



Integrated Passive Devices (IPD) Databook

2nd Edition
July 2018

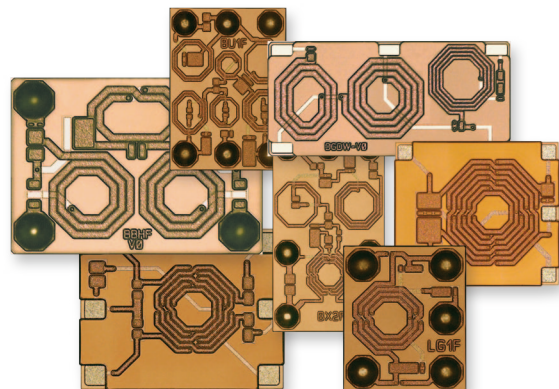


Table of Contents

Introduction	2
1) SCI-101 W/F GSM BAND BALUN	3
2) SCI-102 W/F DCS BAND BALUN	5
3) SCI-103 W/F WLAN 802.11B/G BAND BALUN	7
4) SCI-104 W/F WLAN 802.11A BAND BALUN	9
5) SCI-105 W/F GSM BAND BALUN	11
6) SCI-106 W/F GSM BAND BALUN	13
7) SCI-107 W/F DCS BAND BALUN	15
8) SCI-108 W/F DCS BAND BALUN	17
9) SCI-109 W/F 802.11b BAND BALUN	19
10) SCI-110 W/F 802.11b BAND BALUN	21
11) SCI-111 W/F 802.11a BAND BALUN	23
12) SCI-112 W/F 802.11a BAND BALUN	25
13) SCI-113 W/F UWB BAND BALUN	27
14) SCI-114 W/F UWB BAND BALUN	29
15) SCI-201 W/F GSM BAND LOW PASS FILTER	31
16) SCI-202 W/F DCS BAND LOW PASS FILTER	33
17) SCI-203 W/F GSM BAND LOW PASS FILTER	35
18) SCI-301 W/F 802.11B/G BAND PASS FILTER	37
19) SCI-302 W/F 802.11B/G BAND PASS FILTER	39
20) SCI-303 W/F 802.11B/G BAND PASS FILTER	41
21) SCI-304 W/F 802.11B/G BAND PASS FILTER	43
22) SCI-305 W/F 802.11B/G BAND PASS FILTER	45
23) SCI-306 W/F UWB BAND PASS FILTER	47
24) SCI-307 F1/F2 UWB BAND PASS FILTER	49
25) SCI-401 W/F 802.11A BAND PASS FILTER	51
26) SCI-402 W/F 802.11A BAND PASS FILTER	53
27) SCI-501 W/F GSM-DCS DIPLEXER	55
28) SCI-502 W/F WLAN DIPLEXER	57
29) SCI-503 W/F WLAN DIPLEXER	59
30) SCI-601 W/F WiMAX BAND BALANCED FILTER	61
31) SCI-602 W/F WiMAX BAND BALANCED FILTER	63
32) SCI-701 W/F GSM BAND LOSS PASS FILTER WITH COUPLER	65
33) SCI-702 W/F DCS BAND LOSS PASS FILTER WITH COUPLER	67
34) SCI-801 W/F 802.11b BAND POWER DIVIDER	69
35) SCI-802 W/F 802.11a BAND POWER DIVIDER	71
36) SCI-901 W/F GSM BAND BALUN WITH COUPLER	73
37) SCI-902 W/F DCS BAND BALUN WITH COUPLER	75
Appendix A	77

Introduction

In the wireless market where there is intense pressure to optimize size, performance and cost, passive integration technology offers significant advantages for applications such as GSM/DCS and CDMA cellular phones, Wireless LAN 802.11 a/b/g and WiMax systems, primarily in RF power amplifiers and front-end modules (FEM) which make up the critical parts of those radio systems. Individual passive devices, produced using conventional ceramic technology, are often limited in terms of height profiles and form-factors. However, by integrating and fabricating passive devices at the silicon wafer level, we are able to achieve Integrated Passive Devices (IPD), which are significantly smaller, thinner and with higher performance than standard discrete passive devices.

We have implemented copper metallization to achieve superior performance in terms of insertion loss and miniaturization. Our process is capable of depositing 8 microns or more of copper on a silicon wafer. This reduces the loss in the RF signal transmission path, thereby improving battery performance of the wireless system and increasing coverage.

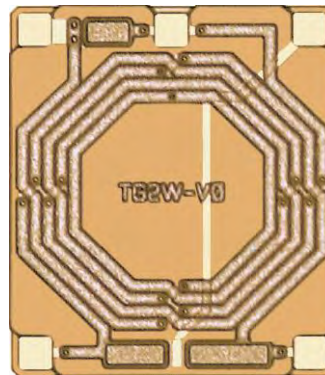
We have a library of standard IPDs, which can be very efficiently used in RF SiP products, along with ICs made from other technologies. Both wirebonding and flip chip version IPDs are available from our process. Custom designs can also be made to optimize performance for specific packages, such as QFN, LFBGA and FLGA. Library elements are now available for low pass filters (LPF), band pass filters (BPF), baluns and diplexers at various frequencies, as shown in this databook.

We provide the highest level integration of wireless systems. With leading edge technology in Fan-out Wafer Level Packaging (FOWLP), System-in-Package (SiP), IPD, 3D packaging and a comprehensive RF solutions portfolio, including wafer sort, design, assembly, RF test and supply chain management, we offer RF semiconductor companies a complete turnkey solution and distinct competitive advantage in their markets.

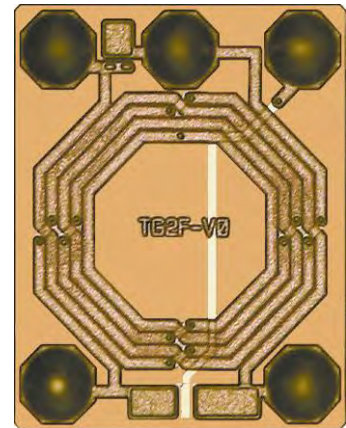
(1) GSM Band Balun (SCI-101 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.1 mm x 1.3 mm (wirebond)
1.2 mm x 1.5 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 °C to +85 °C
- Storage temperature: -40 °C to +85 °C



SCI-101W (Wirebond)



SCI-101F (Flip Chip)

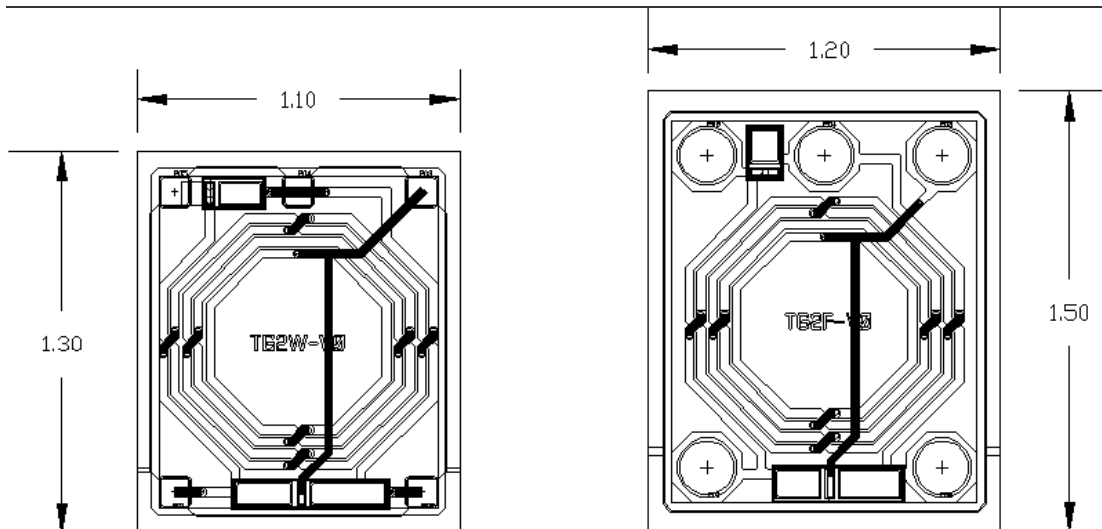
DESCRIPTION

STATS ChipPAC's SCI-101W/F is a balun for GSM band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

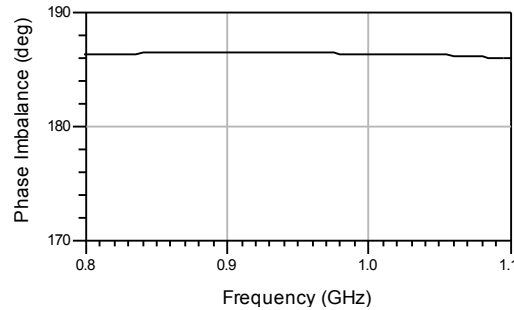
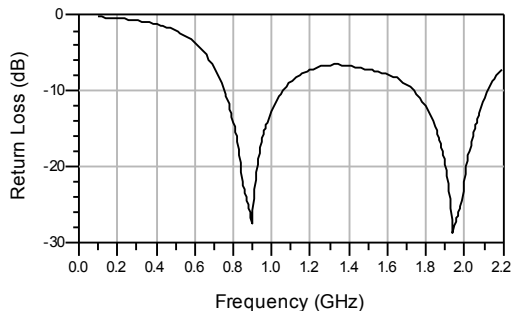
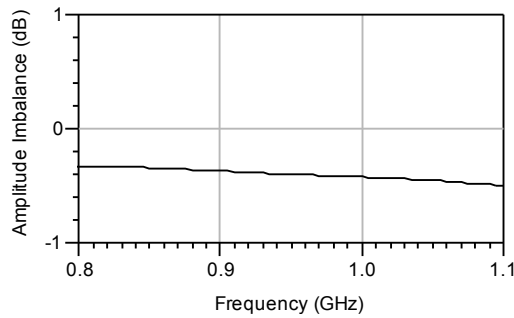
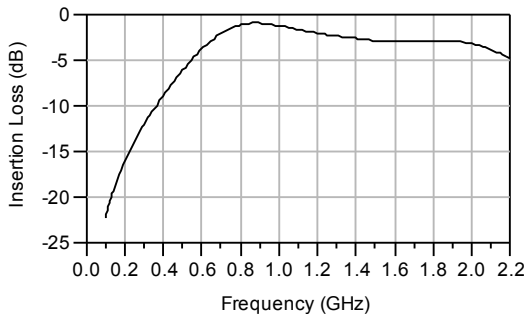
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB		1.0	
Return Loss	dB	15		20
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB		0.4	
Phase Imbalance	deg	5.0		10.0
Size	mm	1.1 x 1.3 (WB)		1.2 x 1.5 (FC)

DIMENSIONS

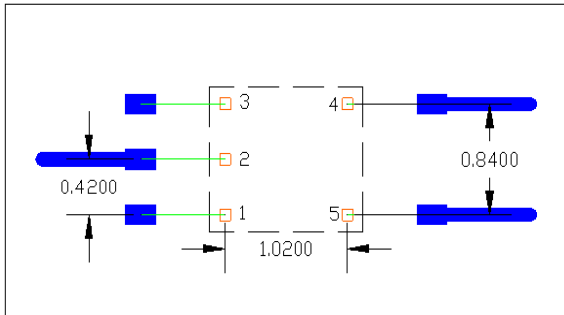


TYPICAL CHARACTERISTICS

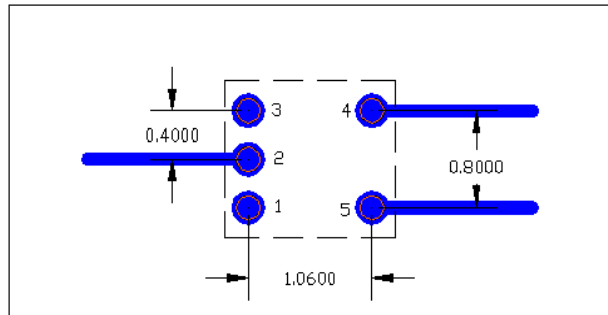


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-101W (Wirebond)



SCI-101F (Flip Chip)



Pad	SCI-101W Signal	SCI-101F Signal
1	Ground	Bias
2	Unbalanced	Unbalanced
3	Bias	Ground
4	Balanced (-)	Balanced (+)
5	Balanced (+)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

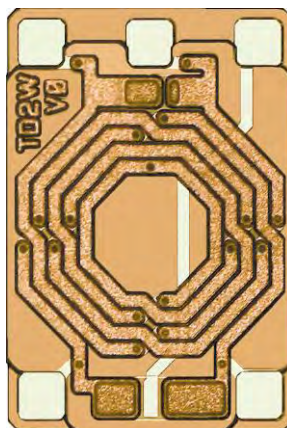
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

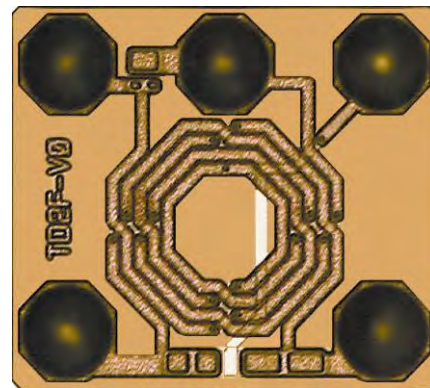
(2) DCS Band Balun (SCI-102 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 0.8 mm x 1.1 mm (wirebond)
1.2 mm x 1.1 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-102W (Wirebond)



SCI-102F (Flip Chip)

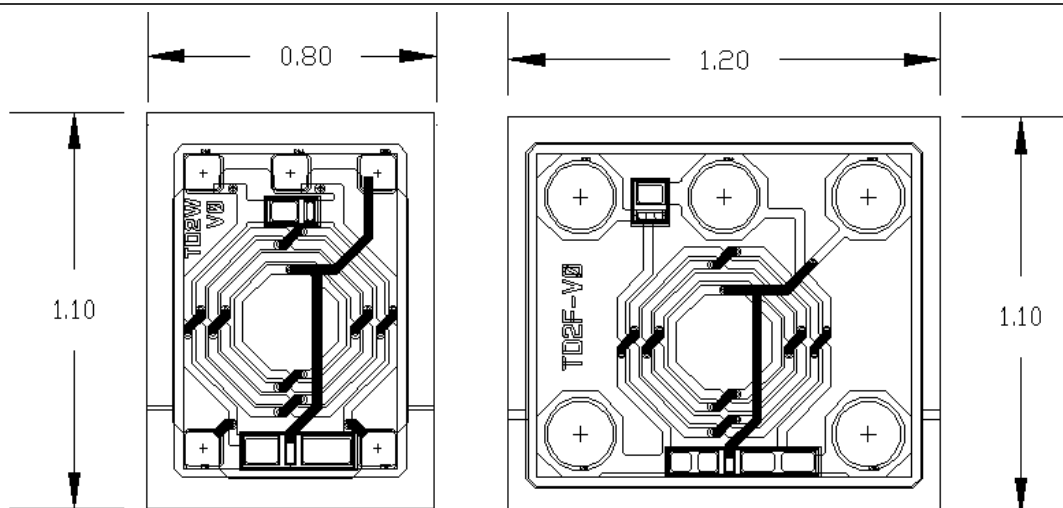
DESCRIPTION

SCI-102W/F is a balun for DCS band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

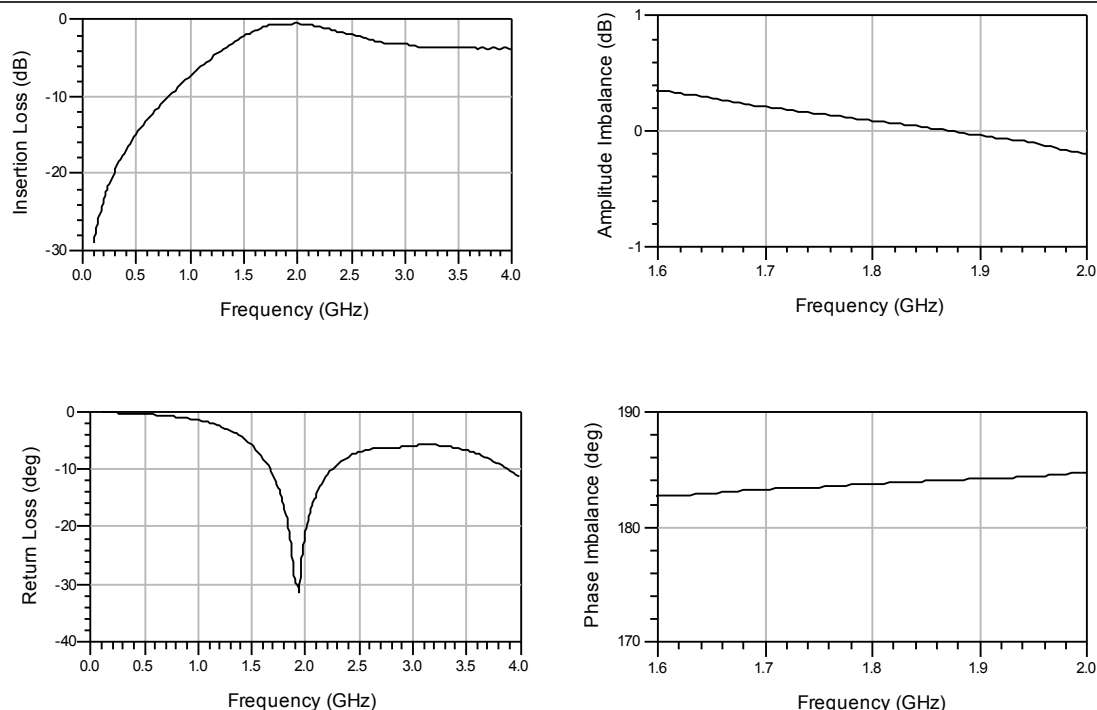
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB		0.8	
Return Loss	dB	10		15
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB	0.2		0.65
Phase Imbalance	deg		5.0	
Size	mm	0.8 x 1.1 (WB)		1.2 x 1.1 (FC)

DIMENSIONS

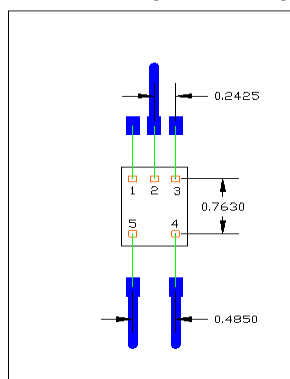


TYPICAL CHARACTERISTICS

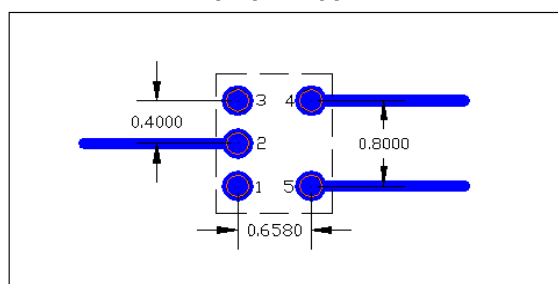


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-102W (Wirebond)



SCI-102F (Flip Chip)



Pad	SCI-102W Signal	SCI-102F Signal
1	Ground	Bias
2	Unbalanced	Unbalanced
3	Bias	Ground
4	Balanced (-)	Balanced (+)
5	Balanced (+)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

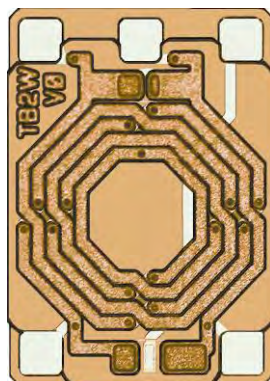
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

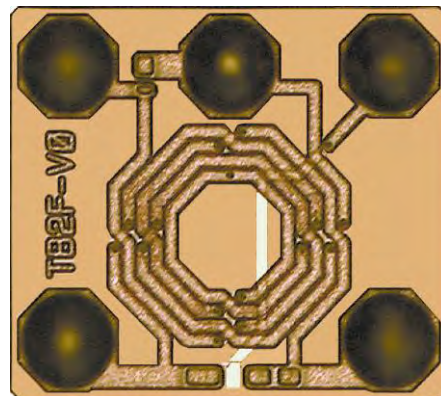
(3) WLAN 802.11b/g Band Balun (SCI-103 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 0.8 mm x 1.0 mm (wirebond)
1.2 mm x 1.1 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 °C to +85 °C
- Storage temperature: -40 °C to +85 °C



SCI-103W (Wirebond)



SCI-103F (Flip Chip)

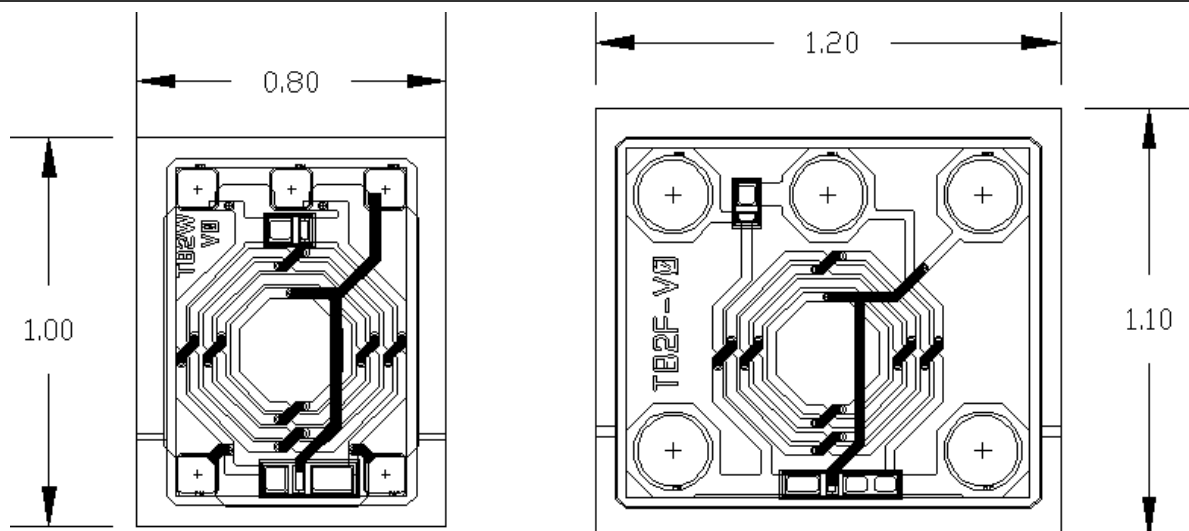
DESCRIPTION

STATS ChipPAC's SCI-103W/F is a balun for WLAN 802.11b/g band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

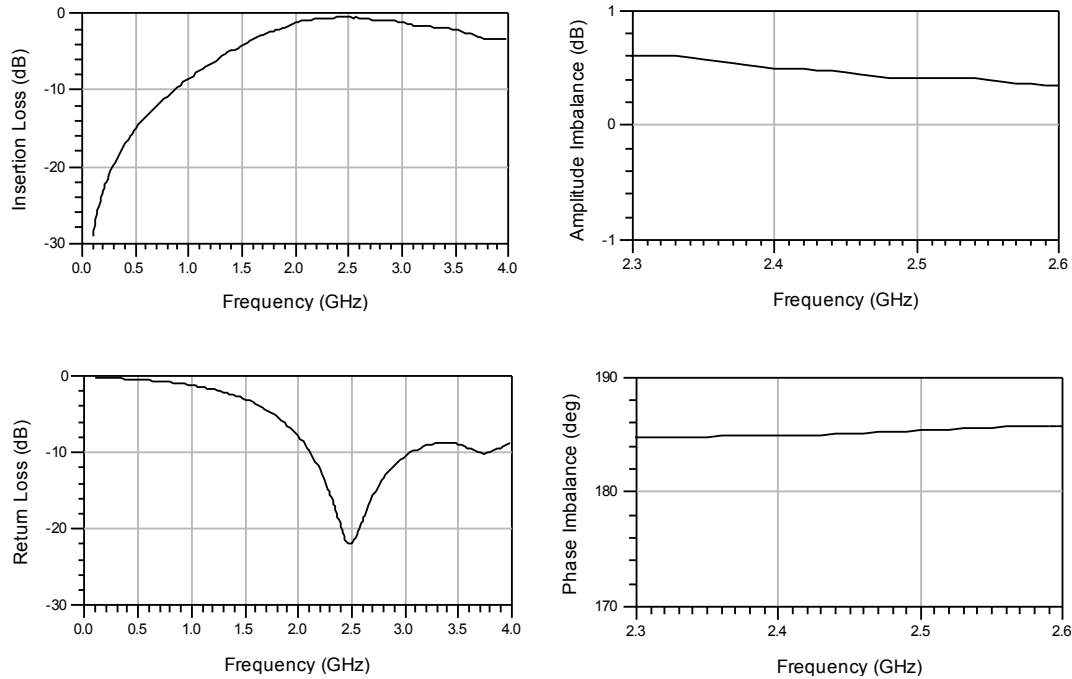
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB		0.5	
Return Loss	dB	15		20
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB		0.5	
Phase Imbalance	deg		5.0	
Size	mm	0.8 x 1.0 (WB)		1.2 x 1.1 (FC)

DIMENSIONS

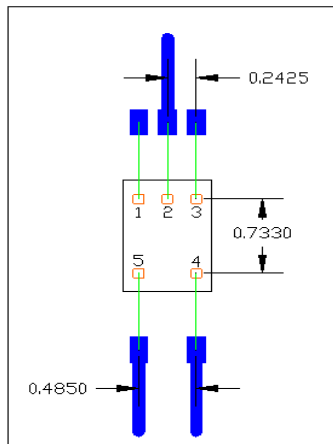


TYPICAL CHARACTERISTICS

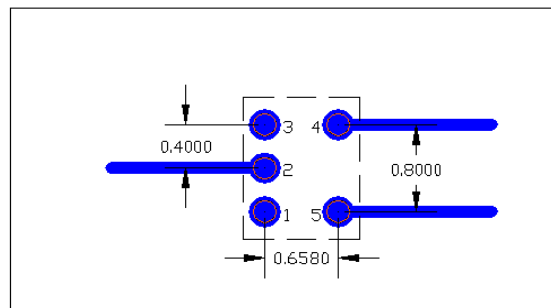


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-103W (Wirebond)



SCI-103F (Flip Chip)



Pad	SCI-103W Signal	SCI-103F Signal
1	Ground	Bias
2	Unbalanced	Unbalanced
3	Bias	Ground
4	Balanced (-)	Balanced (+)
5	Balanced (+)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

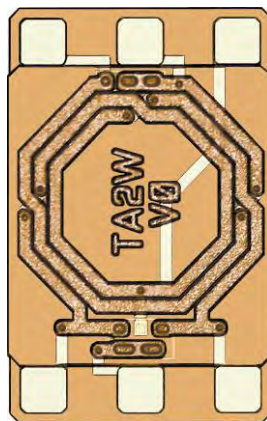
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

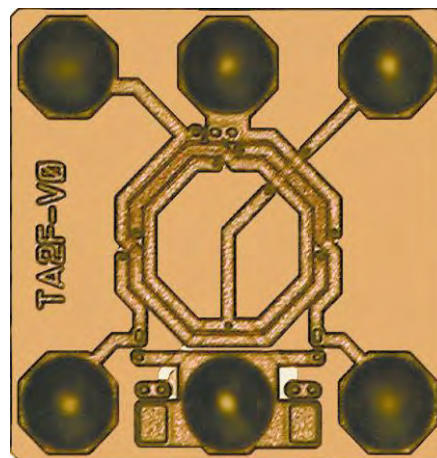
(4) WLAN 802.11a Band Balun (SCI-104 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 0.8 mm x 1.1 mm (wirebond)
1.2 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height wirebond
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-104W (Wirebond)



SCI-104F (Flip Chip)

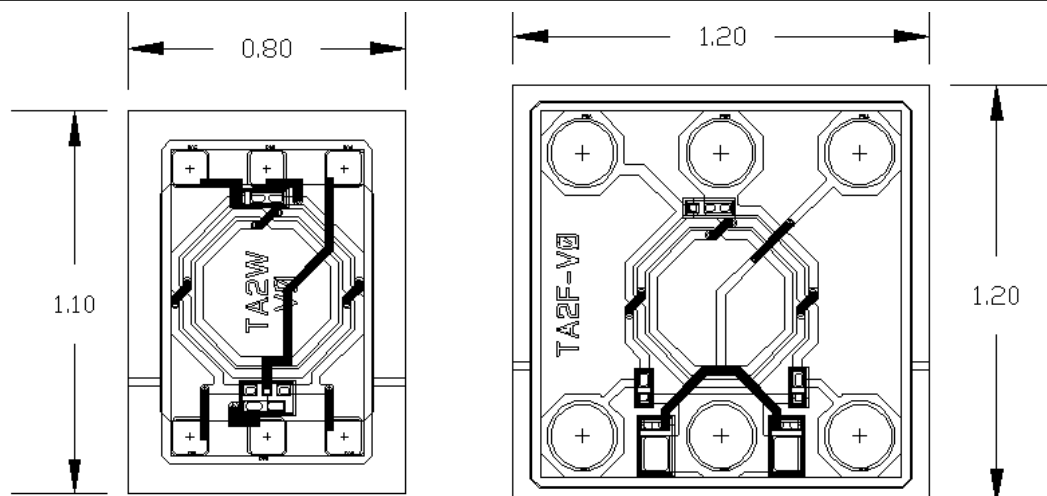
DESCRIPTION

STATS ChipPAC's SCI-104W/F is a balun for WLAN 802.11a band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

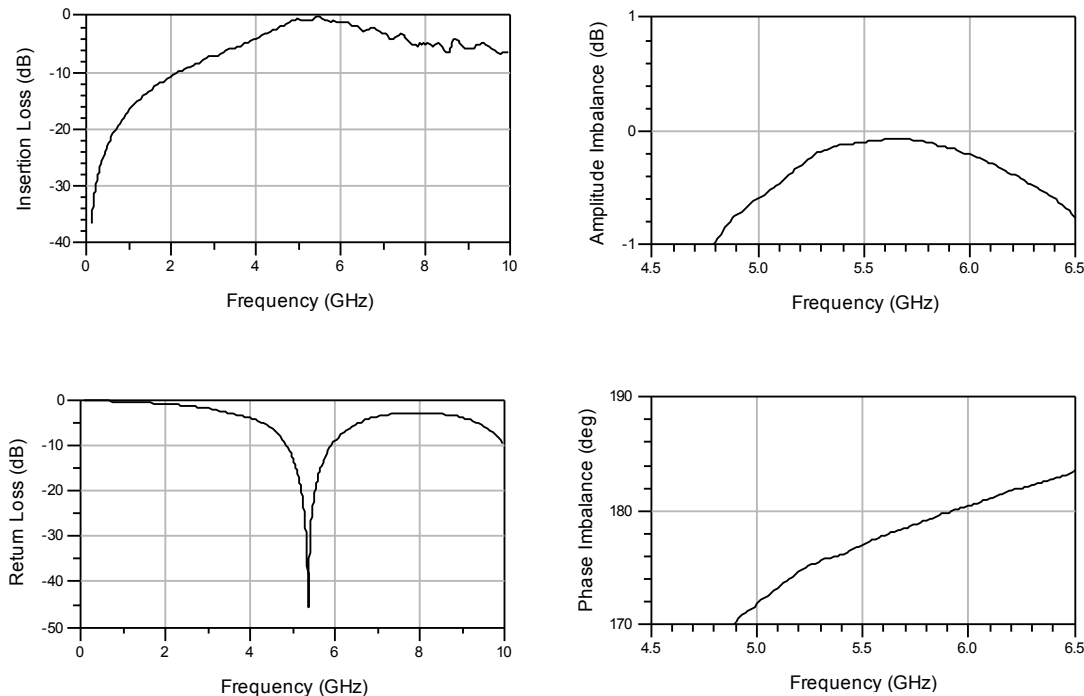
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	5115		5825
Insertion Loss	dB	0.7		1.0
Return Loss	dB		10	
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB		0.5	
Phase Imbalance	deg		5	
Size	mm	0.8 x 1.1 (WB)		1.2 x 1.2 (FC)

DIMENSIONS

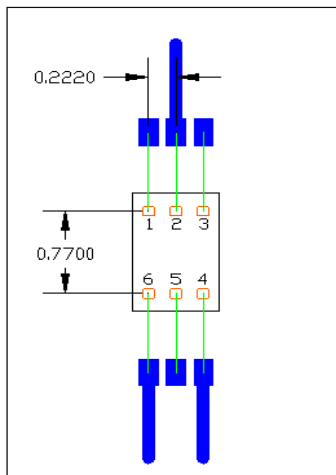


TYPICAL CHARACTERISTICS

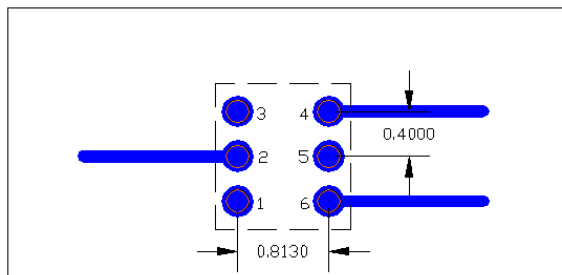


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-104W (Wirebond)



