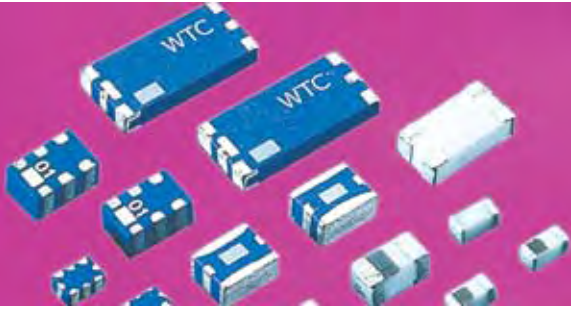
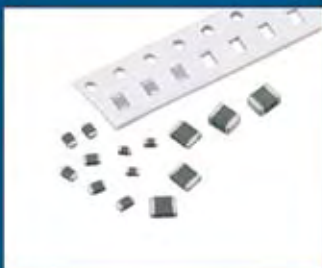




華新科技股份有限公司
Walsin Technology Corporation



RF Devices and High Frequency Inductors



2009



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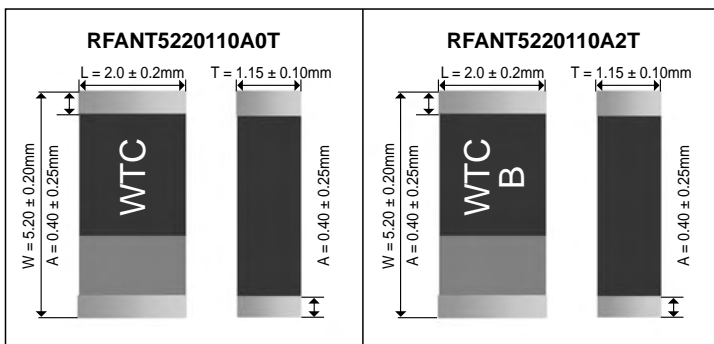
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2.4 GHz Bluetooth/WLAN-Chip Antenna-RFANT5220110A T

How to Order

| RF | ANT | 522011 | 0 | A | T | |
|---------------------|-------------------------------|---|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code ANT : Antenna | Dimension code 522011 = Length = 52 Width = 20 Thickness = 11 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

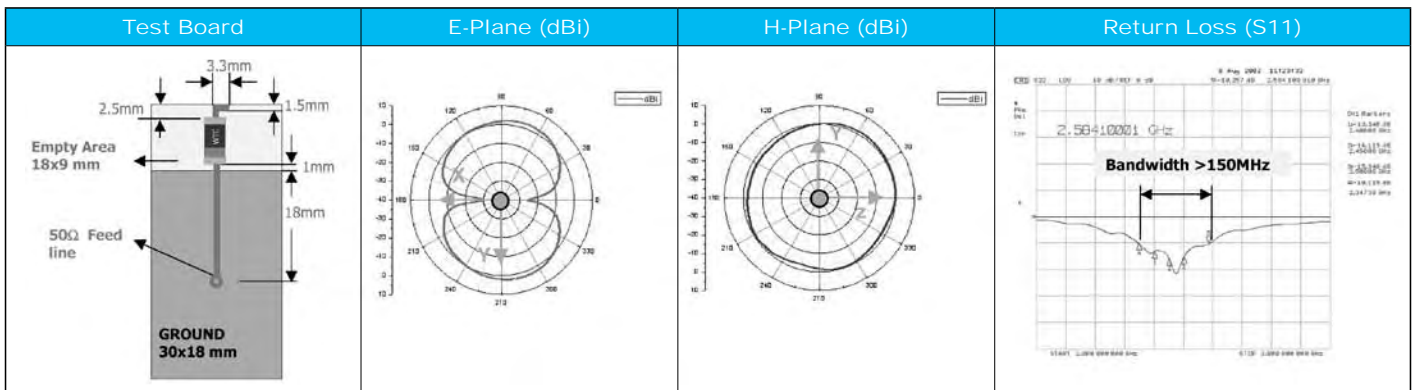


RFANT5220110A T Series

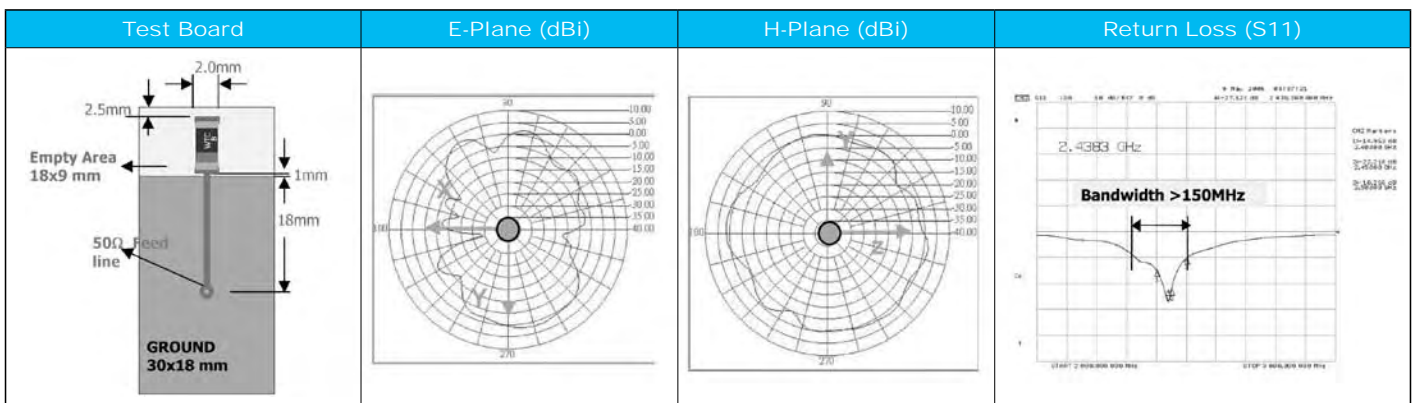
| Item | Specification |
|-------------------------|-----------------------|
| Working Frequency Range | 2.4 GHz ~ 2.5 GHz |
| Gain | 2 dBi (Typical) |
| VSWR | 2 max. |
| Polarization | Linear |
| Azimuth Bandwidth | Omni-directional |
| Impedance | 50 Ω |
| Rated Power (max.) | 3 Watts |
| Maximum Input Power | 5 Watts for 5 minutes |

Typical Electrical Characteristics:

RFANT5220110A0T



RFANT5220110A2T



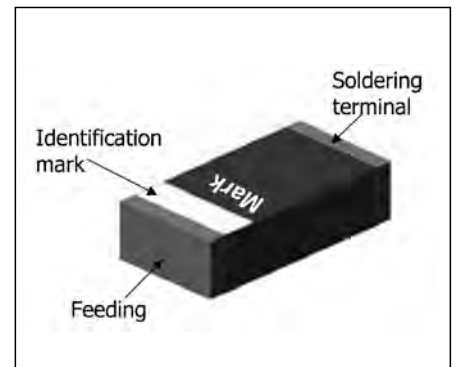
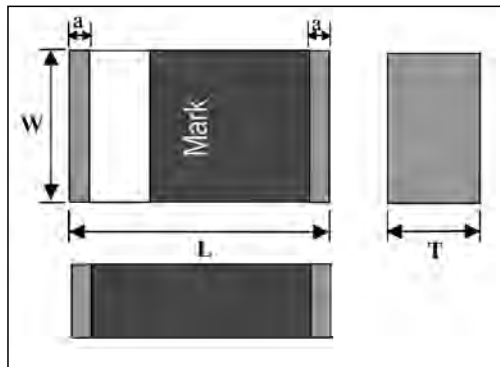
2.4 GHz Bluetooth/WLAN-Chip Antenna-RFANT3216120A T

How to Order

| RF | ANT | 321612 | 0 | A | | T |
|---------------------|-------------------------------|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code ANT : Antenna | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 321612 = Length =32 Width =16 Thickness =12 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

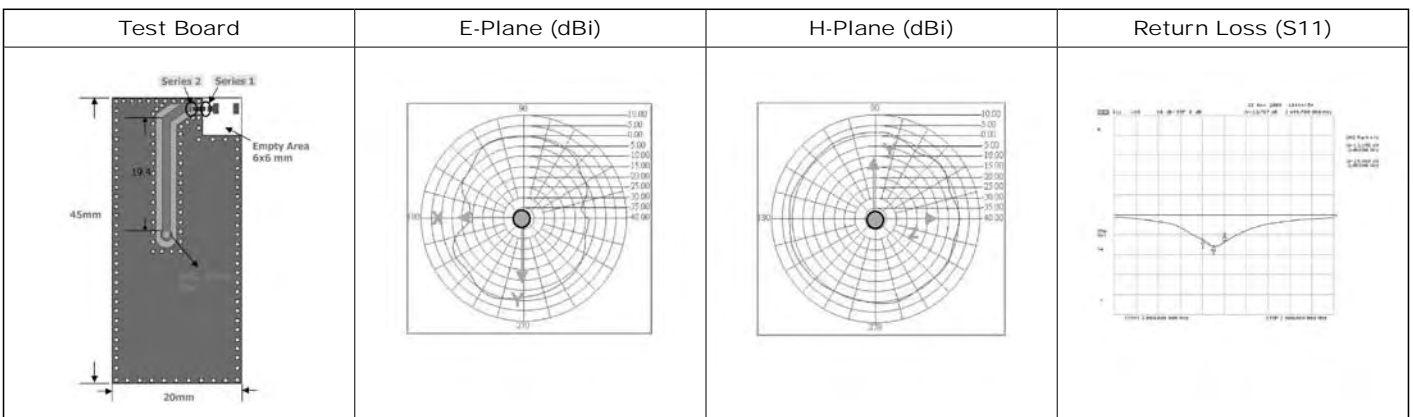
| Symbol | Dimension |
|--------|----------------|
| L | 3.20 ± 0.20 mm |
| W | 1.60 ± 0.10 mm |
| T | 1.20 ± 0.10 mm |
| a | 0.25 ± 0.15 mm |



RFANT3216120A T Series

| Product code | | RFANT3216120A1T | RFANT3216120A3T | RFANT3216120A5T |
|--------------------------|----------|-----------------|-----------------|-----------------|
| Working Frequency Range | | 2450 ± 50 MHz | 2450 ± 50 MHz | 2450 ± 50 MHz |
| Fc (GHz) | | 2.5 | 2.7 | 2.9 |
| Gain (dBi) | | 2 (Typical) | 2 (Typical) | 2 (Typical) |
| Matching component value | Series 1 | 2.7 nH | 3.9 nH | 6.8 nH |
| | Series 2 | - | 1.0 nH | - |

Typical Electrical Characteristics(RFANT3216120A5T):



ISM 2.4GHz Chip Antenna-RFANT8010080A3T

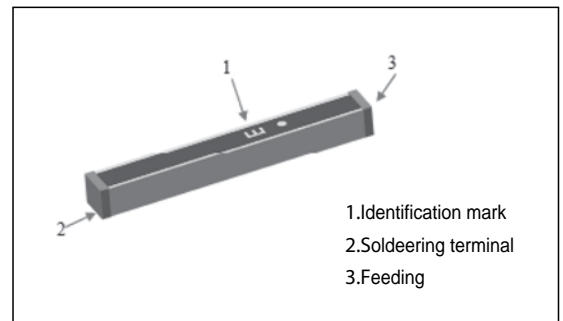
How to Order

| RF | ANT | 801008 | 0 | A | 3 | T |
|----------------------------|--------------------------------------|--|--|--|-------------------------------------|-------------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> ANT : Antenna | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 801008 = Length = 80 Width = 10 Thickness 08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T=7" Reeled |

Dimensions

| Figure | Symbol | Dimension |
|--------|--------|----------------|
| | L | 8.00 ± 0.20 mm |
| | W | 1.05 ± 0.20 mm |
| | T | 0.80 ± 0.10 mm |
| | A | 0.30 ± 0.20 mm |

Construction



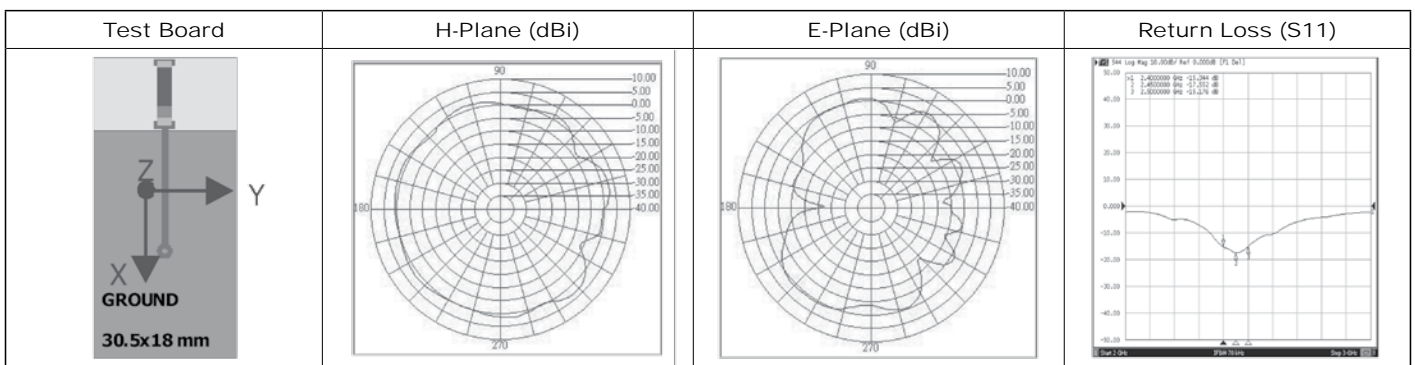
Outline of 2.4GHz Antenna-RFANT8010080A3T

ELECTRICAL CHARACTERISTICS

| Item | Specification | Vertical type |
|-------------------------|-----------------------|---------------|
| Working Frequency Range | 2.4 GHz ~ 2.5 GHz | |
| Gain | 2 dBi (Typical) | |
| VSWR | 2 max. | |
| Polarization | Linear | |
| Azimuth Beamwidth | Omni-directional | |
| Impedance | 50 Ω | |
| Rated Power (max.) | 3 Watts | |
| Maximum Input Power | 5 Watts for 5 minutes | |
| Operation Temperature | -40°C ~ +85°C | |

Remark: The specification is defined based on the test board dimension as in below Antenna on Test Board (FR4 Thickness 0.8mm)

Typical Electrical Characteristics:



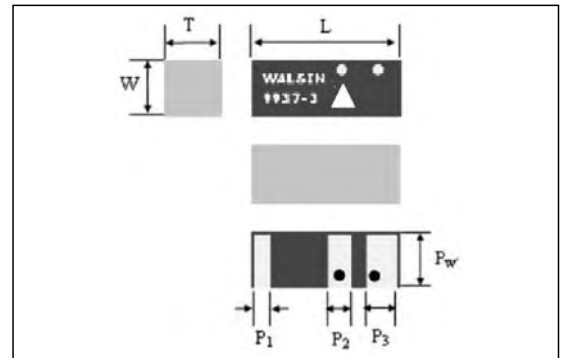
2.4 GHz Bluetooth/WLAN-Free Antenna-RGFRA9937380A3T

How to Order

| RG | FRA | 993738 | 0 | A | 3 | T |
|----------------------------|--------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> FRA : Antenna | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 993738 = Length =99 Width =37 Thickness =38 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

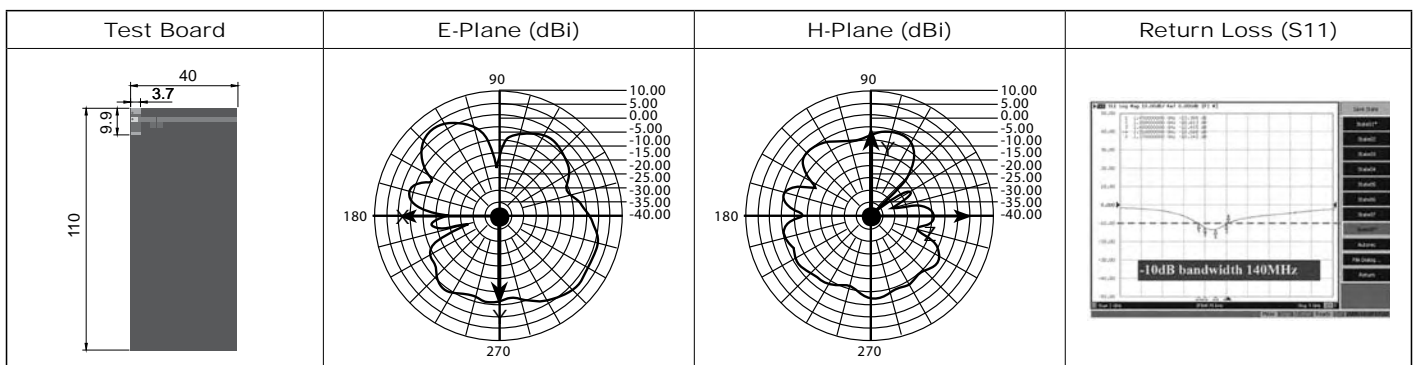
| Dimension | Port definition |
|----------------|-----------------|
| L | 9.9 ± 0.15 mm |
| W | 3.7 ± 0.15 mm |
| T | 3.8 ± 0.20 mm |
| P _w | 3.48 ± 0.10 mm |
| P ₁ | 1.4 ± 0.10 mm |
| P ₂ | 1.9 ± 0.10 mm |
| P ₃ | 2.4 ± 0.15 mm |



RGFRA9937380A3T Series

| Item | Specification |
|-------------------------|------------------|
| Central Frequency (GHz) | 9937-3 |
| Marking | 2.55 GHz |
| Frequency (GHz) | 2 dBi (Typical) |
| Gain | 2 max. |
| VSWR | Linear |
| Polarization | Omni-directional |
| Azimuth Bandwidth | 50 Ω |
| Impedance | 1 Watts |
| Rated Power (max.) | -40°C ~ +85°C |
| Operation Temperature | |

Typical Electrical Characteristics:



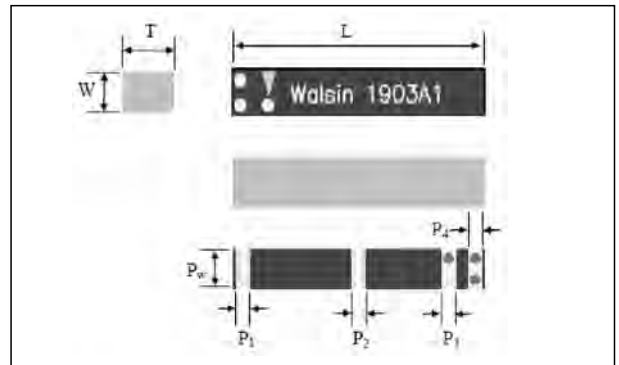
2.4 GHz Bluetooth/WLAN-Free Antenna-RGFRA1903041A1T

How to Order

| RG | FRA | 190304 | 1 | A | 1 | T |
|---------------------|-------------------------------|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code FRA : Antenna | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 190304 = Length =19 Width =3.0 Thickness =3.8 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

