Broadband DC-Block

DCB110-16

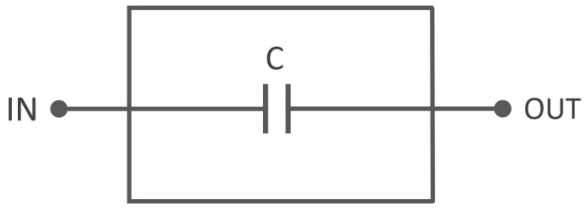
50KHz~110GHz 32dBm 50Ω 1.0-male/1.0-female 16V

Product Features

- 50KHz~110GHz operating frequency
- Low VSWR, 1.3:1@50KHz~110GHz Typ.
- DC voltage value, 16V DC@50KHz~110GHz Max.
- Excellent insertion loss, ≤2.0dB@50KHz~110GHz
- High through power, 32dBm@50KHz~110GHz Max.
- Good Group Delay Ripple, ±50ps@50KHz~110GHz Typ.

Product Overview

DCB110-16 is a compact, high performance and small footprint DC Block supporting a range of applications from 50KHz to 110GHz. This model provides low insertion loss, excellent VSWR and Group Delay Ripple. It is often used to protect sensitive RF components from direct current, or to protect precision instruments and equipment from damage caused by the entry of direct current.It is the RoHS compliant successor of the DCB110.



Product schematic

Typical Applications

- Optical Communications
- Satellite Communications
- Data Transmission
- High-Speed Pulse Experiments
- Research and Development
- Antenna Measurements

Configurations

- DCB110-16-A - Input port: 1.0mm male, Output port: 1.0mm female
- DCB110-16-B - Input port: 1.0mm female, Output port: 1.0mm female
- DCB110-16-C - Input port: 1.0mm male, Output port: 1.0mm male

There are three configurations of this DC-Block. The model DCB110-16-A is used as an example in this datasheet. For more information, please refer to the Physical Dimensions section.

Specifications

RF Electrical Specifications:

Item	Condition	Min.	Typ.	Max.	Units
Frequency Range	-	0.05	-	110000	MHz
Nominal Impedance	50KHz~110GHz	-	50	-	Ω

VSWR	50KHz~110GHz	-	1.3	1.8	:1
Insertion Loss	50KHz~110GHz	-	1.5	2.0	dB
Group Delay Ripple	50KHz~110GHz	-	±50	-	ps
Operating RF input Power	50KHz~110GHz	-	-	32	dBm
DC Voltage	-	-	-	16	V

Mechanical Specifications:

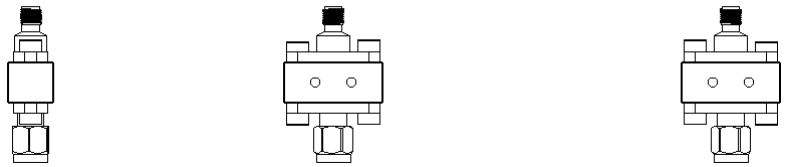
Item	Spec.	Units
Connectors	1.0-male/1.0-female	-
Physical Dimensions(L*W*H)	17 * 8 * 26.6	mm
Net Weight	≈12.7	g
Material	Aluminium alloy&Copper	-
Surface Finish	Conductive oxidation&Gold-plated copper	-
Color	Aluminium color&Golden	-

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

Other Specifications:

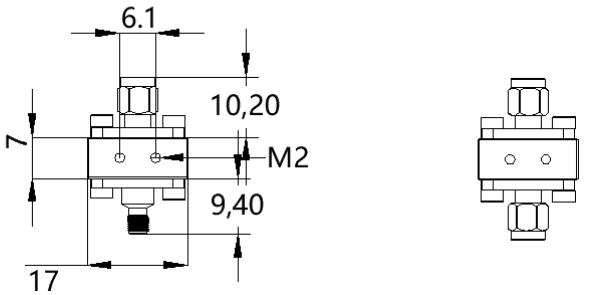
Item	Spec.	Units
Operating Temperature	-20~+60	℃
Storage Temperature	-45~+85	℃
Humidity range	<95%@40℃	%rh

Physical Dimensions (Unit:mm)