SCI-104F (Flip Chip)



Pad	SCI-104W Signal	SCI-104F Signal
1	Ground	Bias
2	Unbalanced	Unbalanced
3	Bias	Ground
4	Balanced (-)	Balanced (+)
5	Ground	Ground
6	Balanced (+)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

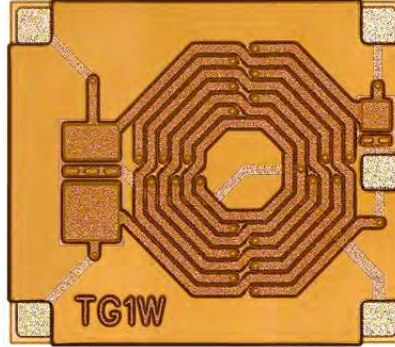
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

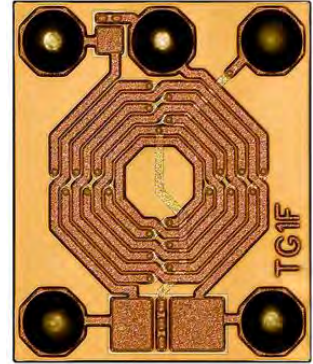
(5) GSM Band Balun (SCI-105 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-105W (Wirebond)



SCI-105F (Flip Chip)

DESCRIPTION

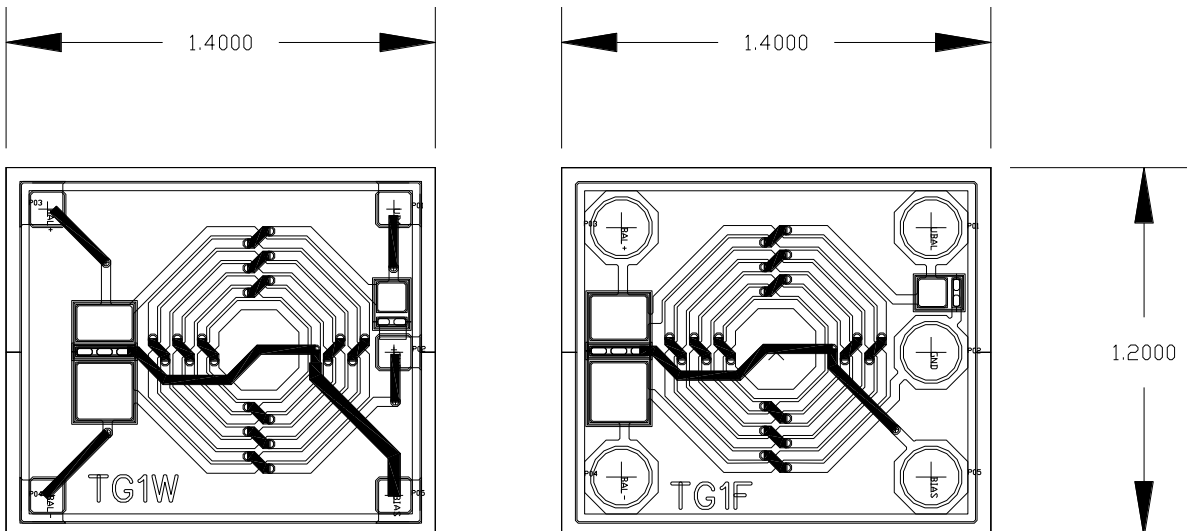
STATS ChipPAC's SCI-105W/F is a balun for GSM band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

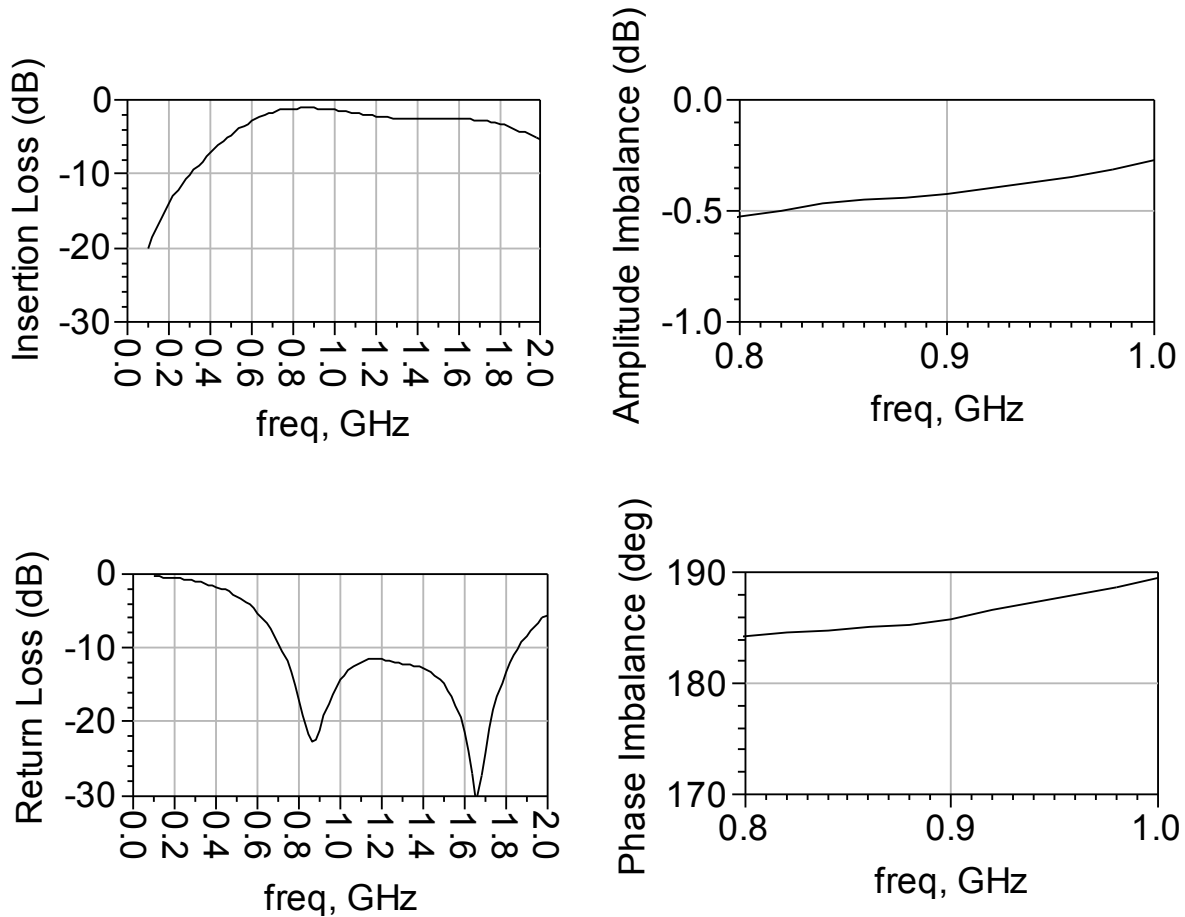
(Test board loss 0.04 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB		1.1	
Return Loss	dB		15	
Differential Impedance	Ohm		50	
Amplitude Imbalance	dB		0.5	
Phase Imbalance	deg		6.0	
Size	mm	1.4 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS

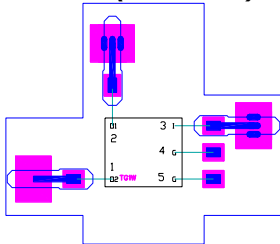


TYPICAL CHARACTERISTICS

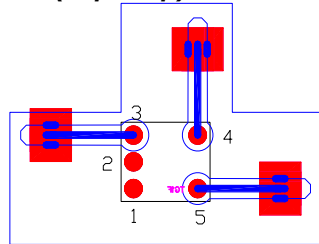


TEST BOARD DRAWING

SCI-105W (Wirebond)



SCI-105F (Flip Chip)



Pad	SCI-105W Signal	SCI-105F Signal
1	Balanced (+)	Bias
2	Balanced (-)	GND
3	Unbalanced	Unbalanced
4	GND	Balanced (+)
5	Bias	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

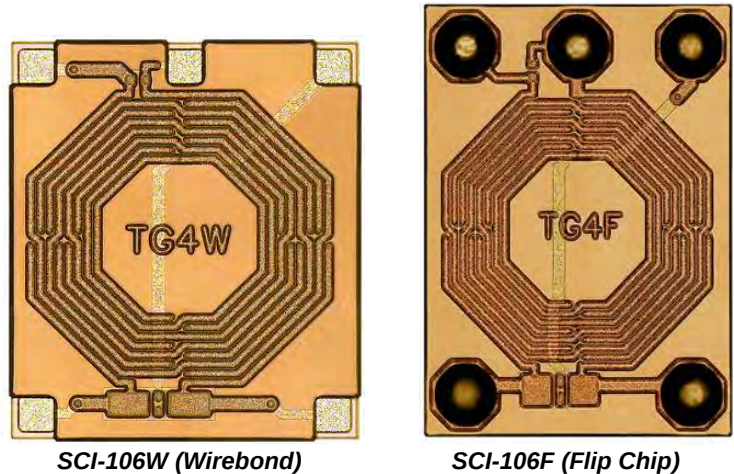
(6) GSM Band Balun (SCI-106 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C

DESCRIPTION

STATS ChipPAC's SCI-106W/F is a balun for GSM band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.



SCI-106W (Wirebond)

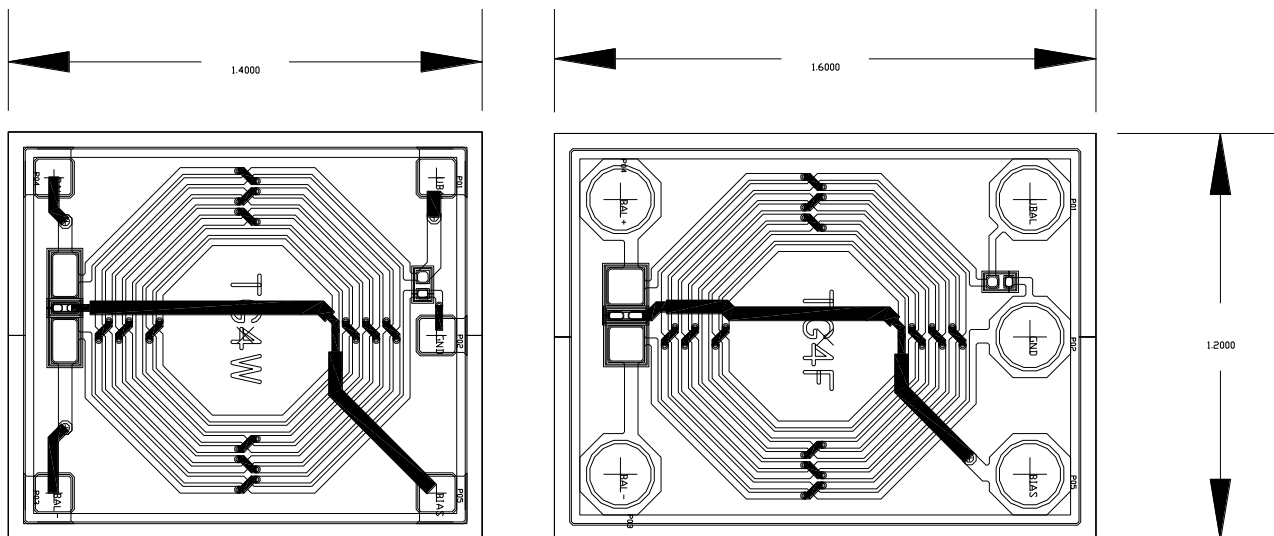
SCI-106F (Flip Chip)

ELECTRICAL SPECIFICATIONS

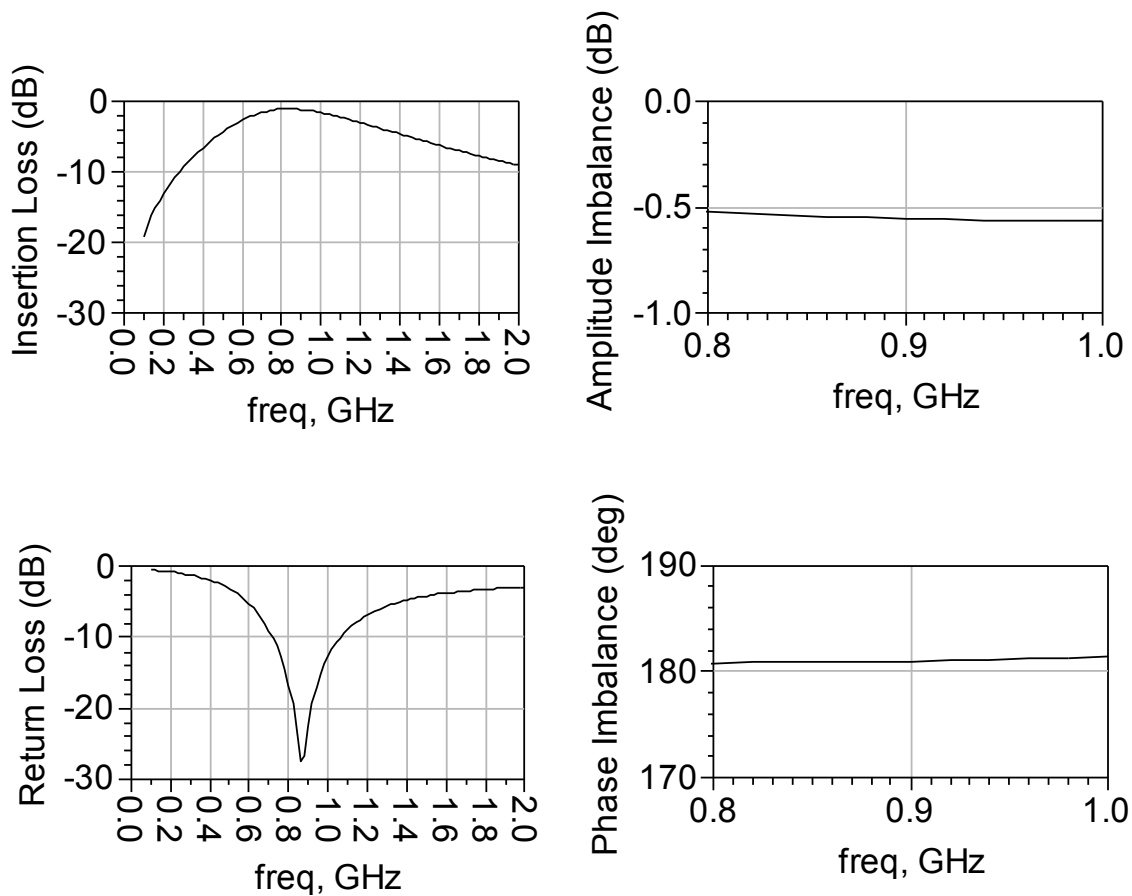
(Test board loss 0.04 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB		1.2	
Return Loss	dB		15	
Differential Impedance	Ohm		200	
Amplitude Imbalance	dB		0.6	
Phase Imbalance	deg		2.0	
Size	mm	1.4 x 1.2 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

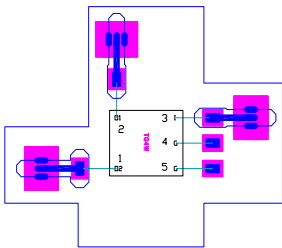


TYPICAL CHARACTERISTICS

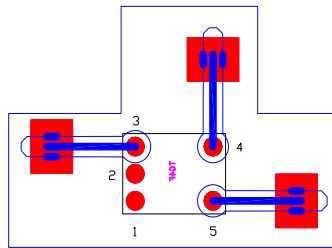


TEST BOARD DRAWING

SCI-106W (Wirebond)



SCI-106F (Flip Chip)



Pad	SCI-106W Signal	SCI-106F Signal
1	Balanced (+)	Bias
2	Balanced (-)	GND
3	Unbalanced	Unbalanced
4	GND	Balanced (+)
5	Bias	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

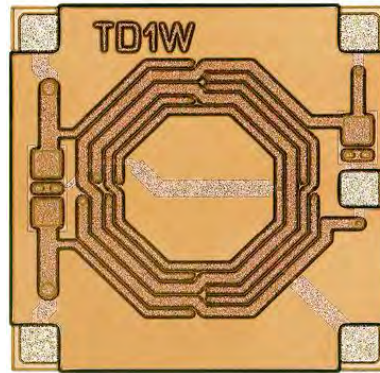
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

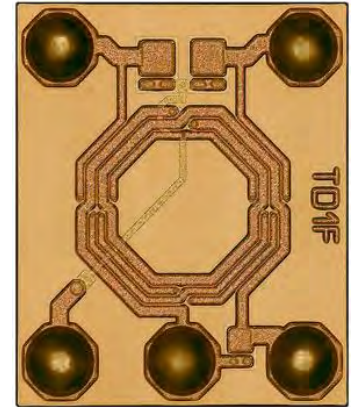
(7) DCS Band Balun (SCI-107 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.2 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-107W (Wirebond)



SCI-107F (Flip Chip)

DESCRIPTION

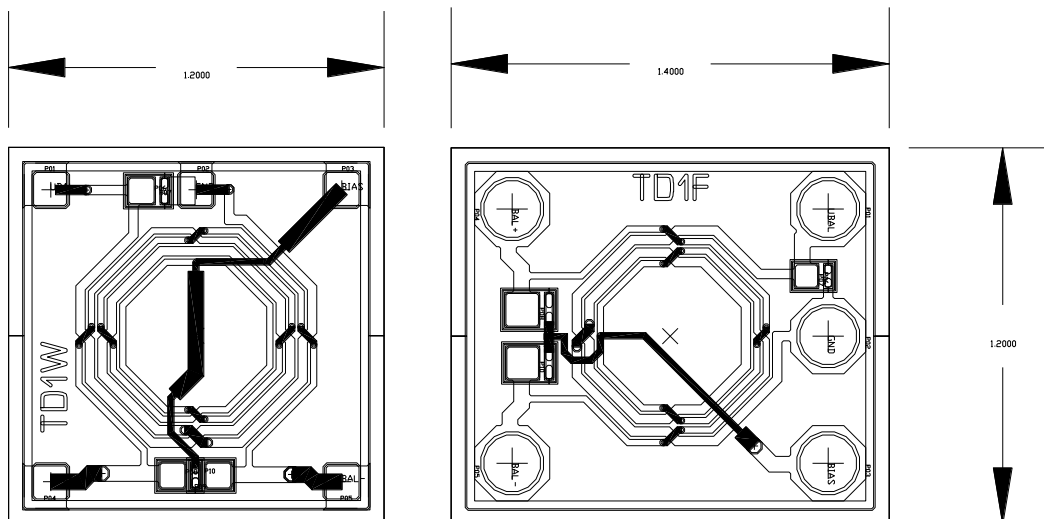
STATS ChipPAC's SCI-107W/F is a balun for DCS band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

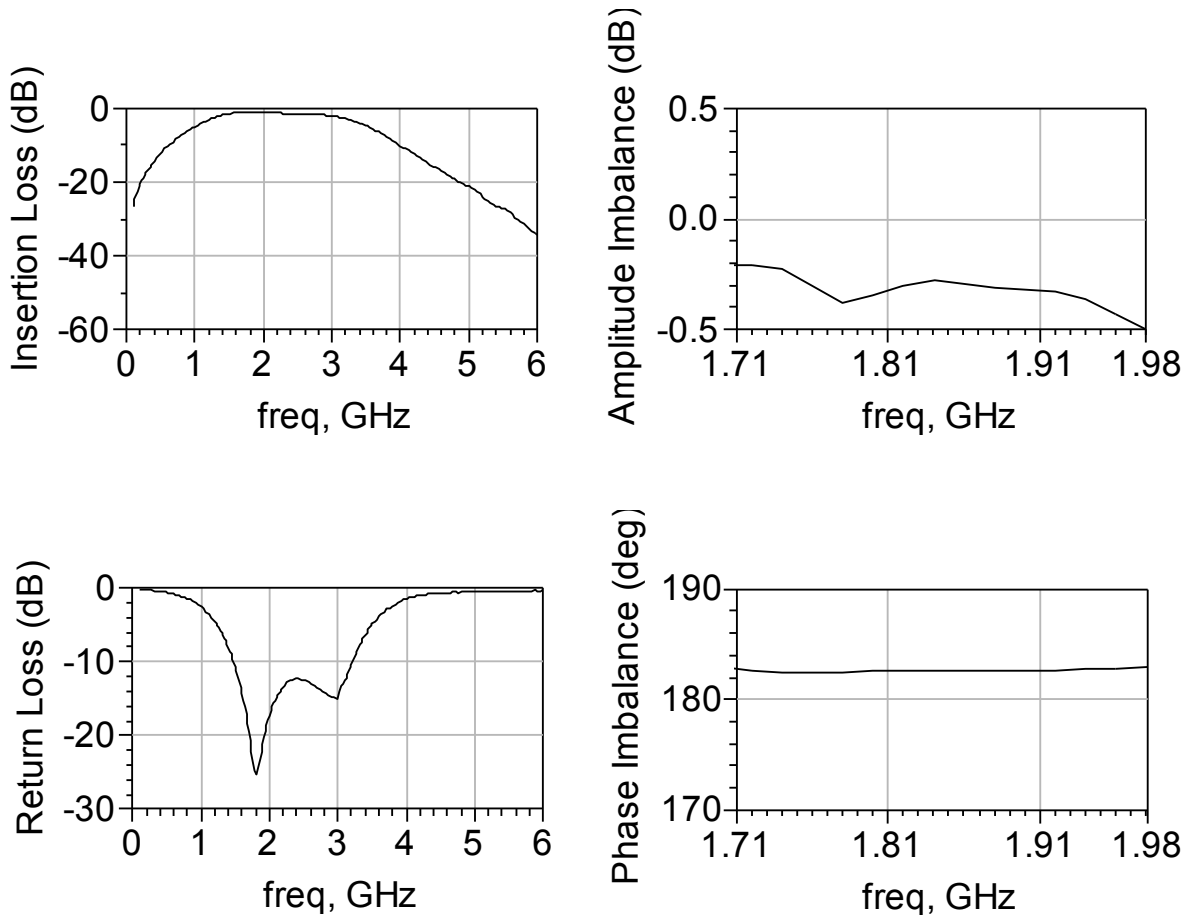
(Test board loss 0.07 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB		1.0	
Return Loss	dB		15	
Differential Impedance	Ohm		50	
Amplitude Imbalance	dB		0.5	
Phase Imbalance	deg		4.0	
Size	mm	1.2 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS



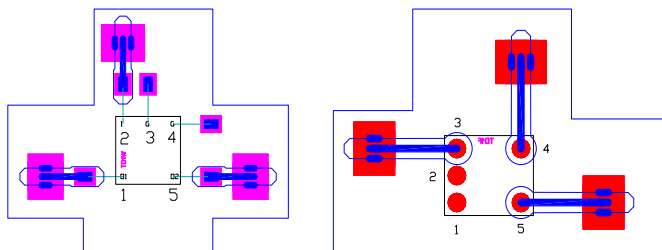
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-107W (Wirebond)

SCI-107F (Flip Chip)



Pad	SCI-107W Signal	SCI-107F Signal
1	Balanced (+)	Bias
2	Unbalanced	GND
3	GND	Unbalanced
4	Bias	Balanced (+)
5	Balanced (-)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

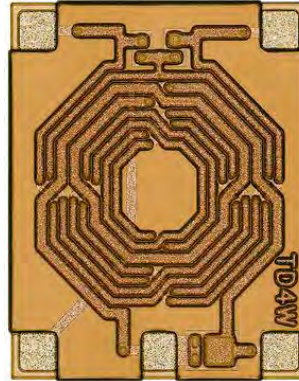
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

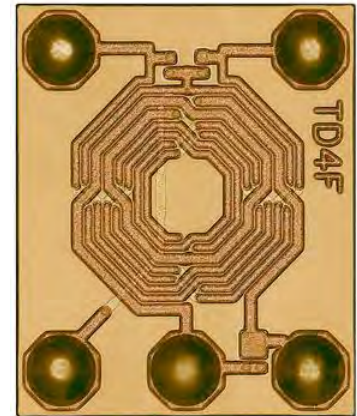
(8) DCS Band Balun (SCI-108 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-108W (Wirebond)



SCI-108F (Flip Chip)

DESCRIPTION

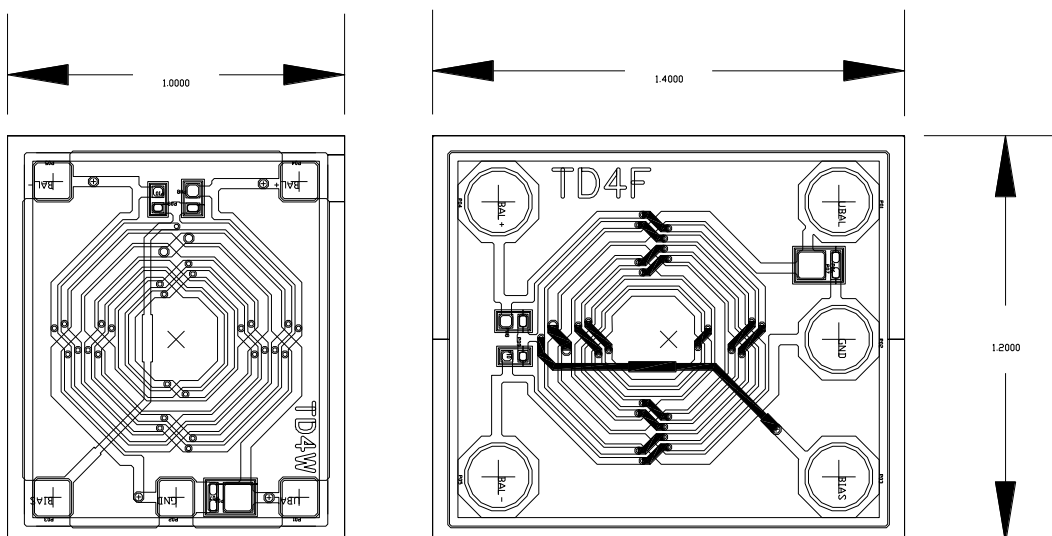
STATS ChipPAC's SCI-108W/F is a balun for DCS band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

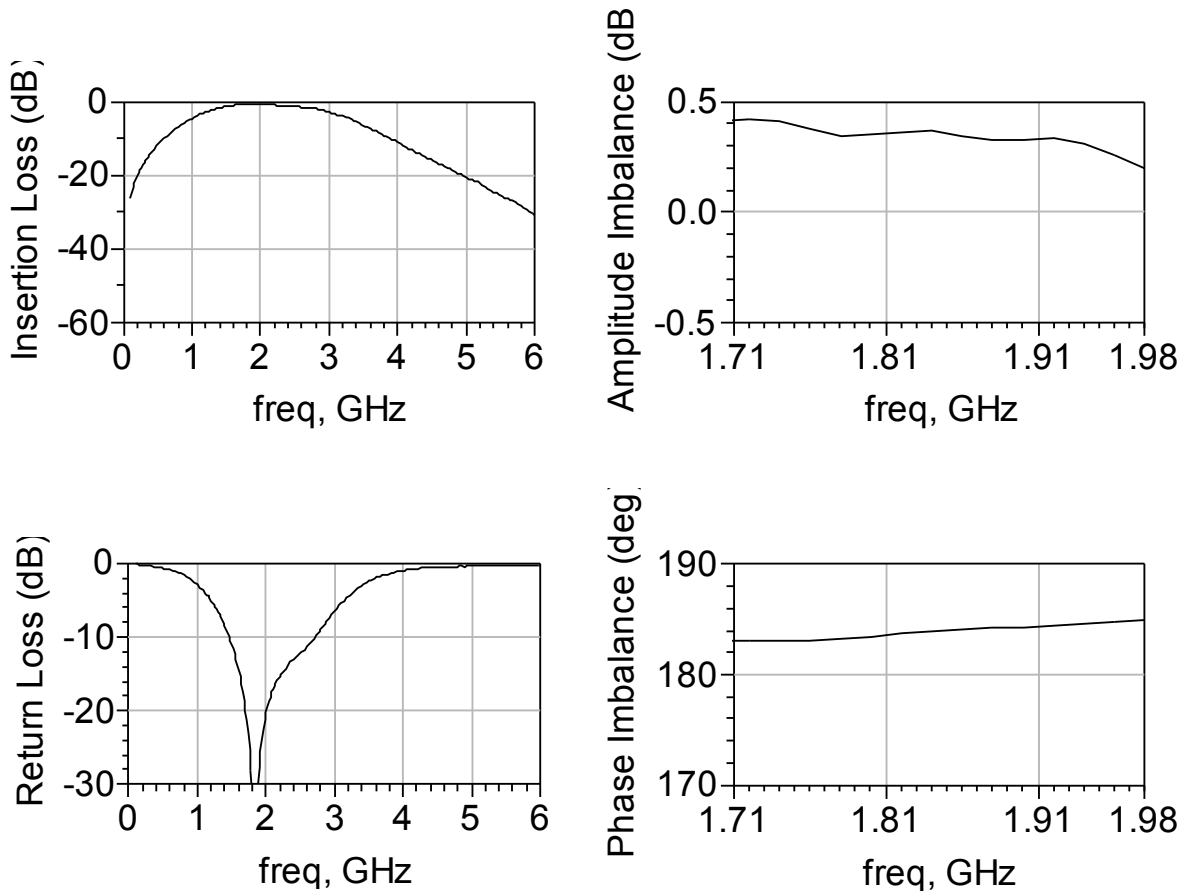
(Test board loss 0.07dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB		0.9	
Return Loss	dB	15		
Differential Impedance	Ohm		200	
Amplitude Imbalance	dB		0.5	
Phase Imbalance	deg		5.0	
Size	mm	1.0 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS

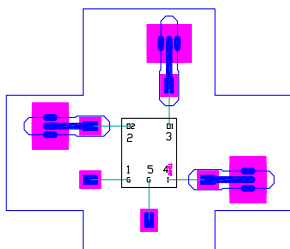


TYPICAL CHARACTERISTICS

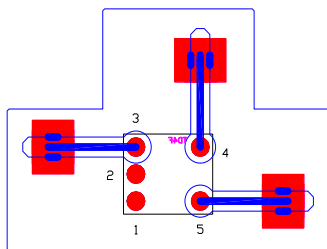


TEST BOARD DRAWING

SCI-108W (Wirebond)



SCI-108F (Flip Chip)



Pad	SCI-108W Signal	SCI-108F Signal
1	Bias	Bias
2	Balanced (+)	GND
3	Balanced (-)	Unbalanced
4	Unbalanced	Balanced (+)
5	GND	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

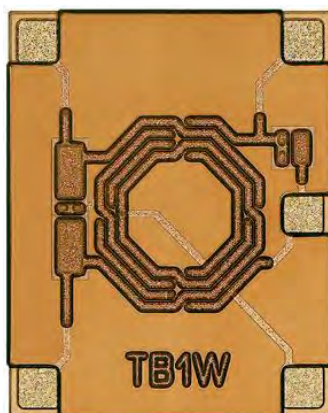
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

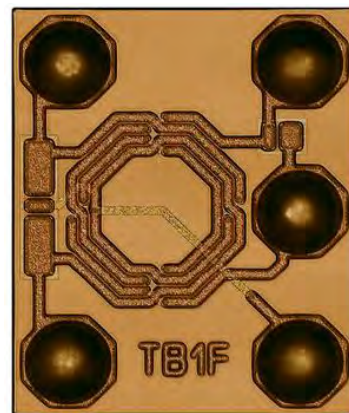
(9) 802.11b Band Balun (SCI-109 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.0 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-109W (Wirebond)



SCI-109F (Flip Chip)

DESCRIPTION

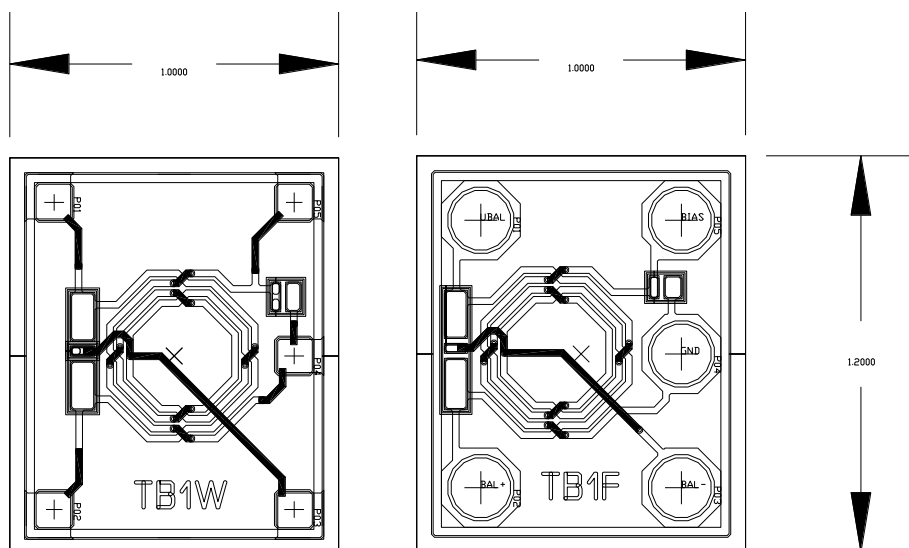
STATS ChipPAC's SCI-109W/F is a balun for 802.11b band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