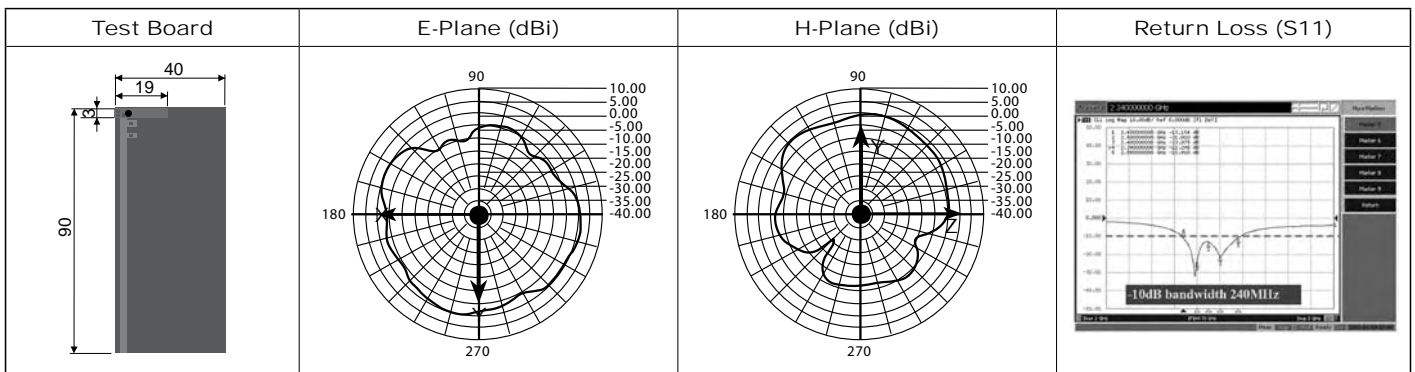
| Dimension | | Port definition |
|----------------|----------------|-----------------------|
| L | 19.0 ± 0.15 mm | - |
| W | 3.0 ± 0.15 mm | - |
| T | 3.8 ± 0.20 mm | - |
| P _w | 3.0 ± 0.10 mm | Pad width |
| P ₁ | 1.0 ± 0.10 mm | Soldering termination |
| P ₂ | 1.0 ± 0.10 mm | Soldering termination |
| P ₃ | 1.0 ± 0.10 mm | Feed termination |
| P ₄ | 1.0 ± 0.10 mm | Ground termination |



RGFRA1903041A1T Series

| Item | Specification |
|-----------------------|------------------|
| Central Frequency | 2.450 GHz |
| Gain | 2 dBi (Typical) |
| VSWR | 2 max. |
| Polarization | Linear |
| Azimuth Bandwidth | Omni-directional |
| Impedance | 50 Ω |
| Rated Power (max.) | 1 Watts |
| Operation Temperature | -40°C ~ +85°C |

Typical Electrical Characteristics:



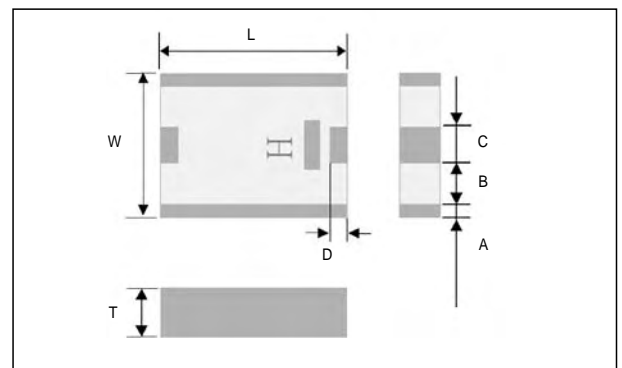
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF3225150A T

How to Order

| RF | BPF | 322515 | 0 | A | | T |
|---------------------|--|---|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code 322515 = Length = 32 Width = 25 Thickness = 15 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

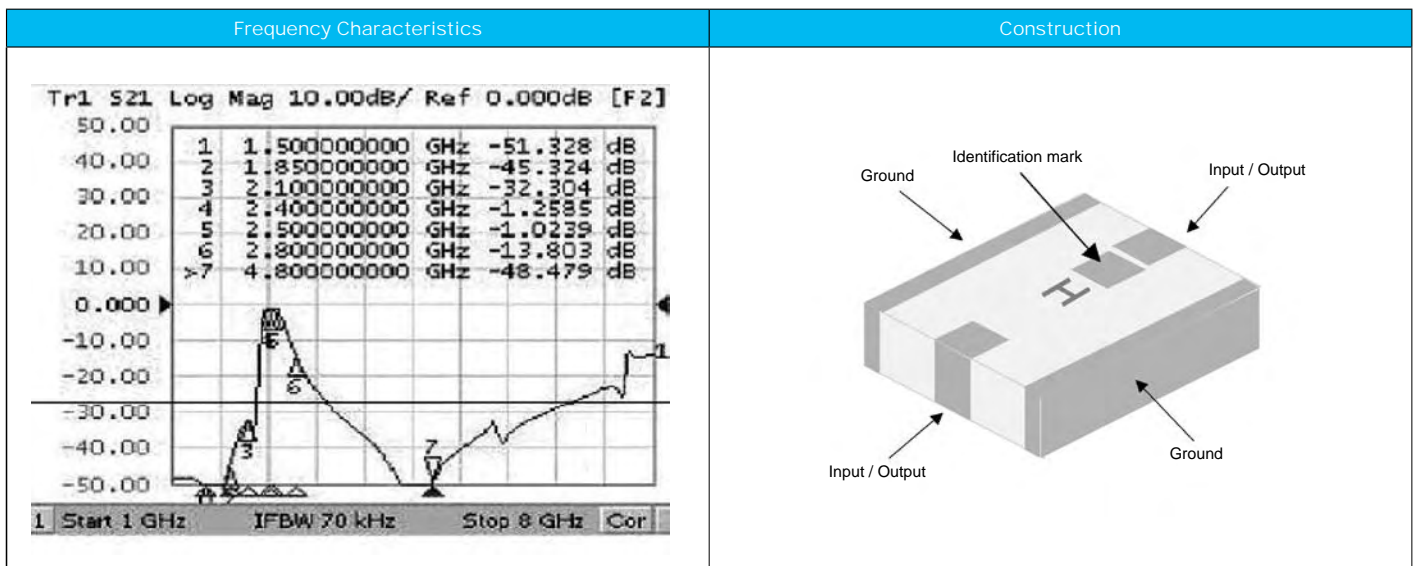
| Symbol | Dimension |
|--------|----------------|
| L | 3.20 ± 0.20 mm |
| W | 2.50 ± 0.20 mm |
| T | 1.50 ± 0.10 mm |
| A | 0.40 ± 0.20 mm |
| B | 0.60 ± 0.20 mm |
| C | 0.70 ± 0.20 mm |
| D | 0.20 ± 0.15 mm |



RFBPF3225150A T Series

| Item | Specification | |
|-----------------------|-----------------|-----------------|
| | RFBPF3225150A4T | RFBPF3225150A5T |
| Frequency range (MHz) | 2450 ± 50 MHz | 2450 ± 50 MHz |
| Insertion Loss | 2.0 dB (max) | 1.8 dB (max) |
| VSWR | 2.0 (max) | 2.0 (max) |
| Impedance | 50 Ω | 50 Ω |
| Attenuation (min.) | 30 dB @900 MHz | 30 dB @900 MHz |
| | 30 dB @1850 MHz | 30 dB @1850 MHz |
| | 20 dB @2100 MHz | 20 dB @2100 MHz |
| | 30 dB @4800 MHz | 30 dB @4800 MHz |

Typical Electrical Characteristics:



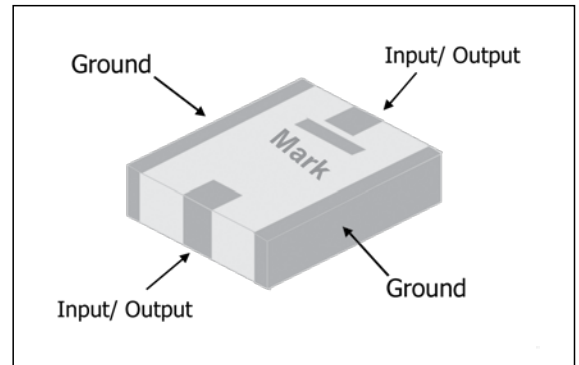
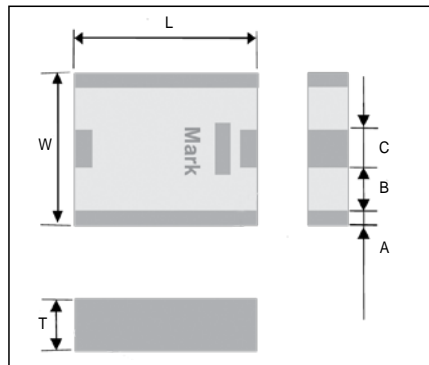
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2520120A T

How to Order

| RF | BPF | 252012 | 0 | A | T | |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 252012 = Length =25 Width =20 Thickness =12 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

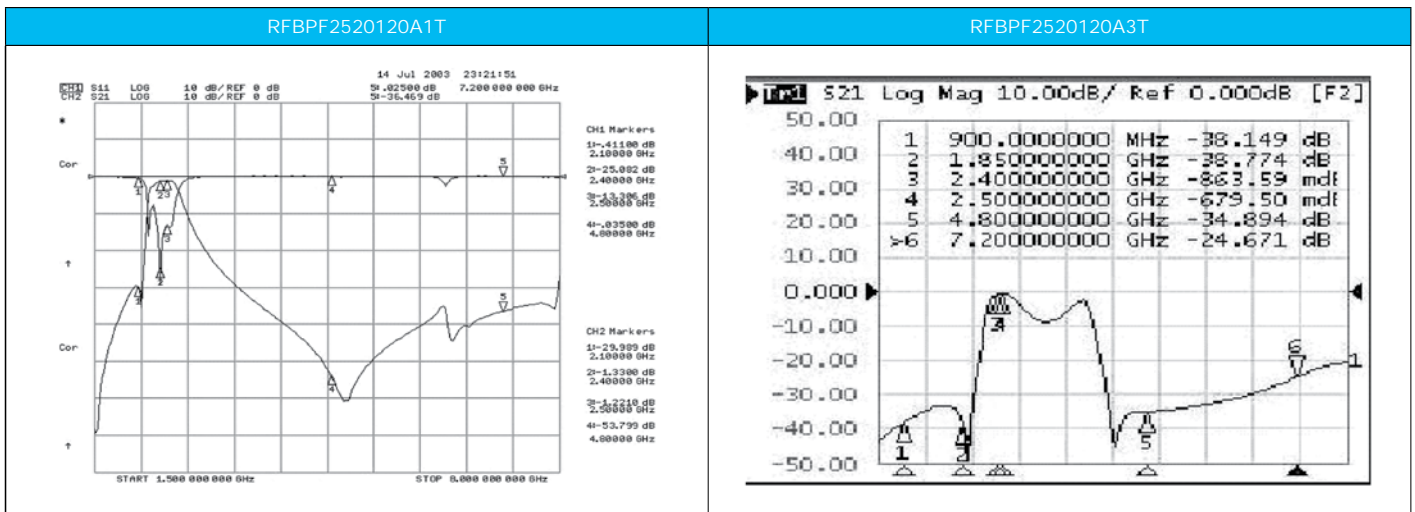
| Symbol | Dimension |
|--------|----------------|
| L | 2.50 ± 0.20 mm |
| W | 2.00 ± 0.20 mm |
| T | 1.20 ± 0.10 mm |
| A | 0.25 ± 0.20 mm |
| B | 0.50 ± 0.20 mm |
| C | 0.50 ± 0.20 mm |



RFBPF2520120A T Series

| Item | Specification | | | |
|-----------------------|--|--|--|--|
| | RFBPF2520120A1T | RFBPF2520120A2T | RFBPF2520120A3T | RFBPF2520120A4T |
| Frequency range (MHz) | 2450 ± 50 MHz | 2450 ± 50 MHz | 2450 ± 50 MHz | 2450 ± 50 MHz |
| Insertion Loss | 1.7 dB (max) | 2.1 dB (max) | 1.2 dB (max) | 1.7 dB (max) |
| VSWR | 2.0 (max) | 2.0 (max) | 2.0 (max) | 2.0 (max) |
| Impedance | 50 Ω | 50 Ω | 50 Ω | 50 Ω |
| Attenuation (min.) | 30 dB @900 MHz 30 dB @1850 MHz 20 dB @2100 MHz 40 dB @4800 MHz 25 dB @7200 MHz | 30 dB @900 MHz 30 dB @1850 MHz 30 dB @4800 MHz | 30 dB @900 MHz 30 dB @1850 MHz 25 dB @4800 MHz | 30 dB @900 MHz 30 dB @1850 MHz 25 dB @4800 MHz |

Typical Electrical Characteristics:



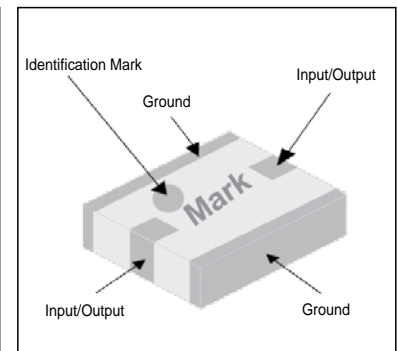
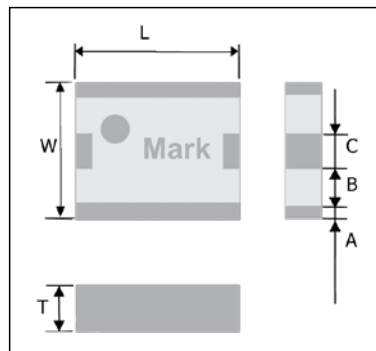
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2520100A T

How to Order

| RF | BPF | 252010 | 0 | A | | T |
|----------------------------|---|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 252010 = Length =25 Width =20 Thickness =10 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

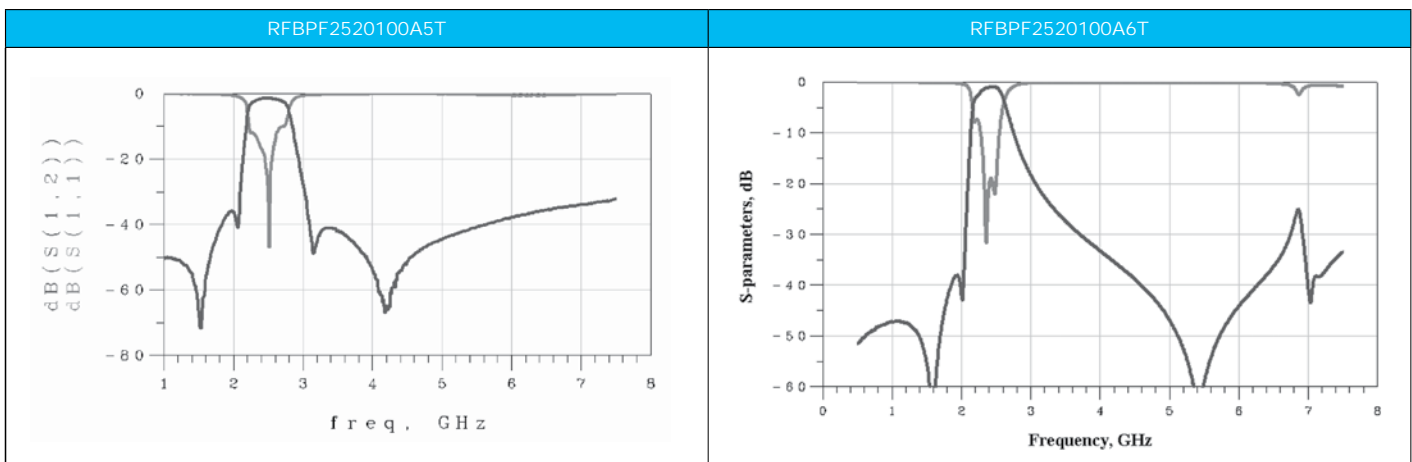
| Symbol | RFBPF2520100A5T | RFBPF2520100A6T |
|--------|-----------------|-----------------|
| L | 2.50 ± 0.20 mm | 2.50 ± 0.20 mm |
| W | 2.00 ± 0.20 mm | 2.00 ± 0.20 mm |
| T | 1.00 ± 0.10 mm | 1.05 ± 0.10 mm |
| A | 0.20 ± 0.20 mm | 0.25 ± 0.20 mm |
| B | 0.50 ± 0.20 mm | 0.50 ± 0.20 mm |
| C | 0.50 ± 0.20 mm | 0.50 ± 0.20 mm |



RFBPF2520100A T Series

| Item | Specification | |
|-----------------------|---|------------------------------------|
| | RFBPF2520100A5T | RFBPF2520100A6T |
| Frequency range (MHz) | 2450 ± 50 MHz | 2450 ± 50 MHz |
| Insertion Loss | 2 dB max | 1.4 dB max |
| VSWR | 2.0 (max) | 2.0 (max) |
| Impedance | 50 Ω | 50 Ω |
| Attenuation (min.) | 40 dB @900 MHz 30 dB @1990 MHz 20 dB @2100 MHz 35 dB @3200 MHz 40 dB @4800 MHz 25dB @7200 MHz* (* for reference) | 35 dB @1900 MHz 35 dB @4800 MHz |

Typical Electrical Characteristics:



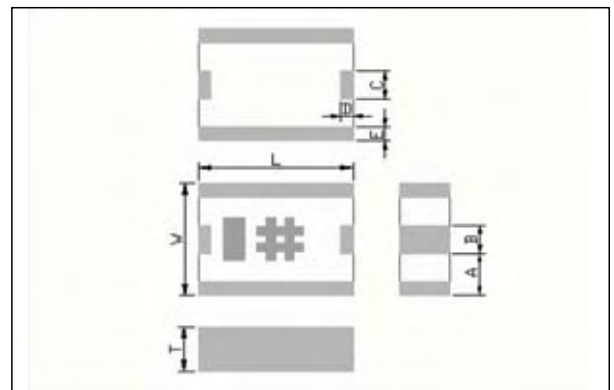
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2520080AUT

How to Order

| RF | BPF | 252008 | 0 | A | U | T |
|----------------------------|---|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 252008 = Length =25 Width =20 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

