Broadband High Pass Filter Chip

*High-Q passive integration process
*High rectangular coefficient
*Ultra-wideband
*Low insertion loss
*Small size

Sales contact- Tel: +86 (25) 52635773 Fax: +86 (25) 52632557 Email: sales@sainty-tech.com www.sainty-tech.com

Introduction

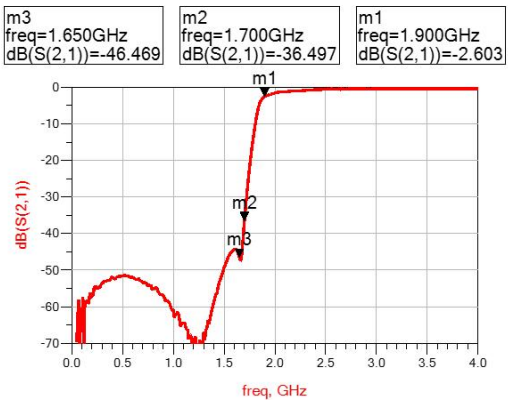
This product adopts unique Q value enhancement and broadband design, high-Q passive integration process, and has the characteristics of high rectangular coefficient, ultra-wideband (1.9~21GHz), low insertion loss, and small size (2mm*2mm*0.2mm). It can be widely used in ultra-wideband systems to filter interference signals in the communication frequency band.

Electrical Specifications（T_A=25℃,Z_0=50Ω)

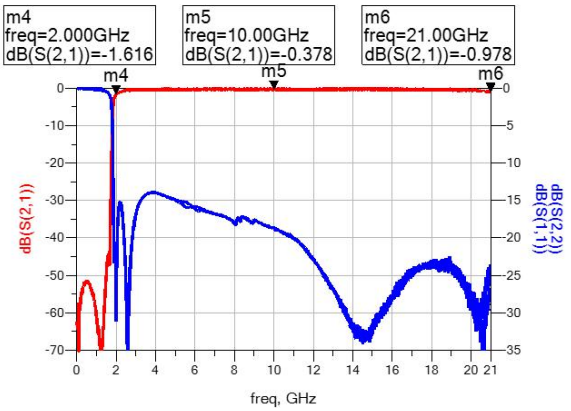
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	1.9	-	GHz
Passband Loss	@1.9~1.96GHz	-	2.5	3.0	dB
	@1.96~2.4GHz	-	1.5	2.0	dB
	@2.4~21GHz	-	0.5	1.0	dB
In-Band VSWR	@1.9~21GHz	-	1.5:1	1.6:1	
Out-of-Band Attenuation	@1.65~1.7GHz	30	35	-	dB
	@DC~1.65GHz	43	45	-	dB

Test Curves（T_A=25℃）

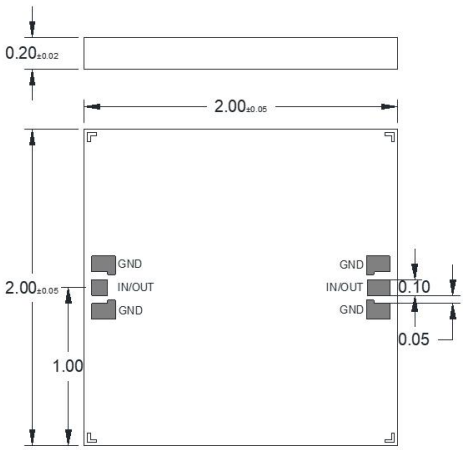
Attenuation&Frequency (Near-End)