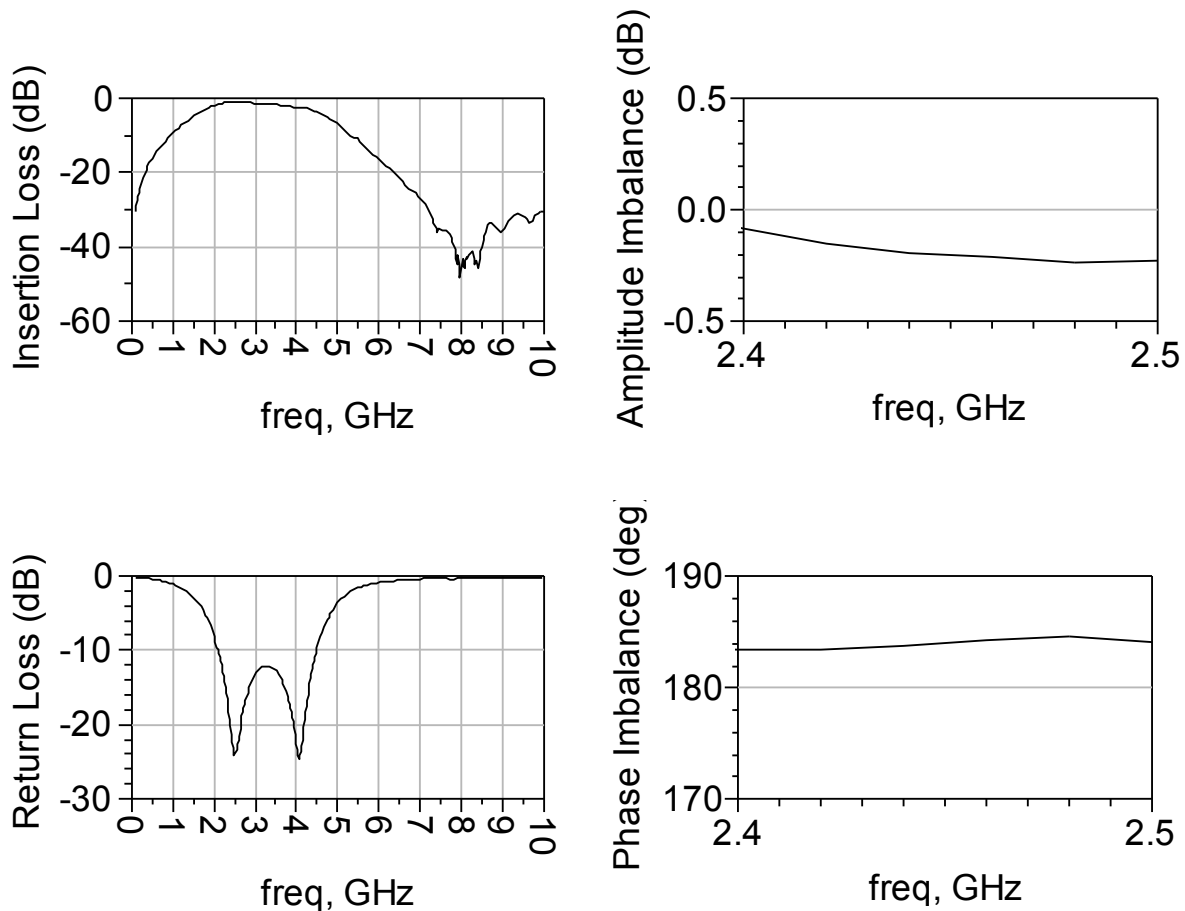
(Test board loss 0.1dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB		1.0	
Return Loss	dB		20	
Differential Impedance	Ohm		50	
Amplitude Imbalance	dB			0.3
Phase Imbalance	deg			4.0
Size	mm	1.0 x 1.2 (WB)		1.0 x 1.2 (FC)

DIMENSIONS

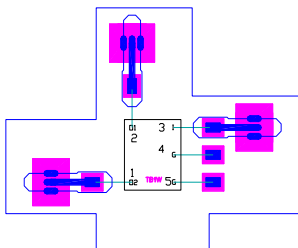


TYPICAL CHARACTERISTICS

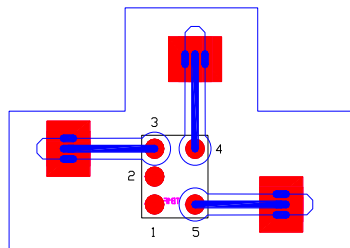


TEST BOARD DRAWING

SCI-109W (Wirebond)



SCI-109F (Flip Chip)



Pad	SCI-109W Signal	SCI-109F Signal
1	Balanced (+)	Bias
2	Balanced (-)	GND
3	Unbalanced	Unbalanced
4	GND	Balanced (+)
5	Bias	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

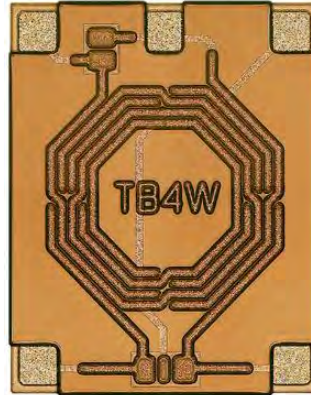
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

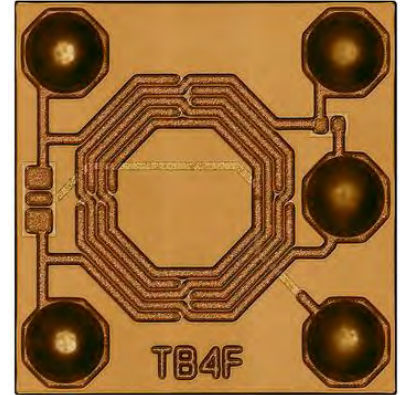
(10) 802.11b Band Balun (SCI-110 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.2 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-110W (Wirebond)



SCI-110F (Flip Chip)

DESCRIPTION

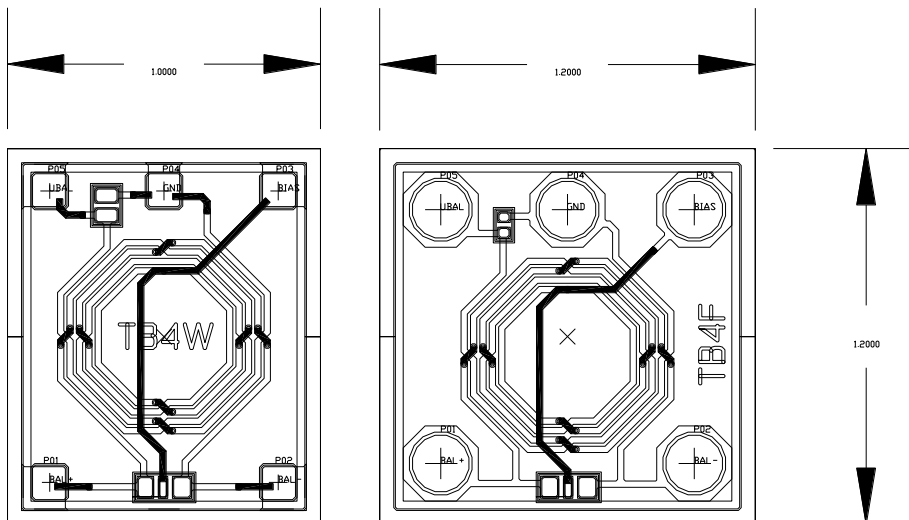
STATS ChipPAC's SCI-110W/F is a balun for 802.11b band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

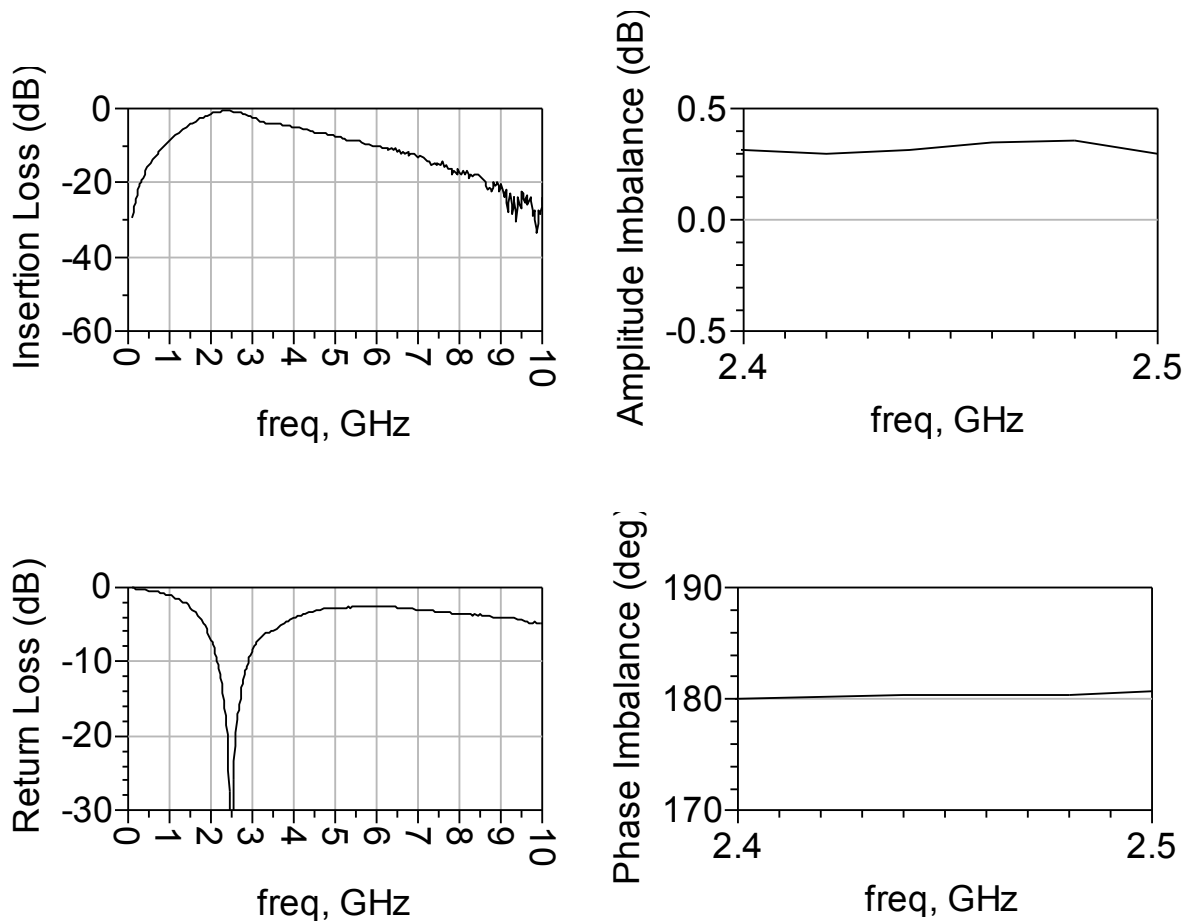
(Test board loss 0.1 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB		0.8	
Return Loss	dB	20		
Differential Impedance	Ohm		200	
Amplitude Imbalance	dB		0.3	
Phase Imbalance	deg			1.0
Size	mm	1.0 x 1.2 (WB)		1.2 x 1.2 (FC)

DIMENSIONS



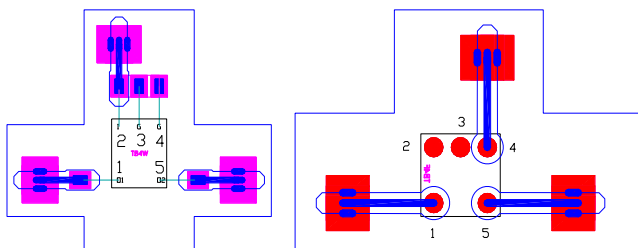
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-110W (Wirebond)

SCI-110F (Flip Chip)



Pad	SCI-110W Signal	SCI-110F Signal
1	Balanced (+)	Balanced (+)
2	Unbalanced	Bias
3	GND	GND
4	Bias	Unbalanced
5	Balanced (-)	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

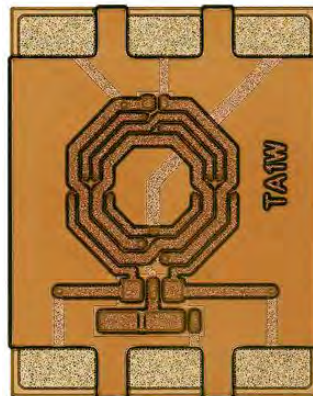
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

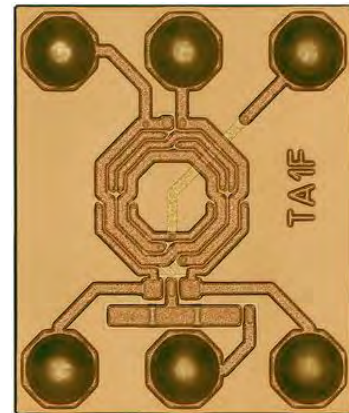
(11) 802.11a Band Balun (SCI-111 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-111W (Wirebond)



SCI-111F (Flip Chip)

DESCRIPTION

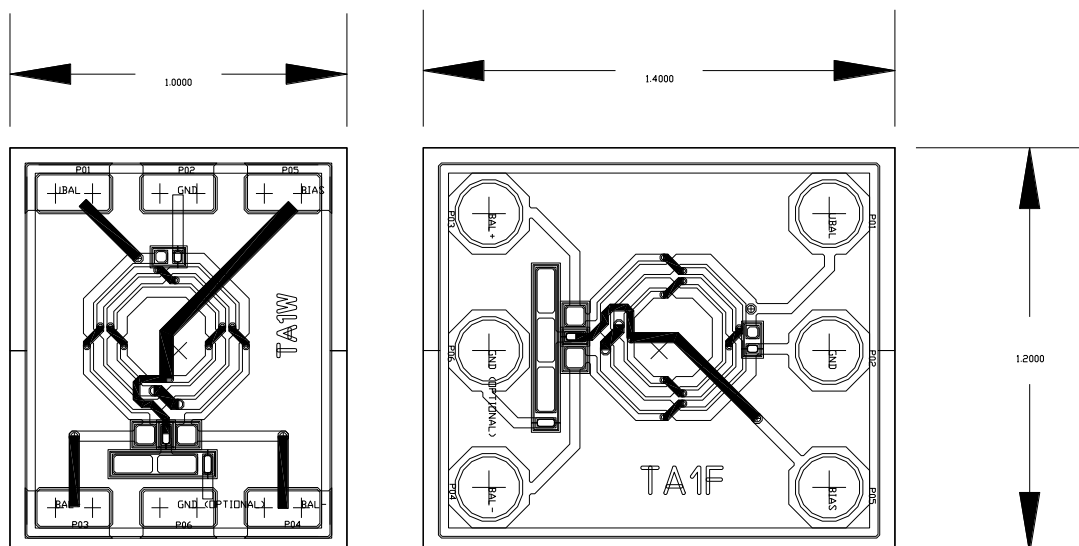
STATS ChipPAC's SCI-111W/F is a balun for 802.11a band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

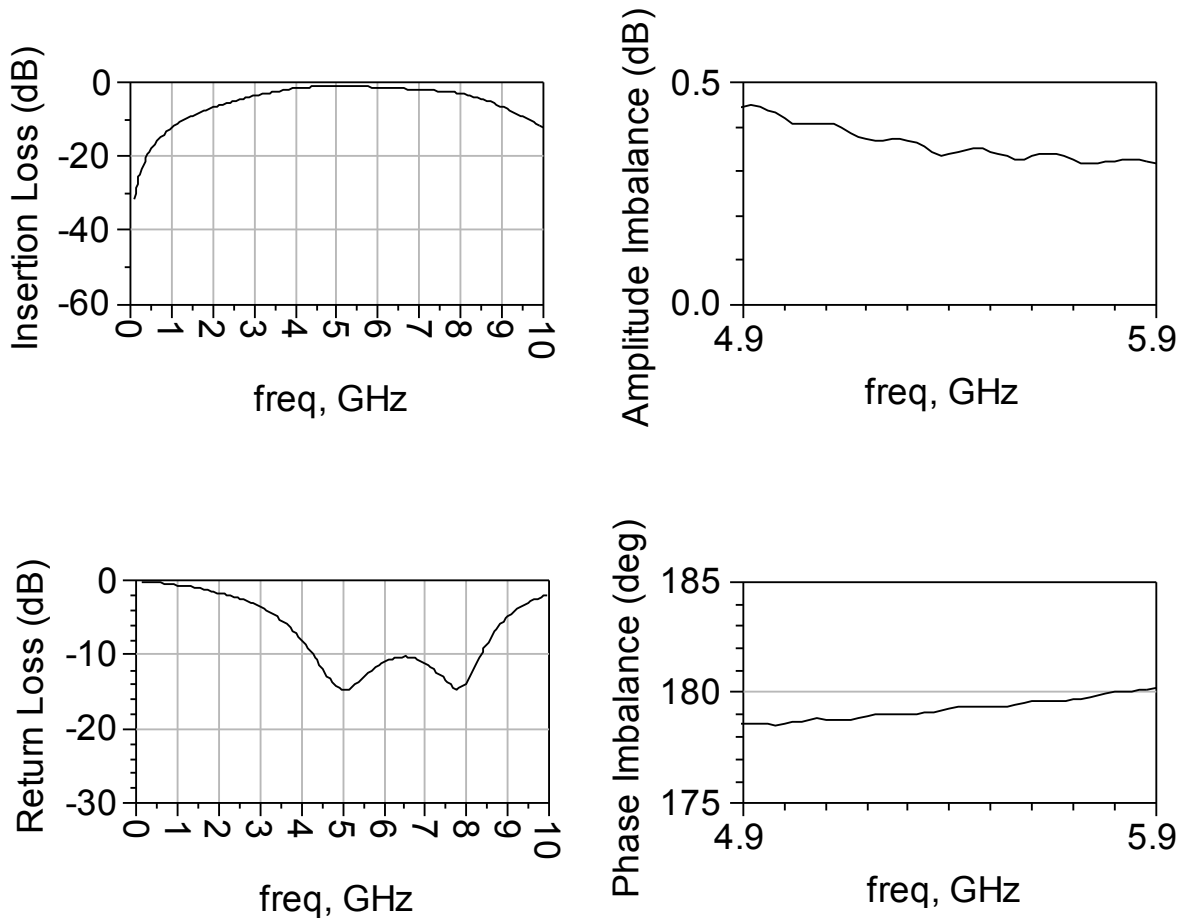
(Test board loss 0.25 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	4900		5900
Insertion Loss	dB		1.2	
Return Loss	dB	11		
Differential Impedance	Ohm		50	
Amplitude Imbalance	dB			0.5
Phase Imbalance	deg			2.0
Size	mm	1.0 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS

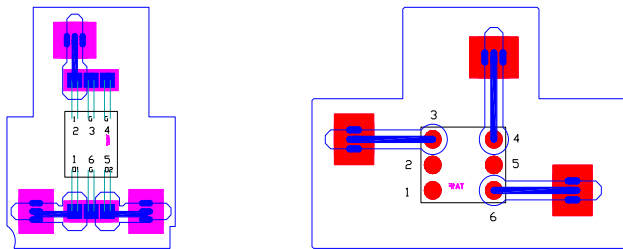


TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-111W (Wirebond) **SCI-111F (Flip Chip)**



Pad	SCI-111W Signal	SCI-111F Signal
1	Balanced (+)	Bias
2	Unbalanced	GND
3	GND	Unbalanced
4	Bias	Balanced (+)
5	Balanced (-)	GND
6	GND	Balanced (-)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

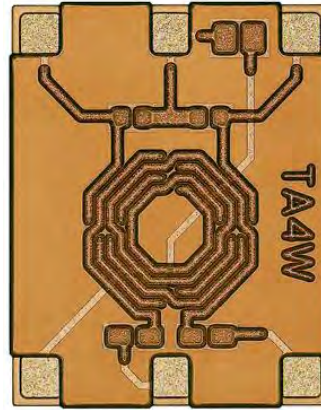
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

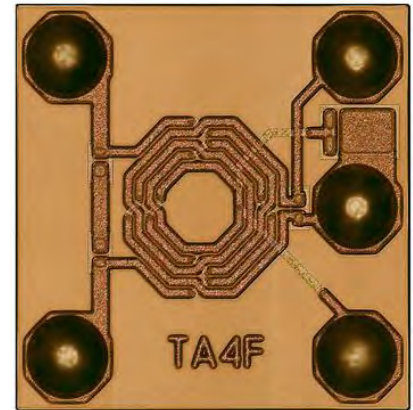
(12) 802.11a Band Balun (SCI-112 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.2 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-112W (Wirebond)



SCI-112F (Flip Chip)

DESCRIPTION

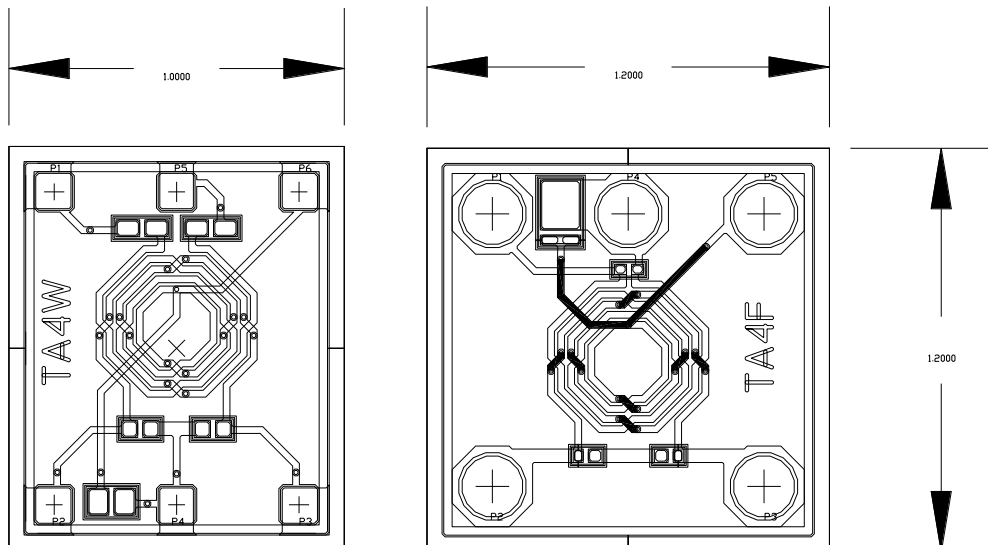
STATS ChipPAC's SCI-112W/F is a balun for 802.11a band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

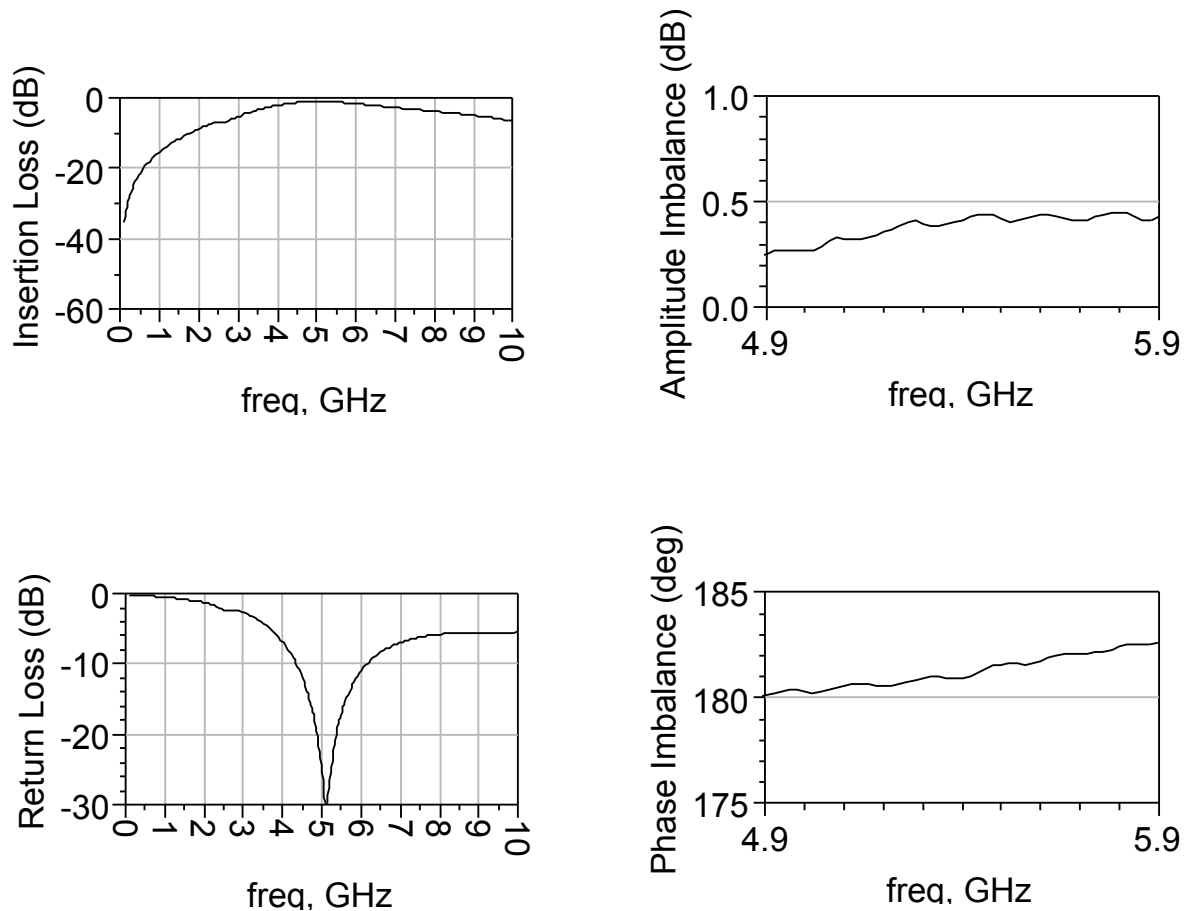
(Test board loss 0.25 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	4900		5900
Insertion Loss	dB	1.0		1.4
Return Loss	dB	12		
Differential Impedance	Ohm		200	
Amplitude Imbalance	dB			0.5
Phase Imbalance	deg			3.0
Size	mm	1.0 x 1.2 (WB)		1.2 x 1.2 (FC)

DIMENSIONS



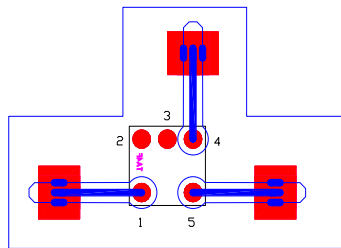
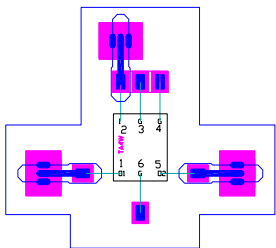
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-112W (Wirebond)

SCI-112F (Flip Chip)



Pad	SCI-112W Signal	SCI-112F Signal
1	Balanced (+)	Balanced (+)
2	Unbalanced	Bias
3	GND	GND
4	Bias	Unbalanced
5	Balanced (-)	Balanced (-)
6	GND	

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

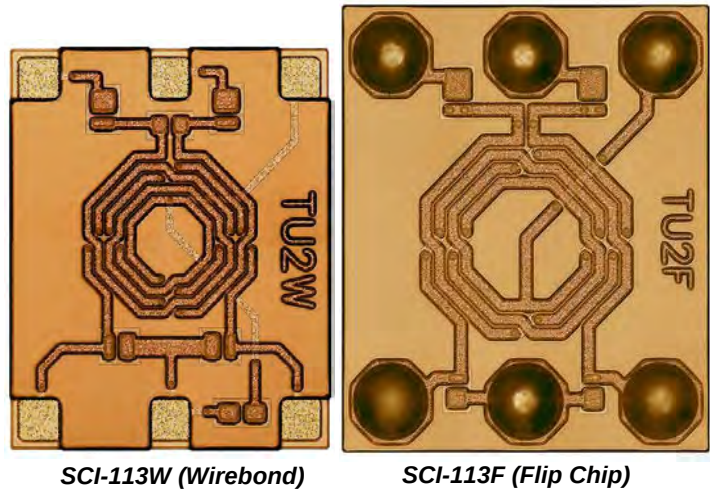
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

(13) UWB Band Balun (SCI-113 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-113W (Wirebond)

SCI-113F (Flip Chip)

DESCRIPTION

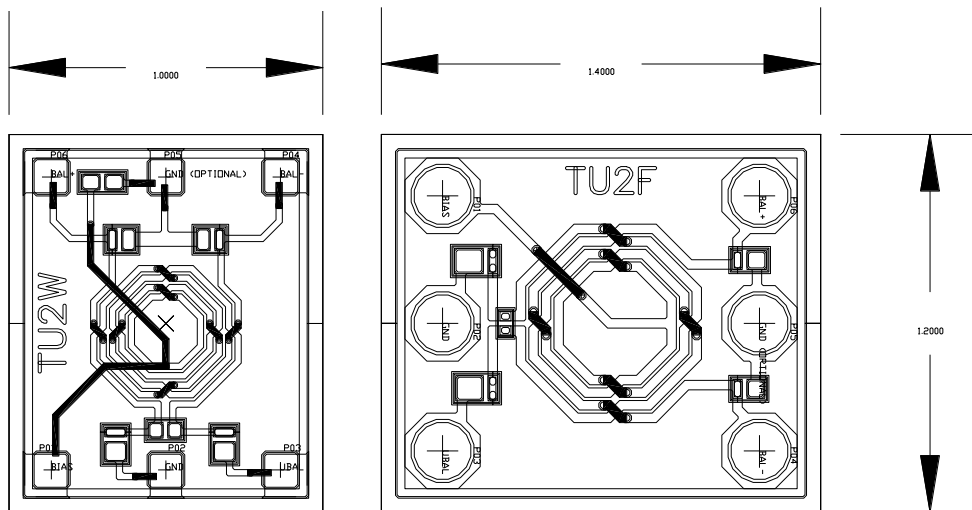
STATS ChipPAC's SCI-113W/F is a balun for UWB band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

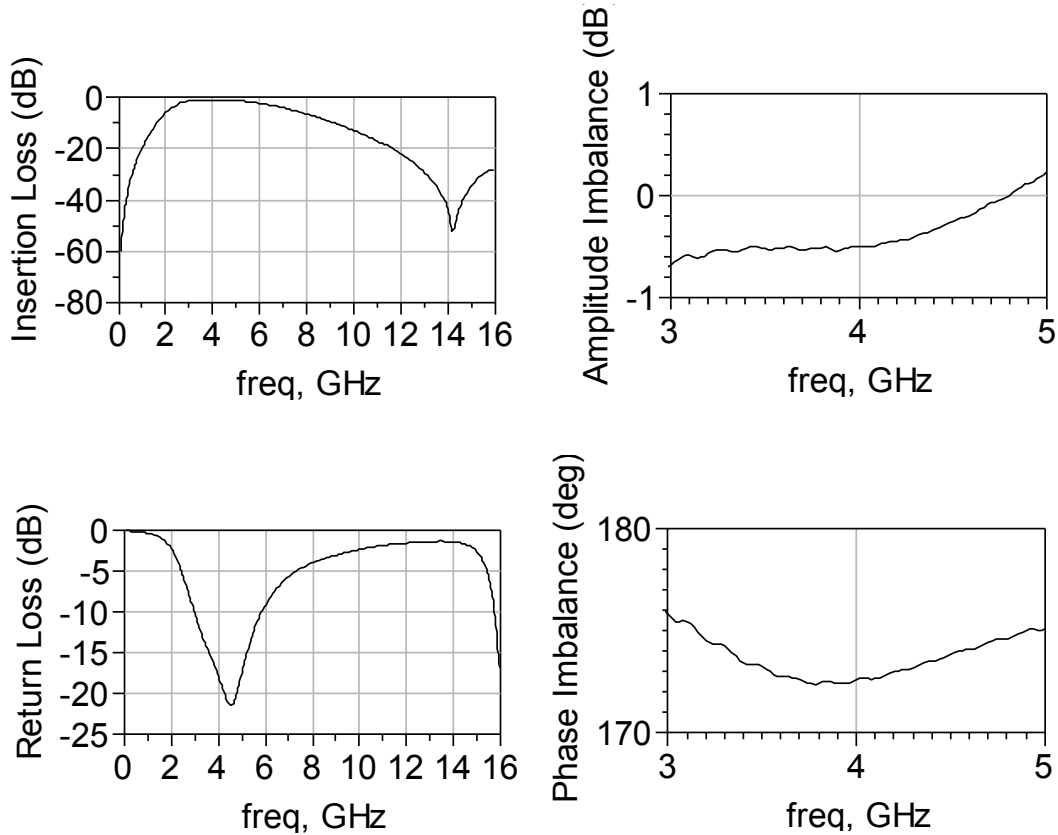
(Test board loss 0.2 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	3000		5000
Insertion Loss	dB		1.3	
Return Loss	dB	10		
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB			0.8
Phase Imbalance	deg			8.0
Size	mm	1.0 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS