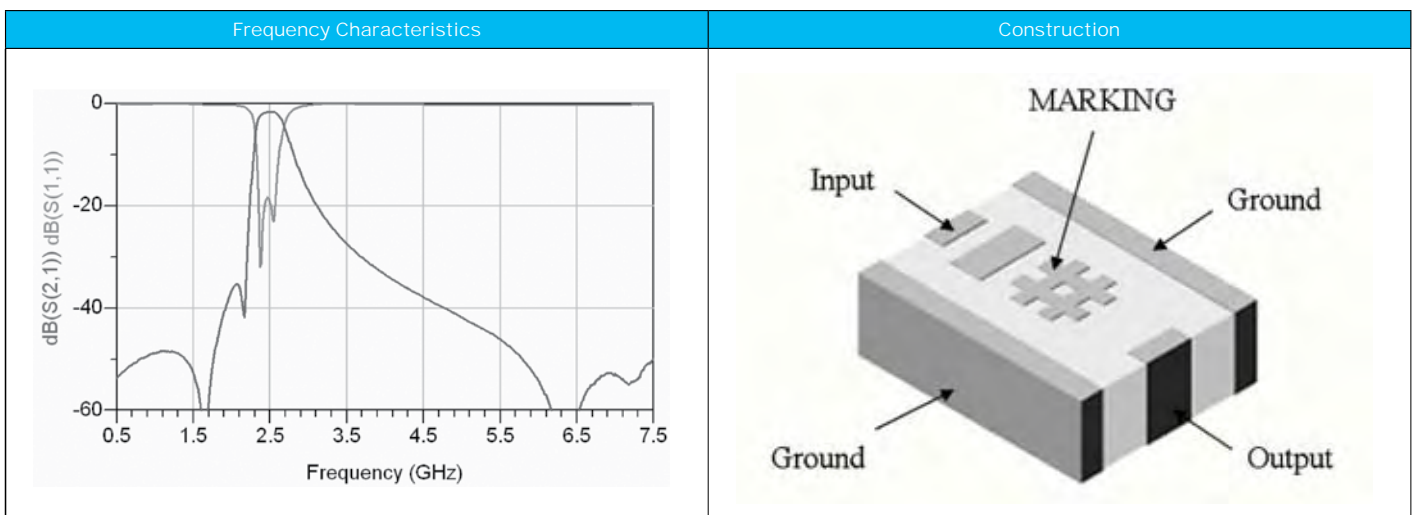
| Symbol | Dimension |
|--------|----------------|
| L | 2.50 ± 0.20 mm |
| W | 2.05 ± 0.20 mm |
| T | 0.70 ± 0.10 mm |
| A | 0.75 ± 0.20 mm |
| B | 0.50 ± 0.20 mm |
| C | 0.50 ± 0.20 mm |
| D | 0.25 ± 0.20 mm |
| E | 0.25 ± 0.20 mm |



RFBPF2520080AUT Series

| Item | Specification |
|-----------------------|-------------------------------------|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 2.2 dB (max) |
| VSWR | 2.0 (max) |
| Attenuation (min.) | 33 @ 2100-2170 MHz 35 @ 4800 MHz |

Typical Electrical Characteristics:



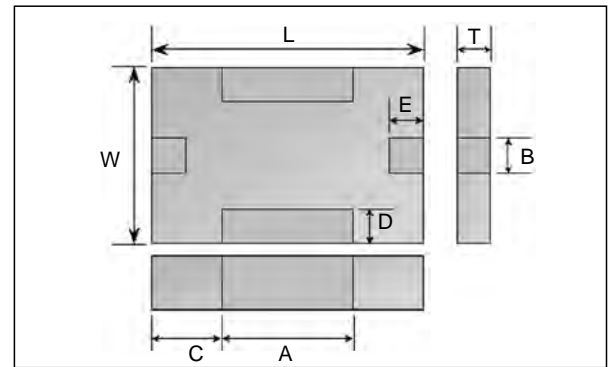
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012090A1T

How to Order

| RF | BPF | 201209 | 0 | A | 1 | T |
|----------------------------|---|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201209 = Length =20 Width =12 Thickness =09 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

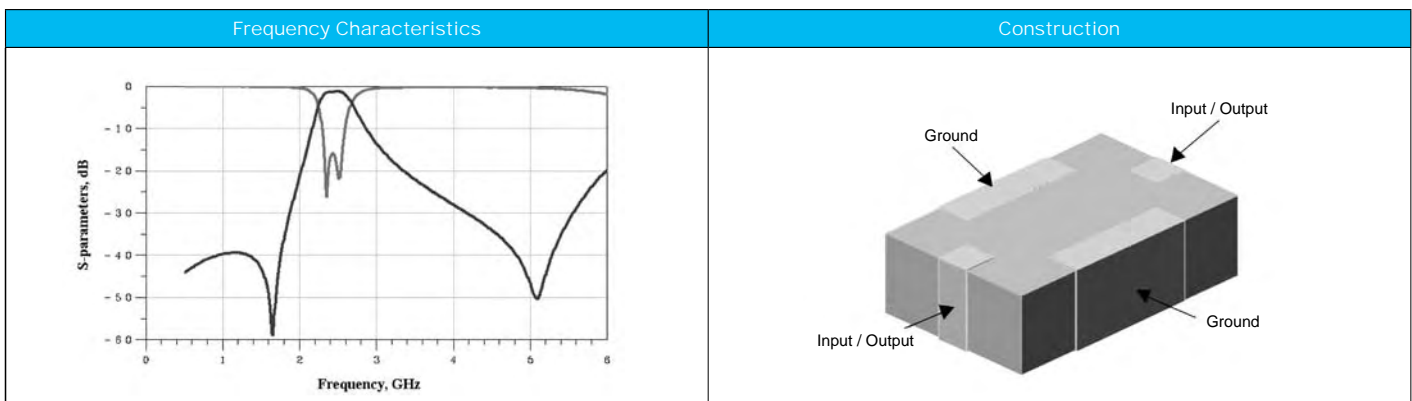
| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.90 ± 0.10 mm |
| A | 1.00 ± 0.15 mm |
| B | 0.30 ± 0.15 mm |
| C | 0.50 ± 0.15 mm |
| D | 0.25 ± 0.15 mm |
| E | 0.25 ± 0.15 mm |



RFBPF2012090A1T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 1.7 dB max |
| VSWR | 2.0 (max) |
| Impedance | 50 Ω |
| Attenuation (min.) | 30 dB @900 MHz 20 dB @1850 MHz 30 dB @4800 MHz |

Typical Electrical Characteristics:



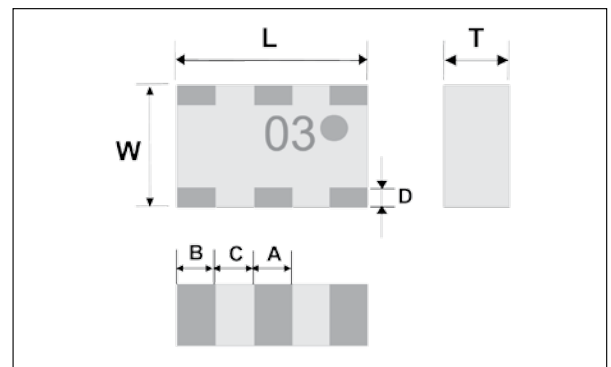
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012080A5T

How to Order

| RF | BPF | 201208 | 0 | A | 5 | T |
|----------------------------|---|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

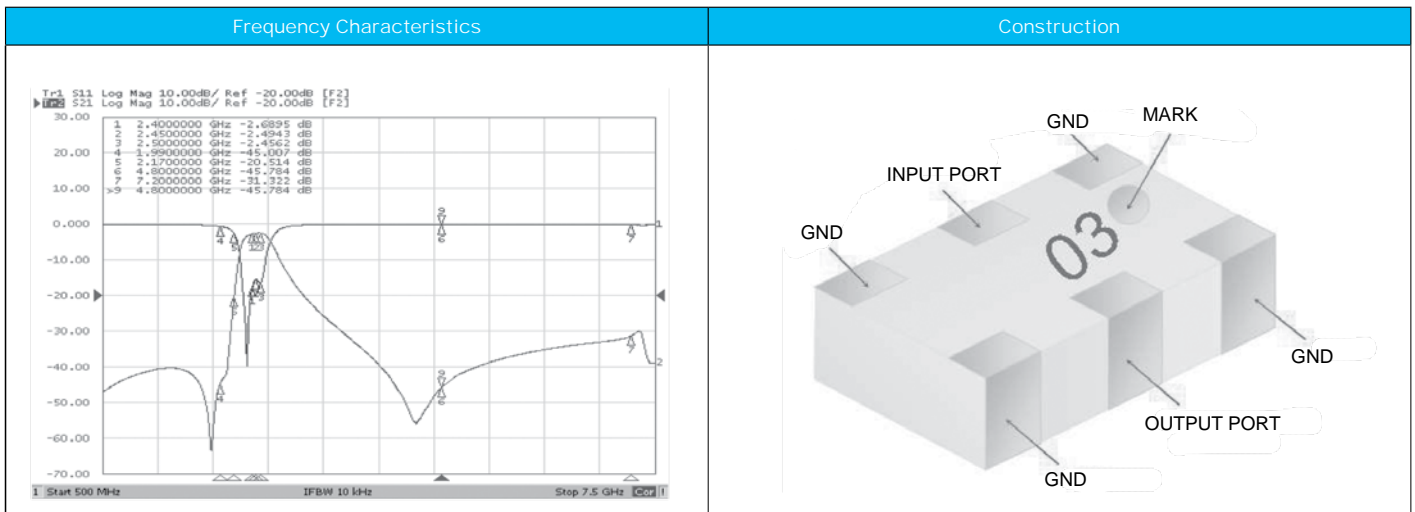
| Symbol | Dimension |
|--------|--------------|
| L | 2.0 ± 0.2 mm |
| W | 1.2 ± 0.2 mm |
| T | 0.8 ± 0.1 mm |
| A | 0.4 ± 0.2 mm |
| B | 0.4 ± 0.2 mm |
| C | 0.4 ± 0.2 mm |
| D | 0.2 ± 0.1 mm |



RFBPF2012080A5T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 3 dB (max) |
| VSWR | 2.0 (max) |
| Impedance | 50 Ω |
| Attenuation (min.) | 40 dB @880-960 MHz 40 dB @1710-1990 MHz 20 dB @2110-2170 MHz 40 dB @4800-5000 MHz 30 dB @7200-7500 MHz |

Typical Electrical Characteristics:



2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012080A7T

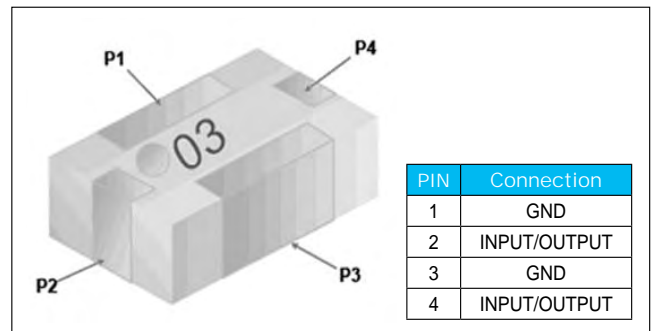
How to Order

| RF | BPF | 201208 | 0 | A | 7 | T |
|----------------------------|---|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.75 ± 0.10 mm |
| A | 1.00 ± 0.15 mm |
| B | 0.30 ± 0.15 mm |
| C | 0.50 ± 0.15 mm |
| D | 0.25 ± 0.15 mm |
| E | 0.25 ± 0.15 mm |

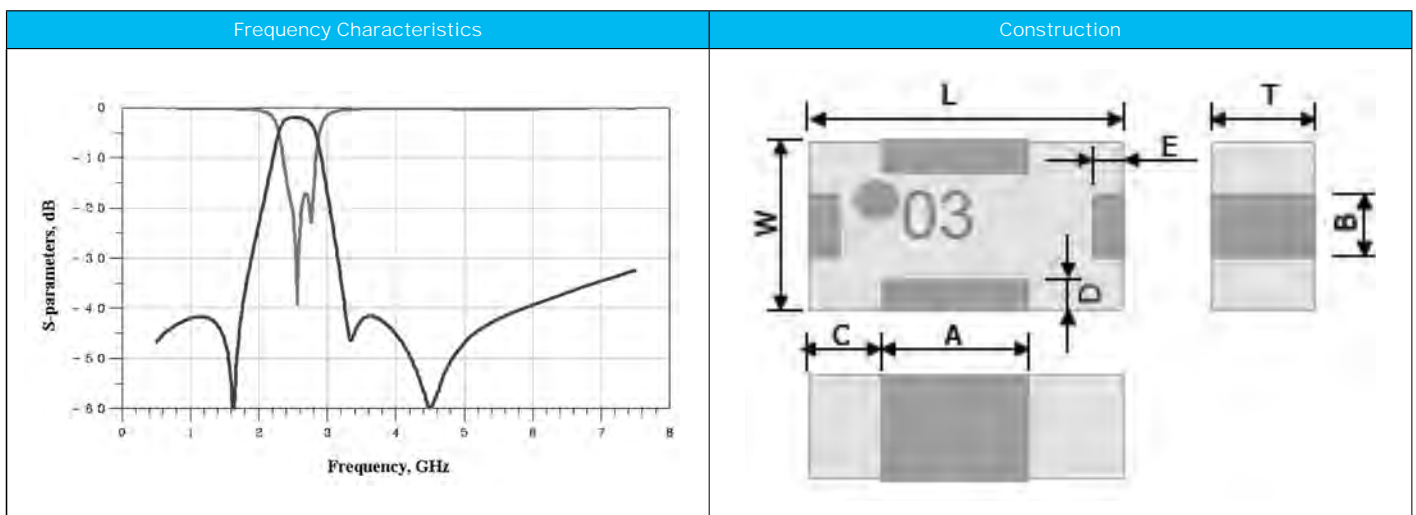
Pin Assignment



RFBPF2012080A7T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 2.8 dB max (typ. 2.5 dB) |
| VSWR | 2.0 (max) |
| Impedance | 50 Ω |
| Attenuation (min.) | 40 dB @ DC~1600 MHz 35 dB @ 1710 MHz 25 dB @ 1900 MHz 12 dB @ 2100 MHz 8 dB @ 2170 MHz 30 dB @ 3100 MHz 40 dB @ 4800~5000 MHz 20 dB @ 7200~7500 MHz |

Typical Electrical Characteristics:



2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012060A9T

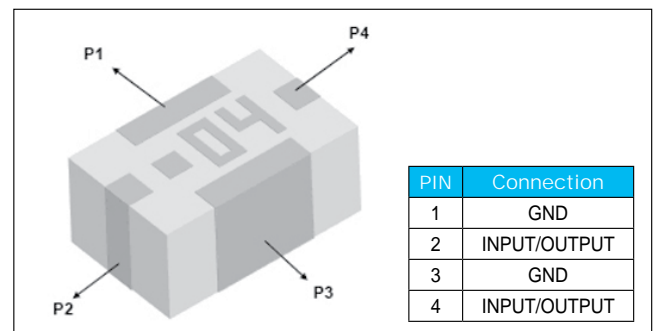
How to Order

| RF | BPF | 201206 | 0 | A | 9 | T |
|----------------------------|---|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =06 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

| Symbol | Dimension | Symbol | Dimension |
|--------|-------------|--------|-------------|
| L | 2.00 ± 0.15 | B | 0.30 ± 0.15 |
| W | 1.25 ± 0.15 | C | 0.50 ± 0.15 |
| T | 0.60 ± 0.10 | D | 0.25 ± 0.15 |
| A | 1.00 ± 0.15 | E | 0.25 ± 0.15 |

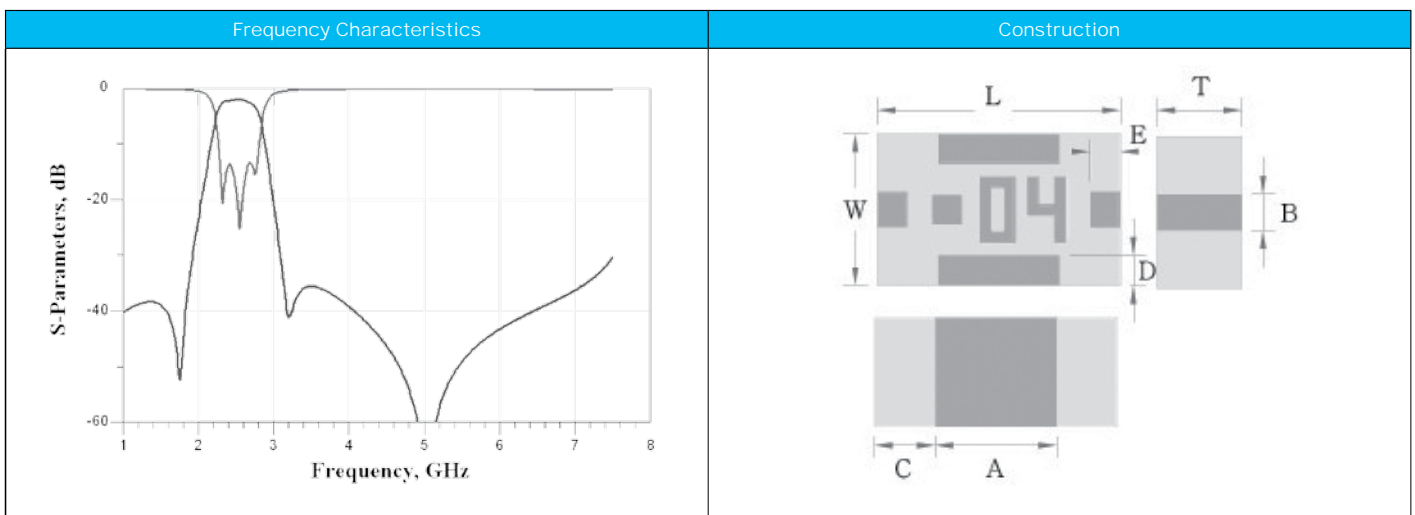
Pin Assignment



RFBPF2012060A9T Series

| Item | Specification |
|-----------------------|---|
| Frequency range (MHz) | 2450 ± 50 |
| VSWR | 2.0 max |
| Impedance | 50 Ω |
| Insertion Loss (dB) | 25°C 2.8 dB max |
| Attenuation (dB min.) | 30 dB @ 960 MHz 30 dB @ 1600 MHz 20 dB @ 1990 MHz 35 dB @ 3200 MHz 40 dB @ 4800 MHz 25 dB @ 7200 MHz |

Typical Electrical Characteristics:



2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012060AAT

How to Order

| RF | BPF | 201206 | 0 | A | A | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin PF device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201206 = Length =20 Width =12 Thickness =06 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Pin Assignment