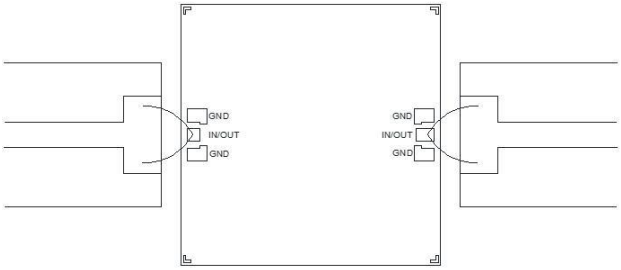
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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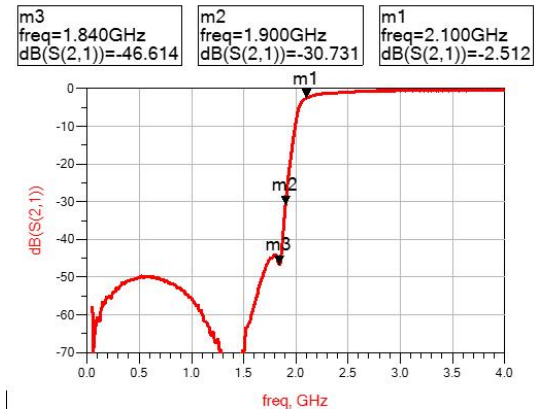
Electrical Specifications（T_A=25℃,Z_0=50Ω)

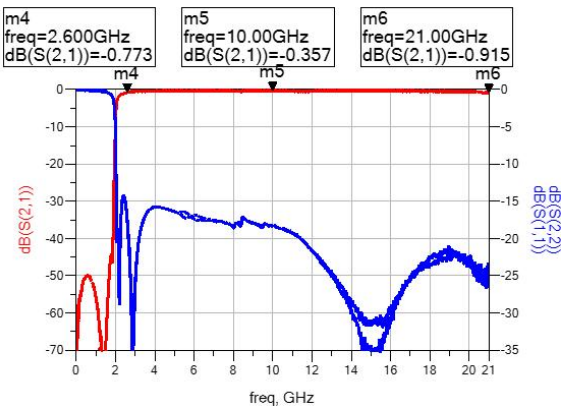
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.1	-	GHz
Passband Loss	@2.1~2.16GHz	-	2.5	3.0	dB
	@2.16~2.6GHz	-	1.5	2.0	dB
	@2.6~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.1~21GHz	-	1.5:1	1.6:1	
Out-of-Band Attenuation	@1.84~1.88GHz	30	35	-	dB
	@DC~1.84GHz	43	45	-	dB

Test Curves（T_A=25℃）

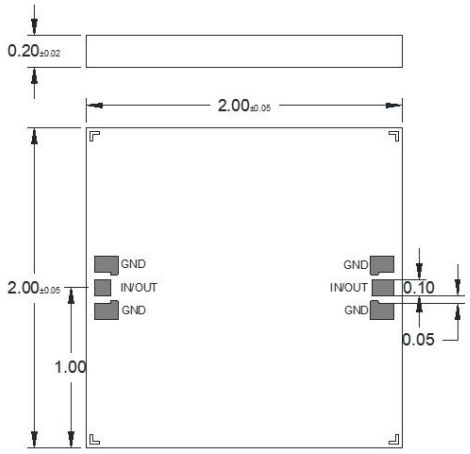
Attenuation&Frequency (Near-End)



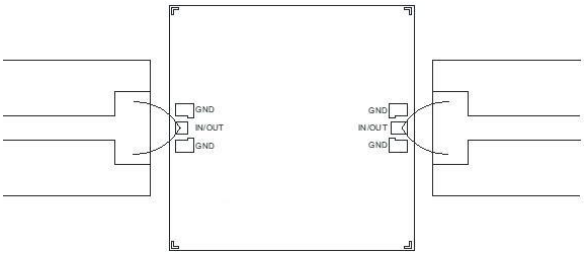
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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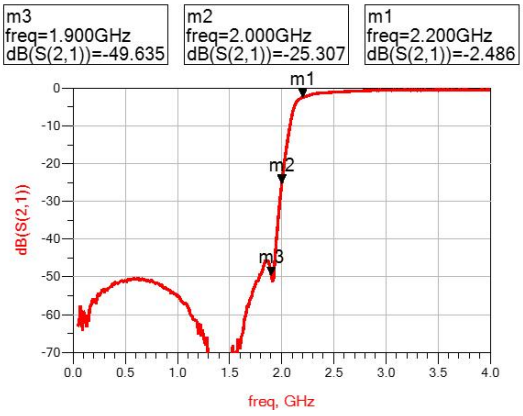
Electrical Specifications（T_A=25℃,Z_0=50Ω)