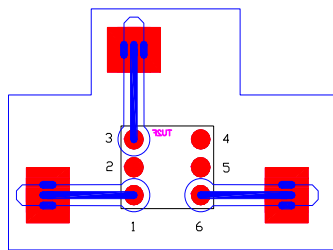
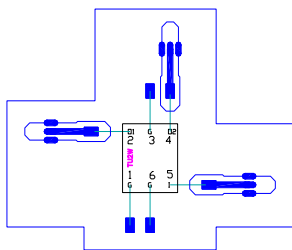
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-113W (Wirebond)

SCI-113F (Flip Chip)



Pad	SCI-113W Signal	SCI-113F Signal
1	Bias	Balanced (+)
2	Balanced (+)	GND
3	GND	Balanced (-)
4	Balanced (-)	Bias
5	Unbalanced	GND
6	GND	Unbalanced

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

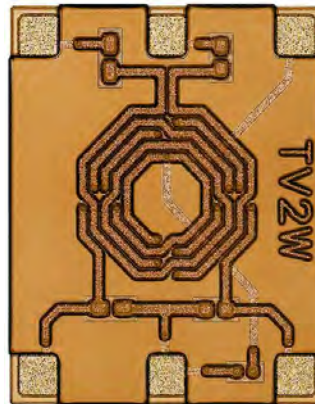
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

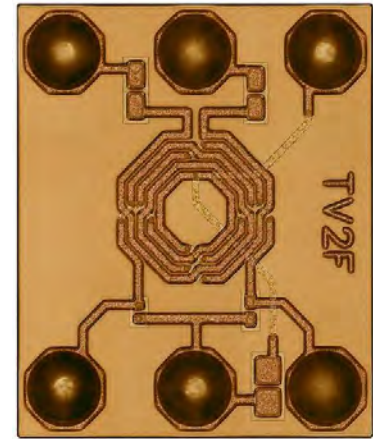
(14) UWB Band Balun (SCI-114 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to $+85^{\circ}\text{C}$
- Storage temperature: -40°C to $+85^{\circ}\text{C}$



SCI-114W (Wirebond)



SCI-114F (Flip Chip)

DESCRIPTION

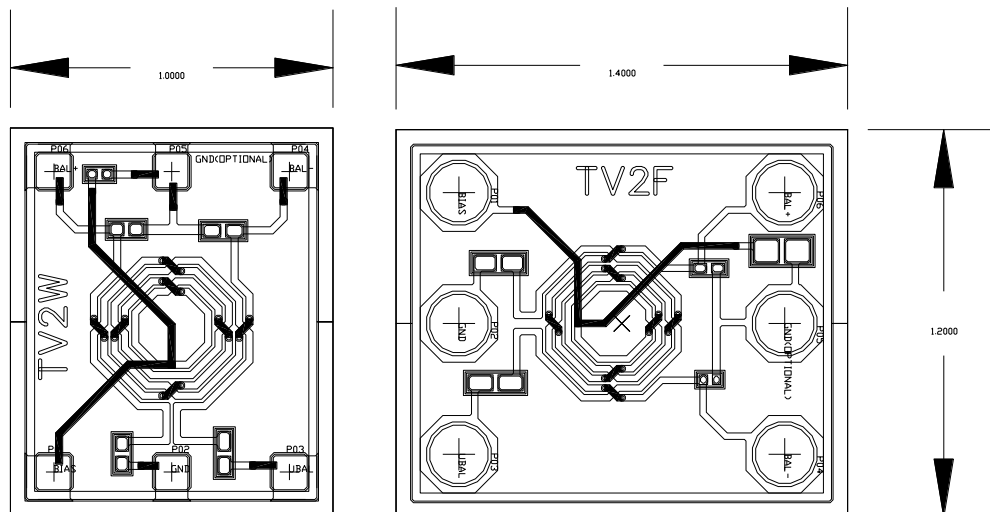
STATS ChipPAC's SCI-114W/F is a balun for UWB band applications. The balun has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the balun are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

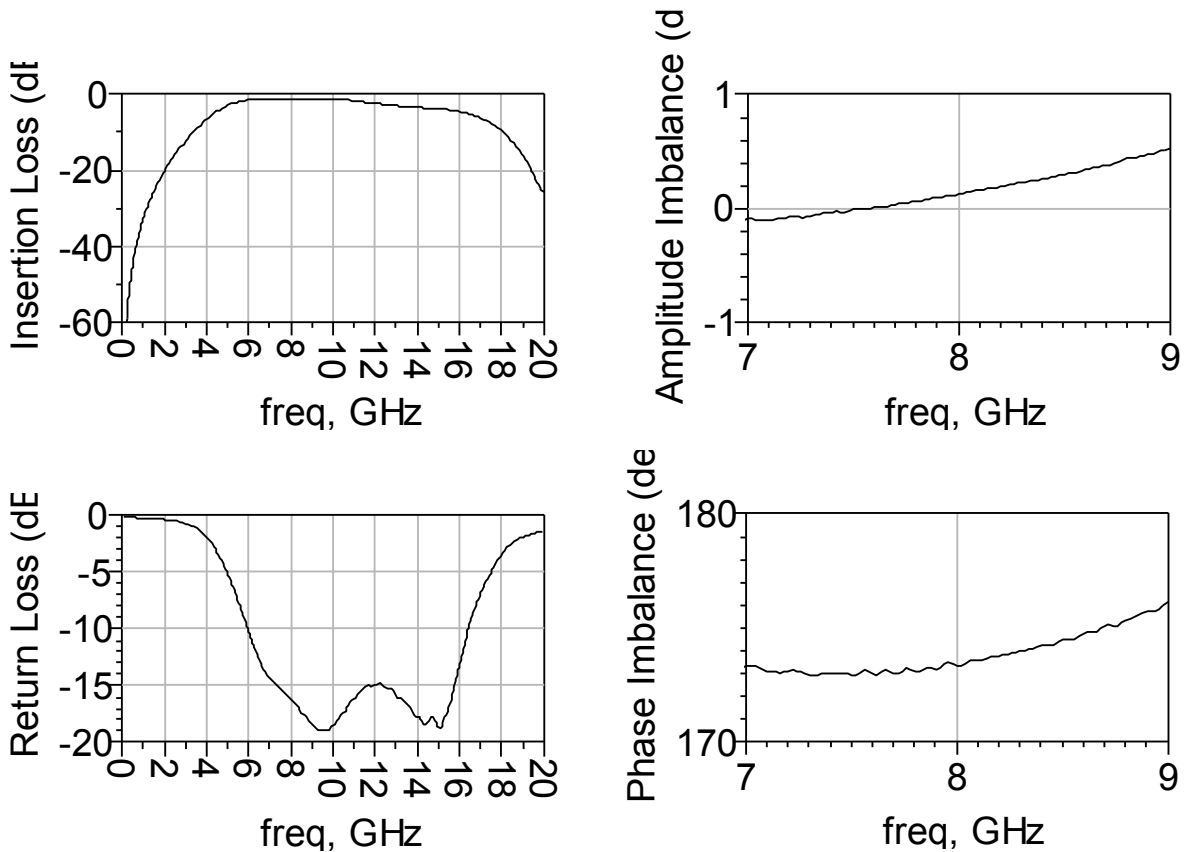
(Test board loss 0.5 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	7000		9000
Insertion Loss	dB		1.0	
Return Loss	dB	15		
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB			0.6
Phase Imbalance	deg			7.0
Size	mm	1.0 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS



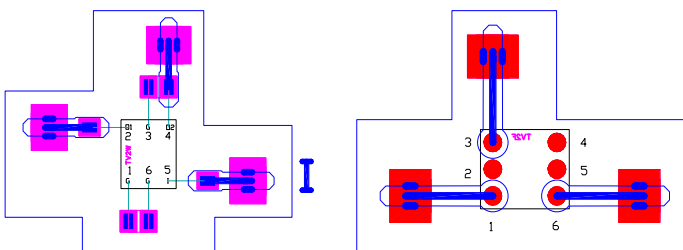
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-114W (Wirebond)

SCI-114F (Flip Chip)



Pad	SCI-114W Signal	SCI-114F Signal
1	Bias	Balanced (+)
2	Balanced (+)	GND
3	GND	Balanced (-)
4	Balanced (-)	Bias
5	Unbalanced	GND
6	GND	Unbalanced

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

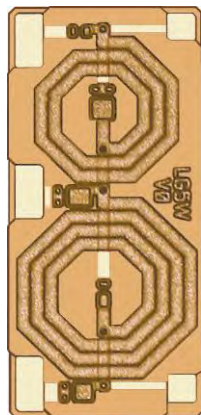
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

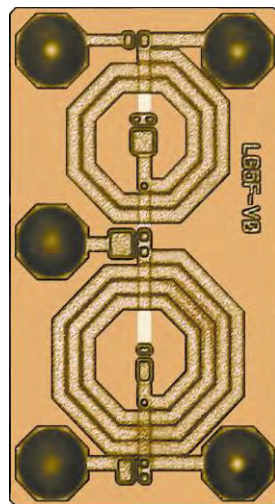
(15) GSM Band Low Pass Filter (SCI-201 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.7 mm x 0.8 mm (wirebond)
1.8 mm x 1.1 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-201W (Wirebond)



SCI-201F (Flip Chip)

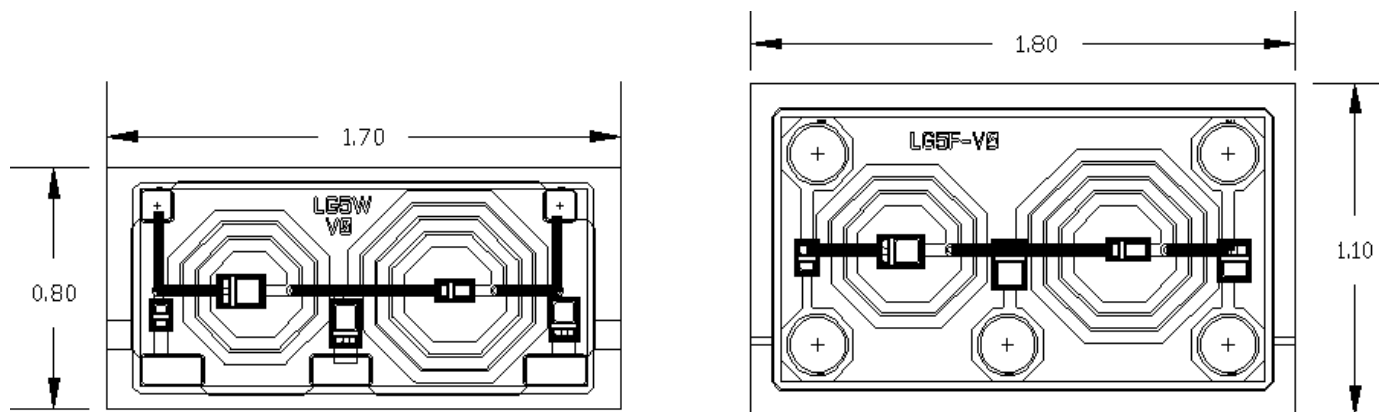
DESCRIPTION

STATS ChipPAC's SCI-201W/F is a low pass filter (LPF) for GSM band applications. The LPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the LPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

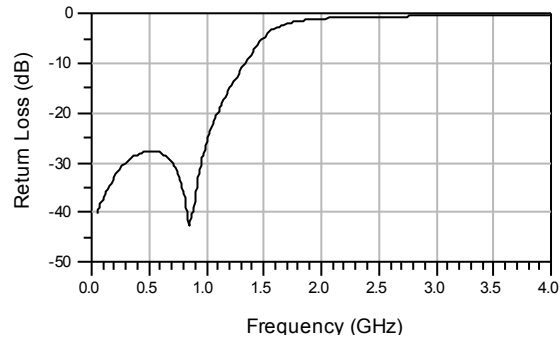
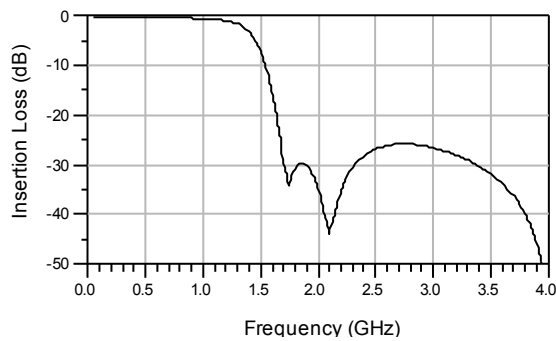
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB		0.5	
Return Loss	dB		20	
Attenuation, 2f ₀	dB	20		30
Attenuation, 3f ₀	dB		25	
Size	mm	1.7 x 0.8 (WB)		1.8 x 1.1 (FC)

DIMENSIONS

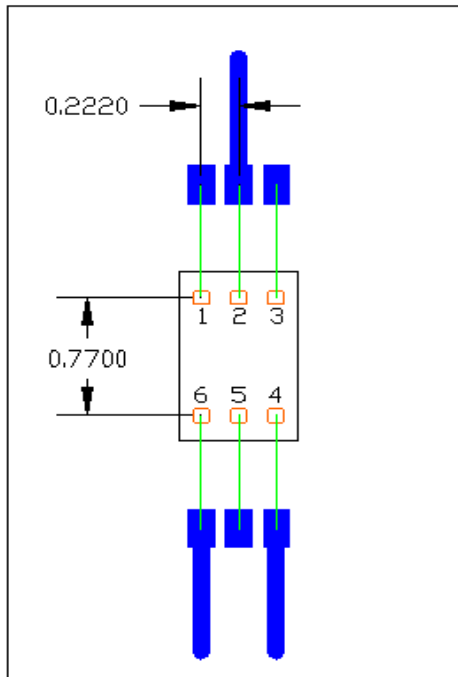


TYPICAL CHARACTERISTICS

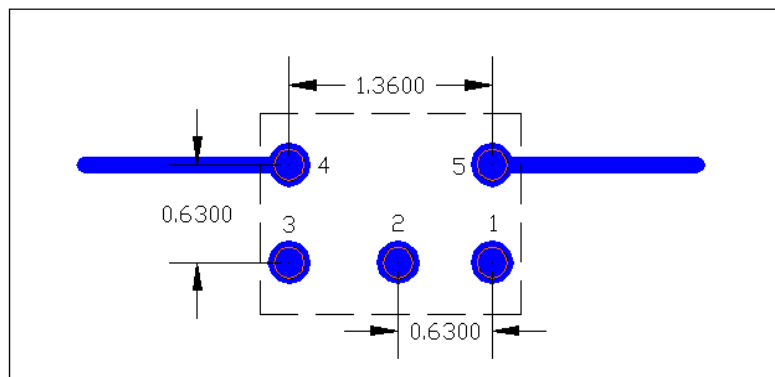


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-201W (Wirebond)



SCI-201F (Flip Chip)



Pad	SCI-201W Signal	SCI-201F Signal
1	Ground	Ground
2	Ground	Ground
3	Ground	Ground
4	Input	Output
5	Output	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

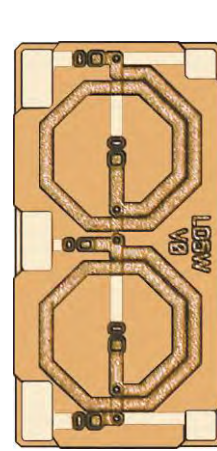
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

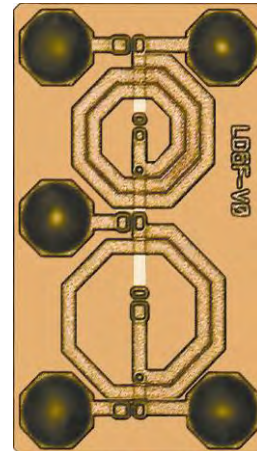
(16) DCS Band Low Pass Filter (SCI-202 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.5 mm x 0.8 mm (wirebond)
1.6 mm x 1.0 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-202W (Wirebond)



SCI-202F (Flip Chip)

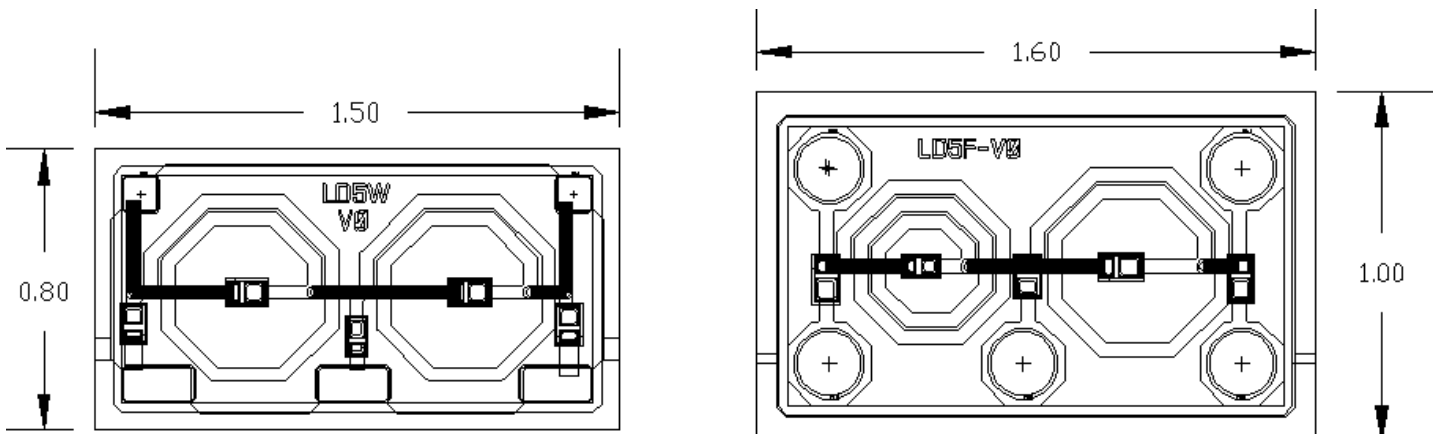
DESCRIPTION

STATS ChipPAC's SCI-202W/F is a low pass filter (LPF) for DCS band applications. The LPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the LPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wire-bonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

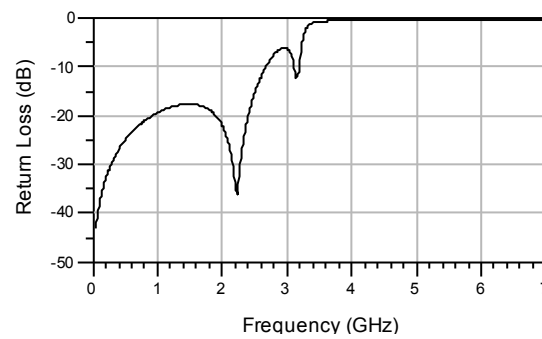
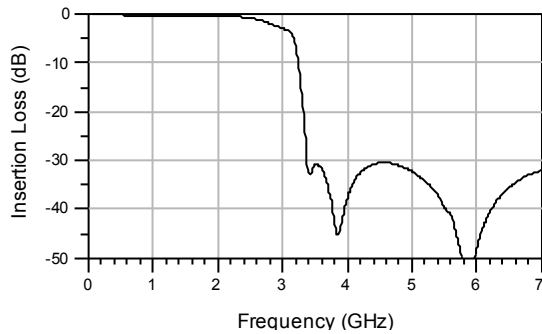
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB		0.4	
Return Loss	dB	15		20
Attenuation, 2f ₀	dB		30	
Attenuation, 3f ₀	dB		30	
Size	mm	1.5 x 0.8 (WB)		1.6 x 1.0 (FC)

DIMENSIONS

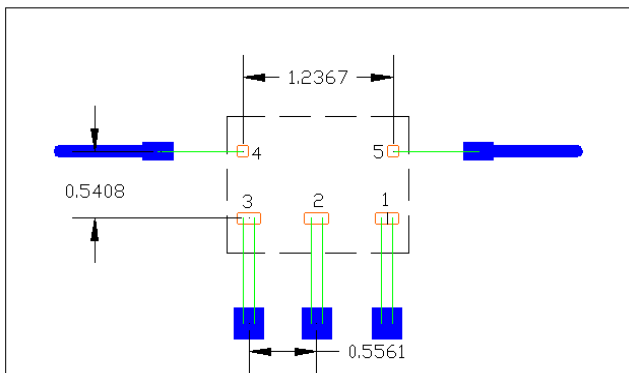


TYPICAL CHARACTERISTICS

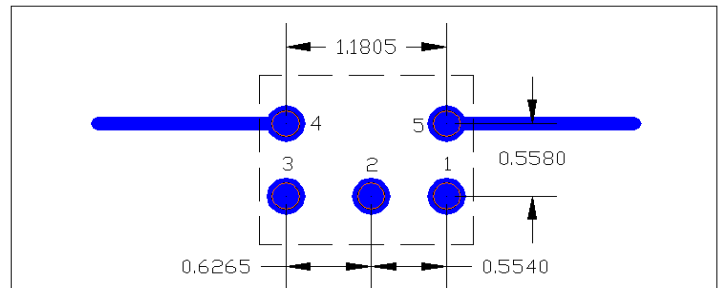


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-202W (Wirebond)



SCI-202F (Flip Chip)



Pad	SCI-202W Signal	SCI-202F Signal
1	Ground	Ground
2	Ground	Ground
3	Ground	Ground
4	Input	Output
5	Output	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

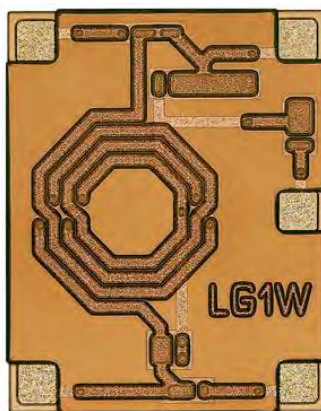
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

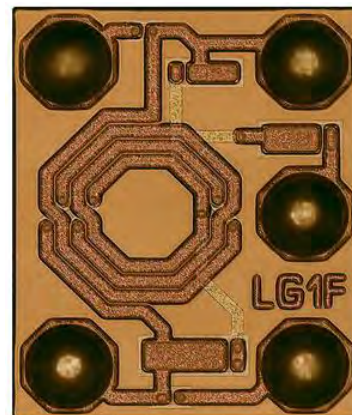
(17) GSM Band Low Pass Filter (SCI-203W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.0 mm x 1.2 mm (flip chip)
- Eutectic Sn/Pb or lead-free solder bump
- Low profile, 0.40 mm height
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 to +85 °C
- Storage temperature: -40 to +85 °C



SCI-203W (Wirebond)



SCI-203F (Flip Chip)

DESCRIPTION

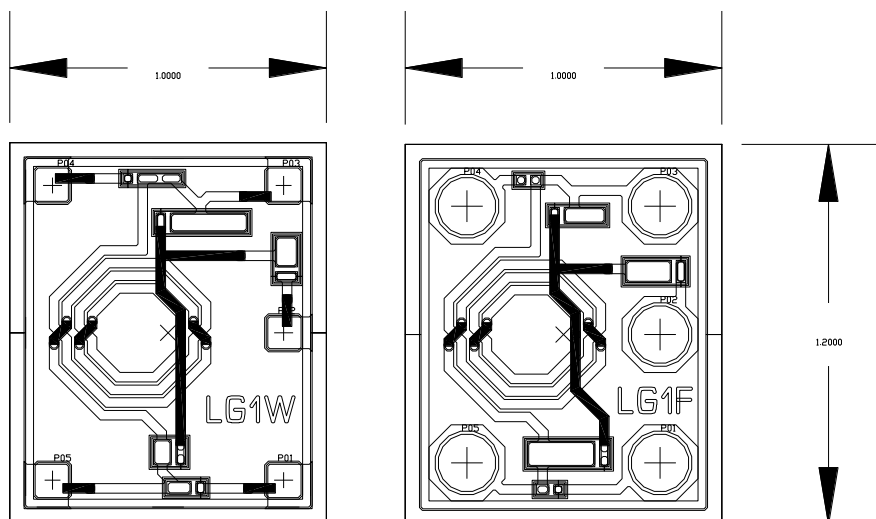
STATS ChipPAC's SCI-203W/F is a low pass filter (LPF) for GSM band applications. The LPF has low pass-band insertion loss and small size. It is composed of 8.0 μ m Cu-plated inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the LPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wire-bonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

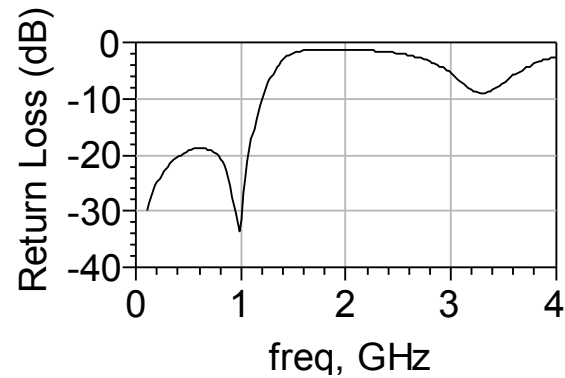
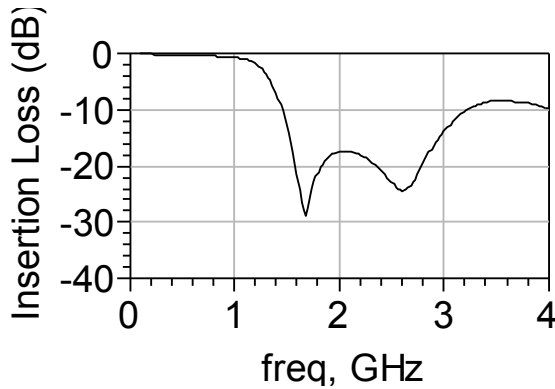
(Test board loss 0.04 dB included)

Specification	Unit	Minimum	Typical	Maximum
Pass Band	MHz	824		915
Insertion Loss	dB		0.6	
Return Loss	dB	20		
Attenuation, 2f ₀	dB		20	
Attenuation, 3f ₀	dB		20	
Size	mm	1.0 x 1.2 (WB)		1.0 x 1.2 (FC)

DIMENSIONS

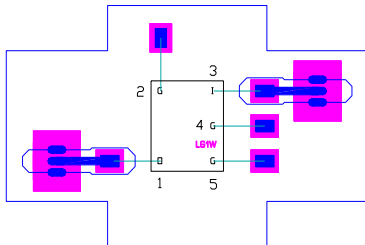


TYPICAL CHARACTERISTICS

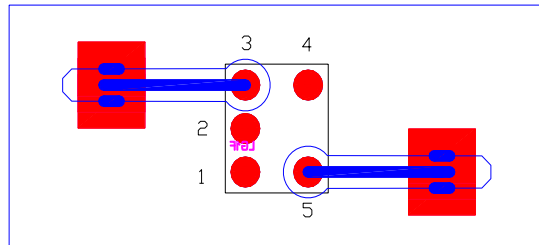


TEST BOARD DRAWING

SCI-203W (Wirebond)



SCI-203F (Flip Chip)



Pad	SCI-203W Signal	SCI-203F Signal
1	Input	GND
2	GND	GND
3	Output	Input
4	GND	GND
5	GND	Output

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

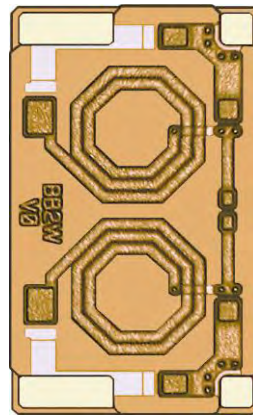
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

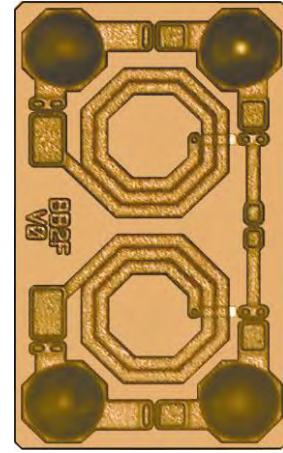
(18) 802.11b/g Band Pass Filter (SCI-301 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.5 mm x 0.9 mm (wirebond)
1.5 mm x 0.9 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-301W (Wirebond)



SCI-301F (Flip Chip)

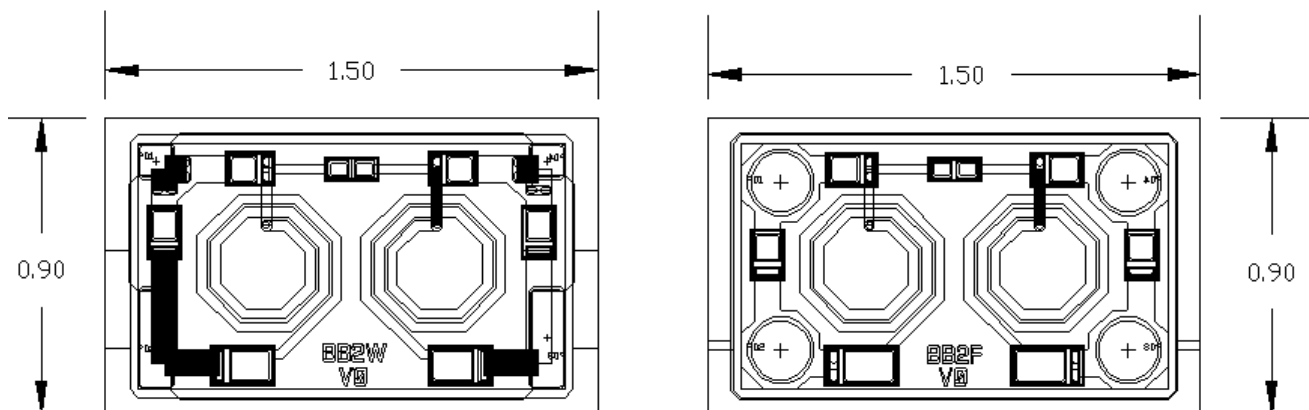
DESCRIPTION

STATS ChipPAC's SCI-301W/F is a band pass filter (BPF) for 802.11b/g band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

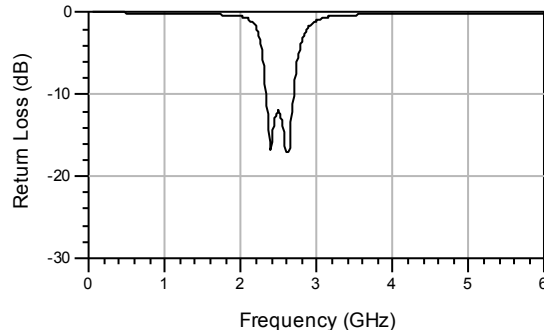
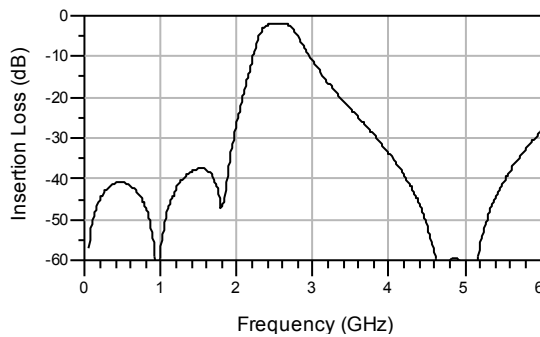
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB	2.0	2.2	2.4
Return Loss	dB	10		15
Attenuation, 900 MHz	dB		50	
Attenuation, 1900 MHz	dB		30	
Attenuation, 4800 MHz	dB		60	
Size	mm	1.5 x 0.9 (WB)		1.5 x 0.90 (FC)

DIMENSIONS

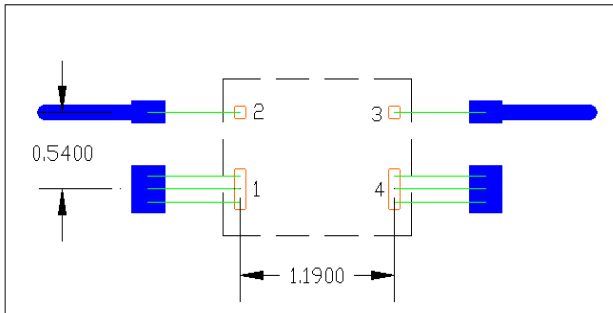


TYPICAL CHARACTERISTICS

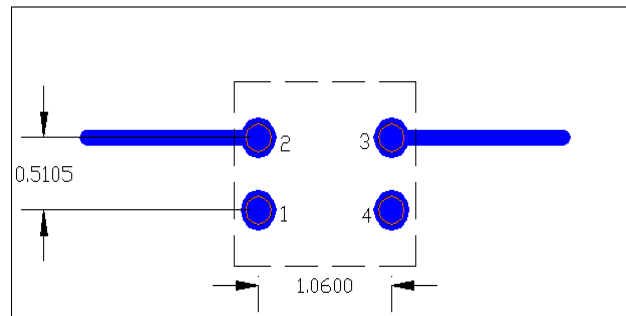


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-301W (Wirebond)