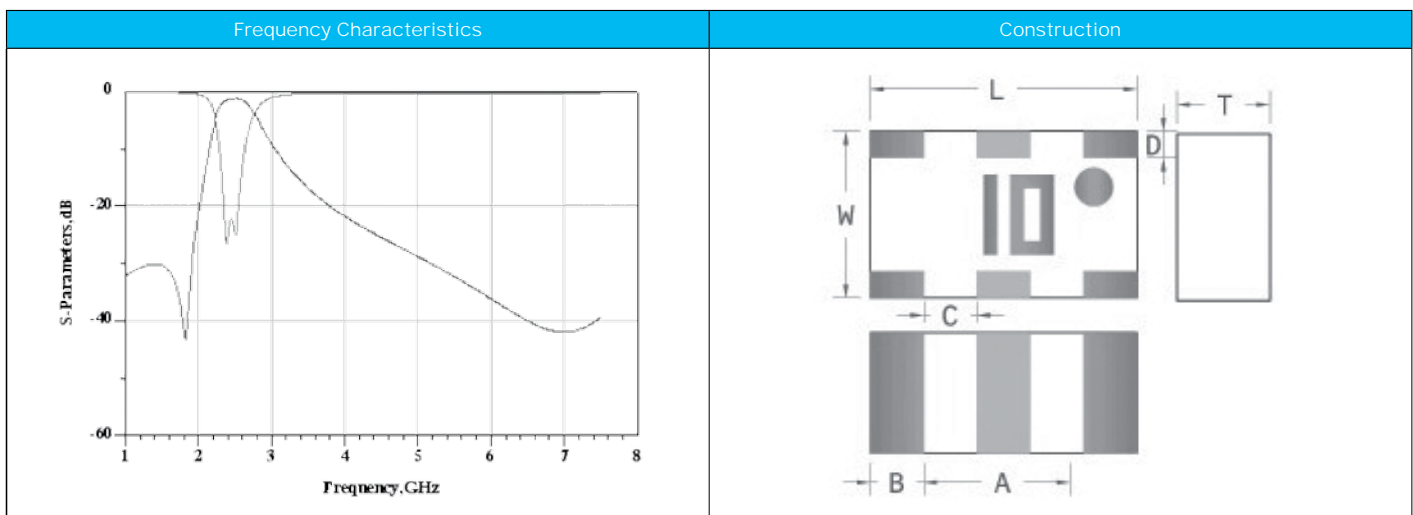
Dimensions

| Figure | Symbol | Dimension | | | | | | | | | | | | | | |
|--|--------------|--------------|---|-----|---|--------------|---|-----|---|--------------|---|-------------|---|-----|---|--------------|
| <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>PIN</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GND</td> </tr> <tr> <td>2</td> <td>INPUT/OUTPUT</td> </tr> <tr> <td>3</td> <td>GND</td> </tr> <tr> <td>4</td> <td>INPUT/OUTPUT</td> </tr> <tr> <td>5</td> <td>OUTPUT port</td> </tr> <tr> <td>6</td> <td>GND</td> </tr> </tbody> </table> | PIN | Connection | 1 | GND | 2 | INPUT/OUTPUT | 3 | GND | 4 | INPUT/OUTPUT | 5 | OUTPUT port | 6 | GND | L | 2.0 ± 0.2 mm |
| | PIN | Connection | | | | | | | | | | | | | | |
| | 1 | GND | | | | | | | | | | | | | | |
| | 2 | INPUT/OUTPUT | | | | | | | | | | | | | | |
| | 3 | GND | | | | | | | | | | | | | | |
| | 4 | INPUT/OUTPUT | | | | | | | | | | | | | | |
| | 5 | OUTPUT port | | | | | | | | | | | | | | |
| 6 | GND | | | | | | | | | | | | | | | |
| W | 1.2 ± 0.2 mm | | | | | | | | | | | | | | | |
| T | 0.6 ± 0.1 mm | | | | | | | | | | | | | | | |
| A | 0.4 ± 0.2 mm | | | | | | | | | | | | | | | |
| B | 0.4 ± 0.2 mm | | | | | | | | | | | | | | | |
| C | 0.4 ± 0.2 mm | | | | | | | | | | | | | | | |
| D | 0.2 ± 0.1 mm | | | | | | | | | | | | | | | |

RFBPF2012060AAT Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 500 MHz |
| VSWR | 2.0 max |
| Insertion Loss (dB) | 1.8 dB max |
| Attenuation (dB min.) | -30 dB @ 880~960 MHz -25 dB @ 1710~1910 MHz -25 dB @ 4800~5000 MHz -30 dB @ 7200~7500 MHz |

Typical Electrical Characteristics:



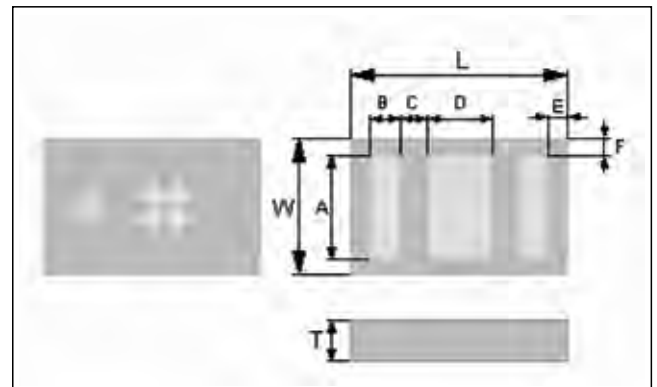
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF2012040ABT

How to Order

| RF | BPF | 201204 | 0 | A | B | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201204 = Length =20 Width =12 Thickness =04 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

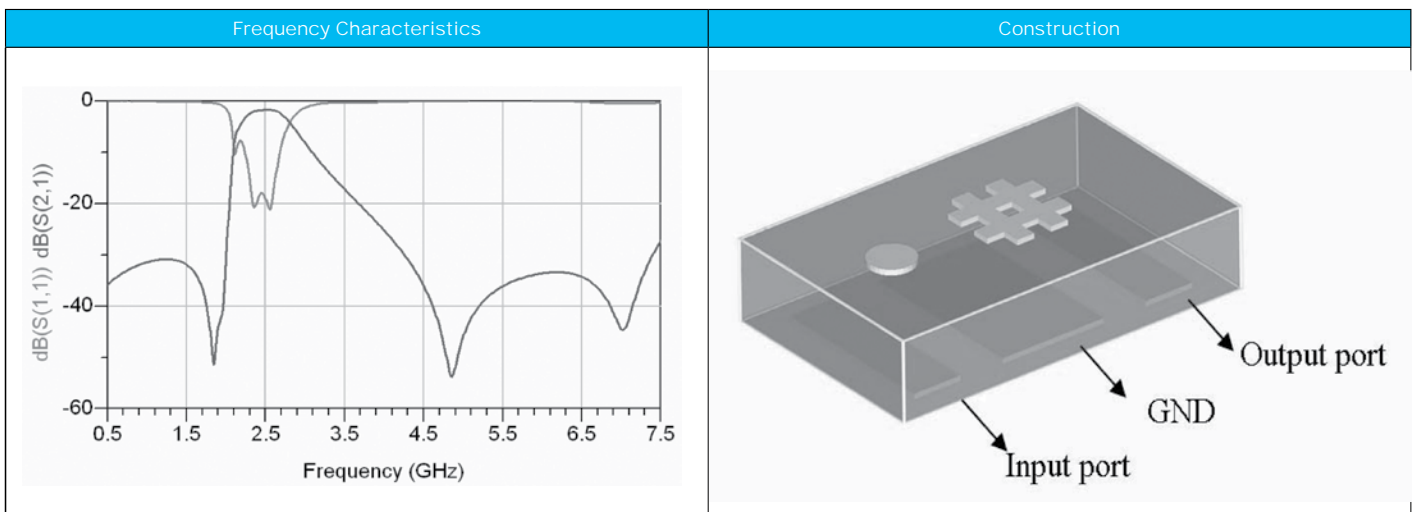
| Symbol | Dimension |
|--------|-----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.10 mm |
| T | 0.45 ± 0.10 mm |
| A | 0.95 ± 0.10 mm |
| B | 0.275 ± 0.10 mm |
| C | 0.25 ± 0.10 mm |
| D | 0.60 ± 0.10 mm |
| E | 0.175 ± 0.10 mm |
| F | 0.15 ± 0.10 mm |



RFBPF2012040ABT Series

| Item | Specification |
|-----------------------|---|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 2.5 dB (max) |
| VSWR | 2.0 (max) |
| Impedance | 50 Ω |
| Attenuation (min.) | 30 dB @ 824-849 MHz 30 dB @ 880-915 MHz 30 dB @ 1545-1605 MHz 30 dB @ 1565-1585 MHz 35 dB @ 1710-1785 MHz 40 dB @ 1850-1910 MHz 32 dB @ 1920-1980 MHz 7 dB @ 3168-4752 MHz 11 dB @ 3300-3800 MHz 35 dB @ 4800-4967 MHz 26 dB @ 5150-6000 MHz 23 dB @ 7200-7450 MHz |

Typical Electrical Characteristics:



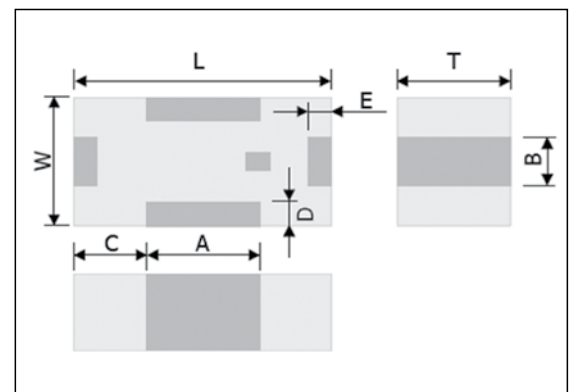
2.4 GHz High Frequency Devices-Band Pass Filter-RFBPF1608070A0T

How to Order

| RF | BPF | 160807 | 0 | A | 0 | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 160807 = Length =16 Width =08 Thickness =07 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

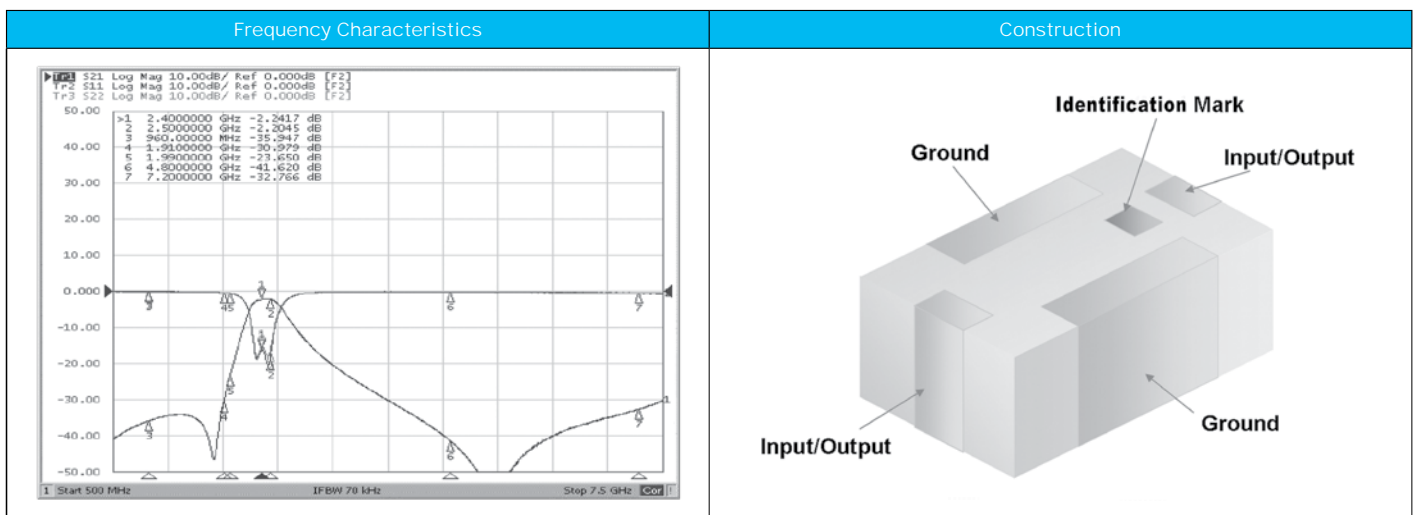
| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.70 ± 0.10 mm |
| A | 0.70 ± 0.15 mm |
| B | 0.30 ± 0.15 mm |
| C | 0.45 ± 0.15 mm |
| D | 0.15 ± 0.10 mm |
| E | 0.15 ± 0.10 mm |



RFBPF1608070A0T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 2.5 dB (max) |
| VSWR | 2.0 (max) |
| Impedance | 50 Ω |
| Attenuation (min.) | 30 dB @960 MHz 25 dB @1910 MHz 20 dB @1990 MHz 30 dB @4800 MHz 25 dB @7200 MHz |

Typical Electrical Characteristics:



2.4GHz High Frequency Devices-Band Pass Filter-RFBPF1608060A1T

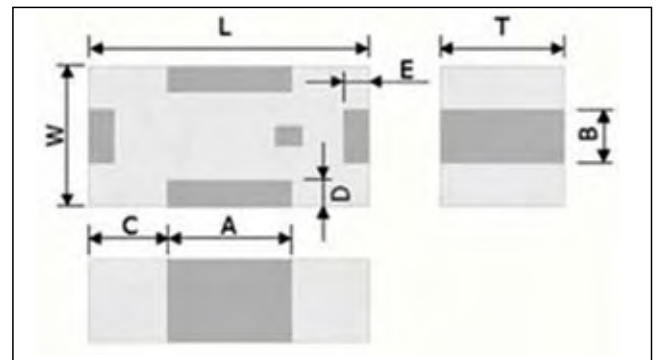
How to Order

| RF | BPF | 160806 | 0 | A | 1 | T |
|----------------------------|---|--|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPF : Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 160806 = Length =16 Width =08 Thickness=06 | <u>Unit of dimension</u> 0: 0.1mm 1: 1.0mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.70 ± 0.15 mm |
| B | 0.30 ± 1.5 mm |
| C | 0.45 ± 0.15 mm |
| D | 0.15 ± 0.10 mm |
| E | 0.15 ± 0.10 mm |

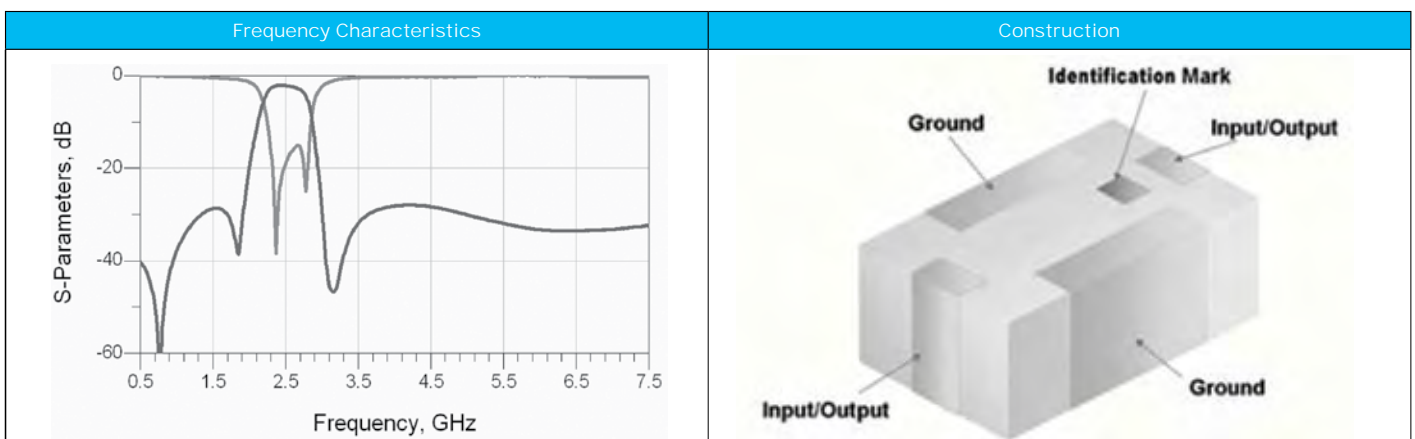
Pin Assignment



RFBPF1608060A1T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2450 ± 50 MHz |
| Insertion Loss | 2.8 dB max |
| VSWR | 2.0 (max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 25 dB @695~800 MHz 20 dB @1910 MHz 35 dB @3200 MHz 20 dB @4800~5000 MHz 20 dB @7200~7500 MHz |

Typical Electrical Characteristics



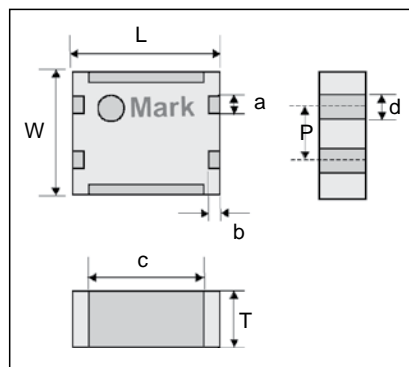
2.4 GHz High Frequency Devices-Balanced Filter-RGBP2520090A T

How to Order

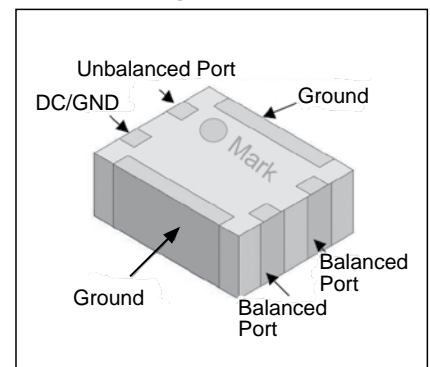
| RG | BPB | 252009 | 0 | A | | T |
|----------------------------|---|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPB : Balanced Type Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 252009 = Length =25 Width =20 Thickness =09 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 2.50 ± 0.20 mm |
| W | 2.00 ± 0.20 mm |
| T | 0.95 ± 0.10 mm |
| a | 0.40 ± 0.10 mm |
| b | 0.25 ± 0.10 mm |
| c | 1.83 ± 0.10 mm |
| d | 0.40 ± 0.10 mm |
| p | 0.80 ± 0.20 mm |



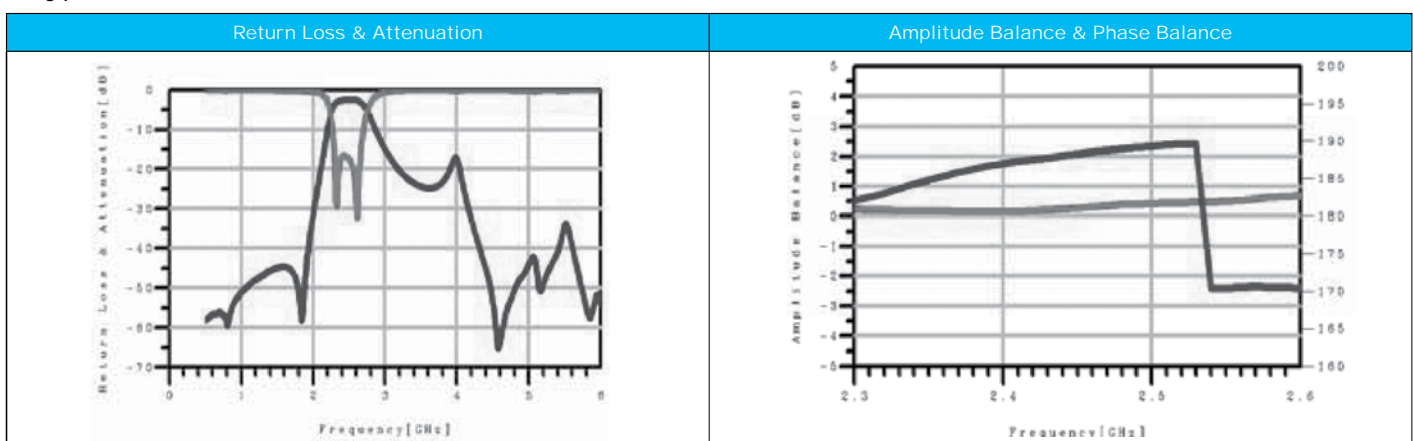
Pin Arrangement



RGBP2520090A T Series

| Item | Specification | |
|------------------------|--|--|
| | RGBP2520090A5T | RGBP2520090A6T |
| Frequency range (MHz) | 2450 ± 50 MHz | 2450 ± 50 MHz |
| Insertion Loss | 3 dB max | 3.5 dB max |
| VSWR | 2.0 max | 2.0 max |
| Impedance (Unbalanced) | 50 Ω | 50 Ω |
| Impedance (Balanced) | Match to BC series of Bluetooth chipset | Match to BC series of Bluetooth chipset |
| Phase Difference | 180° ± 15° | 180° ± 15° |
| Amplitude Difference | 1.5 dB max | 1.5 dB max |
| Attenuation (min.) | 40 dB @880~960 MHz 40 dB @1710~1880 MHz 20 dB @1880~1990 MHz 30 dB @4800~5000 MHz | 40 dB @880~960 MHz 40 dB @1710~1880 MHz 20 dB @1880~1990 MHz 30 dB @4800~5000 MHz |