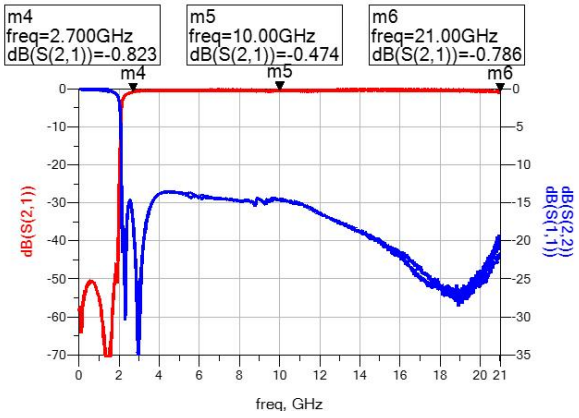
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.2	-	GHz
Passband Loss	@2.2~2.27GHz	-	2.5	3.0	dB
	@2.27~2.7GHz	-	1.5	2.0	dB
	@2.7~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.2~21GHz	-	1.5:1	1.6:1	
Out-of-Band Attenuation	@1.9~1.95GHz	30	35	-	dB
	@DC~1.9GHz	43	45	-	dB

Test Curves（T_A=25℃）

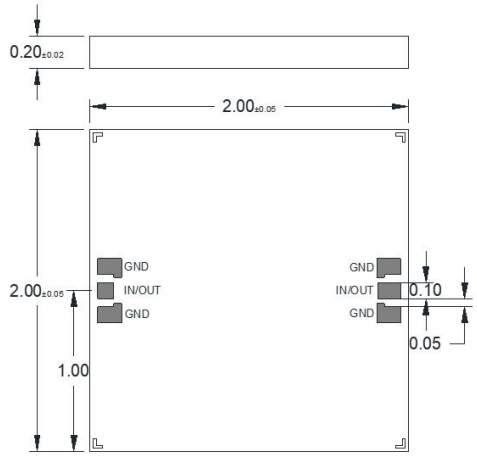
Attenuation&Frequency (Near-End)



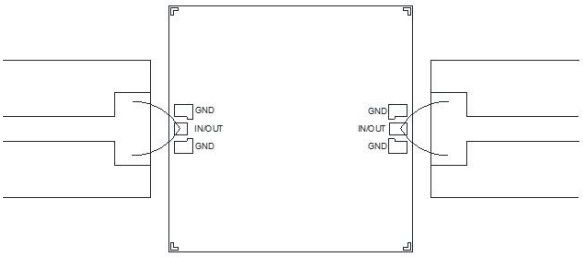
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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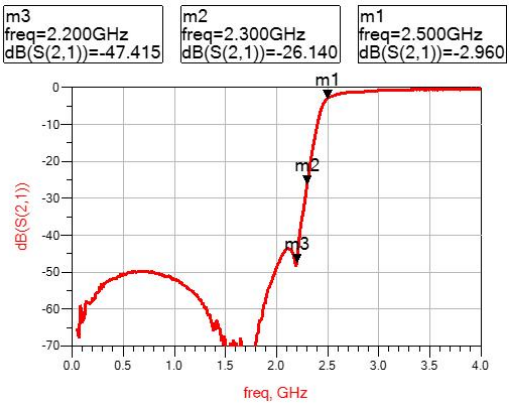
Electrical Specifications（T_A=25℃,Z_0=50Ω)

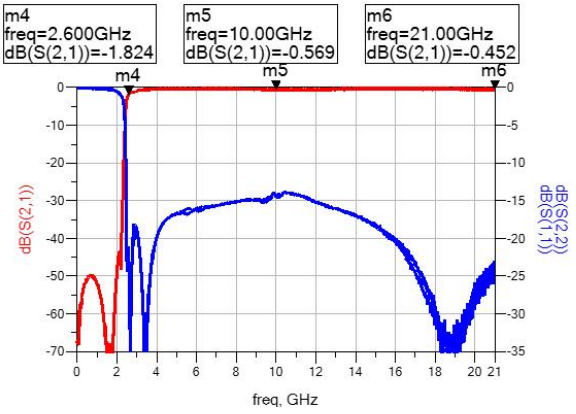
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.5	-	GHz
Passband Loss	@2.5~2.6GHz	-	2.8	3.2	dB
	@2.6~3.0GHz	-	1.5	2.0	dB
	@3.0~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.5~21GHz	-	1.5:1	1.6:1	
Out-of-Band Attenuation	@2.2~2.24GHz	30	35	-	dB
	@DC~2.2GHz	43	45	-	dB