SCI-301F (Flip Chip)



Pad	SCI-301W Signal	SCI-301F Signal
1	Ground	Ground
2	Input	Output
3	Output	Input
4	Ground	Ground

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

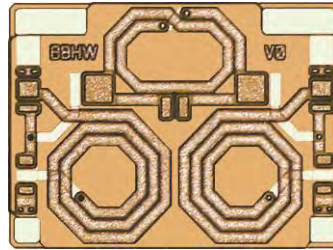
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

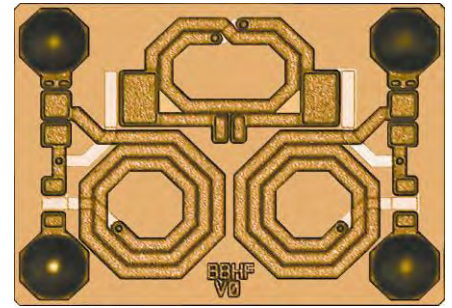
(19) 802.11b/g Band Pass Filter (SCI-302 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.5 mm x 1.1 mm (wirebond)
1.7 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-302W (Wirebond)



SCI-302F (Flip Chip)

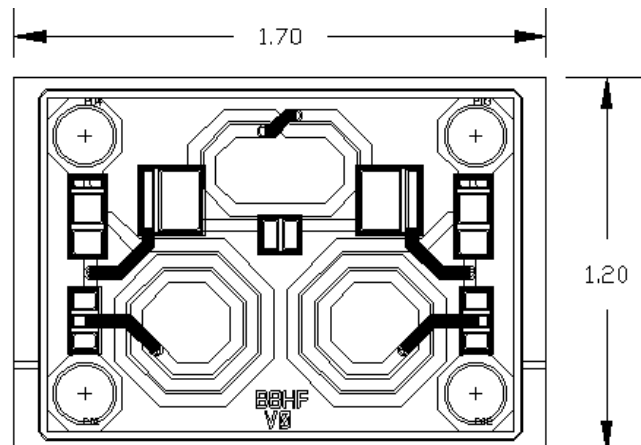
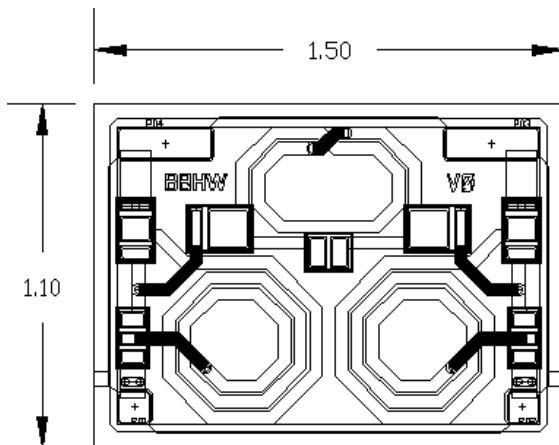
DESCRIPTION

STATS ChipPAC's SCI-302W/F is a band pass filter (BPF) for 802.11b/g band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

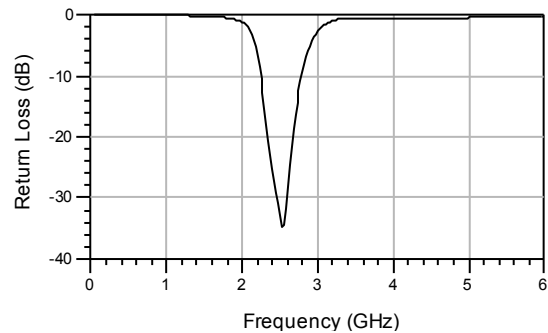
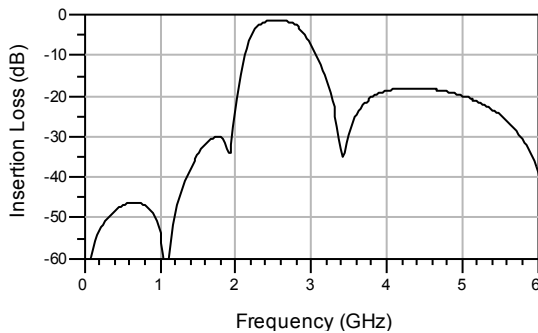
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB	1.5		1.7
Return Loss	dB		20	
Attenuation, 900 MHz	dB		45	
Attenuation, 1900 MHz	dB		30	
Attenuation, 4800 MHz	dB		18	
Size	mm	1.5 x 1.1 (WB)		1.7 x 1.2 (FC)

DIMENSIONS

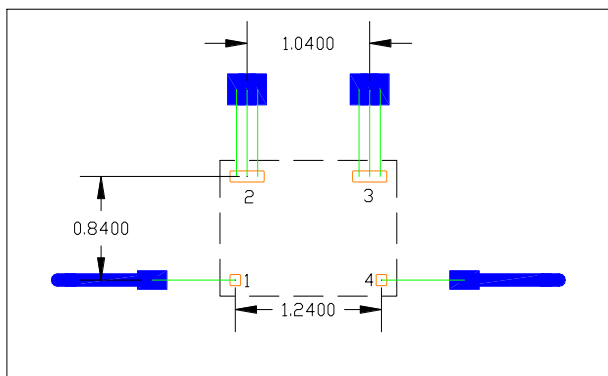


TYPICAL CHARACTERISTICS

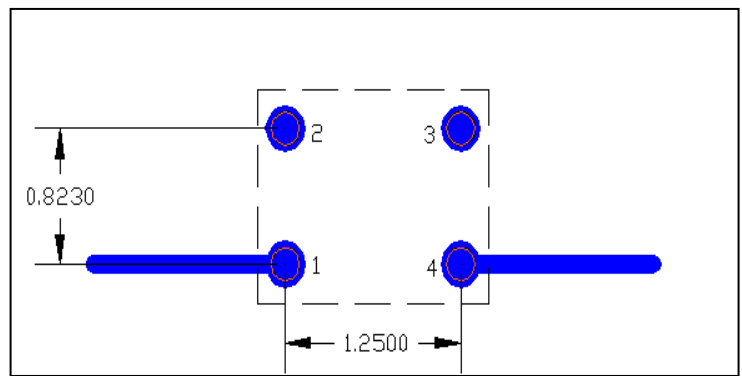


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-302W (Wirebond)



SCI-302F (Flip Chip)



Pad	SCI-302W Signal	SCI-302F Signal
1	Input	Output
2	Ground	Ground
3	Ground	Ground
4	Output	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

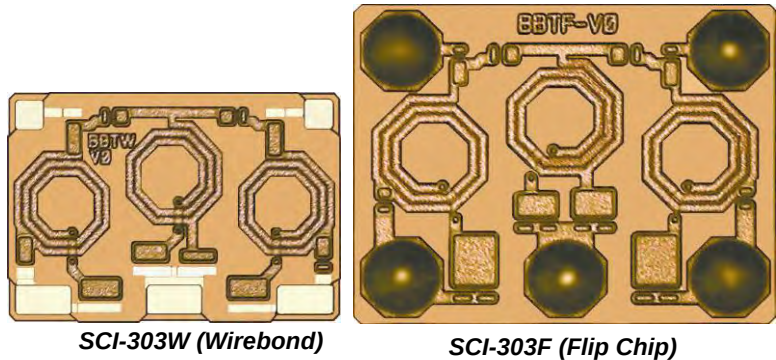
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

(20) 802.11b/g Band Pass Filter (SCI-303 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.3 mm x 0.9 mm (wirebond)
1.4 mm x 1.1 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



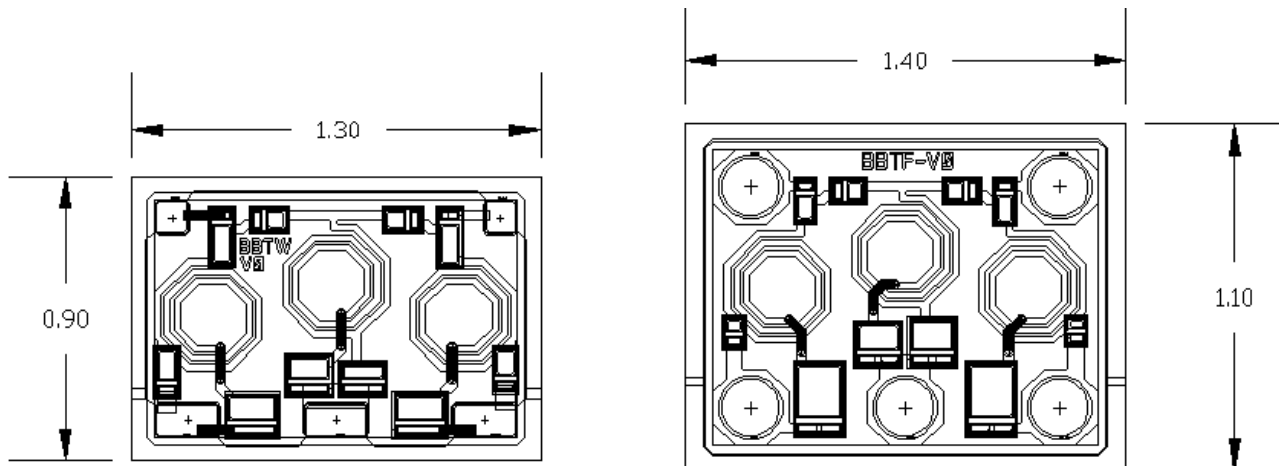
DESCRIPTION

STATS ChipPAC's SCI-303W/F is a band pass filter (BPF) for 802.11b/g band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

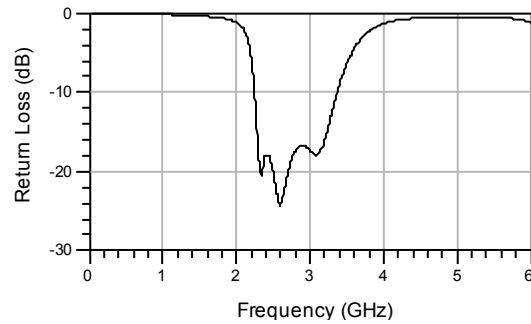
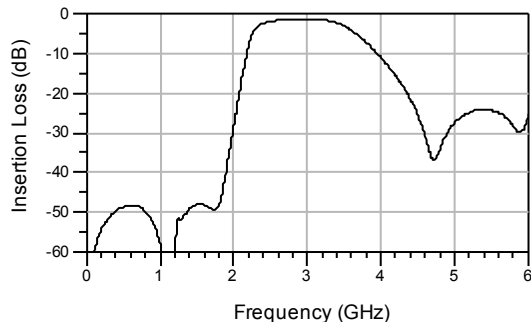
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB	1.9		2.3
Return Loss	dB	15		20
Attenuation, 900 MHz	dB		50	
Attenuation, 1900 MHz	dB		35	
Attenuation, 4800 MHz	dB		30	
Size	mm	1.3 x 0.9 (WB)		1.4 x 1.1 (FC)

DIMENSIONS

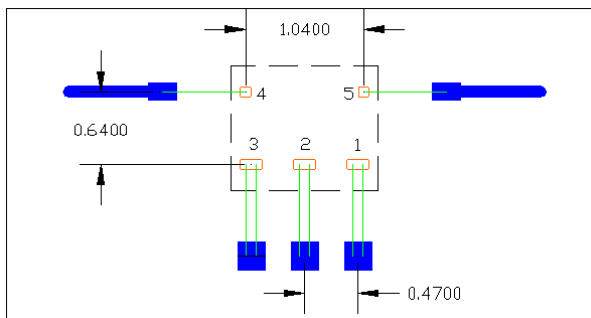


TYPICAL CHARACTERISTICS

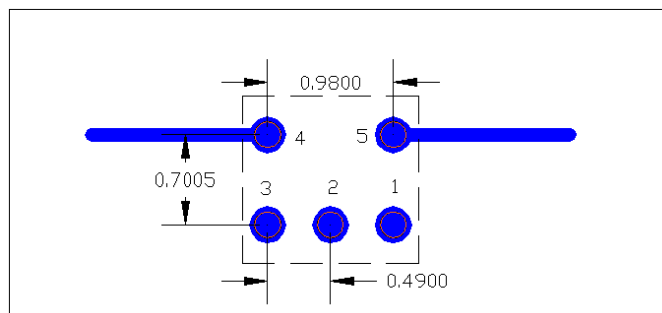


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-303W (Wirebond)



SCI-303F (Flip Chip)



Pad	SCI-303W	SCI-303F
1	Ground	Ground
2	Ground	Ground
3	Ground	Ground
4	Input	Output
5	Output	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

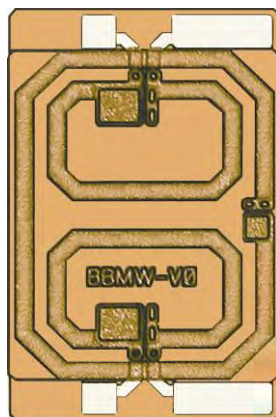
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

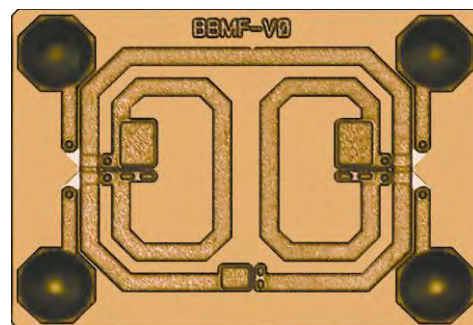
(21) 802.11b/g Band Pass Filter (SCI-304 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.5 mm x 1.0 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-304W (Wirebond)



SCI-304F (Flip Chip)

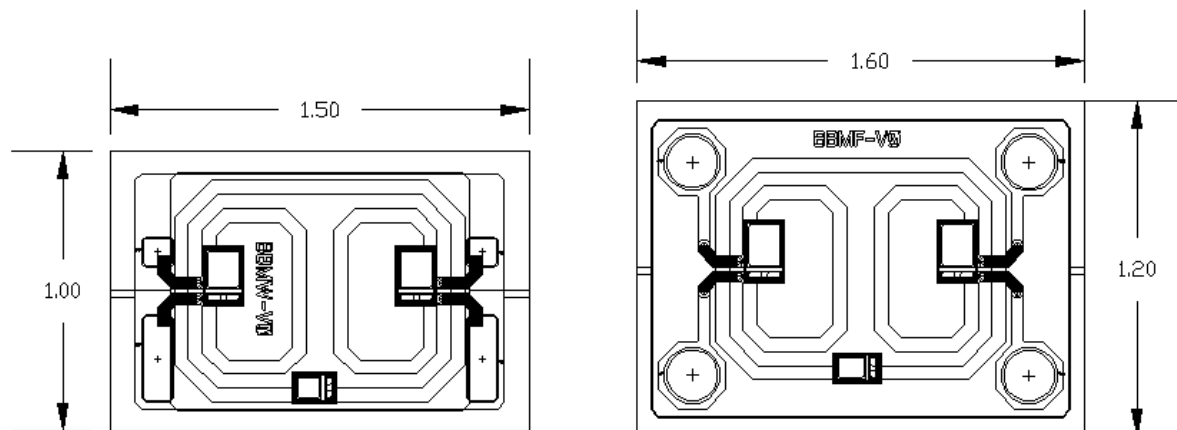
DESCRIPTION

STATS ChipPAC's SCI-304W/F is a band pass filter (BPF) for 802.11b/g band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

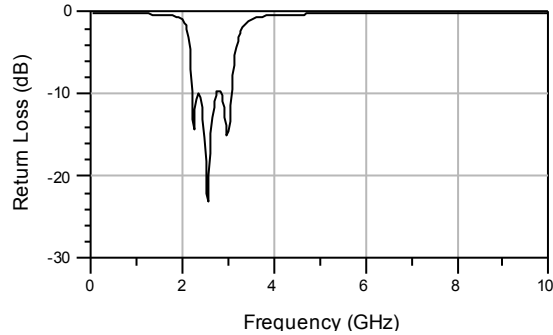
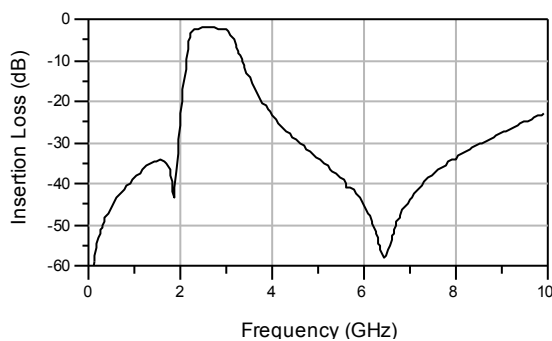
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB	1.8	2.0	2.3
Return Loss	dB		10	
Attenuation, 900 MHz	dB		35	
Attenuation, 1900 MHz	dB		30	
Attenuation, 4800 MHz	dB		30	
Size	mm	1.5 x 1.0 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

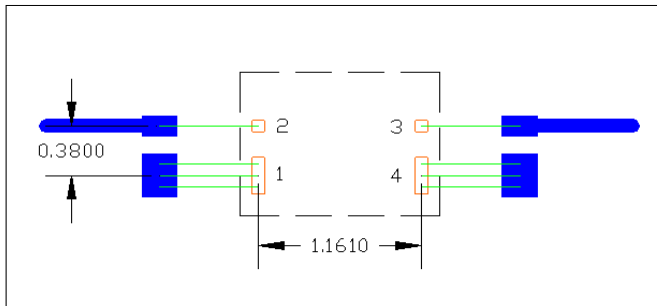


TYPICAL CHARACTERISTICS

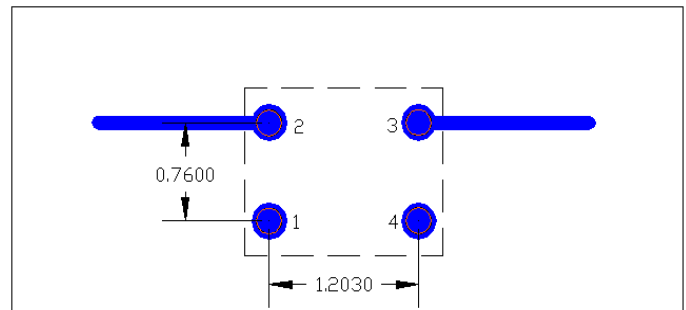


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-304W (Wirebond)



SCI-304F (Flip Chip)



Pad	SCI-304W Signal	SCI-304F Signal
1	Ground	Ground
2	Input	Output
3	Output	Input
4	Ground	Ground

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

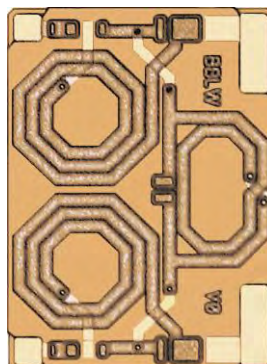
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

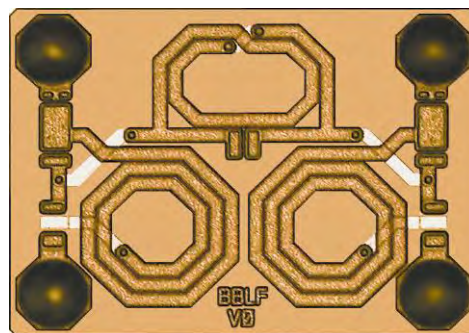
(22) 802.11b/g Band Pass Filter (SCI-305 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.5 mm x 1.1 mm (wirebond)
1.7 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-305W (Wirebond)



SCI-305F (Flip Chip)

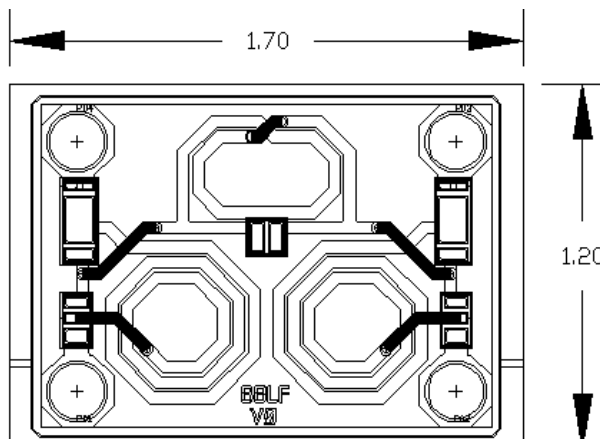
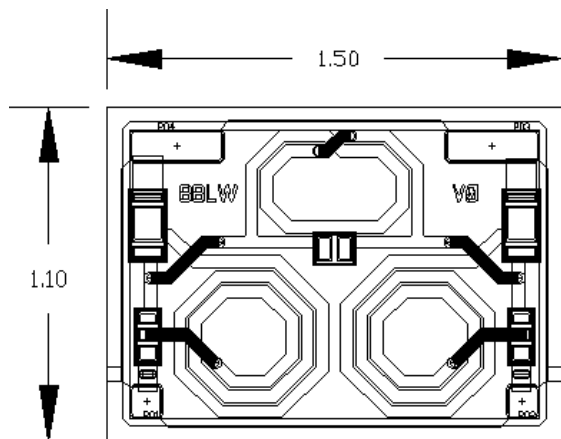
DESCRIPTION

STATS ChipPAC's SCI-305W/F is a band pass filter (BPF) for 802.11b/g band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

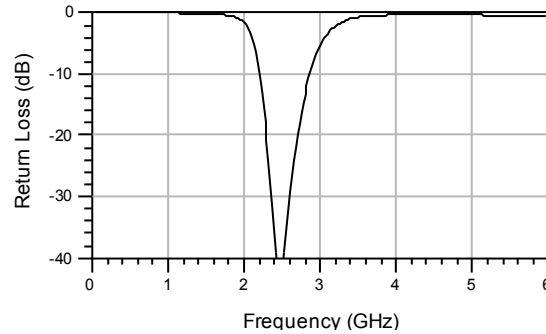
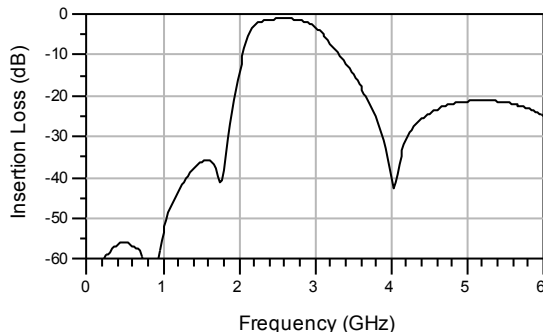
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB	1.2		1.4
Return Loss	dB		20	
Attenuation, 900 MHz	dB		60	
Attenuation, 1900 MHz	dB		20	
Attenuation, 4800 MHz	dB		20	
Size	mm	1.5 x 1.1 (WB)		1.7 x 1.2 (FC)

DIMENSIONS

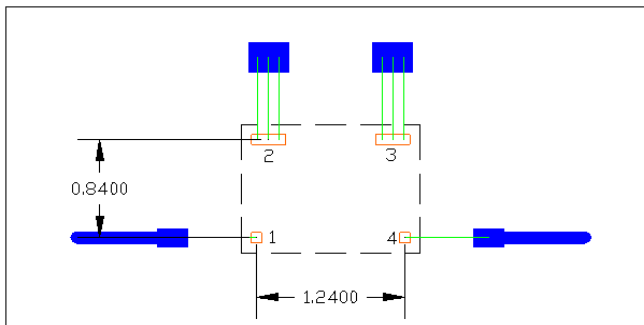


TYPICAL CHARACTERISTICS

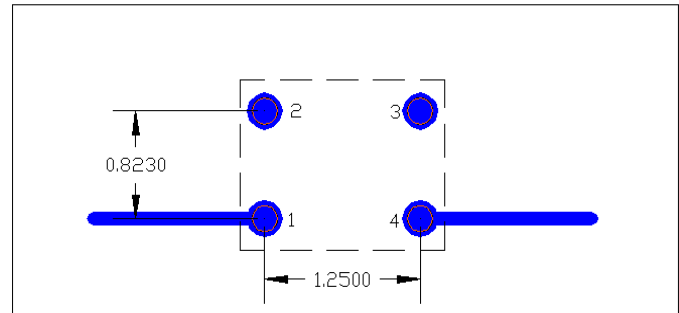


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-305W (Wirebond)



SCI-305F (Flip Chip)



Pad	SCI-305W Signal	SCI-305F Signal
1	Input	Output
2	Ground	Ground
3	Ground	Ground
4	Output	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

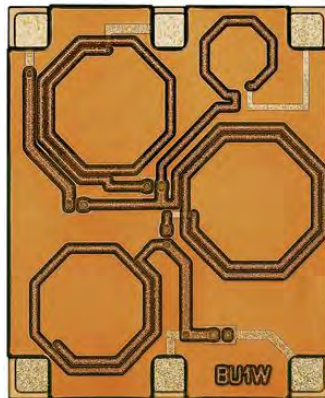
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

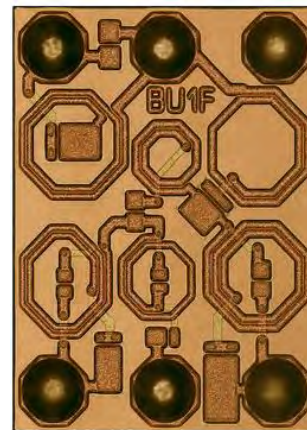
(23) UWB Band Pass Filter (SCI-306W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Eutectic Sn/Pb or lead-free solder bump
- Low profile, 0.40 mm height
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 to +85 °C
- Storage temperature: -40 to +85 °C



SCI-306W (Wirebond)



SCI-306F (Flip Chip)

DESCRIPTION

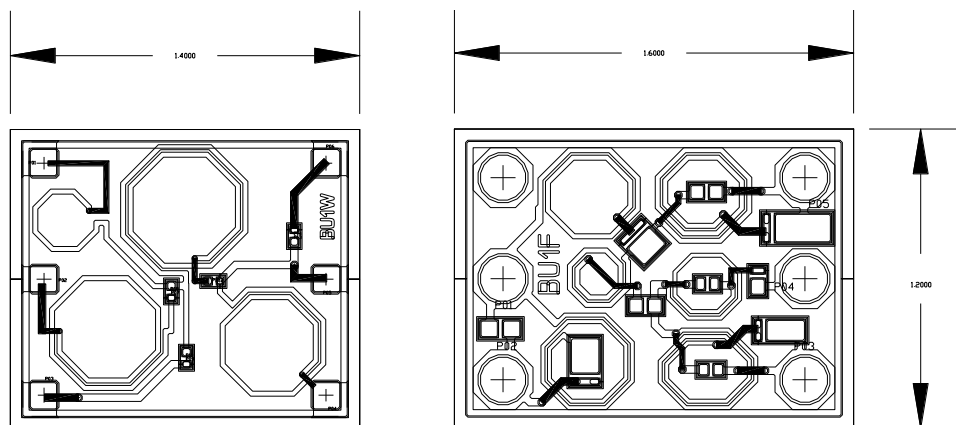
STATS ChipPAC's SCI-306W/F is a band pass filter (BPF) for UWB band applications. The BPF has low pass-band insertion loss and small size. It is composed of 8.0 μm Cu-plated inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

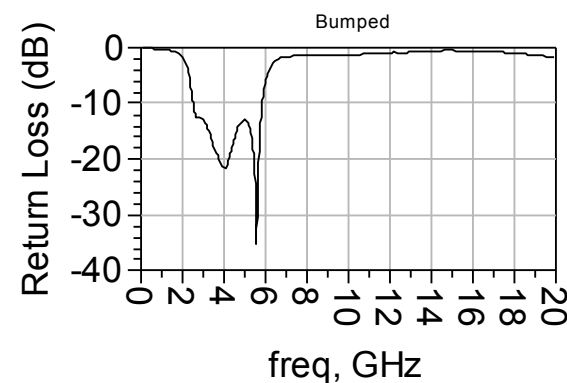
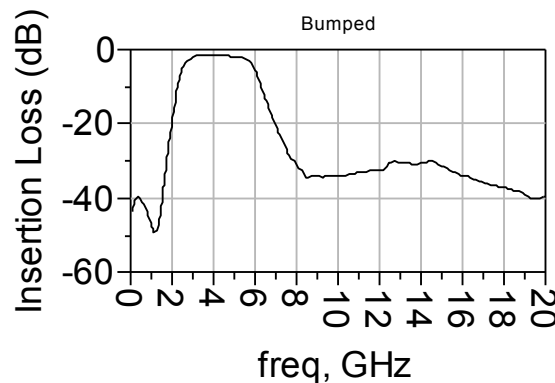
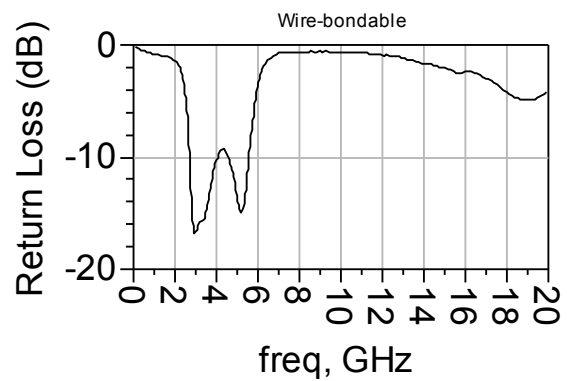
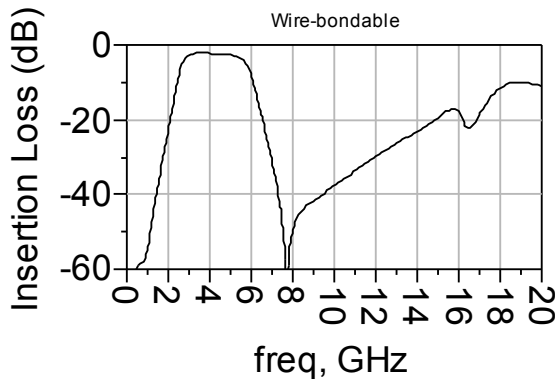
(Test board loss 0.2 dB included)

Specification	Unit	Minimum	Wirebonding Typical (Bumped Typical)	Maximum
Pass Band	MHz	3000		5000
Insertion Loss	dB		2.5 (2.0)	
Return Loss	dB		10 (12)	
Attenuation, 900 MHz	dB		55 (45)	
Attenuation, 1900 MHz	dB		25 (23)	
Attenuation, 8000 - 20000 MHz	dB	10 (30)		50
Size	mm	1.4 x 1.2 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

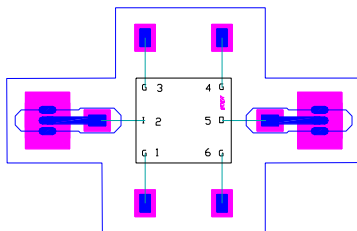


TYPICAL CHARACTERISTICS

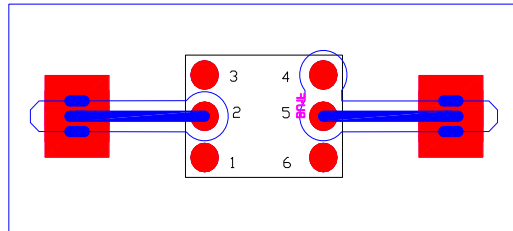


TEST BOARD DRAWING

SCI-306W (Wirebond)



SCI-306F (Flip Chip)



Pad	SCI-306W Signal	SCI-306F Signal
1	GND	GND
2	Input	Input
3	GND	GND
4	GND	NC
5	Output	Output
6	GND	GND

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

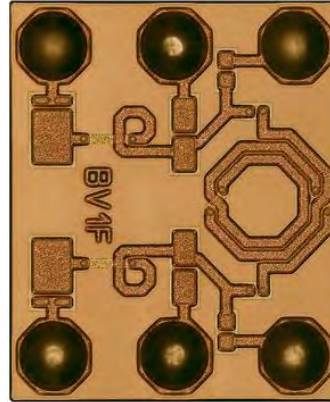
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

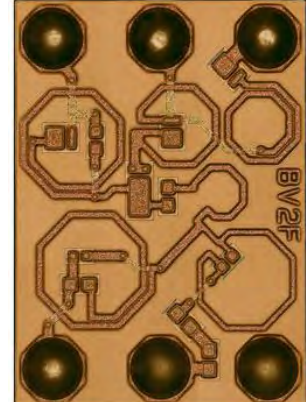
(24) UWB Band Pass Filter (SCI-307F1/F2)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Eutectic Sn/Pb or lead-free solder bump
- Low profile, 0.40 mm height
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 to +85 °C
- Storage temperature: -40 to +85 °C



SCI-307F1 (Flip Chip)



SCI-307F2 (Flip Chip)