Typical Electrical Characteristics(RGBP2520090A5T):



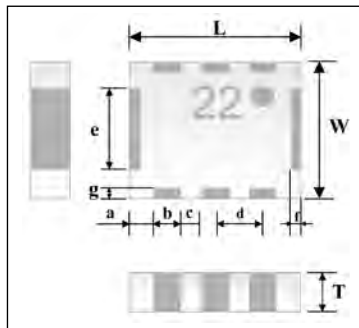
2.4 GHz High Frequency Devices-Balanced Filter-RFBPB2520090A7T

How to Order

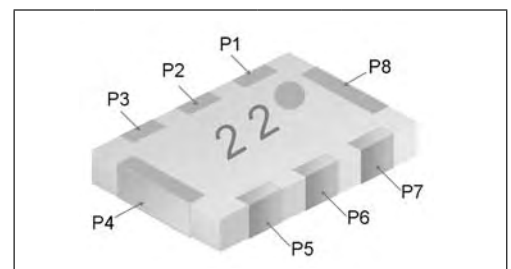
| RF | BPB | 252009 | 0 | A | 7 | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPB : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 252009 = Length =25 Width =20 Thickness =09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 2.50 ± 0.20 |
| W | 2.00 ± 0.20 |
| T | 0.85 ± 0.10 |
| a | 0.35 ± 0.20 |
| b | 0.4 ± 0.20 |
| c | 0.30 ± 0.20 |
| d | 0.70 ± 0.20 |
| e | 1.20 ± 0.20 |
| f | 0.15 (Typical) |
| g | 0.15 (Typical) |



Pin Arrangement

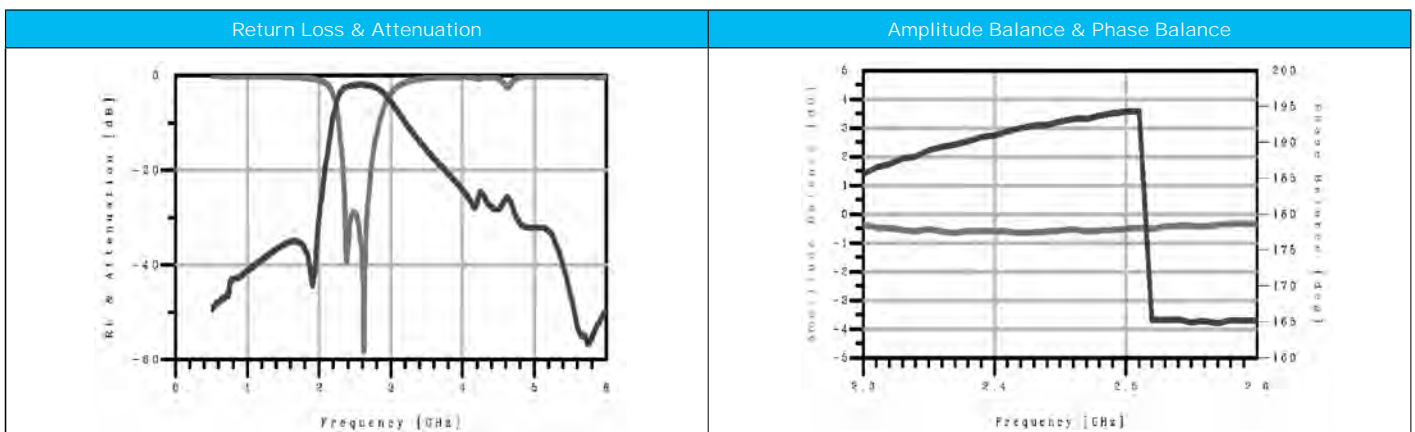


| PIN | Definition | PIN | Definition |
|-----|-----------------|-----|---------------|
| P1 | NC | P5 | Balanced Port |
| P2 | Unbalanced Port | P6 | Balanced Port |
| P3 | DC | P7 | GND |
| P4 | GND | P8 | GND |

RFBPB2520090A7T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate match to BR6150 of TI |
| Phase Difference | 180° ± 15° |
| Amplitude Difference | 1.5dB max |
| Attenuation (dB min.) | 35 @880-960 MHz 30 @1710-1880 MHz 25 @1880-1990 MHz 25 @4800-5000 MHz |

Typical Electrical Characteristics:



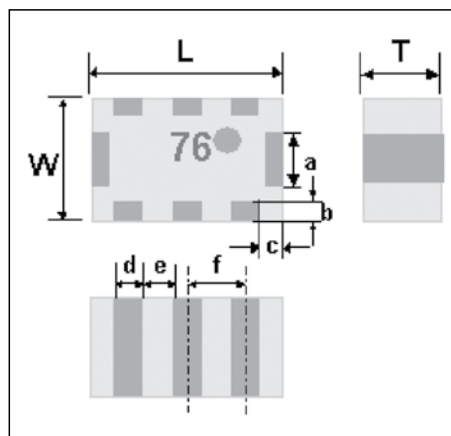
2.4 GHz High Frequency Devices-Balanced Filter-RFBPB2012110A5T

How to Order

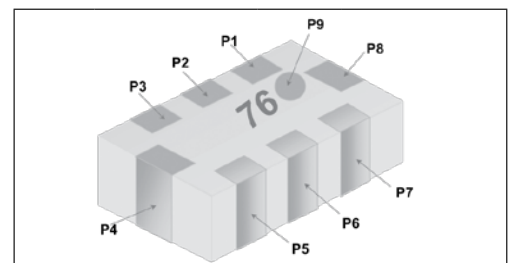
| RF | BPB | 201211 | 0 | A | 5 | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPB : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201211 = Length =20 Width =12 Thickness =11 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

| Symbol | Dimension (mm) |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.10 mm |
| T | 1.10 ± 0.10 mm |
| a | 0.55 ± 0.10 mm |
| b | 0.20 ± 0.15 mm |
| c | 0.20 ± 0.15 mm |
| d | 0.30 ± 0.10 mm |
| e | 0.35 ± 0.10 mm |
| f | 0.65 ± 0.10 mm |



Pin Arrangement

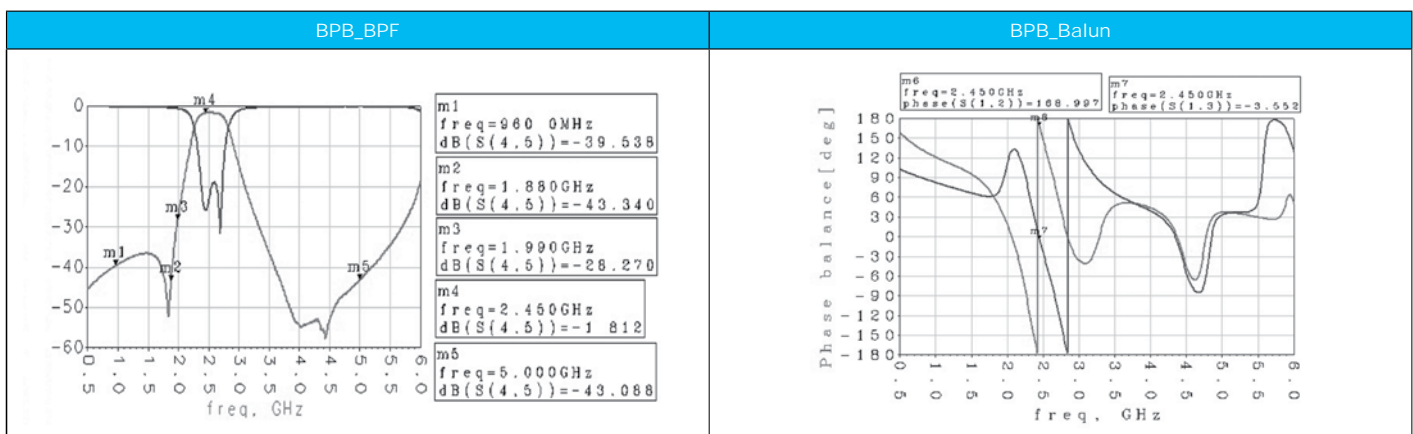


| PIN | Definition | PIN | Definition |
|-----|-----------------|-----|---------------|
| P1 | Unbalanced Port | P5 | Balanced Port |
| P2 | DC or GND | P6 | GND |
| P3 | NC | P7 | Balanced Port |
| P4 | GND | P8 | GND |

RFBPB2012110A5T Series

| Item | Specification |
|------------------------|--|
| Frequency range | 2450 ± 50 MHz |
| Insertion Loss | 2.8 dB max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate match to BC series of Bluetooth chipset |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2.0 dB max |
| Attenuation (min.) | 30dB @880~960 MHz 30dB @1710~1880 MHz 20dB @1880~1990 MHz 30dB @4800~5000 MHz |

Typical Electrical Characteristics:



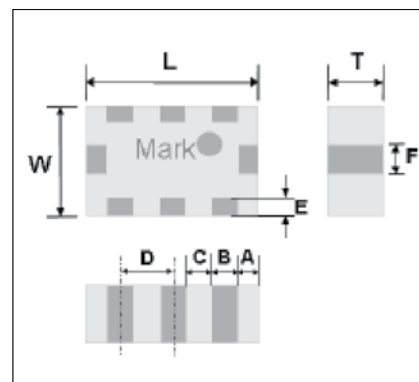
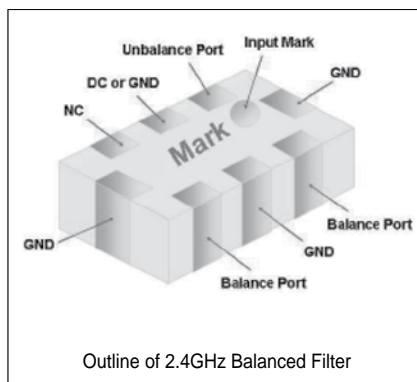
Balanced Type Band Pass Filter-RFBPB2012100A6T

How to Order

| RF | BPB | 201210 | 0 | A | 6 | T |
|---------------------|--|--|---|-----------------------------------|------------------------------|-------------------------|
| Walsin RF Device | Product code BPB : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201210 = Length =20 Width =12 Thickness =10 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHZ ISM Band | Specification Design Code | Packing T= 7" Reeled |

Dimensions

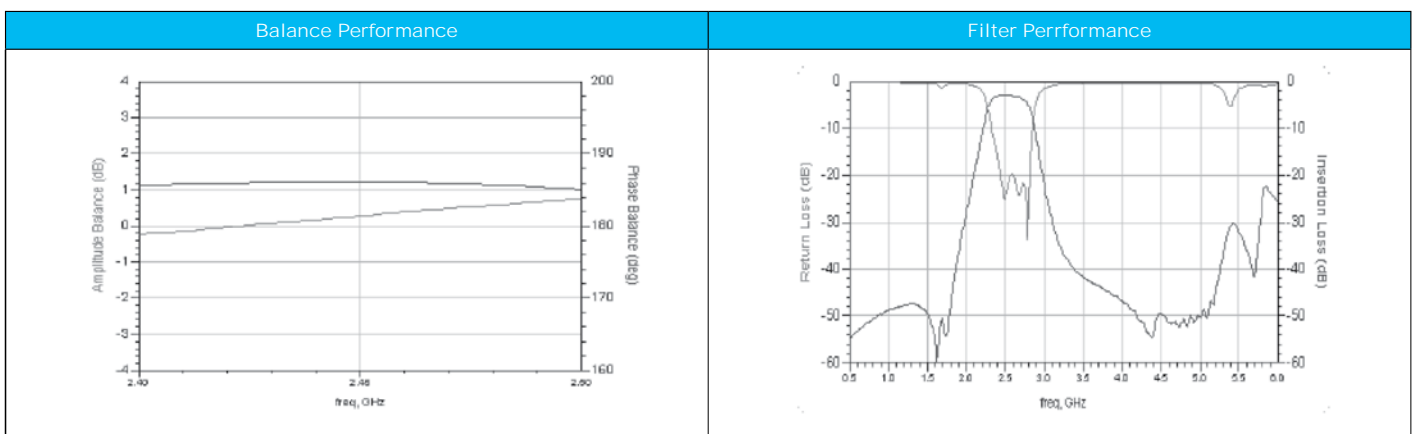
| Symbol | Dimension (mm) |
|--------|----------------|
| L | 2.00 ± 0.15 |
| W | 1.25 ± 0.10 |
| T | 1.00 ± 0.10 |
| A | 0.20 ± 0.15 |
| B | 0.30 ± 0.10 |
| C | 0.35 ± 0.10 |
| D | 0.65 ± 0.10 |
| E | 0.20 ± 0.10 |
| F | 0.50 ± 0.10 |



RFBPB2012100A6T Series

| Item | Specification |
|------------------------|---|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate match to BC series of Bluetooth chipset |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2 dB max |
| Attenuation (dB min.) | 35 dB @ 880~ 960 MHz 30 dB @ 1710~1880 MHz 20 dB @ 1880~1990 MHz 40 dB @ 4800~5000 MHz |

Typical Electrical Characteristics:



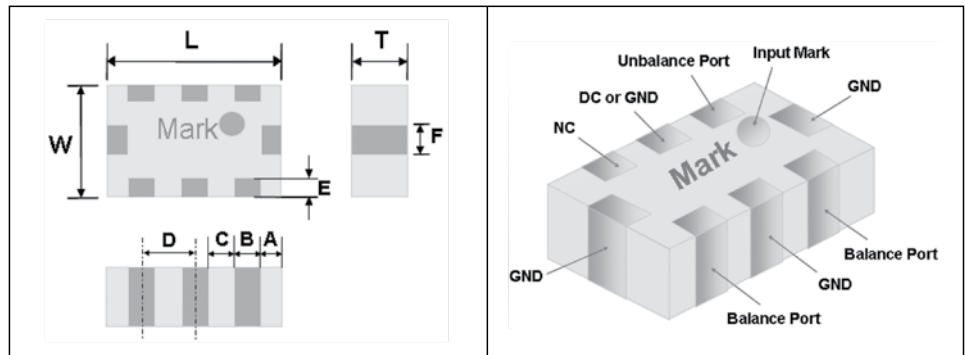
2.4 GHz High Frequency Devices-Balanced Filter - RFBPB2012090A T

How to Order

| RF | BPB | 201209 | 0 | A | T | |
|---------------------|--|---|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BPB : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201209 = Length =20 Width =12 Thickness =9 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

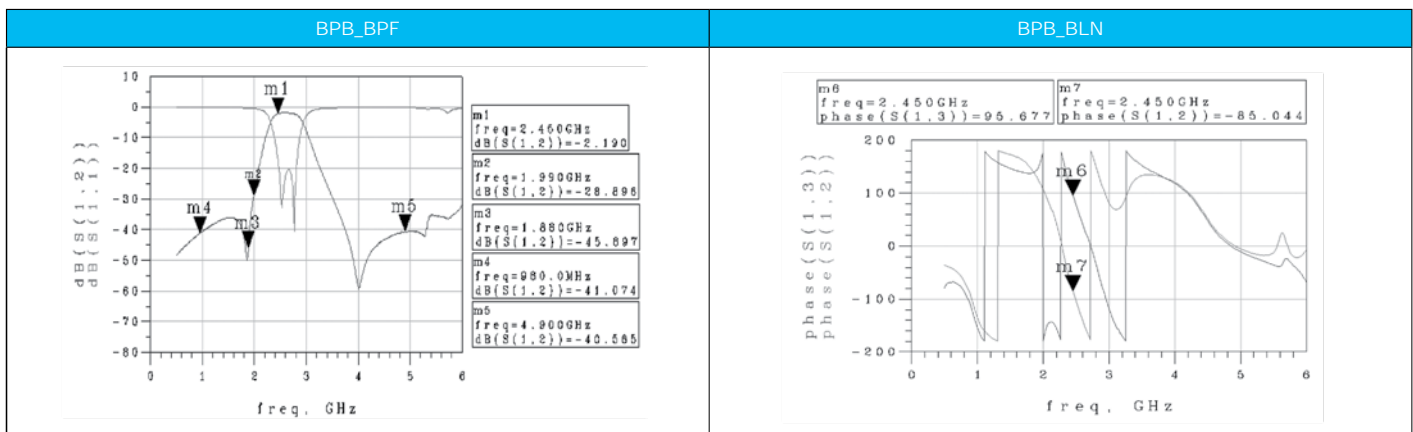
| Symbol | Dimension (mm) |
|--------|----------------|
| L | 2.00 ± 0.15 |
| W | 1.25 ± 0.10 |
| T | 0.90 ± 0.10 |
| a | 0.30 ± 0.10 |
| b | 0.20 ± 0.15 |
| c | 0.20 ± 0.15 |
| d | 0.35 ± 0.10 |
| e | 0.65 ± 0.10 |



RFBPB2012090A T Series

| Item | RFBPB2012090A1T (Mark:41) | RFBPB2012090A9T (Mark:93) |
|------------------------|--|--|
| Frequency range (MHz) | 2450 ± 50 | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 dB max | 2.8 dB max |
| VSWR | 2.1 max | 2.1 max |
| Impedance (Unbalanced) | 50 Ω | 50 Ω |
| Impedance (Balanced) | Conjugate match to BC series of Bluetooth chipset | Conjugate match to BC series of Bluetooth chipset |
| Phase Difference | 180° ± 10° | 180° ± 10° |
| Amplitude Difference | 2.0 dB max | 2.0 dB max |
| Attenuation (dB min.) | 35dB @ 880~960 MHz 30dB @ 1710~1880 MHz 20dB @ 1880~1990 MHz 30dB @ 4800~5000 MHz | 35dB @ 880~960 MHz 25dB @ 1710~1880 MHz 30dB @ 4800~5000 MHz |

Typical Electrical Characteristics:



Balanced Type Band Pass Filter-RFBPB2012090AFT

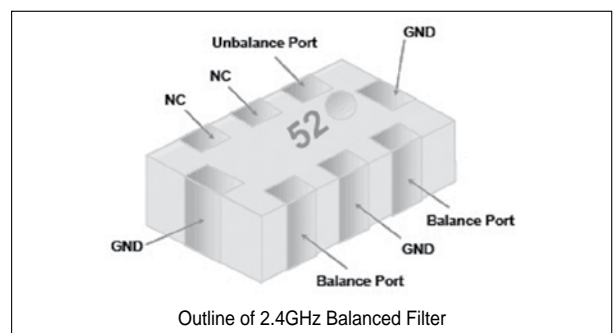
How to Order

| RF | BPB | 201209 | 0 | A | F | T |
|---------------------|--|---|---|-----------------------------------|------------------------------|--------------------------|
| Walsin RF Device | Product code BPF : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201210 = Length =20 Width =12 Thickness 09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T : 7" Reeled |

