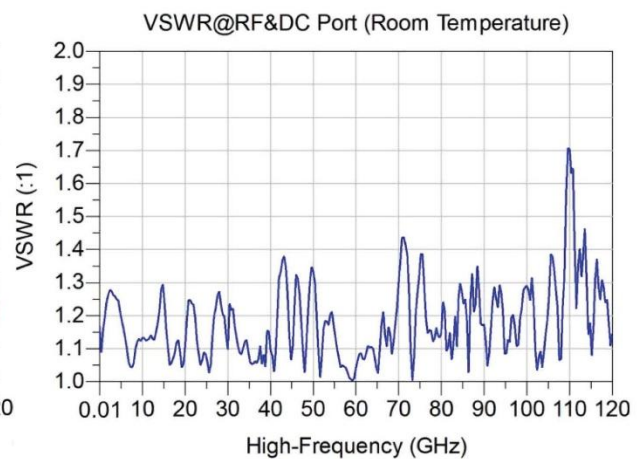
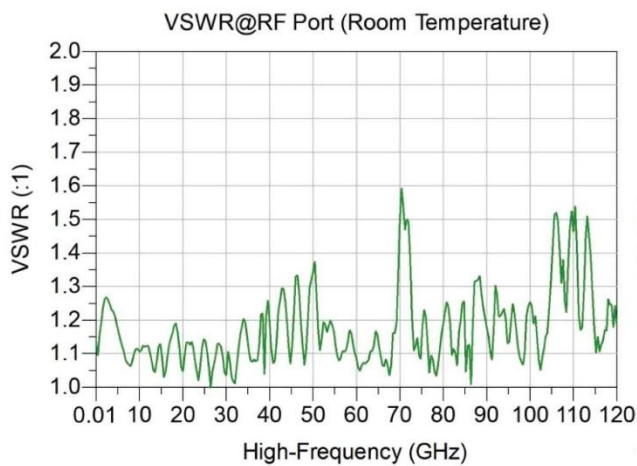
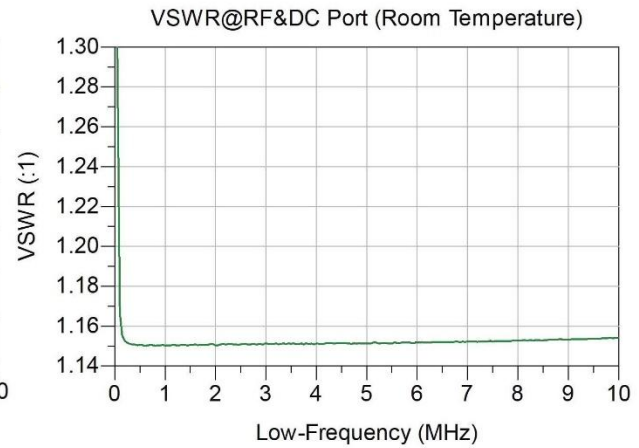
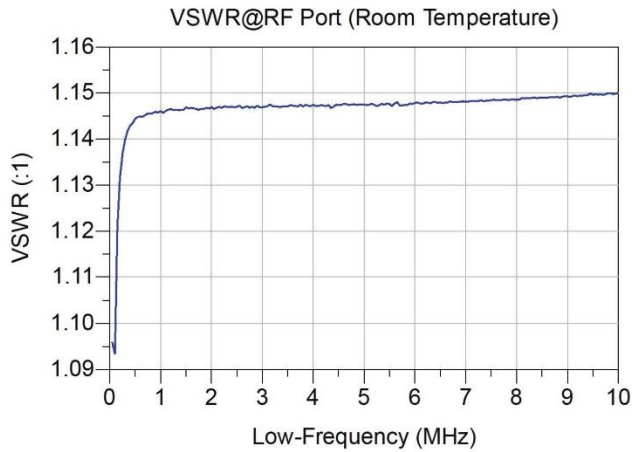
NO.	Function	Description
1	RF Port	RF signal input port
2	RF&DC Port	RF signal and DC output port
3	DC Port	DC input port

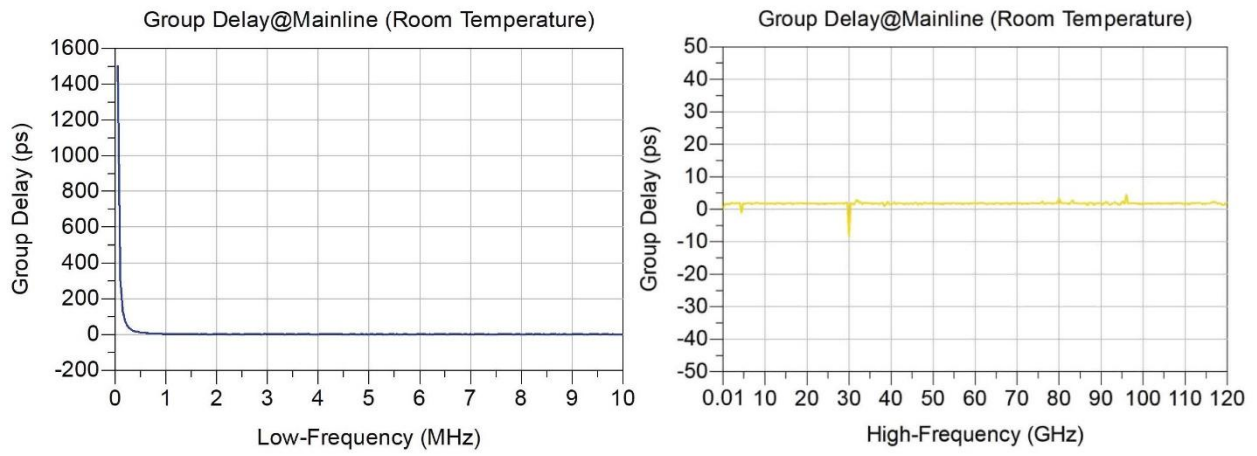
* Note: Please refer to the physical dimensions of the corresponding ports.

TYPICAL PERFORMANCE DATA

Freq. (MHz)	VSWR (:1)		Insertion Loss (dB) (with current)
	RF	RF&DC	RF to RF&DC
0.05	1.10	1.30	-0.64
0.1	1.09	1.17	-0.58
0.2	1.13	1.15	-0.62
0.5	1.14	1.15	-0.64
1	1.15	1.15	-0.64
2	1.15	1.15	-0.64
5	1.15	1.15	-0.65
10	1.15	1.15	-0.75
100	1.16	1.18	-0.83
300	1.07	1.08	-0.72
600	1.13	1.12	-1.27
900	1.15	1.16	-1.40
1000	1.17	1.16	-1.44
5000	1.17	1.21	-0.79
10000	1.11	1.13	-0.96
15000	1.10	1.25	-1.25
20000	1.05	1.11	-0.94
25000	1.11	1.07	-1.02
30000	1.03	1.10	-1.08
35000	1.14	1.07	-1.20
40000	1.19	1.10	-1.06
45000	1.12	1.10	-1.39
50000	1.34	1.33	-1.58
55000	1.11	1.13	-1.47
60000	1.09	1.04	-1.61
65000	1.10	1.12	-1.73
70000	1.50	1.30	-1.82
75000	1.21	1.31	-1.94
80000	1.19	1.15	-1.79
85000	1.27	1.29	-1.90
90000	1.18	1.17	-1.96

95000	1.06	1.10	-1.95
100000	1.25	1.29	-2.29
105000	1.36	1.27	-2.47
110000	1.46	1.70	-2.83
115000	1.16	1.08	-2.50
120000	1.19	1.14	-2.69





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