Test Curves（T_A=25℃）

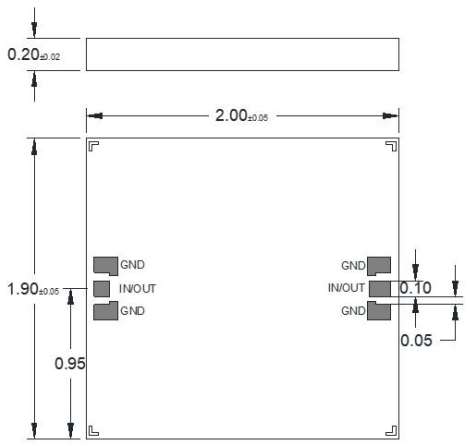
Attenuation&Frequency (Near-End)



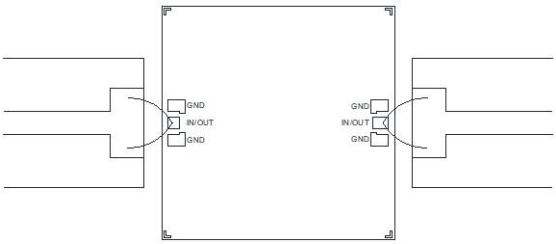
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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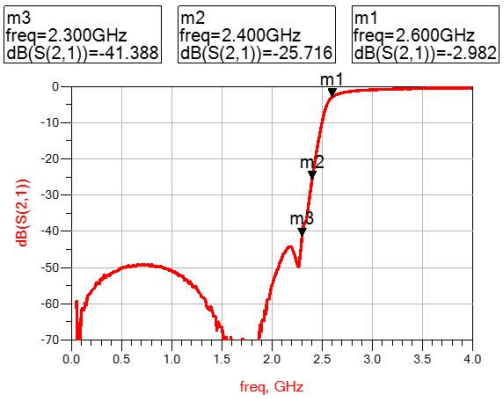
Electrical Specifications（T_A=25℃,Z_0=50Ω)

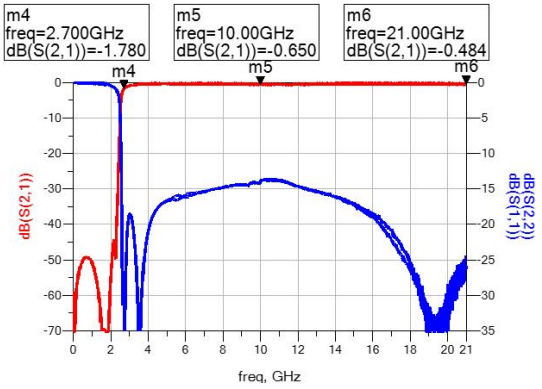
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.6	-	GHz
Passband Loss	@2.6~2.69GHz	-	2.8	3.4	dB
	@2.69~3.1GHz	-	1.5	2.0	dB
	@3.1~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.6~21GHz	-	1.5:1	1.7:1	
Out-of-Band Attenuation	@2.3~2.35GHz	30	35	-	dB
	@DC~2.3GHz	40	45	-	dB

Test Curves（T_A=25℃）

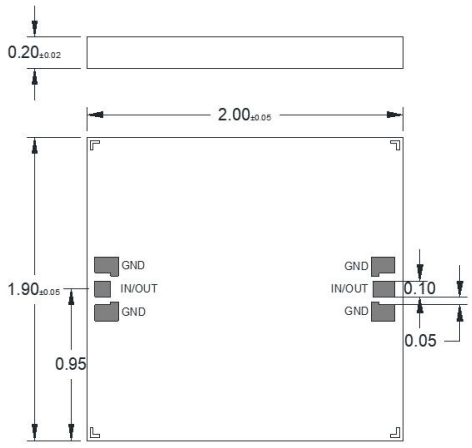
Attenuation&Frequency (Near-End)