Dimensions

| Symbol | Dimension |
|--------|-------------|
| L | 2.00 ± 0.15 |
| W | 1.25 ± 0.10 |
| T | 0.10 ± 0.10 |
| A | 0.50 ± 0.10 |
| B | 0.20 ± 0.15 |
| C | 0.20 ± 0.15 |
| D | 0.35 ± 0.10 |
| E | 0.65 ± 0.10 |

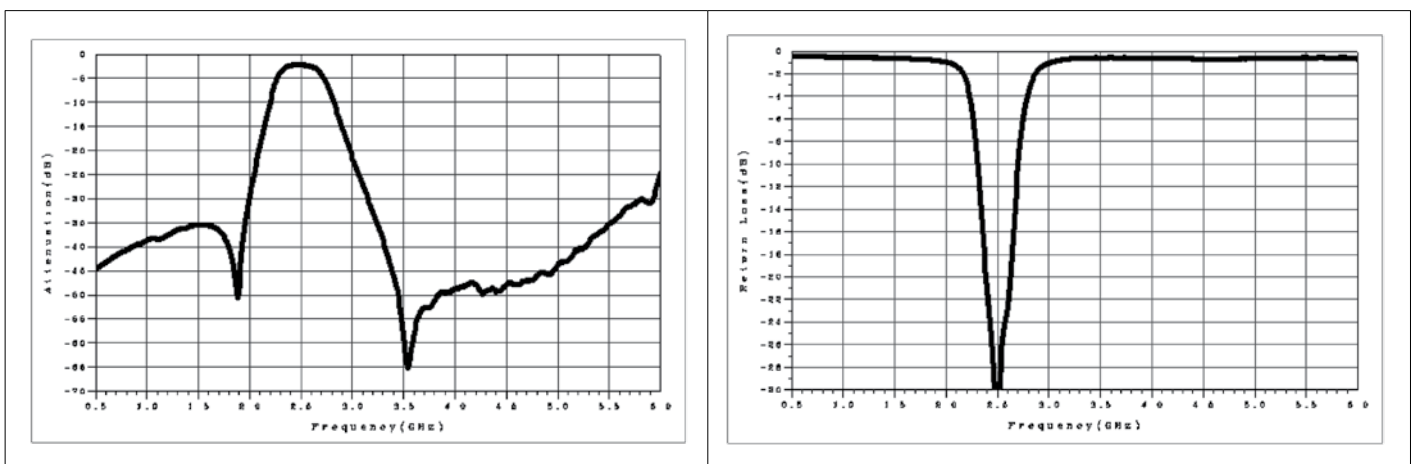
Pin Assignment



RFBPB2012090AFT Series

| Item | Specification |
|------------------------|---|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | 50 Ω |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2 dB max |
| Attenuation (dB min.) | 35dB @ 880~ 960 MHz 30dB @ 1710~1880 MHz 20dB @ 1880~1990 MHz 30dB @ 4800~5000 MHz |

Typical Electrical Characteristics:



Balanced Type Band Pass Filter-RFBPB2012090AHT

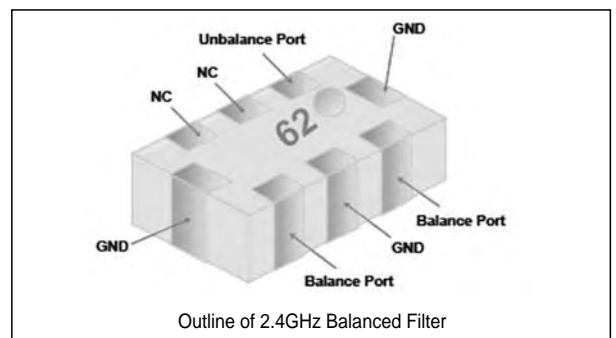
How to Order

| RF | BPB | 201209 | 0 | A | H | T |
|---------------------|--|---|---|-----------------------------------|------------------------------|--------------------------|
| Walsin RF Device | Product code BPF : Balanced Type Band Pass Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201210 = Length =20 Width =12 Thickness 09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T : 7" Reeled |

Dimensions

| Symbol | Dimension |
|--------|-------------|
| L | 2.00 ± 0.15 |
| W | 1.25 ± 0.10 |
| T | 0.10 ± 0.10 |
| A | 0.50 ± 0.10 |
| B | 0.20 ± 0.15 |
| C | 0.20 ± 0.15 |
| D | 0.35 ± 0.10 |
| E | 0.65 ± 0.10 |

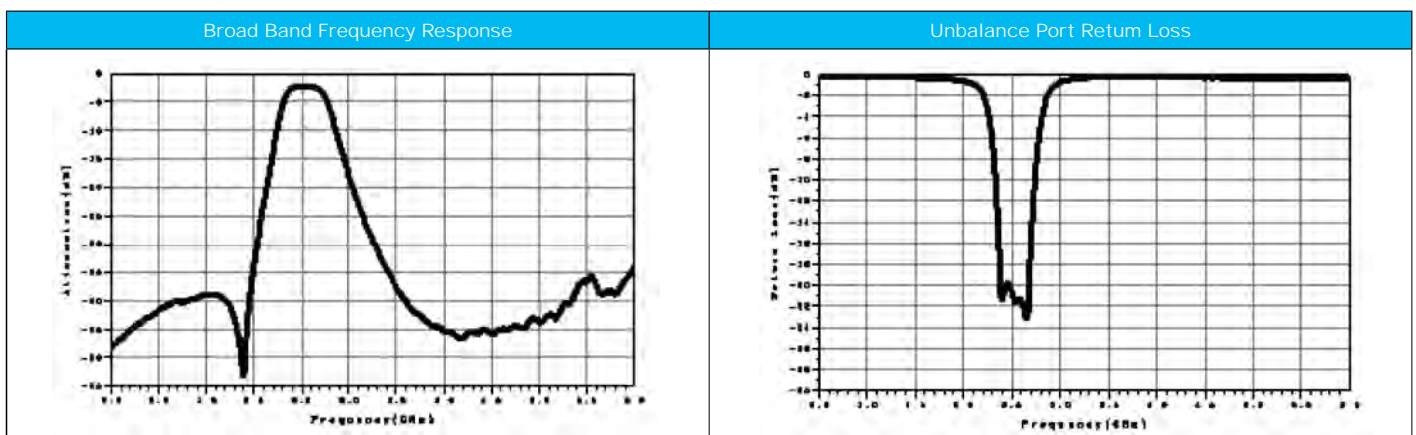
Pin Assignment



RFBPB2012090AHT Series

| Item | Specification |
|------------------------|---|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | 100 Ω |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2 dB max |
| Attenuation (dB min.) | 35dB @ 880~ 960 MHz 30dB @ 1710~1880 MHz 20dB @ 1880~1990 MHz 30dB @ 4800~5000 MHz |

Typical Electrical Characteristics:



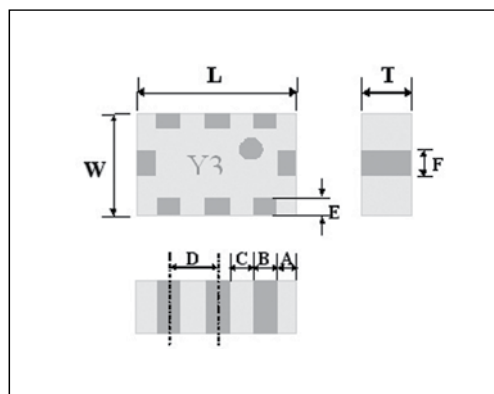
Balanced Type Band Pass Filter-RFBPB2012060A1T

How to Order

| RF | BPB | 201206 | 0 | A | 1 | T |
|----------------------------|---|---|--|--|-------------------------------------|-------------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPB : Balanced Type Band Pass Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201206 = Length =20 Width =12 Thickness =06 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T=7" Reeled |

Dimensions

| Symbol | Dimension |
|--------|-------------|
| L | 2.00 ± 0.15 |
| W | 1.25 ± 0.10 |
| T | 0.60 ± 0.10 |
| A | 0.20 ± 0.15 |
| B | 0.30 ± 0.10 |
| C | 0.35 ± 0.10 |
| D | 0.65 ± 0.10 |
| E | 0.20 ± 0.10 |
| F | 0.50 ± 0.10 |



Pin Arrangement

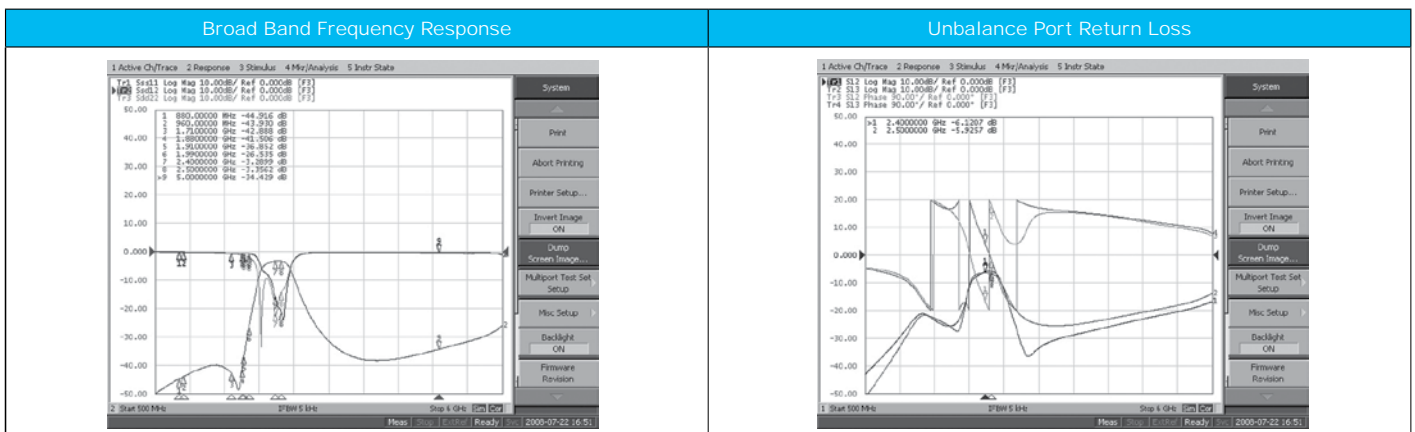
| PIN | Connection |
|-----|----------------|
| P1 | Unbalance Port |
| P2 | DC or GND |
| P3 | NC |
| P4 | GND |
| P5 | Balance Port |
| P6 | GND |
| P7 | Balance Port |
| P8 | GND |

Outline of 2.4GHz Balanced Filter

RFBPB2012060A1T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 3.5 max |
| VSWR | 2.0 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate match to BC series of CSR |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2 dB max |
| Attenuation (dB min.) | 35 dB @880-960 MHz 30 dB @1710-1880 MHz 25 dB @1880-1900 MHz 20 dB @1900-1990 MHz 30 dB @4800-5000 MHz |

Type Electrical Characteristics:



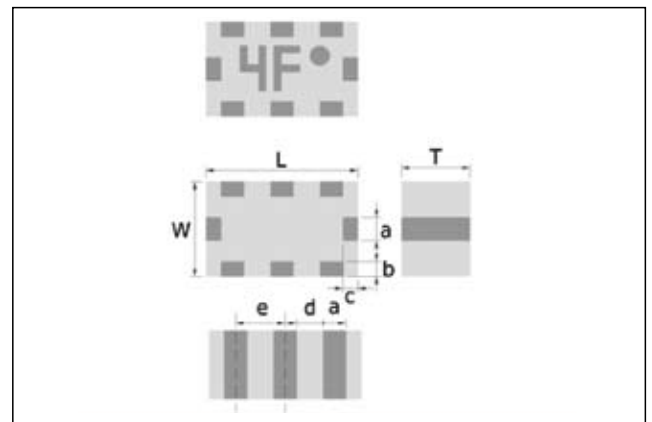
Balanced Type Band Pass Filter-RFBPB2012090A4T

How to Order

| RF | BPB | 201209 | 0 | A | 4 | T |
|---------------------|--|---|---|-----------------------------------|------------------------------|--------------------------|
| Walsin RF Device | Product code BPB : Balanced Filter | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 201210 = Length =20 Width =12 Thickness 09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T : 7" Reeled |

Dimensions

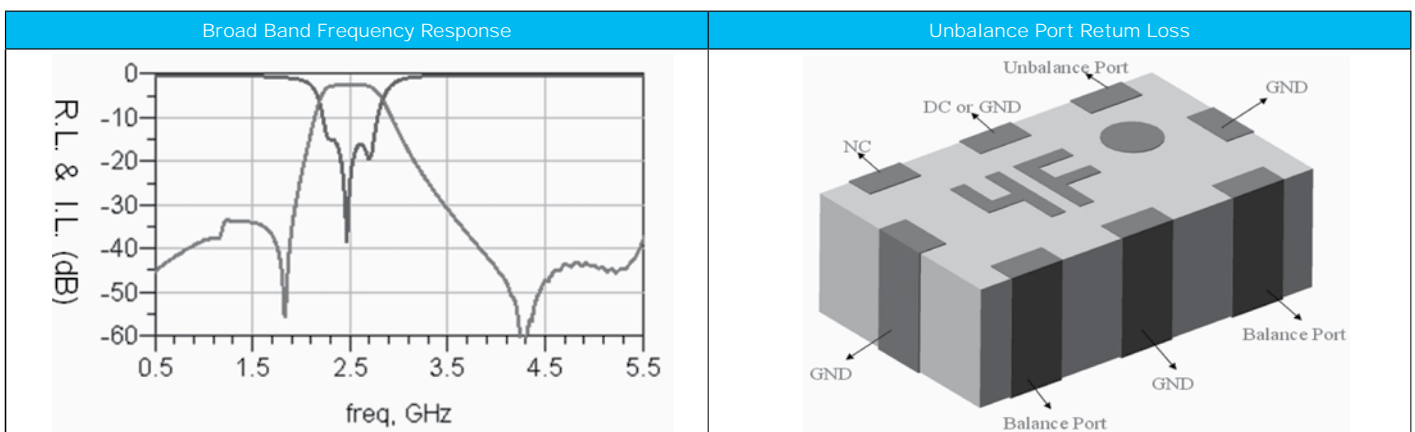
| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.10 mm |
| T | 0.90 ± 0.10 mm |
| a | 0.30 ± 0.10 mm |
| b | 0.20 ± 0.15 mm |
| c | 0.20 ± 0.15 mm |
| d | 0.35 ± 0.10 mm |
| e | 0.65 ± 0.10 mm |



RFBPB2012090A4T Series

| Item | Specification |
|------------------------|---|
| Frequency range (MHz) | 2450 ± 50MHz |
| Insertion Loss (dB) | 3.5dB (max.) |
| VSWR | 2.0 (max.) |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate with BC series |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2.0 dB Max |
| Attenuation (dB min.) | 35dB @ 880~ 960 MHz 30dB @ 1710~1880 MHz 20dB @ 1880~1990 MHz 30dB @ 4800~5000 MHz |

Typical Electrical Characteristics:



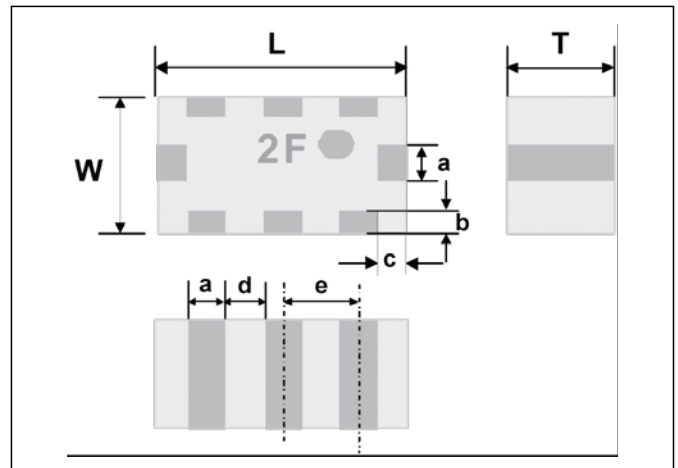
Balanced Type Band Pass Filter - RFBPB2012090AM1T61

How to Order

| RF | BPB | 201209 | 0 | A | M1T61 |
|----------------------------|--|--|--|--|-------------------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BPB : Balanced Filter | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201209 = Length =20 Width =12 Thickness 09 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code |

Dimensions

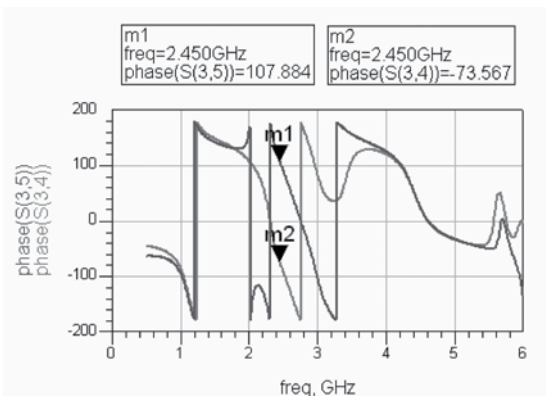
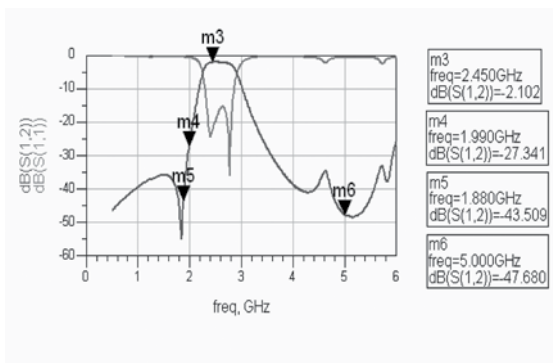
| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.10 mm |
| T | 0.90 ± 0.10 mm |
| a | 0.30 ± 0.10 mm |
| b | 0.20 ± 0.15 mm |
| c | 0.20 ± 0.15 mm |
| d | 0.35 ± 0.10 mm |
| e | 0.65 ± 0.10 mm |



RFBPB2012090AM1T61 Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss | 2.8dB(max.) |
| VSWR | 2.1(max.) |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Balanced) | Conjugate match to MTK MT6611 Bluetooth chipset |
| Phase Difference | 180° ± 10° |
| Amplitude Difference | 2.0 dB max |
| Attenuation (dB min.) | 35 @ 880~960 MHz 30 @ 1710~1880 MHz 20 @ 1880~1990 MHz 30 @ 4800~5000 MHz |

Typical Electrical Characteristics:



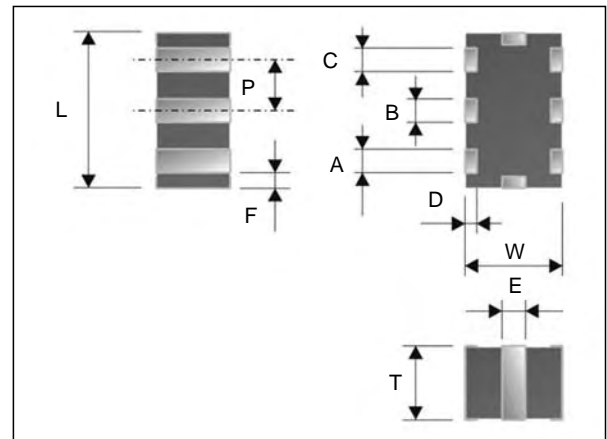
2.4 GHz High Frequency Devices-Low Pass Filter-RFLPF2012110A0T

How to Order

| RF | LPF | 201211 | 0 | A | 0 | T |
|---------------------|---------------------------------------|---|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code LPF : Low Pass Filter | Dimension code 201211 = Length = 20 Width = 12 Thickness = 11 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

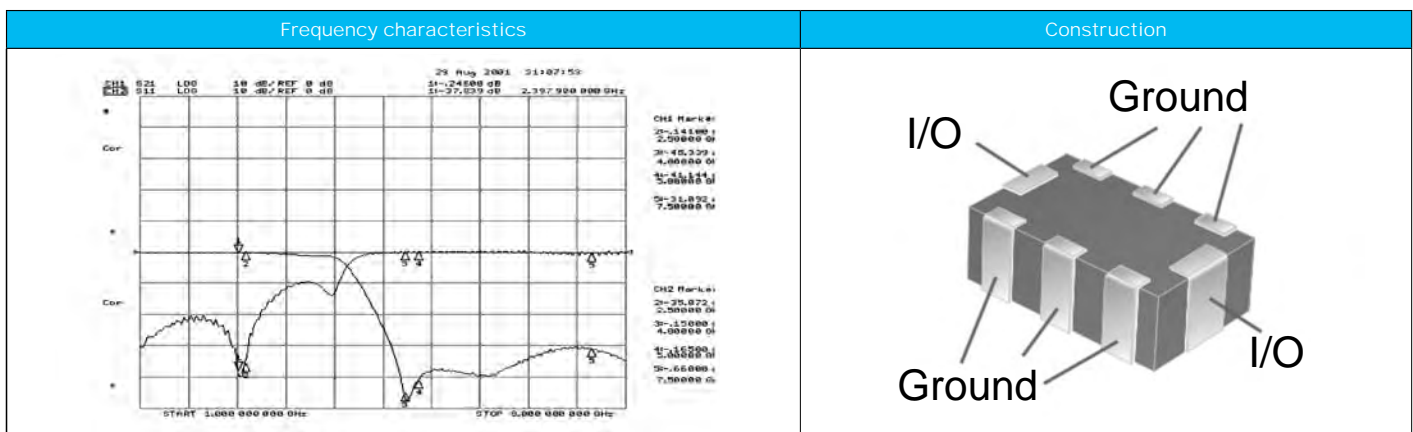
| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.10 mm |
| T | 1.05 ± 0.10 mm |
| A | 0.30 ± 0.10 mm |
| B | 0.30 ± 0.10 mm |
| C | 0.30 ± 0.10 mm |
| D | 0.40 ± 0.20 mm |
| E | 0.30 ± 0.10 mm |
| F | 0.20 ± 0.10 mm |
| P | 0.65 ± 0.10 mm |



RFLPF2012110A0T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2450 ± 50 |
| Insertion Loss (dB) | 0.7 (max) |
| VSWR | 1.5 |
| Attenuation (dB min.) | 30 @ 2 x (f ₀ ± BW/2) 25 @ 3 x (f ₀ ± BW/2) |

Typical Electrical Characteristics:



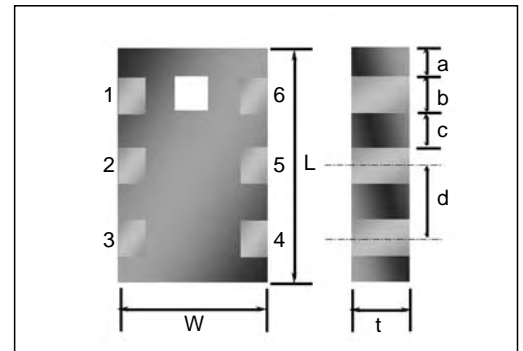
2.4 GHz High Frequency Devices-Balun-RFBLN2012090A T

How to Order

| RF | BLN | 201209 | 0 | A | | T |
|---------------------|-----------------------------|---|---|-----------------------------------|------------------------------|----------------------|
| Walsin RF Device | Product code BLN : BALUN | Dimension code 201209 = Length = 20 Width = 12 Thickness = 09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application A: 2.4GHz ISM Band | Specification Design Code | Packing T= Reeled |

Dimensions

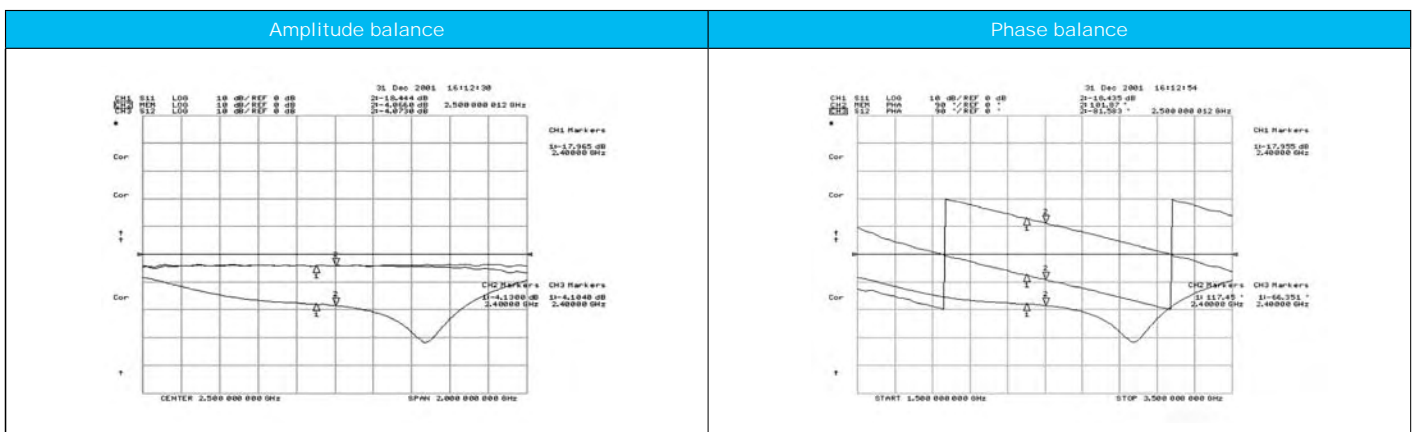
| Symbol | Dimension | Terminals | Connection |
|--------|----------------|-----------|-------------------|
| L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| t | 0.95 ± 0.10 mm | 3 | Balanced port |
| a | 0.20 ± 0.20 mm | 4 | Balanced port |
| b | 0.30 ± 0.20 mm | 5 | Ground |
| c | 0.35 ± 0.20 mm | 6 | Non Connection |
| d | 0.65 ± 0.20 mm | - | - |



RFBLN2012090A T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|------------------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RFBLN2012090A0T | 2450 ± 50 | 50 | 50 | 10 | 2.0 | 180 ± 10 | 1.2 |
| RFBLN2012090A1T | 2450 ± 50 | 50 | 100 | 10 | 2.0 | 180 ± 10 | 1.0 |
| RFBLN2012090A2T | 2450 ± 50 | 50 | 200 | 10 | 2.0 | 180 ± 10 | 1.0 |

Typical Electrical Characteristics (RFBLN2012090A1T):



2.4 GHz High Frequency Devices-Balun-RGBLN2012090A0T

How to Order

| RG | BLN | 201209 | 0 | A | 0 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =09 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | Packing T= Reeled |

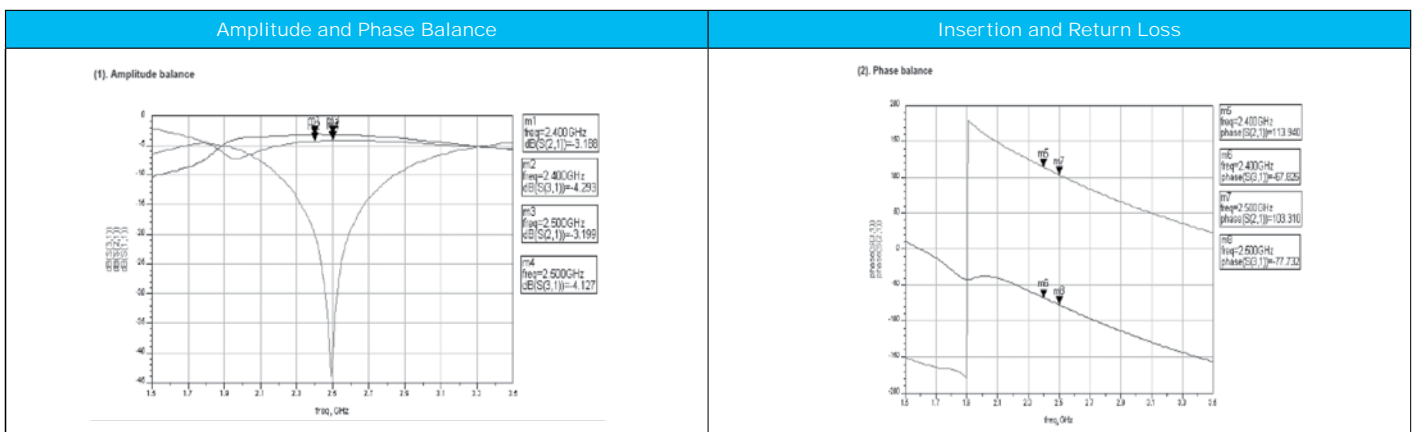
Dimensions

| Figure | Symbol | Dimension | Terminals | Connection |
|--------|--------|----------------|-----------|-------------------|
| | L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| | W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| | T | 0.95 ± 0.10 mm | 3 | Balanced port |
| | A | 0.20 ± 0.20 mm | 4 | Balanced port |
| | B | 0.30 ± 0.20 mm | 5 | Ground |
| | C | 0.35 ± 0.20 mm | 6 | Non Connection |
| | D | 0.65 ± 0.20 mm | - | - |

RGBLN2012090A0T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|---------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN2012090A0T | 2450 ± 50 | 50 | 50 | 10 | 2.0 | 180 ± 10 | 1.2 |

Typical Electrical Characteristics:



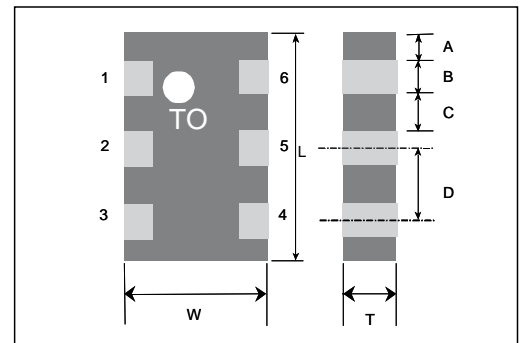
2.4 GHz High Frequency Devices-Balun-RGBLN2012080A4T

How to Order

| RG | BLN | 201208 | 0 | A | 4 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

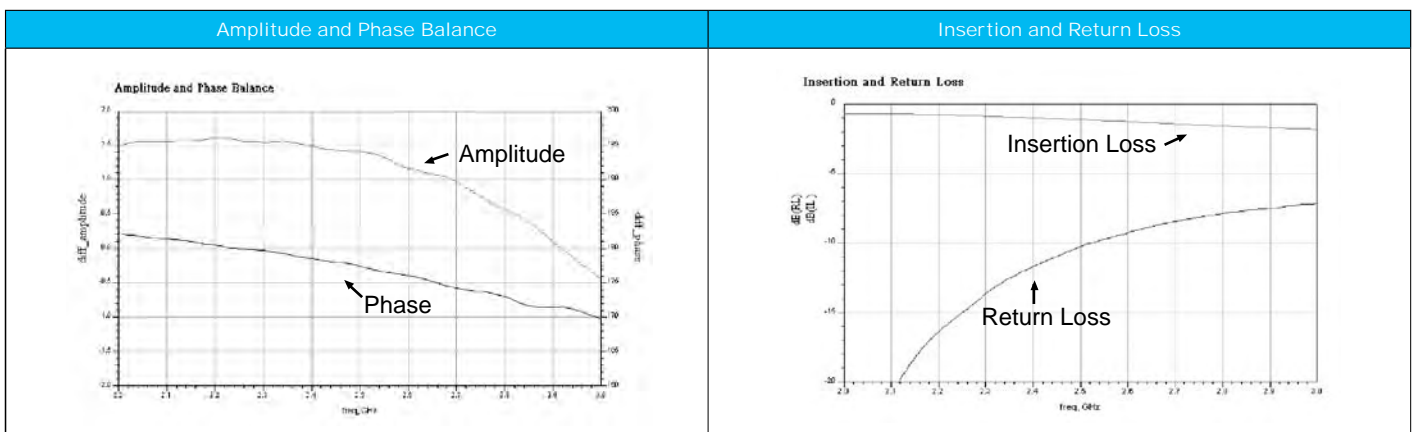
| Symbol | Dimension | Terminals | Connection |
|--------|----------------|-----------|-------------------|
| L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| T | 0.80 ± 0.10 mm | 3 | Balanced port |
| A | 0.20 ± 0.20 mm | 4 | Balanced port |
| B | 0.30 ± 0.20 mm | 5 | Ground |
| C | 0.35 ± 0.20 mm | 6 | Non Connection |
| D | 0.65 ± 0.20 mm | - | - |



RGBLN2012080A4T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|------------------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN2012080A4T | 2450 ± 50 | 50 | 50 | 10 | 2.0 | 180 ± 10 | 1.5 |

Typical Electrical Characteristics:



2.4 GHz High Frequency Devices-Balun-RGBLN2012080A5T

How to Order

| RG | BLN | 201208 | 0 | A | 5 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

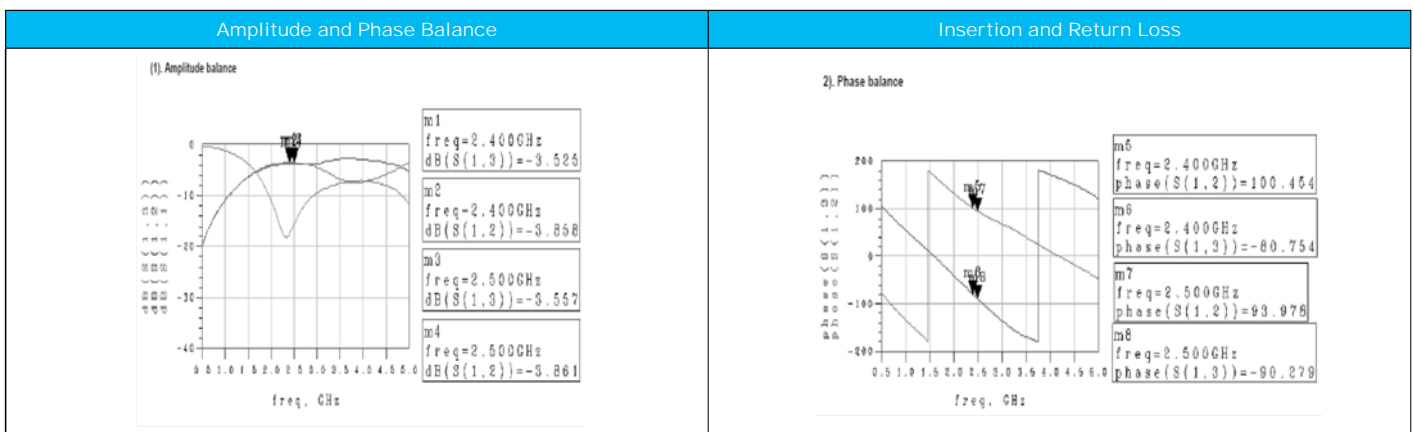
Dimensions

| Figure | Symbol | Dimension | Terminals | Connection |
|--------|--------|----------------|-----------|-------------------|
| | L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| | W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| | T | 0.80 ± 0.10 mm | 3 | Balanced port |
| | A | 0.20 ± 0.20 mm | 4 | Balanced port |
| | B | 0.30 ± 0.20 mm | 5 | Ground |
| | C | 0.35 ± 0.20 mm | 6 | Non Connection |
| | D | 0.65 ± 0.20 mm | - | - |

RGBLN2012080A5T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|------------------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN2012080A5T | 2450 ± 50 | 50 | 50 | 12 | 1.0 | 180 ± 10 | 1.0 |

Typical Electrical Characteristics:



2.4 GHz High Frequency Devices-Balun-RGBLN2012080A6T

How to Order

| RG | BLN | 201208 | 0 | A | 6 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 201208 = Length =20 Width =12 Thickness =08 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

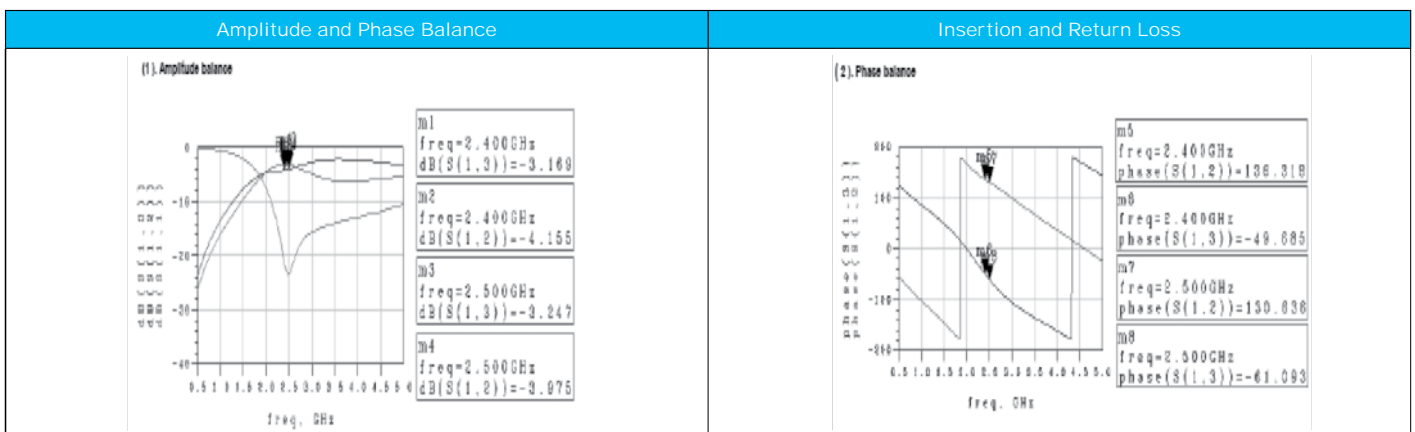
Dimensions

| Figure | Symbol | Dimension | Terminals | Connection |
|--------|--------|----------------|-----------|-------------------|
| | L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| | W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| | T | 0.80 ± 0.10 mm | 3 | Balanced port |
| | A | 0.20 ± 0.20 mm | 4 | Balanced port |
| | B | 0.30 ± 0.20 mm | 5 | Ground |
| | C | 0.35 ± 0.20 mm | 6 | Non Connection |
| | D | 0.65 ± 0.20 mm | - | - |