DESCRIPTION

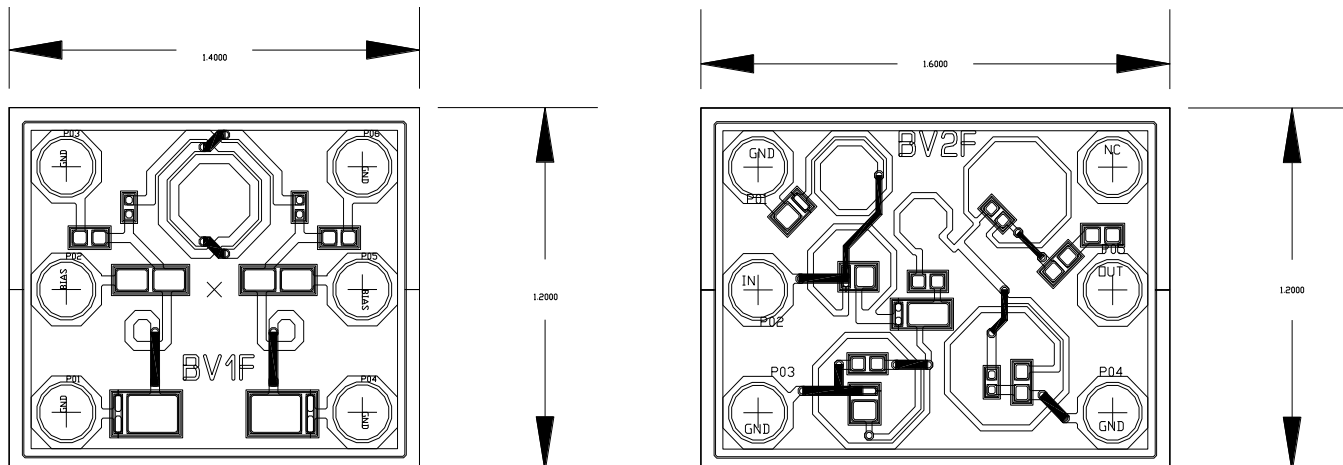
STATS ChipPAC's SCI-307F1/F2 is a band pass filter (BPF) for UWB band applications. The BPF has low pass-band insertion loss and small size. It is composed of 8.0 μ m Cu-plated inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

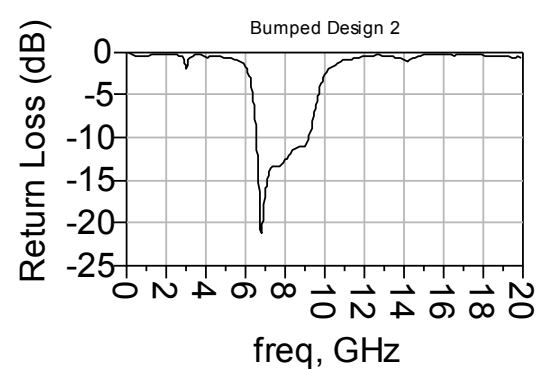
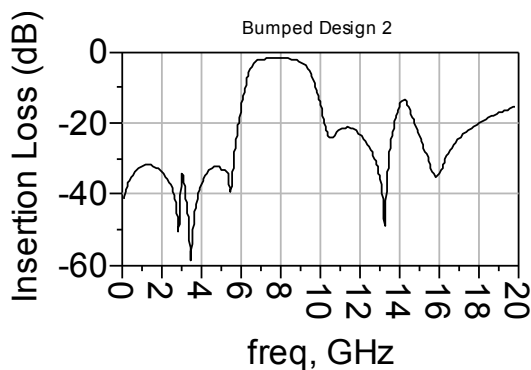
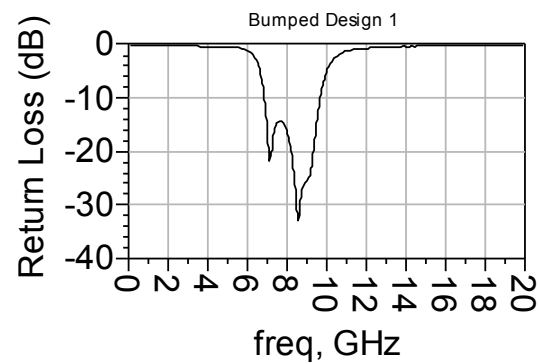
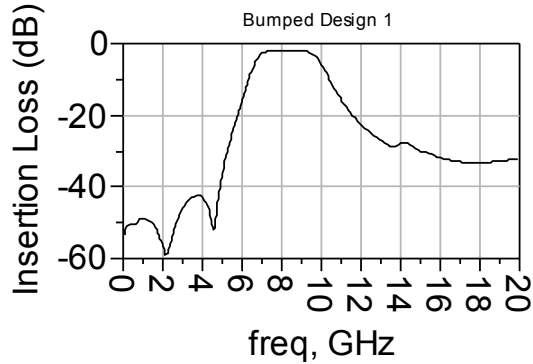
(Test board loss 0.5 dB included)

Specification	Unit	Min.	Design #1 (Design #2)	Max.
Pass Band	MHz	7000		9000
Insertion Loss	dB	1.7 (2.0)		2.4 (2.8)
Return Loss	dB	15 (12)		25
Attenuation, 900 MHz	dB		50 (30)	
Attenuation, 1900 MHz	dB		50 (30)	
Attenuation, 5500 MHz	dB		25 (38)	
Attenuation, 12000-20000 MHz		22	(20)	
Size	mm	1.4 x 1.2		(1.6 x 1.2)

DIMENSIONS

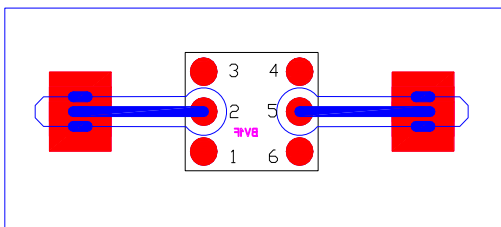


TYPICAL CHARACTERISTICS

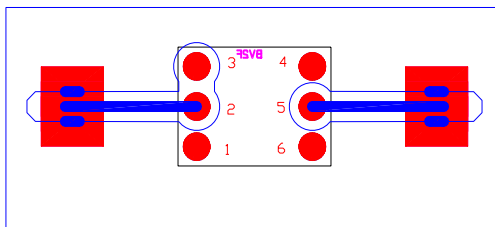


TEST BOARD DRAWING

SCI-307F1 (Flip Chip)



SCI-307F2 (Flip Chip)



Pad	SCI-307F1 Signal	SCI-307F2 Signal
1	GND	GND
2	Input	Input
3	GND	NC
4	GND	GND
5	Output	Output

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

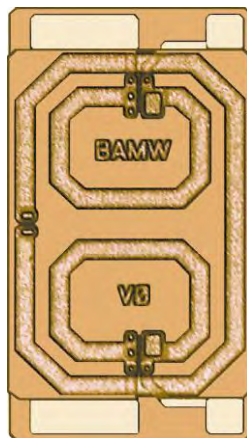
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

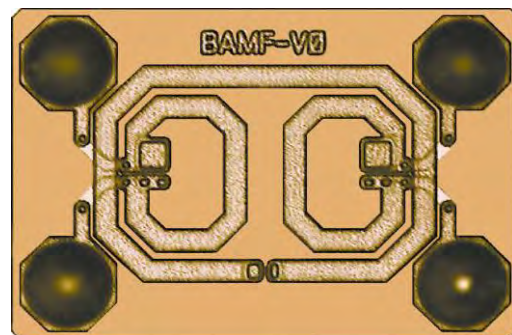
(25) 802.11a Band Pass Filter (SCI-401 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 0.8 mm (wirebond)
1.4 mm x 1.0 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-401W (Wirebond)



SCI-401F (Flip Chip)

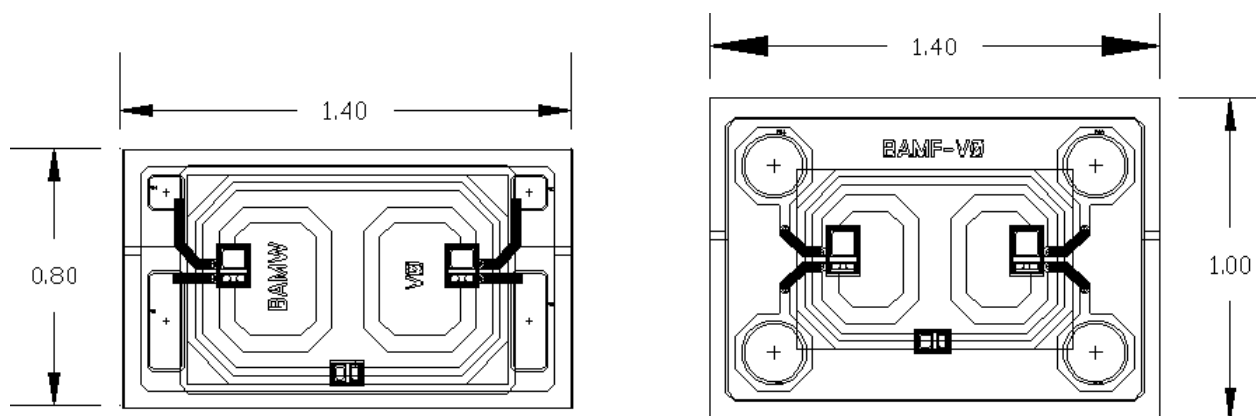
DESCRIPTION

STATS ChipPAC's SCI-401W/F is a band pass filter (BPF) for 802.11a band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

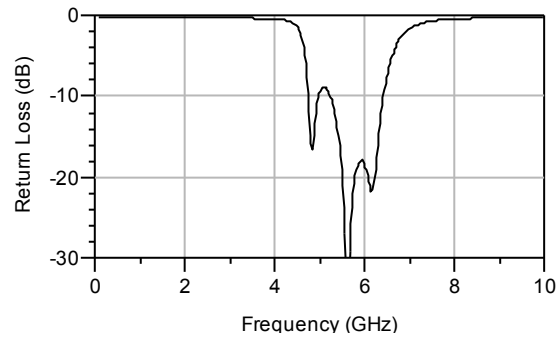
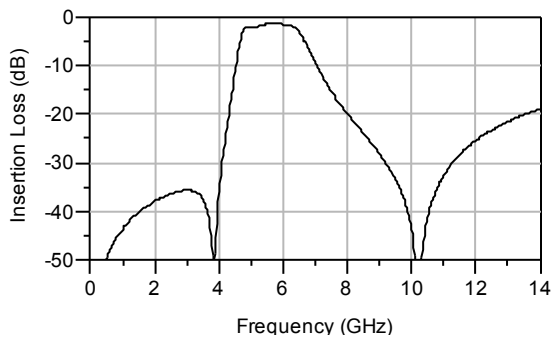
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	5115		5825
Insertion Loss	dB	1.4		2.0
Return Loss	dB		10.0	
Attenuation, 2450 MHz	dB		35	
Attenuation, 1100 MHz	dB		40	
Size	mm	1.4 x 0.8 (WB)		1.4 x 1.0 (FC)

DIMENSIONS

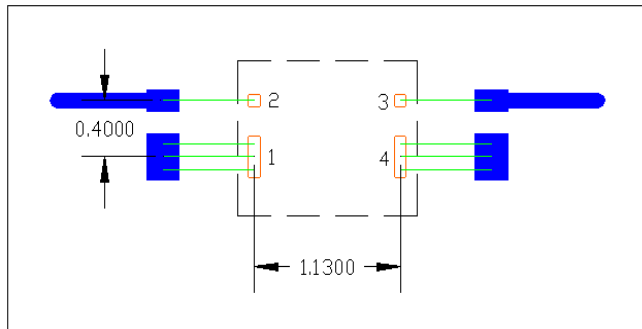


TYPICAL CHARACTERISTICS

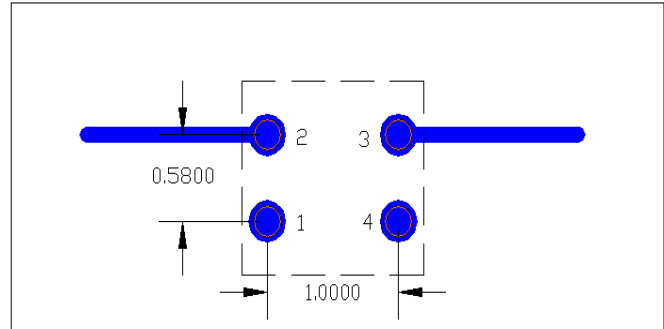


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-401W (Wirebond)



SCI-401F (Flip Chip)



Pad	SCI-401W Signal	SCI-401F Signal
1	Ground	Ground
2	Input	Output
3	Output	Input
4	Ground	Ground

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

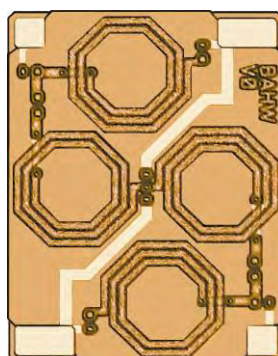
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

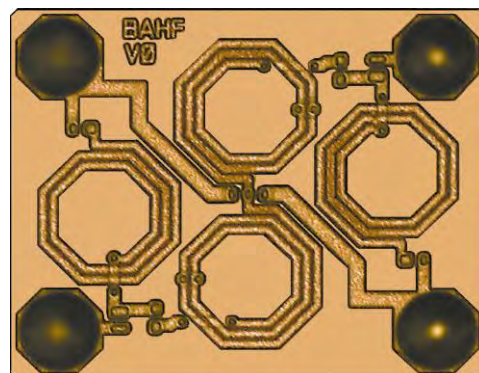
(26) 802.11a Band Pass Filter (SCI-402 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.1 mm (wirebond)
1.5 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-402W (Wirebond)



SCI-402F (Flip Chip)

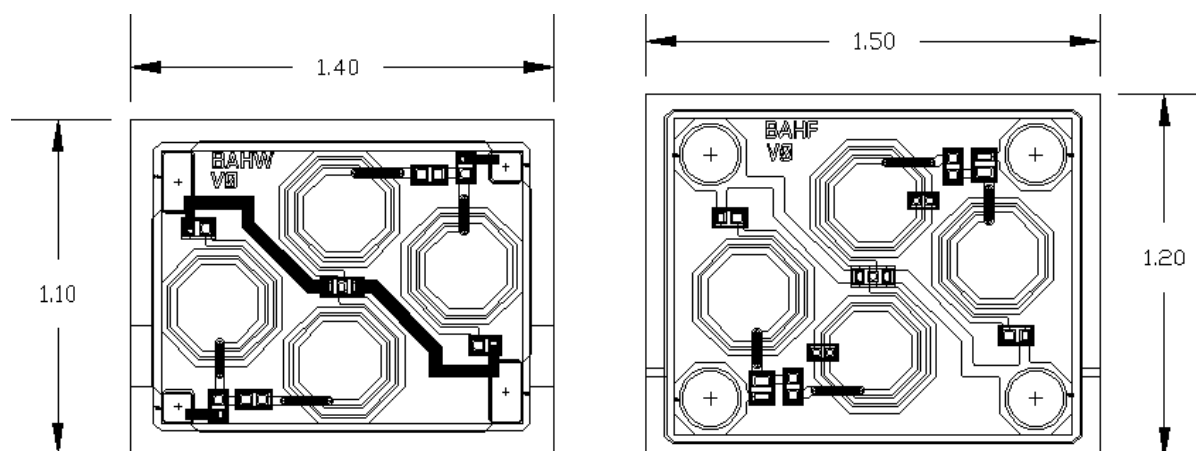
DESCRIPTION

STATS ChipPAC's SCI-402W/F is a band pass filter (BPF) for 802.11a band applications. The BPF has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the BPF are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

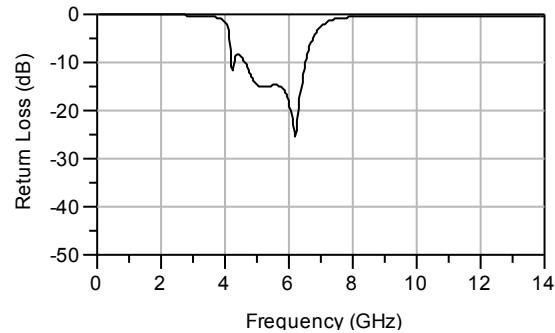
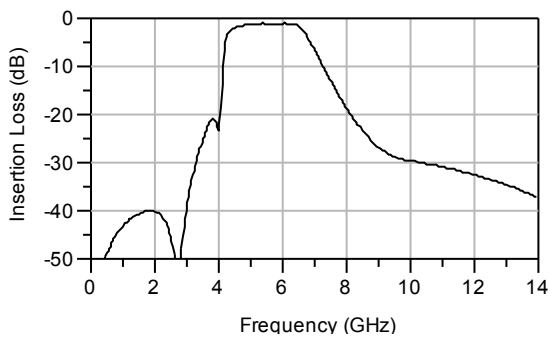
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	5115		5825
Insertion Loss	dB		1.0	
Return Loss	dB		15	
Attenuation, 2450 MHz	dB		40	
Attenuation, 1100 MHz	dB		40	
Size	mm	1.4 x 1.1 (WB)		1.5 x 1.2 (FC)

DIMENSIONS

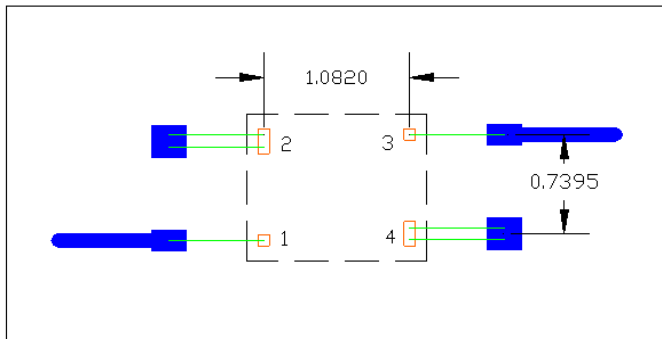


TYPICAL CHARACTERISTICS

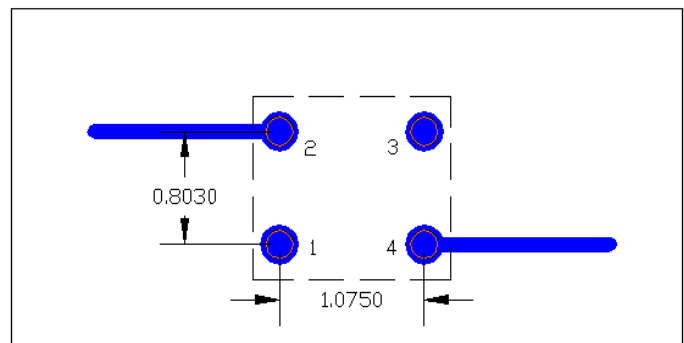


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-402W (Wirebond)



SCI-402F (Flip Chip)



Pad	SCI-402W Signal	SCI-402F Signal
1	Input	Ground
2	Ground	Output
3	Output	Ground
4	Ground	Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

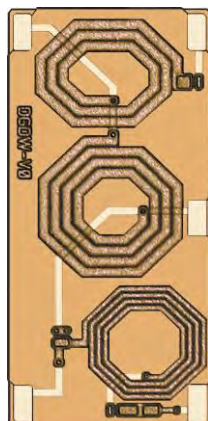
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

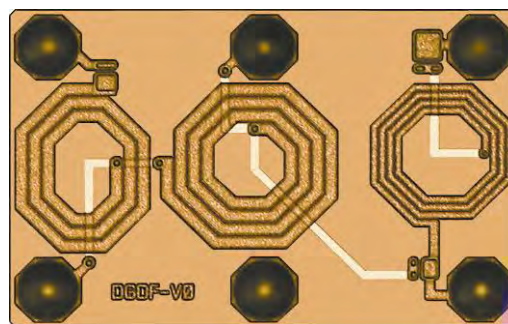
(27) GSM-DCS Diplexer (SCI-501 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 2.1 mm x 1.0 mm (wirebond)
2.0 mm x 1.3 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-501W (Wirebond)



SCI-501F (Flip Chip)

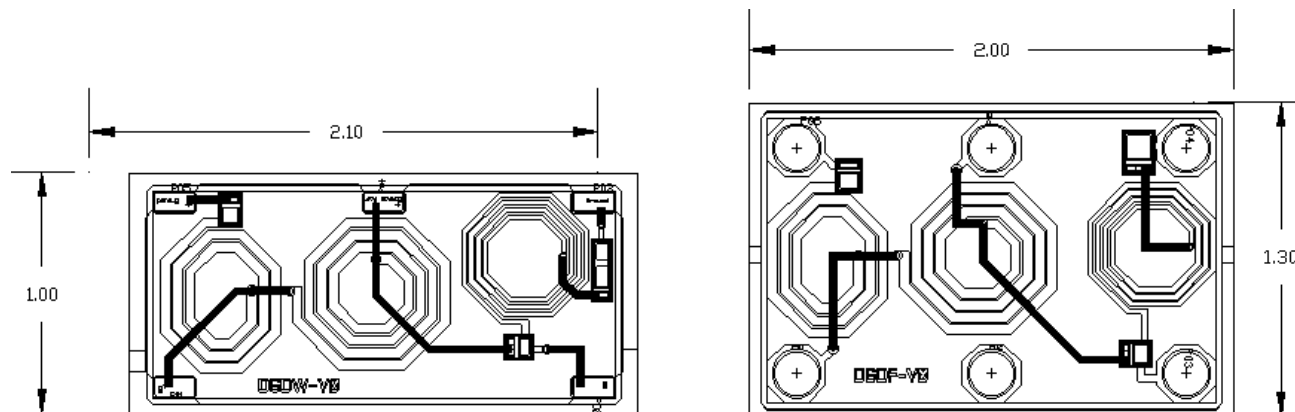
DESCRIPTION

STATS ChipPAC's SCI-501W/F is a diplexer for GSM/DCS band applications. The diplexer has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the diplexer are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

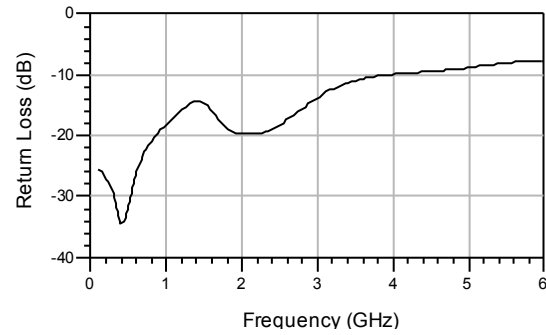
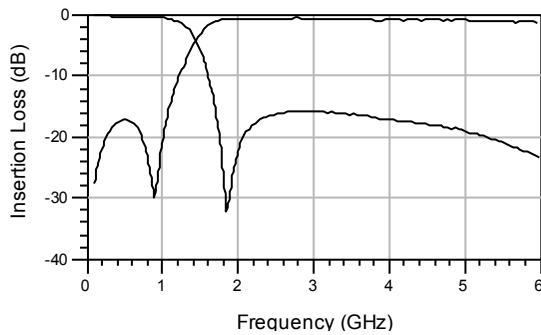
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band 1	MHz	824		915
Pass Band 2	MHz	1710		1980
Insertion Loss, Band 1	dB		0.5	
Insertion Loss, Band 2	dB		0.8	
Return Loss, Band 1	dB		20	
Return Loss, Band 2	dB		15	
Isolation, Band 1 at Band 2	dB		20	
Isolation, Band 2 at Band 1	dB		25	
Size	mm	2.1 x 1.0 (WB)		2.0 x 1.3 (FC)

DIMENSIONS

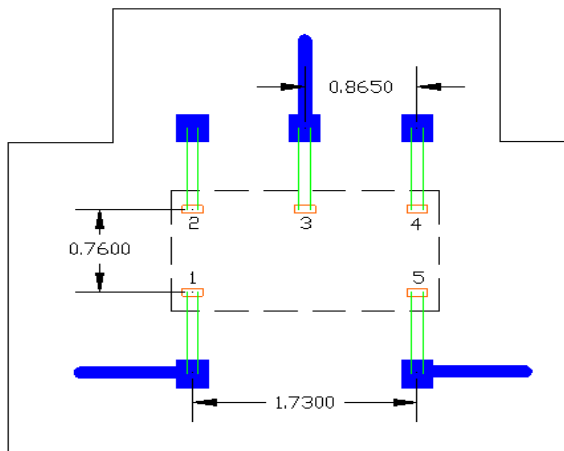


TYPICAL CHARACTERISTICS

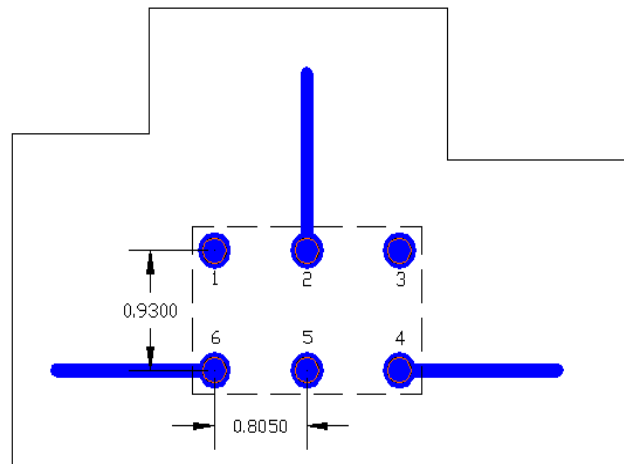


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-501W (Wirebond)



SCI-501F (Flip Chip)



Pad	SCI-501W Signal	SCI-501F Signal
1	Output-1 (Pass Band 1)	Ground
2	Ground	Input
3	Input	Ground
4	Ground	Output-1 (Pass Band 1)
5	Output-2 (Pass Band 2)	Output-2
6	-	Output-2 (Pass Band 2)

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

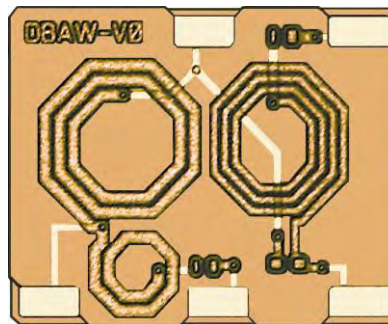
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

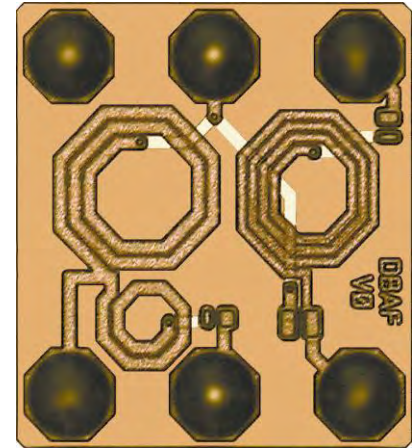
(28) WLAN Diplexer (SCI-502W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.2 mm x 1.0 mm (wirebond)
1.2 mm x 1.3 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-502W (Wirebond)



SCI-502F (Flip Chip)

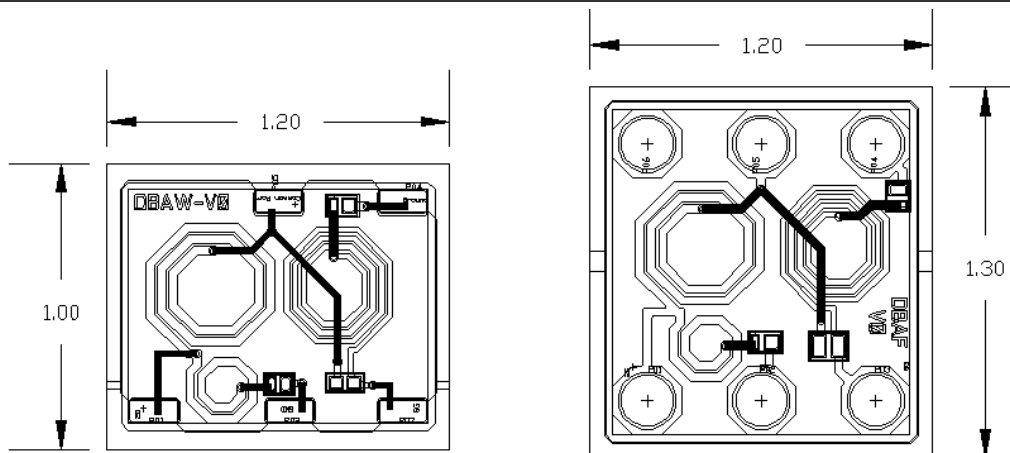
DESCRIPTION

STATS ChipPAC's SCI-502W/F is a diplexer for WiFi band applications. The diplexer has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the diplexer are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

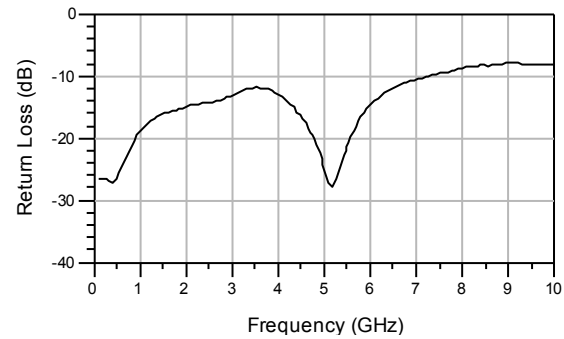
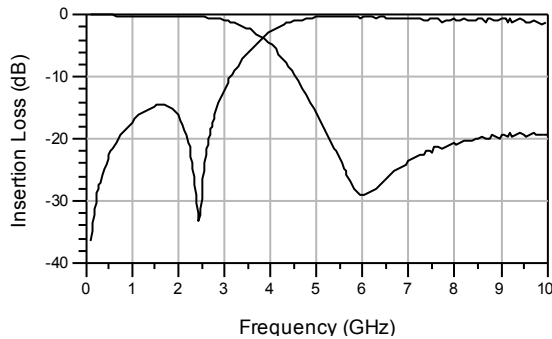
ELECTRICAL SPECIFICATIONS

Specification	Unit	Min.	Typical	Max.
Pass Band 1	MHz	2400		2500
Pass Band 2	MHz	5115		5825
Insertion Loss, Band 1	dB		0.5	
Insertion Loss, Band 2	dB		0.5	
Return Loss, Band 1	dB		15	
Return Loss, Band 2	dB	15		20
Isolation, Band 1 at Band 2	dB	18		
Isolation, Band 2 at Band 1	dB	25		
Size	mm	1.2 x 1.0 (WB)		1.2 x 1.3 (FC)

DIMENSIONS

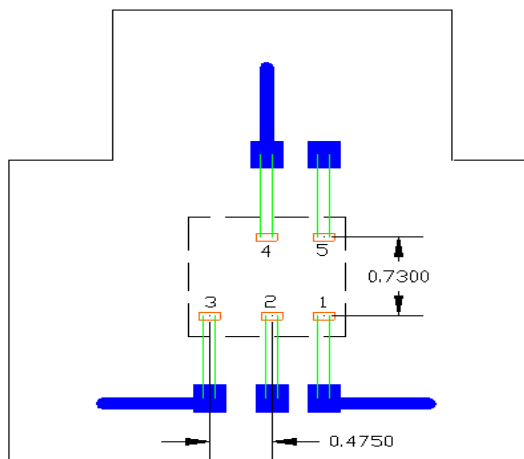


TYPICAL CHARACTERISTICS

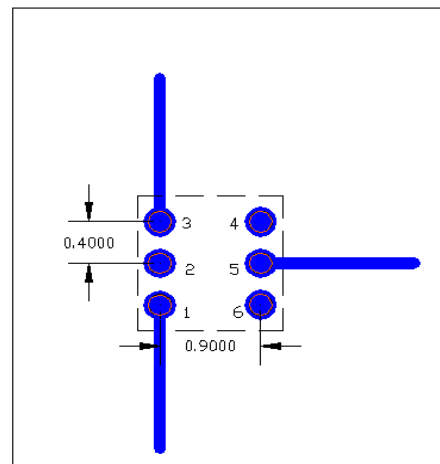


ASSEMBLY DRAWING / MECHANICAL OUTLINE

SCI-502W (Wirebond)



SCI-502F (Flip Chip)



Pad	SCI-502W Signal	SCI-502F Signal
1	Output-2 (Pass Band 2)	Output-1 (Pass Band 1)
2	Ground	Ground
3	Output-1 (Pass Band 1)	Output-2 (Pass Band 2)
4	Input	Ground
5	Ground	Input
6	-	Ground

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

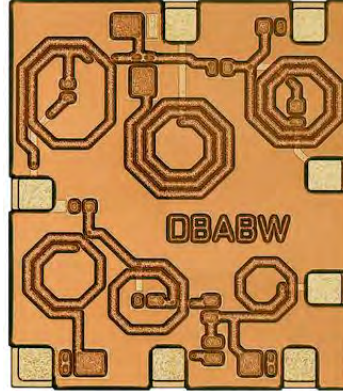
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