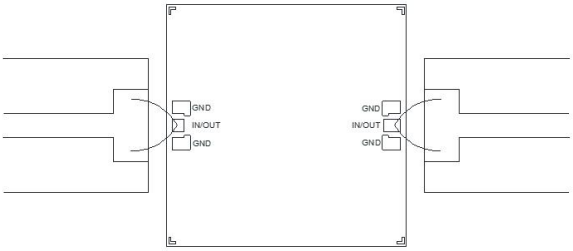
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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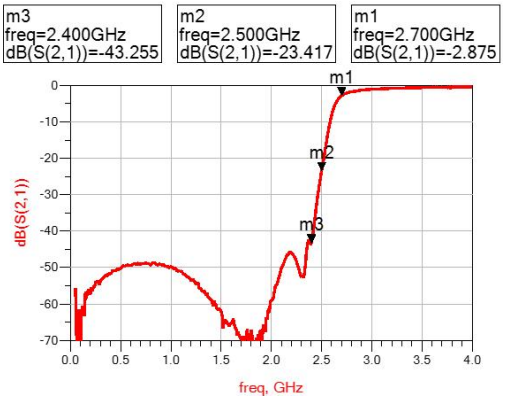
Electrical Specifications（T_A=25℃,Z_0=50Ω)

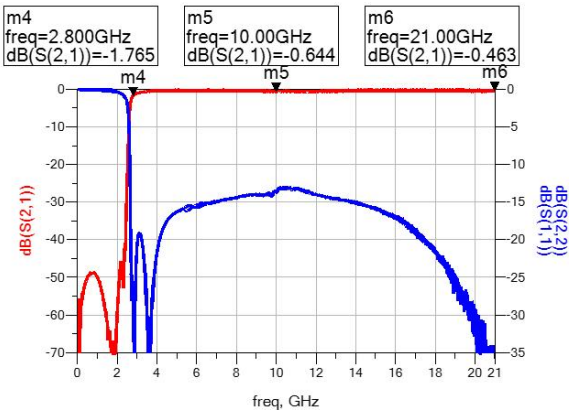
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.7	-	GHz
Passband Loss	@2.7~2.78GHz	-	2.8	3.3	dB
	@2.78~3.2GHz	-	1.5	2.0	dB
	@3.2~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.7~21GHz	-	1.5:1	1.7:1	
Out-of-Band Attenuation	@2.4~2.43GHz	30	35	-	dB
	@DC~2.4GHz	38	40	-	dB

Test Curves（T_A=25℃）

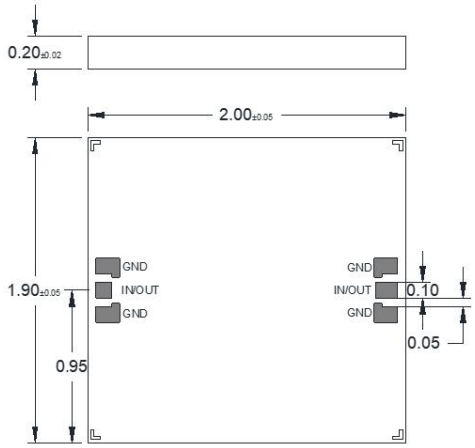
Attenuation&Frequency (Near-End)