Version A

Version B



Version C

Interface Information

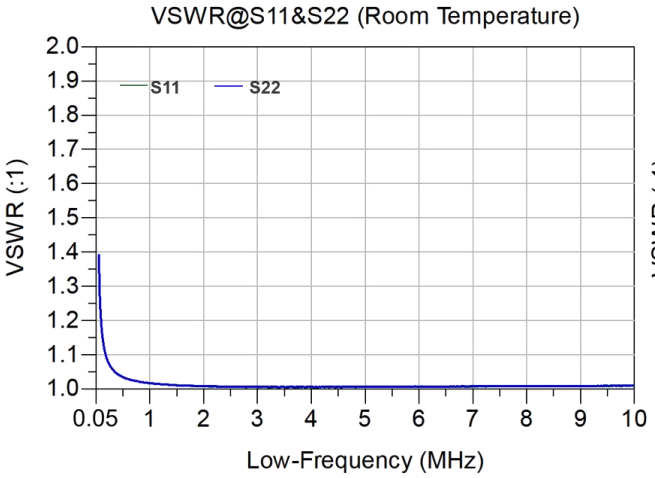
Interface definition:		
NO.	**Function**	**Description**
1	IN	RF input port
2	OUT	RF output port

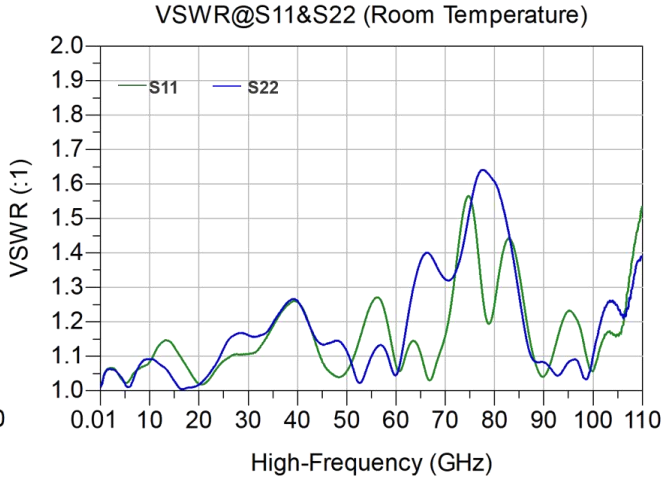
* **Note: Please refer to the physical dimensions of the corresponding ports.**