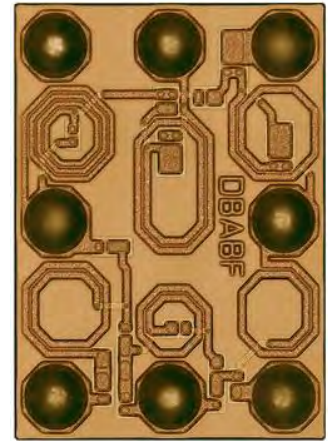
(29) WLAN Diplexer (SCI-503W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Eutectic Sn/Pb or lead-free solder bump
- Low profile, 0.40 mm height
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40 to +85 °C
- Storage temperature: -40 to +85 °C



SCI-503W (Wirebond)



SCI-503F (Flip Chip)

DESCRIPTION

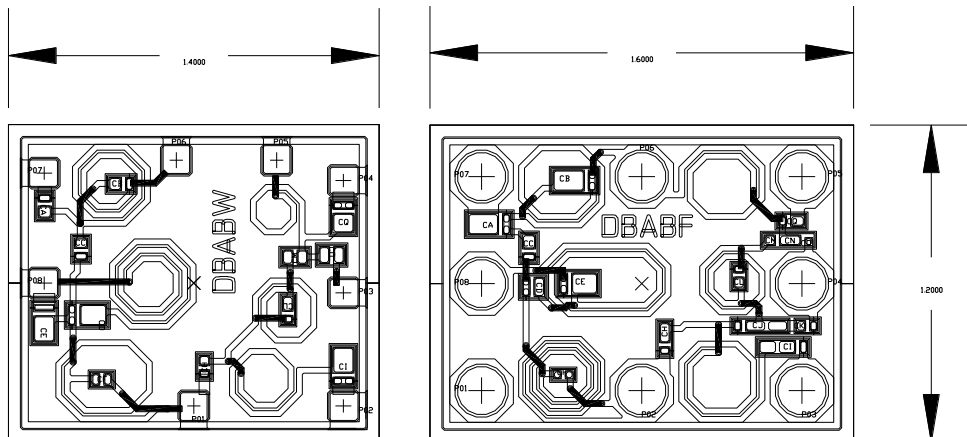
STATS ChipPAC's SCI-503W/F is a diplexer for WiFi band applications. The diplexer has low pass-band insertion loss and small size. It is composed of 8.0 μ m Cu-plated inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the diplexer are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

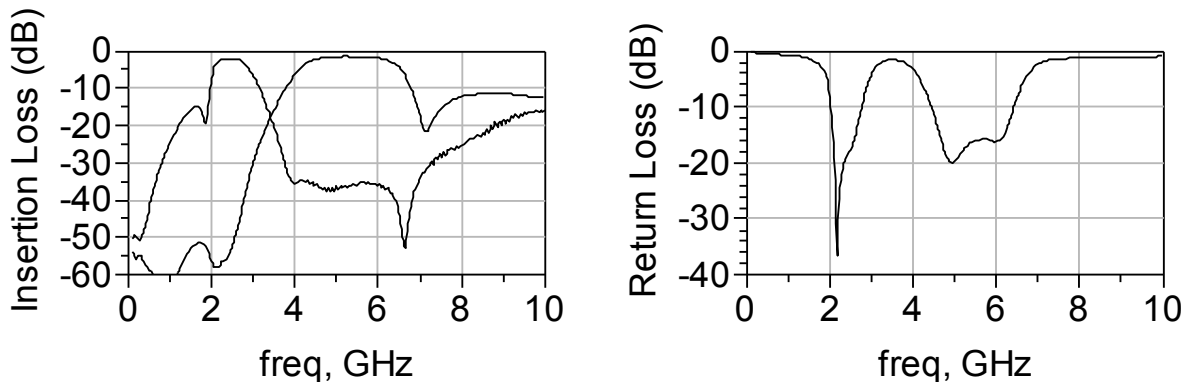
(Test board loss 0.1 dB and 0.25 dB included)

Specification	Unit	Minimum	Typical	Maximum
Pass Band 1	MHz	2400		2500
Pass Band 2	MHz	5115		5825
Insertion Loss, Band 1	dB		2.1	
Insertion Loss, Band 2	dB		1.9	
Return Loss, Band 1	dB		15	
Return Loss, Band 2	dB		15	
Isolation, Band 1 at Band 2	dB		35	
Isolation, DC-1.7 GHz	dB	15		
Isolation, Band 2 at Band 1	dB		50	
Isolation, 6.9-10.0 GHz	dB	12		
Size	mm	1.4 x 1.2 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

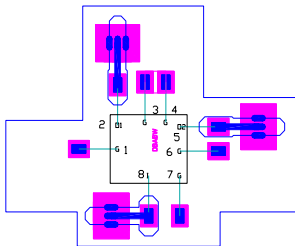


TYPICAL CHARACTERISTICS

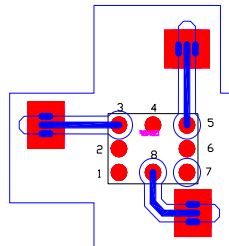


TEST BOARD DRAWING

SCI-503W (Wirebond)



SCI-503F (Flip Chip)



Pad	SCI-503W Signal	SCI-503F Signal
1	GND	GND
2	2G Output	GND
3	GND	5G Output
4	GND	GND
5	5G Output	2G Output
6	GND	GND
7	GND	GND
8	Common Input	Common Input

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

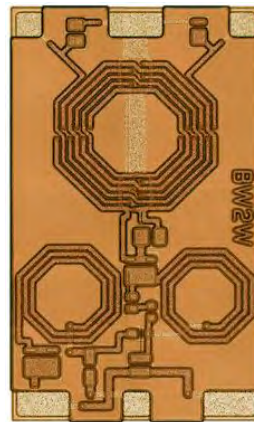
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

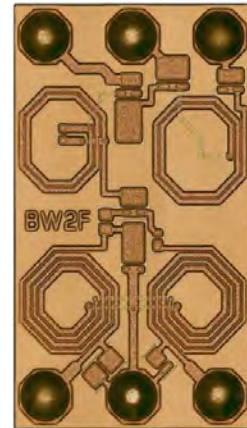
(30) WiMax Band Balanced Filter (SCI-601 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 2.0 mm x 1.2 mm (wirebond)
2.0 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-601W (Wirebond)



SCI-601F (Flip Chip)

DESCRIPTION

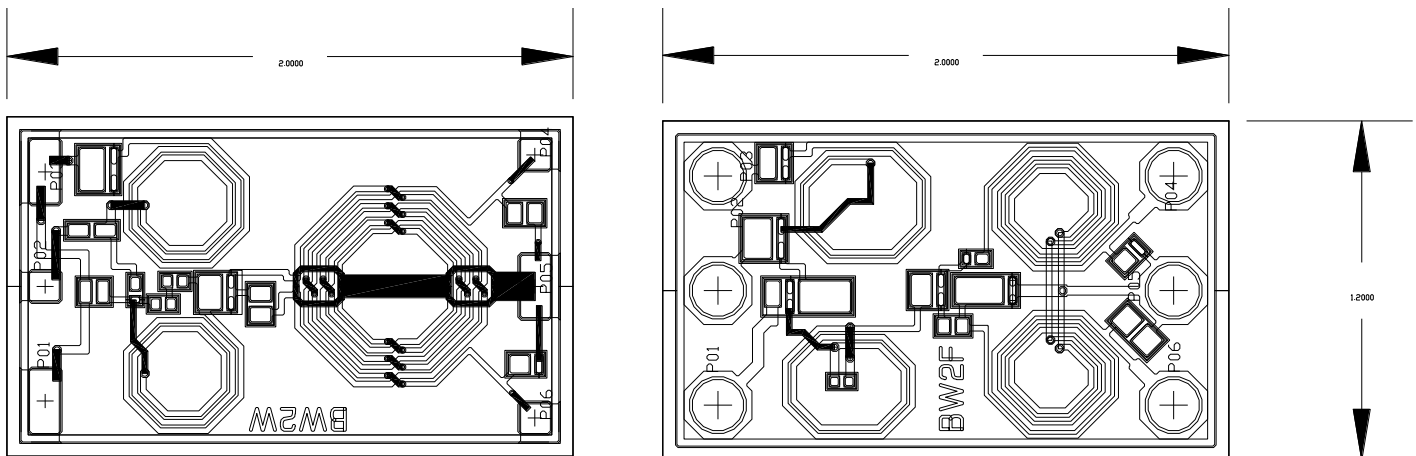
STATS ChipPAC's SCI-601W/F is a balanced filter for WiMax band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

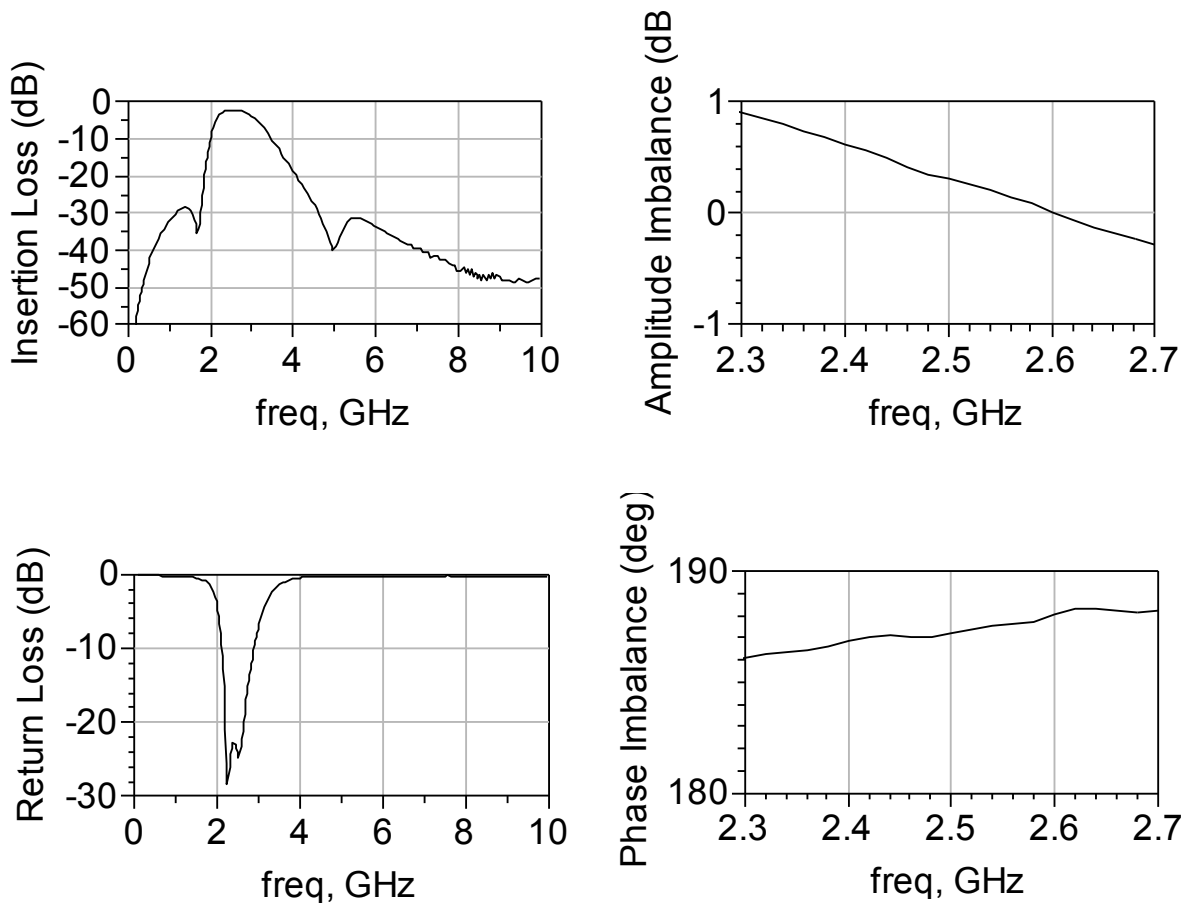
(Test board loss 0.1 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2300		2700
Insertion Loss	dB	2.3		2.6
Return Loss	dB		15	
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB			1.0
Phase Imbalance	deg			8.0
Attenuation, DC-1700 MHz	dB	29		
Attenuation, 4000-10000 MHz	dB	19		
Size	mm	2.0 x 1.2 (WB)		2.0 x 1.2 (FC)

DIMENSIONS



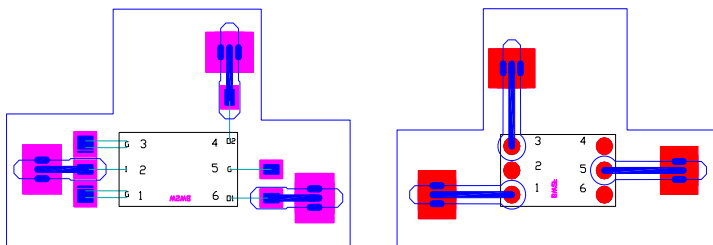
TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-601W (Wirebond)

SCI-601F (Flip Chip)



Pad	SCI-601W Signal	SCI-601F Signal
1	GND	Balanced (+)
2	Unbalanced	GND
3	GND	Balanced (-)
4	Balanced (+)	GND
5	GND	Unbalanced
6	Balanced (-)	GND

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

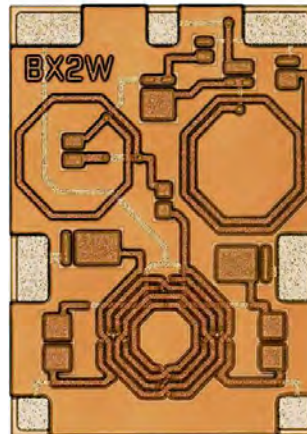
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

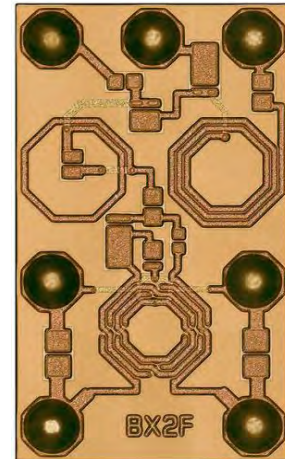
(31) WiMax Band Balanced Filter (SCI-602 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.6 mm x 1.2 mm (wirebond)
2.0 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-602W (Wirebond)



SCI-602F (Flip Chip)

DESCRIPTION

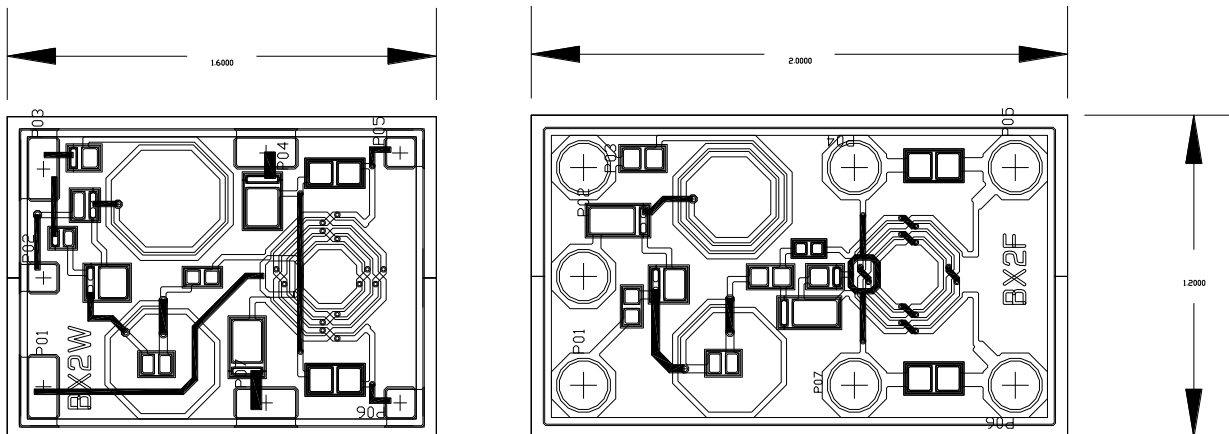
STATS ChipPAC's SCI-602W/F is a balanced filter for WiMax band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

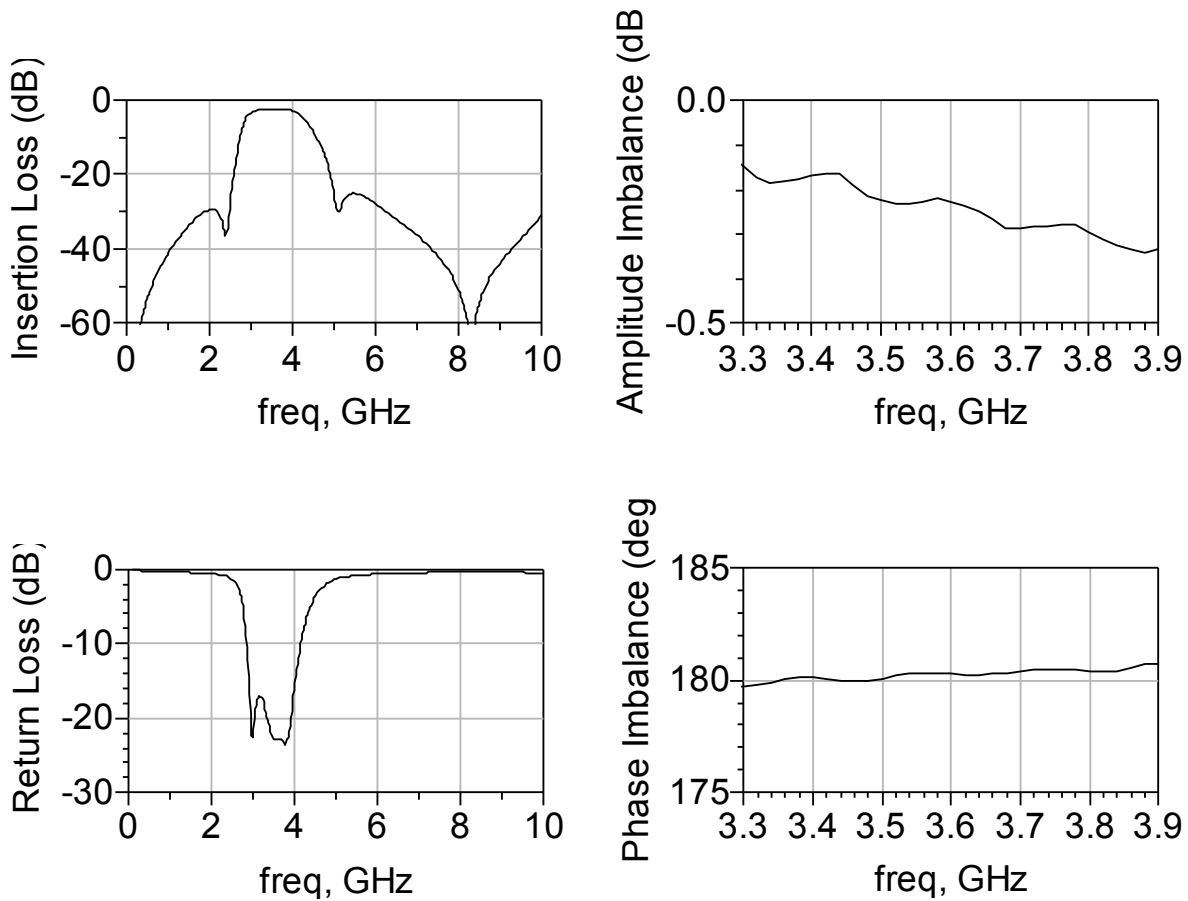
(Test board loss 0.2 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	3300		3900
Insertion Loss	dB			2.6
Return Loss	dB		15	
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB			0.4
Phase Imbalance	deg			1.0
Attenuation, DC-2450 MHz	dB	30		
Attenuation, 4900-10000 MHz	dB	20		
Size	mm	1.6 x 1.2 (WB)		2.0 x 1.2 (FC)

DIMENSIONS

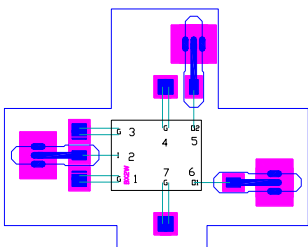


TYPICAL CHARACTERISTICS

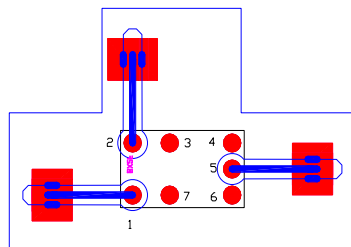


TEST BOARD DRAWING

SCI-602W (Wirebond)



SCI-602F (Flip Chip)



Pad	SCI-602W Signal	SCI-602F Signal
1	GND	Balanced (+)
2	Unbalanced	Balanced (-)
3	GND	GND
4	GND	GND
5	Balanced (+)	Unbalanced
6	Balanced (-)	GND
7	GND	GND

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

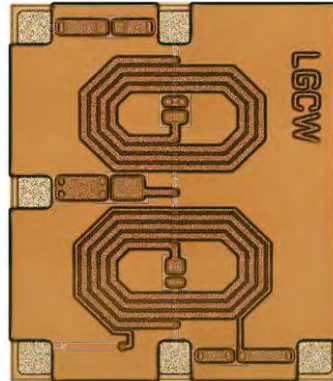
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

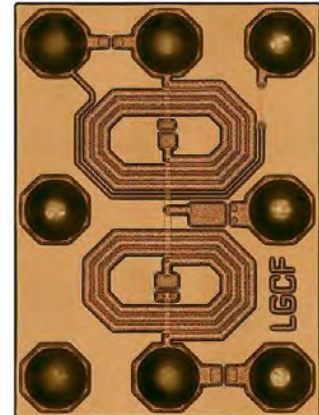
(32) GSM Band Loss Pass Filter with Coupler (SCI-701 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-701W (Wirebond)



SCI-701F (Flip Chip)

DESCRIPTION

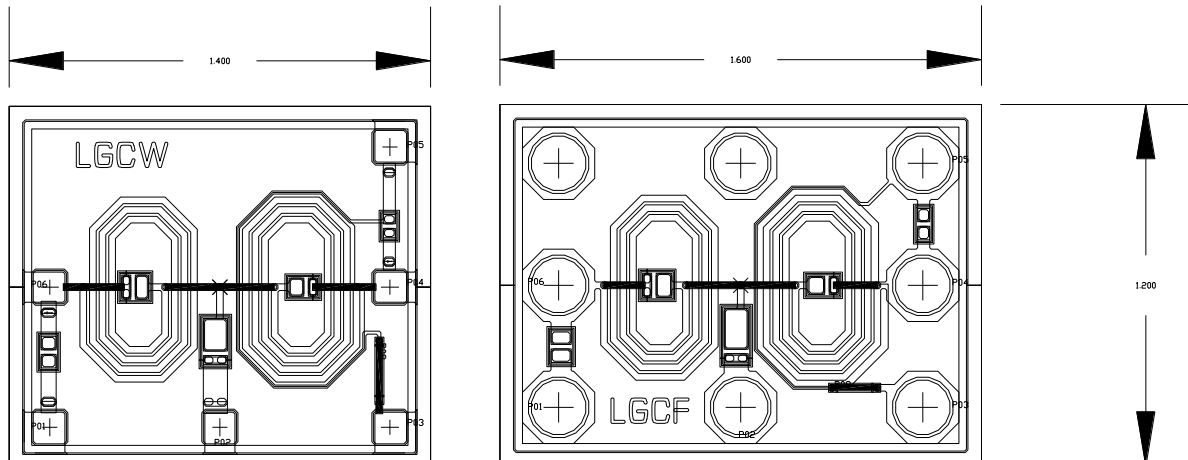
STATS ChipPAC's SCI-701W/F is a low pass filter with coupler for WiMax band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

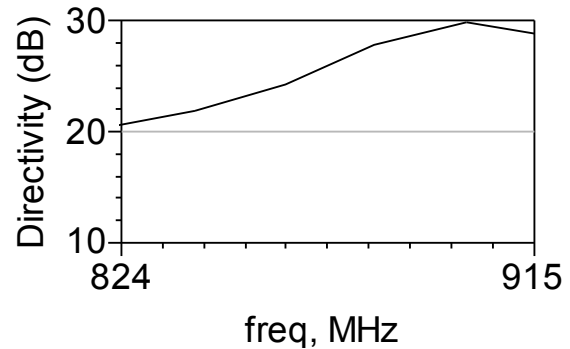
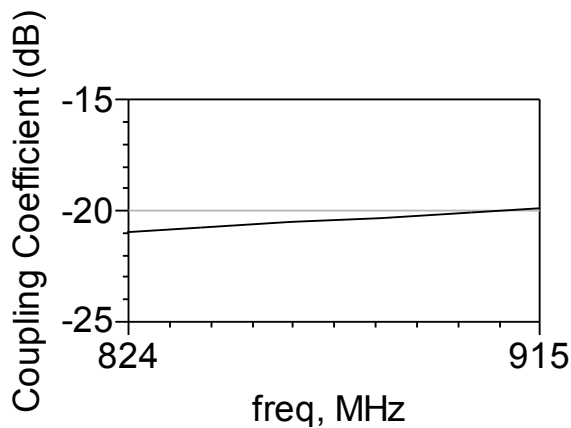
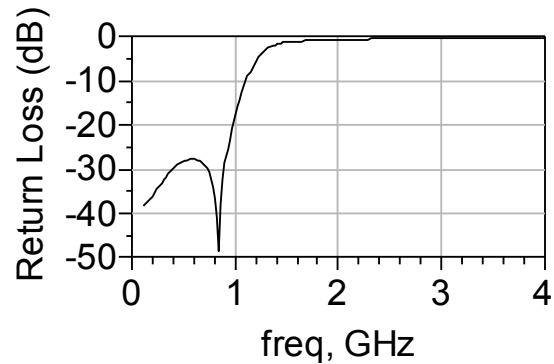
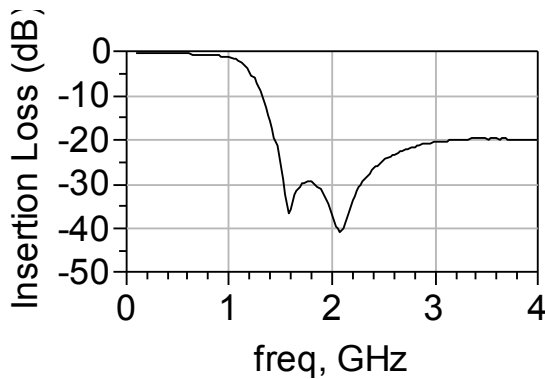
(Test board loss 0.04 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB			1.0
Return Loss	dB	20		
Attenuation, 2f ₀	dB		30	
Attenuation, 3f ₀	dB		20	
Coupling Coefficient	dB		-20	
Directivity (S31-S32)	dB	20		30
Size	mm	1.4 x 1.2 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

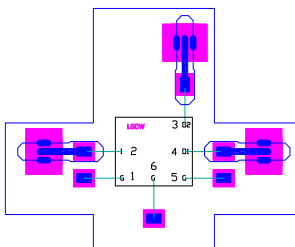


TYPICAL CHARACTERISTICS

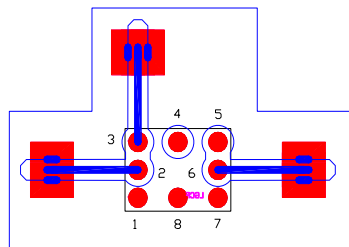


TEST BOARD DRAWING

SCI-701W (Wirebond)



SCI-701F (Flip Chip)



Pad	SCI-701W Signal	SCI-701F Signal
1	GND	GND
2	Input	Output
3	Coupling	Coupling
4	Output	NC
5	GND	NC
6		Input
7		GND
8		GND

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

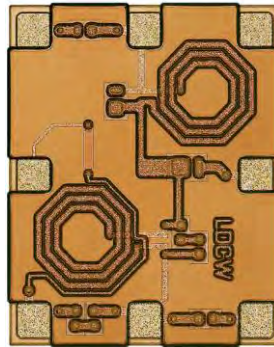
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

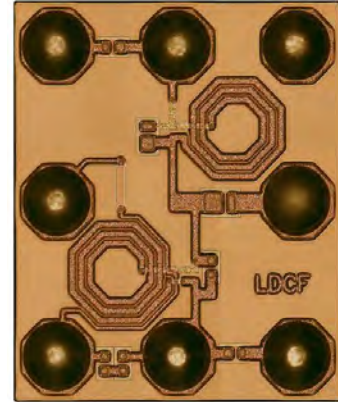
(33) DCS Band Loss Pass Filter with Coupler (SCI-702 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-702W (Wirebond)



SCI-702F (Flip Chip)

DESCRIPTION

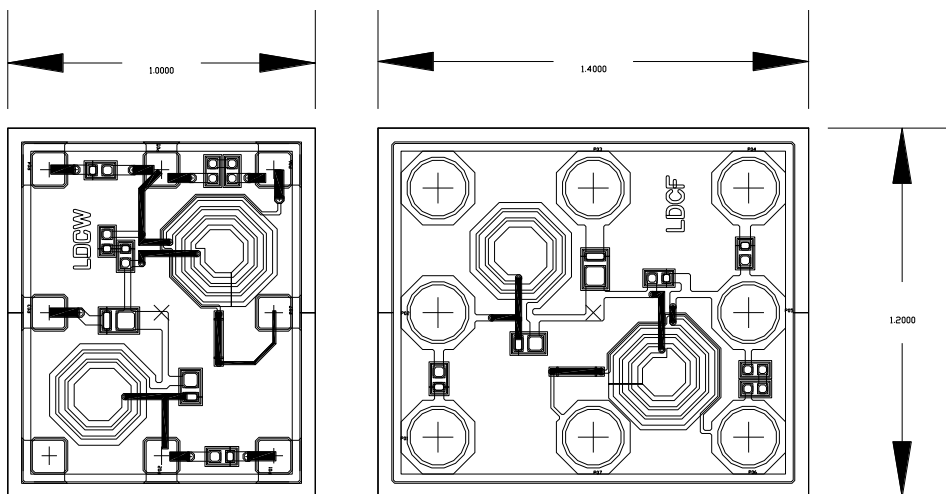
STATS ChipPAC's SCI-702W/F is a low pass filter with coupler for WiMax band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

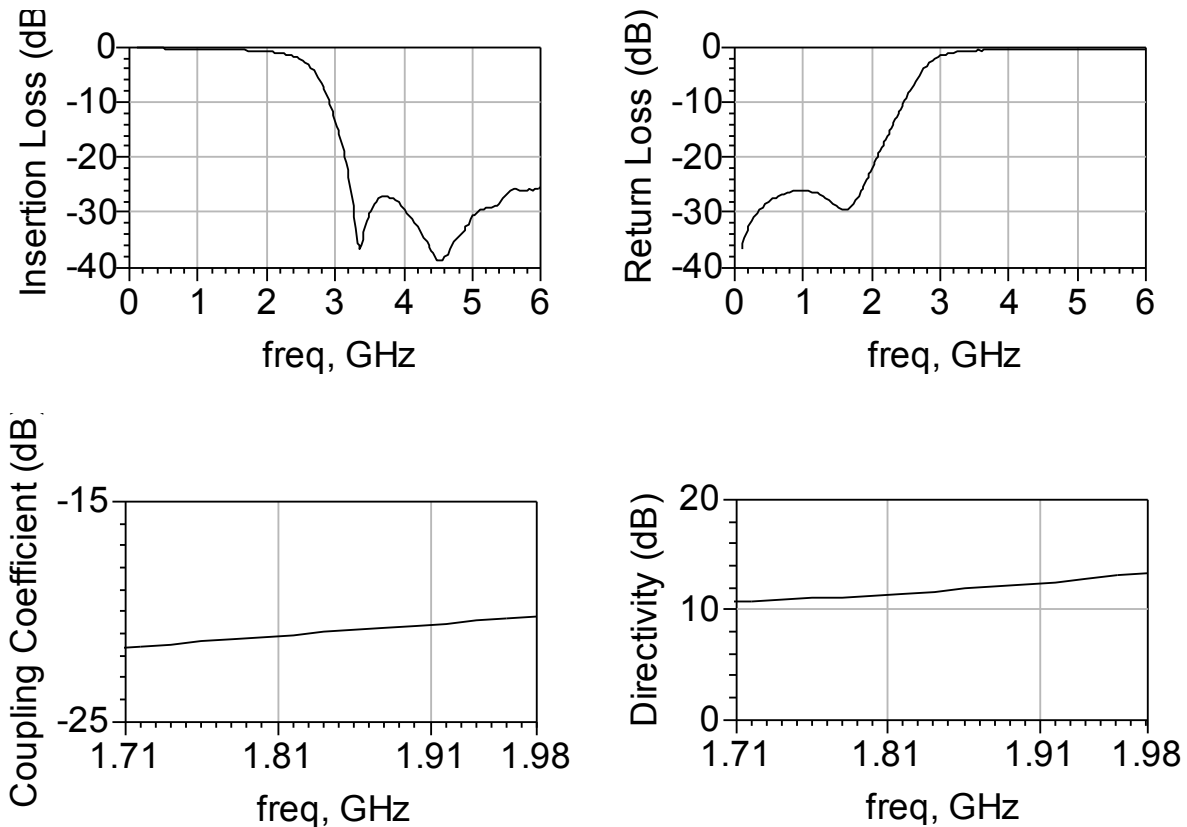
(Test board loss 0.07 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB			0.9
Return Loss	dB	20		
Attenuation, 2f ₀	dB	25		
Attenuation, 3f ₀	dB	25		
Coupling Coefficient	dB		-20	
Directivity (S31-S32)	dB		12	
Size	mm	1.0 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS

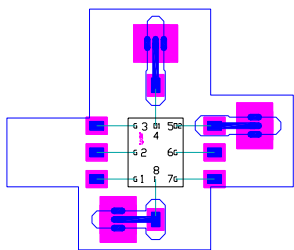


TYPICAL CHARACTERISTICS

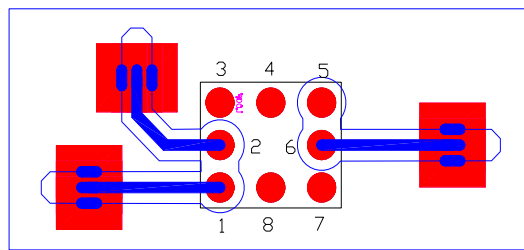


TEST BOARD DRAWING

SCI-702W (Wirebond)



SCI-702F (Flip Chip)



Pad	SCI-702W Signal	SCI-702F Signal
1	GND	Coupling
2	GND	Output
3	GND	GND
4	Output	GND
5	Coupling	NC
6	GND	Input
7	GND	GND
8	Input	GND

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

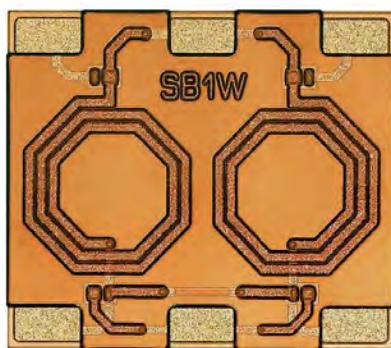
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

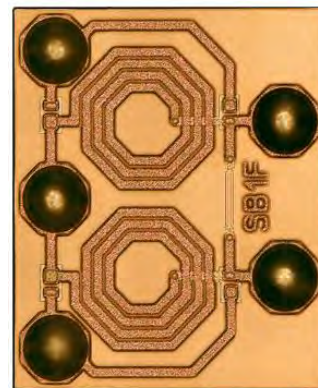
(34) 802.11b Band Power Divider (SCI-801 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.4 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-801W (Wirebond)



SCI-801F (Flip Chip)

DESCRIPTION

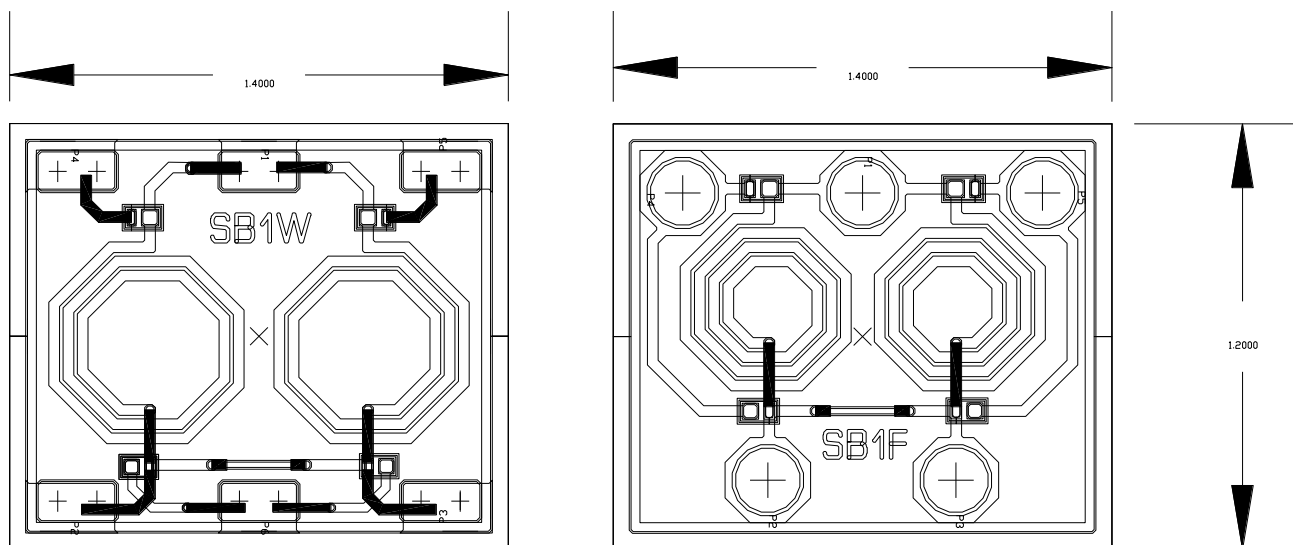
STATS ChipPAC's SCI-801W/F is a power divider for 802.11b band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

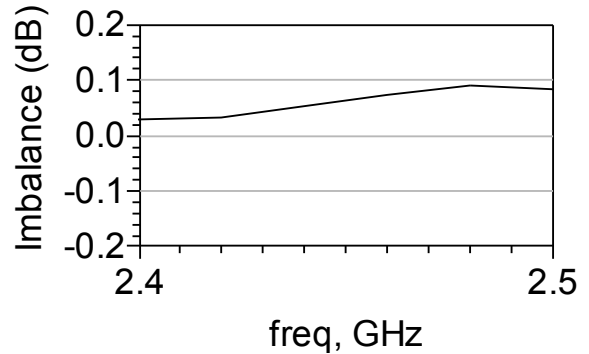
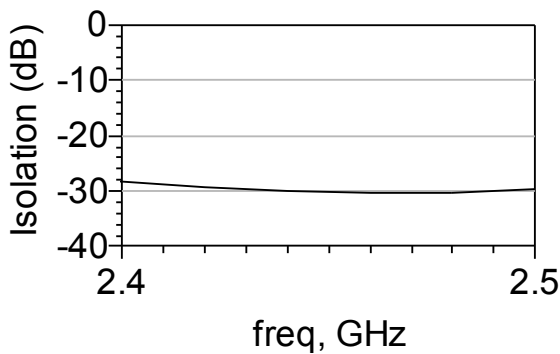
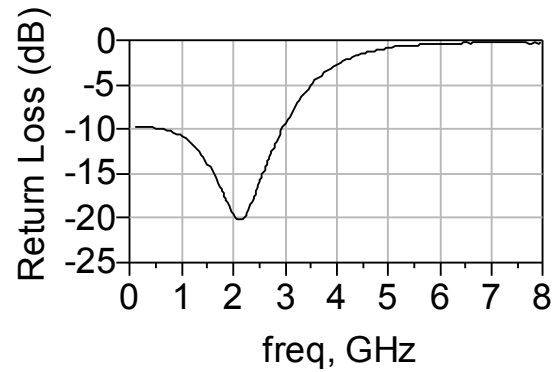
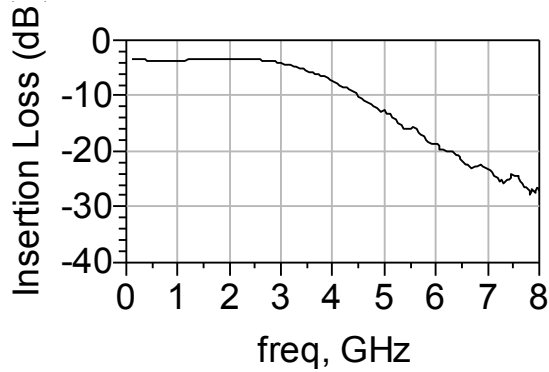
(Test board loss 0.1 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	2400		2500
Insertion Loss	dB		0.5	
Return Loss	dB	15		
Isolation (S23)	dB		-30	
Amplitude Imbalance (S21-S31)	dB			0.1
Size	mm	1.4 x 1.2 (WB)		1.4 x 1.2 (FC)

DIMENSIONS

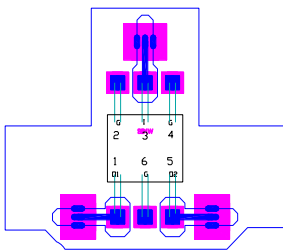


TYPICAL CHARACTERISTICS

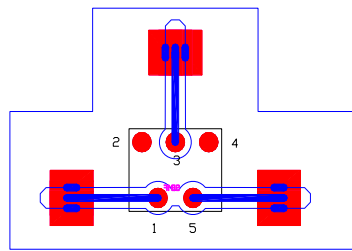


TEST BOARD DRAWING

SCI-801W (Wirebond)



SCI-801F (Flip Chip)



Pad	SCI-801W Signal	SCI-801F Signal
1	Output 1	Output 1
2	GND	GND
3	Input	Input
4	GND	GND
5	Output 2	Output 2
6	GND	

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

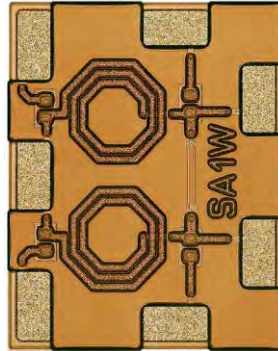
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

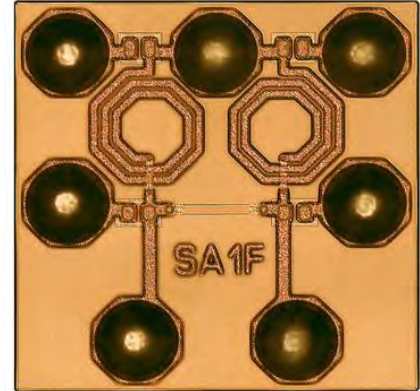
(35) 802.11a Band Power Divider (SCI-802 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.0 mm x 1.2 mm (wirebond)
1.2 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-802W (Wirebond)



SCI-802F (Flip Chip)

DESCRIPTION

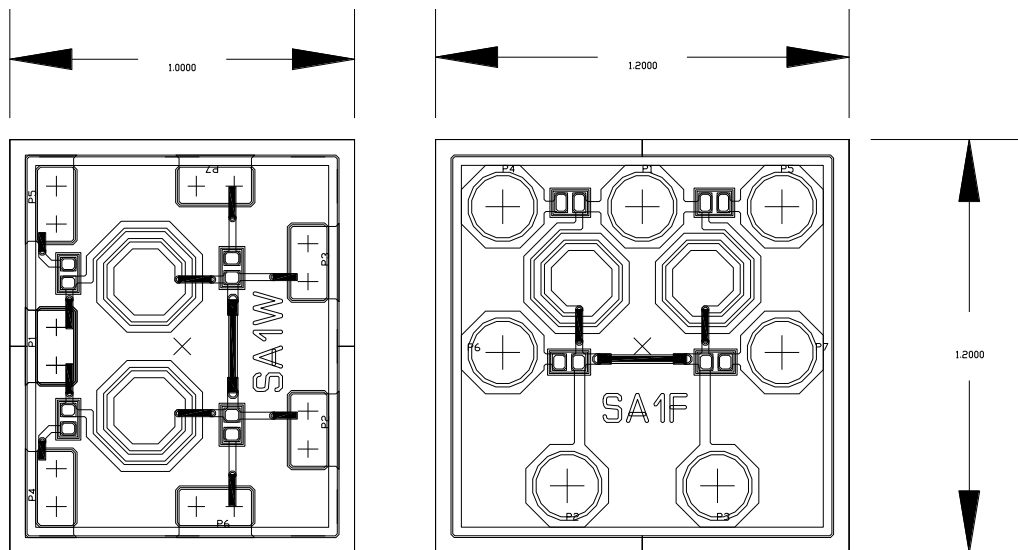
STATS ChipPAC's SCI-802W/F is a power divider for 802.11a band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

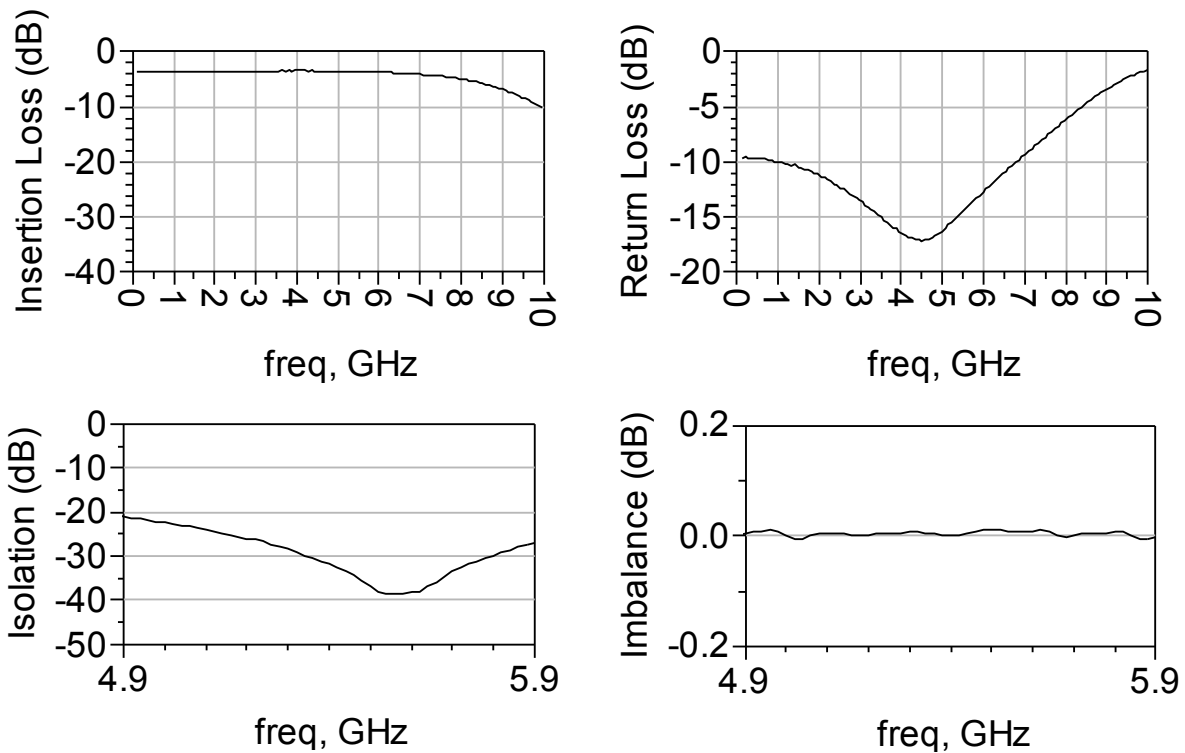
(Test board loss 0.25 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	4900		5900
Insertion Loss	dB		0.7	
Return Loss	dB	12		
Isolation (S23)	dB	20		
Amplitude Imbalance (S21-S31)	dB			0.1
Size	mm	1.0 x 1.2 (WB)		1.2 x 1.2 (FC)

DIMENSIONS

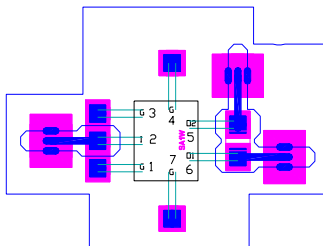


TYPICAL CHARACTERISTICS

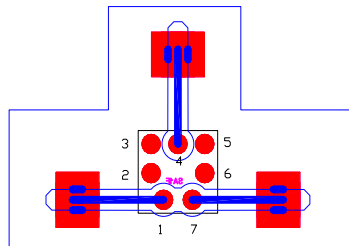


TEST BOARD DRAWING

SCI-802W (Wirebond)



SCI-802F (Flip Chip)



Pad	SCI-802W Signal	SCI-802F Signal
1	GND	Output 1
2	Input	GND
3	GND	GND
4	GND	Input
5	Output 1	GND
6	Output 2	GND
7	GND	Output 2

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

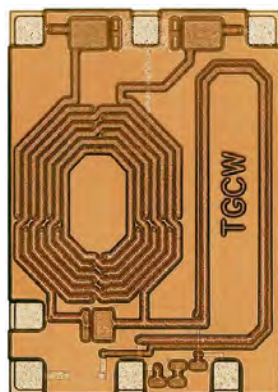
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

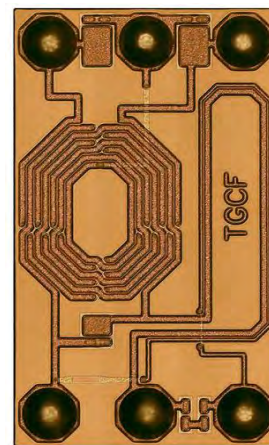
(36) GSM Band Balun with Coupler (SCI-901 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.6 mm x 1.2 mm (wirebond)
2.0 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-901W (Wirebond)



SCI-901F (Flip Chip)

DESCRIPTION

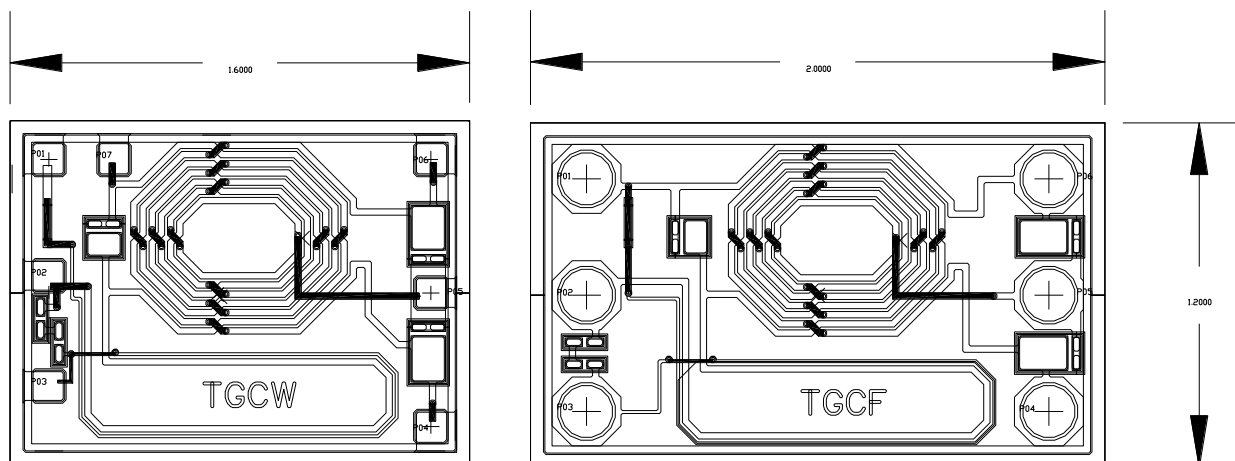
STATS ChipPAC's SCI-901W/F is a balun with coupler for GSM band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

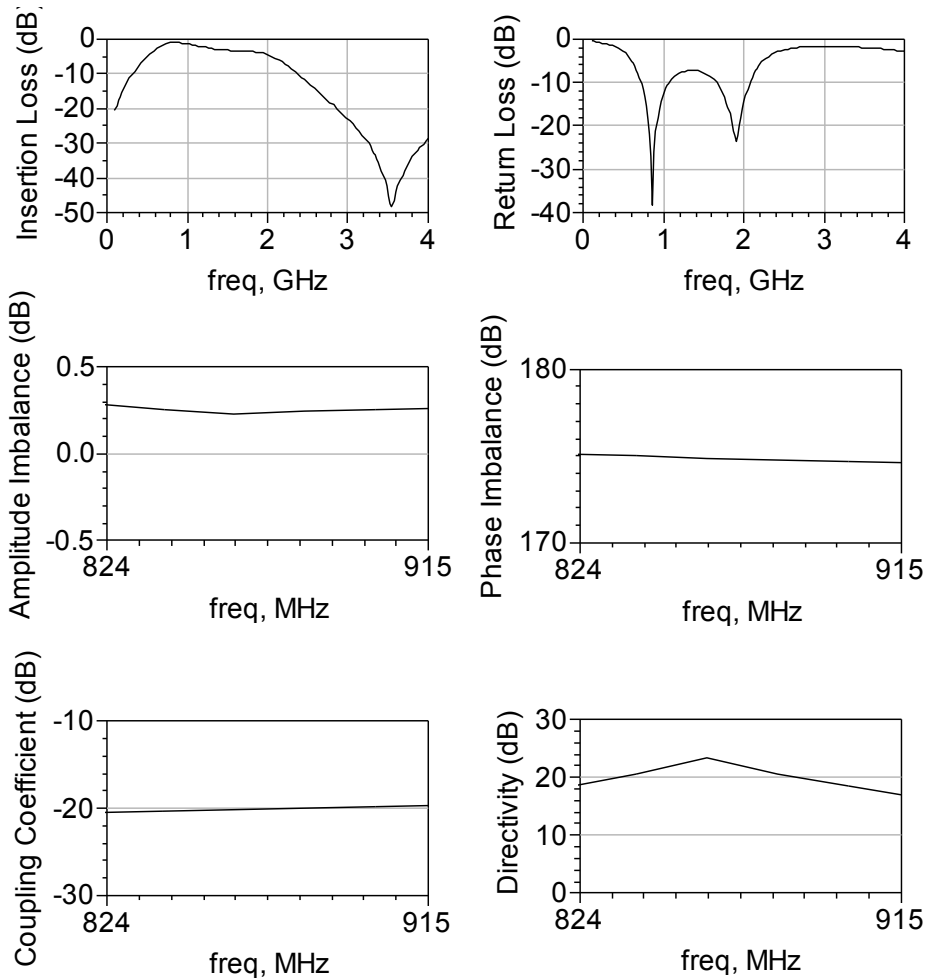
(Test board loss 0.04 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	824		915
Insertion Loss	dB			1.1
Return Loss	dB	15		
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB			0.3
Phase Imbalance	deg			6.0
Coupling Coefficient	dB		-20	
Directivity	dB		20	
Size	mm	1.6 x 1.2 (WB)		2.0 x 1.2 (FC)

DIMENSIONS

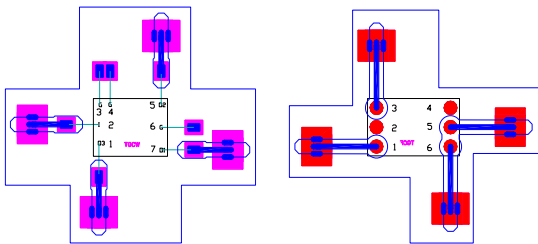


TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-901W (Wirebond) SCI-901F (Flip Chip)



Pad	SCI-901W Signal	SCI-901F Signal
1	Coupling	Balanced (+)
2	Unbalanced	GND
3	GND	Balanced (-)
4	GND	GND
5	Balanced (+)	Unbalanced
6	GND	Coupling
7	Balanced (-)	

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

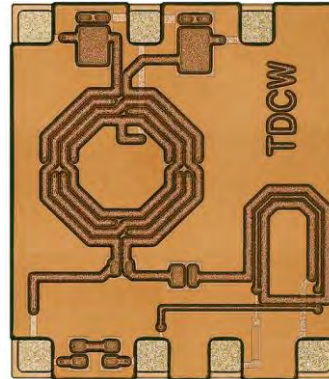
Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

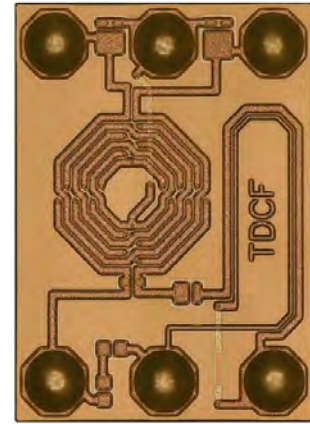
(37) DCS Band Balun with Coupler (SCI-902 W/F)

FEATURES

- Passive integration on silicon substrate
- Low insertion loss in pass band
- Small size: 1.4 mm x 1.2 mm (wirebond)
1.6 mm x 1.2 mm (flip chip)
- Pb-free solder bump
- Low profile: 0.25 mm height (wirebond)
0.40 mm height (flip chip)
- Directly attachable on PCB or flipped on PCB
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C



SCI-902W (Wirebond)



SCI-902F (Flip Chip)

DESCRIPTION

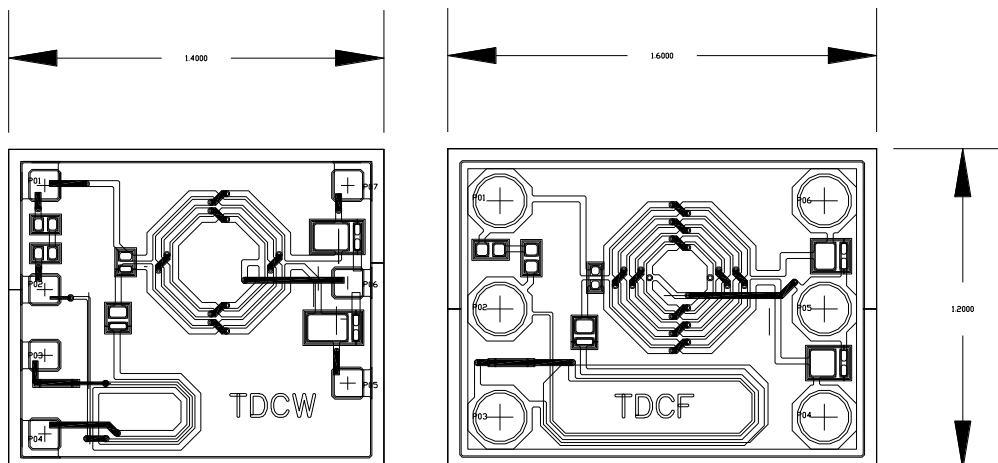
STATS ChipPAC's SCI-902W/F is a balun with coupler for DCS band applications. The IPD has low pass-band insertion loss and small size. It is composed of thick copper inductors and Metal-Insulator-Metal capacitors which are fabricated on a silicon substrate using our IPD (Integrated Passive Device) process. The pad or bump size and pitch of the IPD are selected so that the device can be mounted directly on a PCB or laminate substrate using conventional wirebonding or surface mount techniques. The low profile and small form-factor of the device make it especially suitable for SiP applications.

ELECTRICAL SPECIFICATIONS

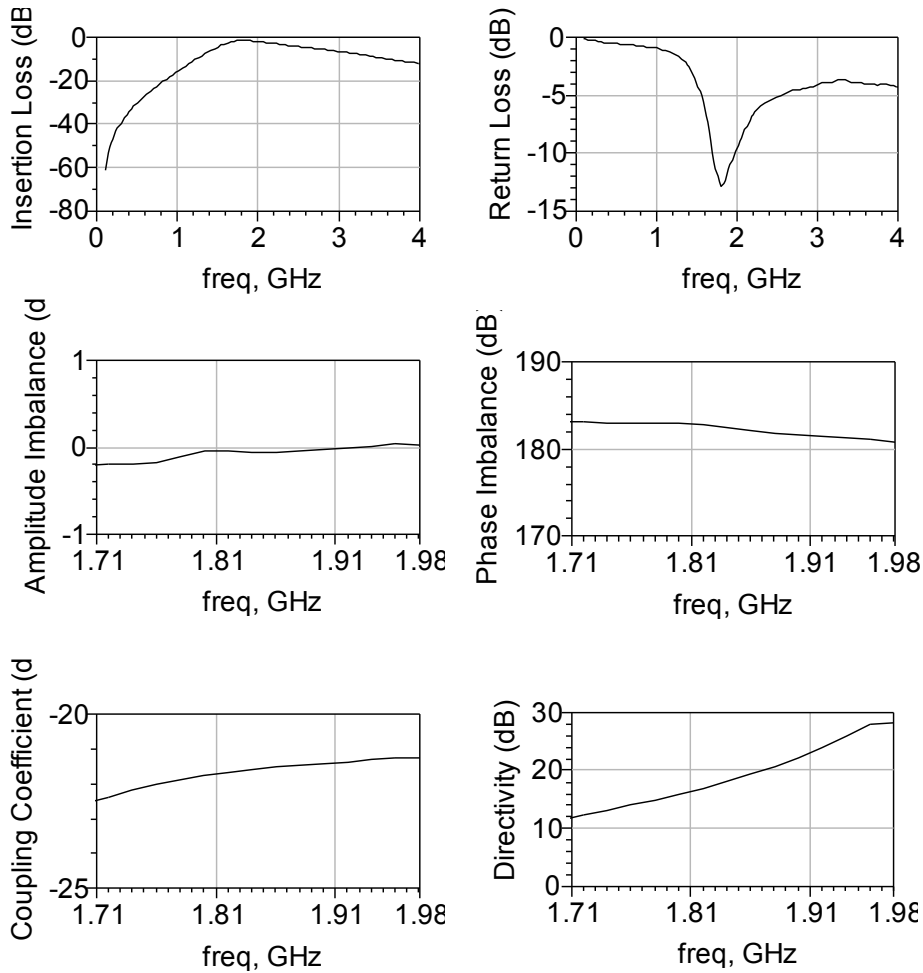
(Test board loss 0.07 dB included)

Specification	Unit	Min.	Typical	Max.
Pass Band	MHz	1710		1980
Insertion Loss	dB			1.7
Return Loss	dB		10	
Differential Impedance	Ohm		100	
Amplitude Imbalance	dB		0.2	
Phase Imbalance	deg		4.0	
Coupling Coefficient	dB		-22	
Directivity	dB	12		28
Size	mm	1.4 x 1.2 (WB)		1.6 x 1.2 (FC)

DIMENSIONS

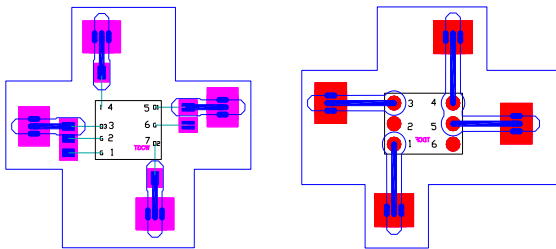


TYPICAL CHARACTERISTICS



TEST BOARD DRAWING

SCI-902W (Wirebond) **SCI-902F (Flip Chip)**



Pad	SCI-902W Signal	SCI-902F Signal
1	GND	Balanced (+)
2	GND	GND
3	Unbalanced	Balanced (-)
4	Coupling	Coupling
5	Balanced (+)	Unbalanced
6	GND	GND
7	Balanced (-)	

NOTES

All dimension measurement units are in millimeters (mm). Electrical performance and typical values are measured at room temperature. For best results, ground plane directly beneath the device should be in the top metal layer.

Refer to "Appendix A" for:

- Pad sizes and typical wirebond length used in the wirebonded IPD products.
- Recommended solder thermal profile, landing pattern recommendation and bump specifications used in the flip chip IPD products.

APPENDIX A

WIREBONDED IPD PRODUCTS

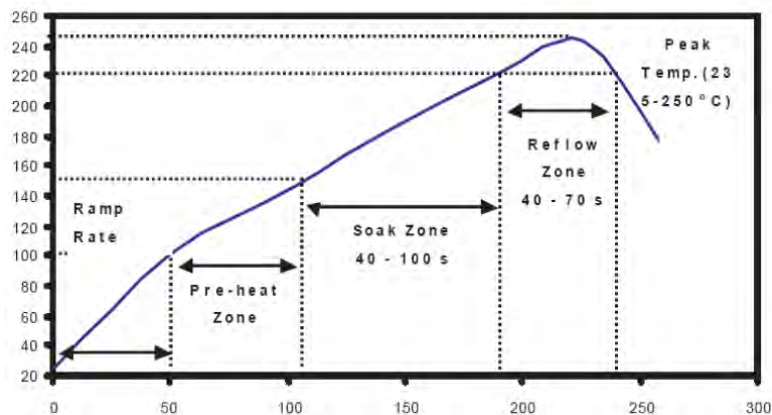
Pad Type	Pad	Area (mm)
Square		0.09 x 0.09
3 wirebond rectangular- type A		0.09 x 0.29
3 wirebond rectangular - type B		0.29 x 0.09
2 wirebond rectangular - type A (for SCI-5xx W only)		0.16 x 0.07
2 wirebond rectangular - type B		0.19 x 0.09

Note: Typical wirebond length is 0.700 mm.

FLIP CHIP IPD PRODUCTS

For bumped IPD products, typical solder thermal reflow profile, landing pattern and nominal bump dimensions are listed below.

Solder Reflow Thermal Profile

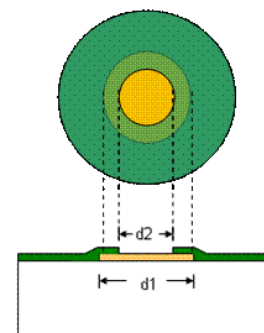


Landing Pattern Recommendation (for bump diameter of 0.210 mm)

Pad Definition	SMD
Copper Pad Diameter (d1)	0.280 mm
Solder Mask Opening (d2)	0.180 mm

Nominal Bump Dimensions

Diameter	0.210 mm
Bump Standoff Height	0.130 mm



Additional Notes