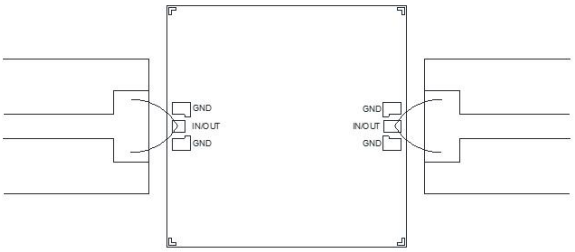
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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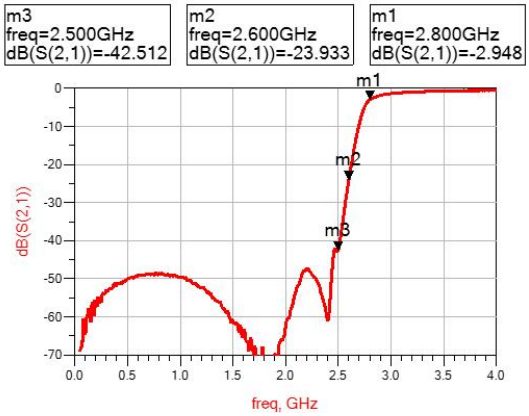
Electrical Specifications（T_A=25℃,Z_0=50Ω)

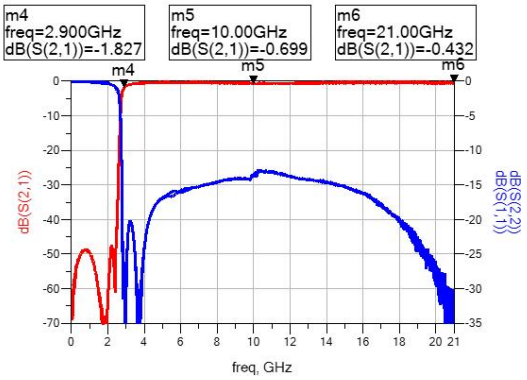
Parameter		Value			Unit
		Min.	Typ.	Max.	
Cutoff Frequency	f_{-3dB}	-	2.8	-	GHz
Passband Loss	@2.8~2.89GHz	-	2.8	3.3	dB
	@2.89~3.3GHz	-	1.5	2.0	dB
	@3.3~21GHz	-	0.5	1.0	dB
In-Band VSWR	@2.8~21GHz	-	1.5:1	1.7:1	
Out-of-Band Attenuation	@2.5~2.53GHz	30	35	-	dB
	@DC~2.5GHz	38	40	-	dB

Test Curves（T_A=25℃）

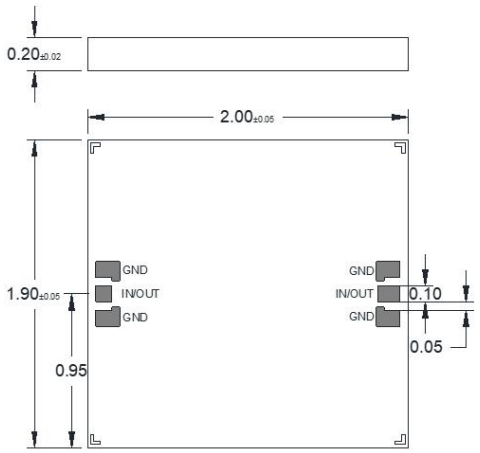
Attenuation&Frequency (Near-End)



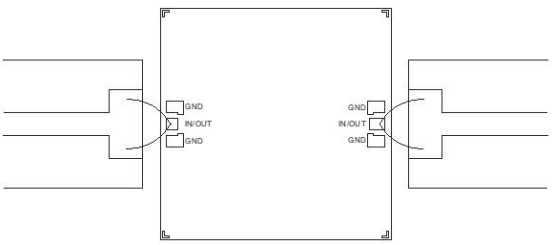
Attenuation&Frequency (Broadband)



Outline Drawing(Unit: um)



Assembly Diagram



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Instructions and Precautions:

(1) The operating temperature range of the chip is -55℃~+85℃, the storage temperature range is -65℃~+150℃, and the max input power does not exceed 30dBm;

(2) The chip is an electrostatic sensitive device. Anti-static measures must be taken during storage, transportation and assembly;

(3) The chip must be handled in a clean environment. Do not touch the chip surface. Use precision pointed plastic tweezers to pick up the chip. Do not pick up the two sides of the RF port;

(4) It is recommended to use 84-1 or ME8456 conductive adhesive to bond the chip to the Kovar or molybdenum copper substrate;

(5) The RF pad is led out by two 25μm diameter bonding wires. It is recommended that the total length of a single bonding wire be less than 500μm;

(6) The input and output ports of the device are interchangeable.

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