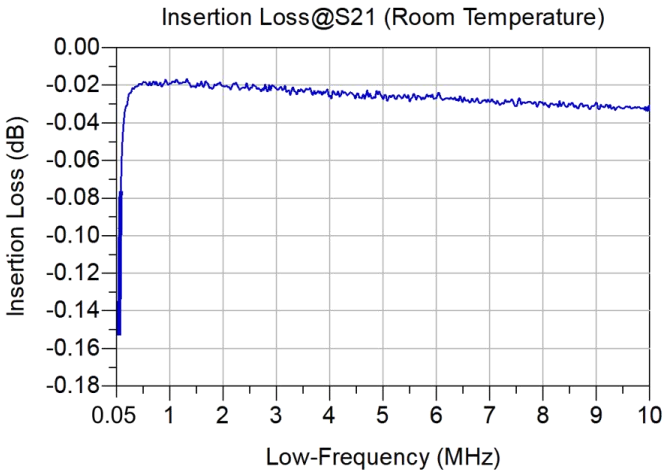
Typical Performance Data

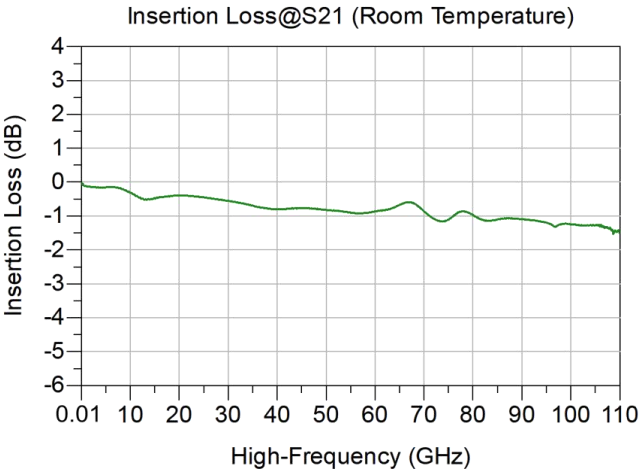
Freq.(MHz)	VSWR (:1)		Insertion Loss (dB)
	S11	S22	S21
0.05	1.39	1.39	-0.15
1	1.02	1.02	-0.02
4	1.01	1.01	-0.03
7	1.01	1.01	-0.03
10	1.01	1.01	-0.03
100	1.02	1.01	-0.04
500	1.03	1.03	-0.10
1000	1.06	1.05	-0.12
4000	1.04	1.04	-0.16
7000	1.05	1.05	-0.16
10000	1.08	1.09	-0.32
14000	1.14	1.05	-0.52
17000	1.08	1.01	-0.43
20000	1.02	1.02	-0.40
24000	1.07	1.09	-0.44
27000	1.10	1.16	-0.49
30000	1.11	1.16	-0.56
34000	1.16	1.17	-0.67
37000	1.23	1.24	-0.76
40000	1.26	1.26	-0.81
44000	1.12	1.15	-0.78
47000	1.05	1.14	-0.78
50000	1.06	1.11	-0.82
54000	1.22	1.06	-0.88
57000	1.26	1.13	-0.92
60000	1.07	1.05	-0.87
64000	1.14	1.33	-0.74
67000	1.03	1.39	-0.59
70000	1.16	1.32	-0.87
74000	1.54	1.45	-1.16
77000	1.35	1.63	-0.89
80000	1.25	1.61	-0.97
84000	1.41	1.37	-1.13
87000	1.16	1.12	-1.07
90000	1.04	1.08	-1.10
94000	1.21	1.06	-1.17
97000	1.20	1.08	-1.31

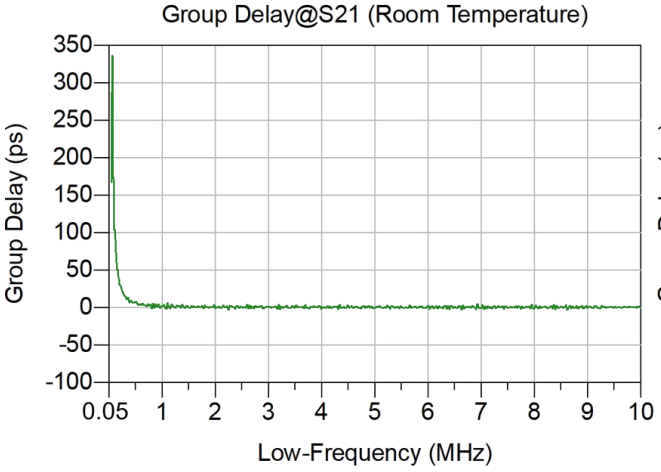
100000	1.06	1.10	-1.25
104000	1.17	1.26	-1.27
107000	1.28	1.24	-1.34
110000	1.53	1.39	-1.51

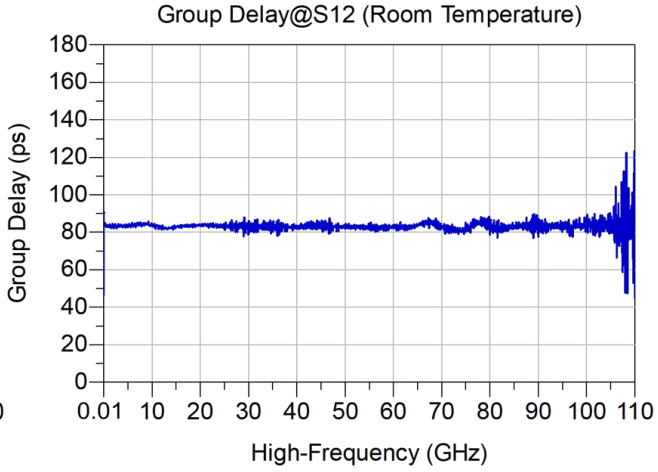












*** Note: The above is typical data and is not used as an acceptance reference.**