RGBLN2012080A6T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|------------------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN2012080A6T | 2450 ± 50 | 50 | 100 | 20 | 2.0 | 180 ± 10 | 1.0 |

Typical Electrical Characteristics:



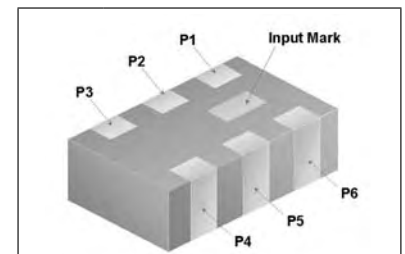
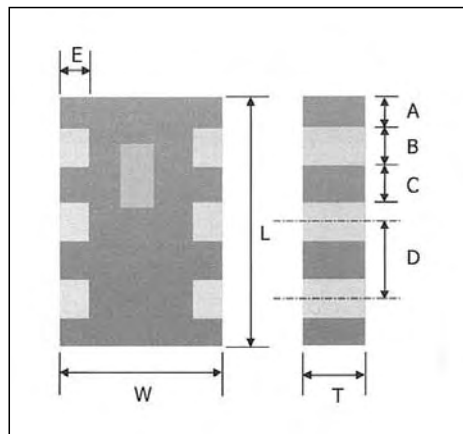
2.4 GHz High Frequency Devices-Balun-RGBLN1608070A1T

How to Order

| RG | BLN | 160807 | 0 | A | 1 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 160807 = Length =16 Width =08 Thickness =07 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.10 mm |
| W | 0.85 ± 0.10 mm |
| T | 0.7 ± 0.10 mm |
| E | 0.15 ± 0.10 mm |
| A | 0.20 ± 0.10 mm |
| B | 0.20 ± 0.10 mm |
| C | 0.30 ± 0.10 mm |
| D | 0.50 ± 0.05 mm |

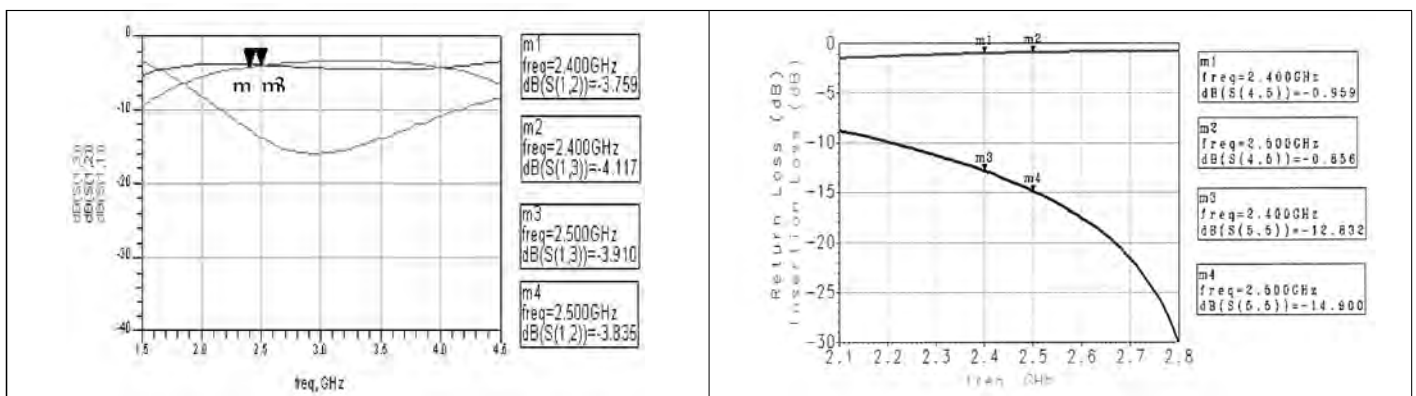


| PIN | Connection |
|-----|-----------------|
| P1 | Unbalanced Port |
| P2 | Non Connection |
| P3 | Ground |
| P4 | Balanced port |
| P5 | Non Connection |
| P6 | Balanced port |

RGBLN1608070A1T Series

| Part Nr. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|---------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN1608070A1T | 2450 ± 50 | 50 | 100 | 10 | 2.0 | 180 ± 15 | 1.5 |

Typical Electrical Characteristics:



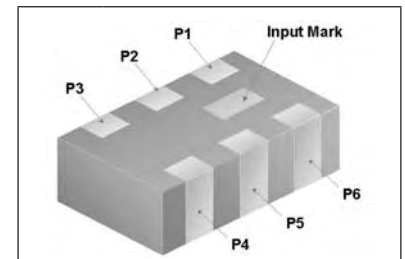
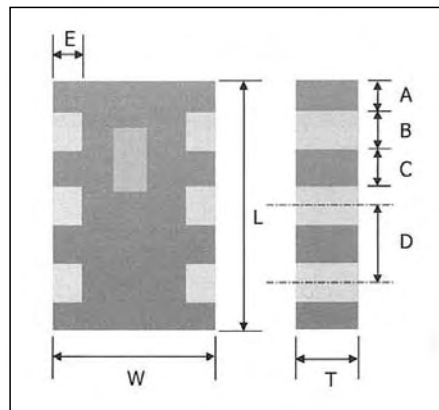
2.4 GHz High Frequency Devices-Balun-RGBLN1608070A5T

How to Order

| RG | BLN | 160807 | 0 | A | 5 | T |
|----------------------------|------------------------------------|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> BLN : BALUN | <u>Dimension code</u> Per 2 digits of Length, Width, Thickness : e.g. : 160807 = Length =16 Width =08 Thickness =07 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> A: 2.4GHz ISM Band | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.10 mm |
| W | 0.85 ± 0.10 mm |
| T | 0.70 ± 0.10 mm |
| E | 0.15 ± 0.10 mm |
| A | 0.15 ± 0.10 mm |
| B | 0.25 ± 0.10 mm |
| C | 0.25 ± 0.10 mm |
| D | 0.50 ± 0.05 mm |

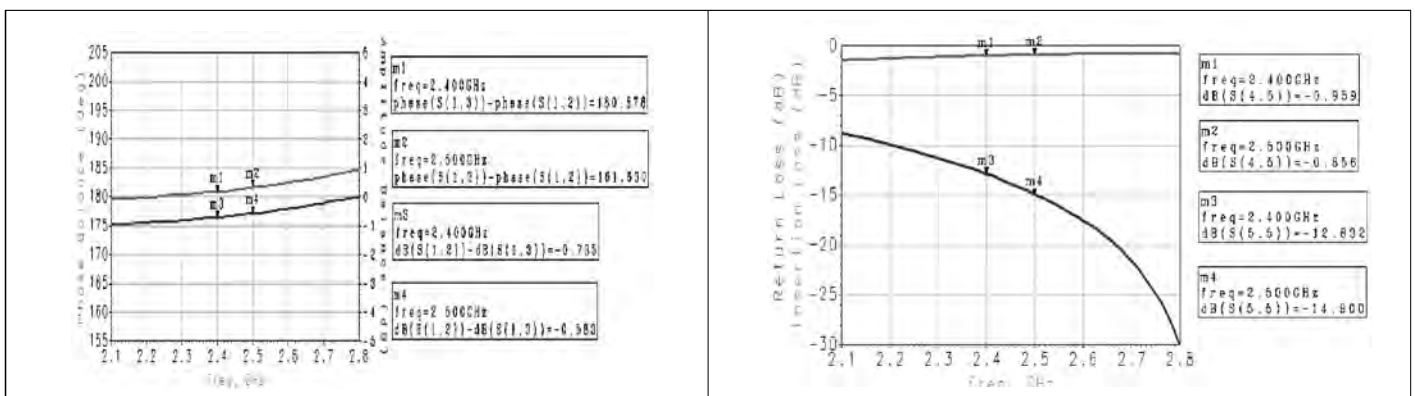


| PIN | Connection |
|-----|-----------------|
| P1 | Unbalanced Port |
| P2 | DC or GND |
| P3 | Balanced port |
| P4 | Balanced port |
| P5 | GND |
| P6 | NC |

RGBLN1608070A5T Series

| Part Nr. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|---------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RGBLN1608070A5T | 2450 ± 50 | 50 | 100 | 10 | 2.0 | 180 ± 10 | 1.2 |

Typical Electrical Characteristics:



2.4/4.9/5.2/5.8 GHz WLAN IEEE802.11 a/b/g Combo-Chip Antenna-RFANT6050110L T

How to Order

| RF | ANT | 605011 | 0 | L | | T |
|---------------------|------------------------------|--|---|--|------------------------------|----------------------|
| Walsin RF device | Product code ANT: Antenna | Dimension code Per 2 digits of Length, Width, Thickness : e.g. : 605011 = Length =60 Width =50 Thickness =11 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application L: 2.4/4.9/5.8 GHz Multiband Application | Specification Design Code | Packing T= Reeled |

Dimensions

| RFANT6050110L0T | | | RFANT6050110L1T | | |
|-----------------|---------------|-----------------|-----------------|--------------|--------------------|
| | | | | | |
| Symbol | Dimension | Port Definition | Symbol | Dimension | Port Definition |
| L | 5.9 ± 0.3 mm | --- | c | 1.0 ± 0.2 mm | --- |
| W | 5.1 ± 0.3 mm | --- | d | 2.0 ± 0.2 mm | --- |
| T | 1.1 ± 0.1 mm | --- | 1 | 1.0 ± 0.2 mm | 50 Ω RF Feeding |
| a | 0.45 ± 0.2 mm | --- | 2 | 1.0 ± 0.2 mm | Ground Termination |
| b | 1.0 ± 0.2 mm | --- | 3 | 1.0 ± 0.2 mm | Solder Termination |

RFANT6050110L T Series

| Item | Specification | | |
|---------------------|------------------|----------|----------|
| Central Frequency | 2.45 GHz | 5.25 GHz | 5.85 GHz |
| Gain (Typical) | 1.5 dBi | 4 dBi | 4 dBi |
| Bandwidth (Typical) | 100 MHz | 200 MHz | 100 MHz |
| VSWR | 2 Max. | | |
| Polarization | Linear | | |
| Azimuth Bandwidth | Omni-directional | | |
| Impedance | 50 Ω | | |

Typical Electrical Characteristics:

| RFANT6050110L0T (Right side) | | 2.45GHz | 5.80GHz |
|------------------------------|---------|---|---|
| | E-Plane | | |
| | | Peak Gain = +4.74 dBi Average Gain = -1.46 dBi | Peak Gain = +4.99 dBi Average Gain = -1.31 dBi |
| Return Loss (S11) | | | |
| | H-Plane | | |
| | | Peak Gain = +0.48 dBi Average Gain = -4.59 dBi | Peak Gain = +3.02 dBi Average Gain = -0.85 dBi |
| RFANT6050110L1T (Left side) | | 2.45GHz | 5.80GHz |
| | E-Plane | | |
| | | Peak Gain = +3.82 dBi Average Gain = -1.19 dBi | Peak Gain = +4.81 dBi Average Gain = -1.42 dBi |
| Return Loss (S11) | | | |
| | H-Plane | | |
| | | Peak Gain = +0.16 dBi Average Gain = -4.33 dBi | Peak Gain = +3.13 dBi Average Gain = -0.85 dBi |

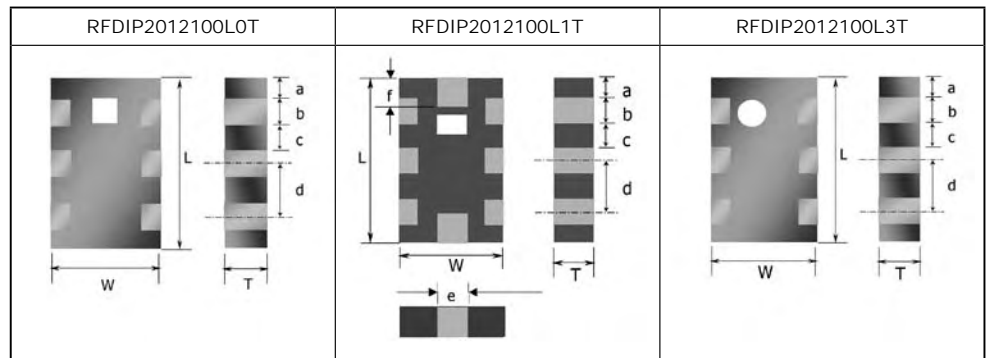
2.4/4.9/5.2/5.8 GHz High Frequency Devices-Diplexer-RFDIP2012100L T

How to Order

| RF | DIP | 201210 | 0 | L | | T |
|---------------------|--------------------------------|---|---|--|------------------------------|----------------------|
| Walsin RF Device | Product code DIP : Diplexer | Dimension code 201210 = Length = 20 Width = 12 Thickness = 10 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application L: 2.4/ 4.9/ 5.2/ 5.8GHz Multiband Application | Specification Design Code | Packing T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.95 ± 0.10 mm |
| a | 0.20 ± 0.20 mm |
| b | 0.30 ± 0.20 mm |
| c | 0.35 ± 0.20 mm |
| d | 0.65 ± 0.20 mm |
| e | 0.30 ± 0.20 mm |
| f | 0.25 ± 0.20 mm |



RFDIP2012100L T Series

| Item | RFDIP2012100L0T | | RFDIP2012100L1T | | RFDIP2012100L3T | |
|-------------------|--|-------------------|--|-------------------|--|-------------------|
| | Band 1 | Band 2 | Band 1 | Band 2 | Band 1 | Band 2 |
| Central Frequency | 2450 ± 50 MHz | 5400 ± 500 MHz | 2450 ± 50 MHz | 5400 ± 500 MHz | 2450 ± 50 MHz | 5400 ± 500 MHz |
| Impedance | 50 Ω | 50 Ω | 50 Ω | 50 Ω | 50 Ω | 50 Ω |
| insertion Loss | 0.7 dB | 0.9 dB | 0.7 dB | 0.9 dB | 0.7 dB | 0.9 dB |
| Return Loss | Min.10 dB | | Min.10 dB | | Min.10 dB | |
| Attenuation | -20 dB @ 4.9 GHz -25 dB @ 5.2 GHz -25 dB @ 5.8 GHz | -25 dB @ 2.45 GHz | -20 dB @ 4.9 GHz -20 dB @ 5.2 GHz -20 dB @ 5.8 GHz | -20 dB @ 2.45 GHz | -20 dB @ 4.9 GHz -25 dB @ 5.2 GHz -25 dB @ 5.8 GHz | -25 dB @ 2.45 GHz |
| Ripple | 0.5 dB | | 0.5 dB | | 0.5 dB | |

Typical Electrical Characteristics:

| RFDIP2012100L0T | RFDIP2012100L1T | RFDIP2012100L3T |
|---------------------------|---------------------------|---------------------------|
| | | |
| Frequency Characteristics | Frequency Characteristics | Frequency Characteristics |
| | | |

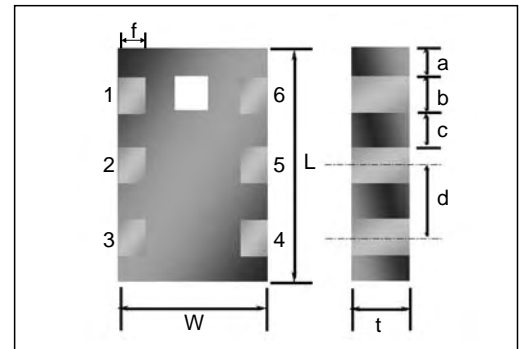
4.9/ 5.2/ 5.8 GHz High Frequency Devices-Balun-RFBLN2012090K T

How to Order

| RF | BLN | 201209 | 0 | K | | T |
|---------------------|-----------------------------|---|---|--|------------------------------|----------------------|
| Walsin RF Device | Product code BLN : BALUN | Dimension code 201209 = Length = 20 Width = 12 Thickness = 09 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application K: ISM 4.9–5.9 GHz Application | Specification Design Code | Packing T= Reeled |

Dimensions

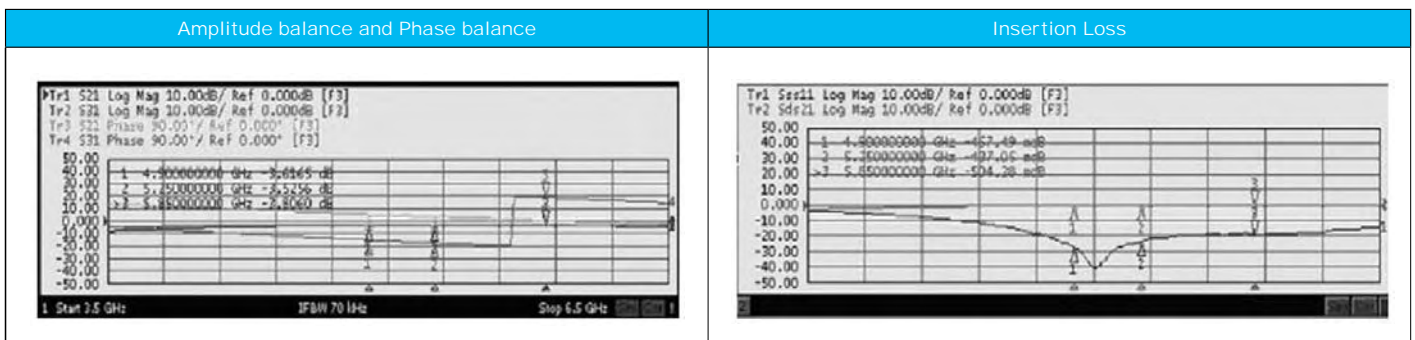
| Symbol | Dimension | Terminals | Connection |
|--------|----------------|-----------|-------------------|
| L | 2.00 ± 0.15 mm | 1 | Unbalanced port |
| W | 1.25 ± 0.15 mm | 2 | Ground or DC feed |
| t | 0.95 ± 0.10 mm | 3 | Balanced port |
| a | 0.20 ± 0.20 mm | 4 | Balanced port |
| b | 0.30 ± 0.20 mm | 5 | Ground |
| c | 0.35 ± 0.20 mm | 6 | Non Connection |
| d | 0.65 ± 0.20 mm | | |
| f | 0.30 ± 0.20 mm | | |



RFBLN2012090K T Series

| Part Number. | Frequency(MHz) | Impedance (Ω) | | Return Loss (dB) Min. | Inband Amplitude imbalance (dB) Max. | Inband Phase imbalance (degree) | Insertion Loss (dB) |
|-----------------|----------------|------------------------|----------|-----------------------|--------------------------------------|---------------------------------|---------------------|
| | | Unbalanced | Balanced | | | | |
| RFBLN2012090K0T | 5400 ± 500 | 50 | 50 | -10 | 2.0 | 180° ± 10° | -1.1 |
| RFBLN2012090K1T | 5400 ± 500 | 50 | 100 | -10 | 2.0 | 180° ± 10° | -1.2 |

Typical Electrical Characteristics (RFBLN2012090K1T):



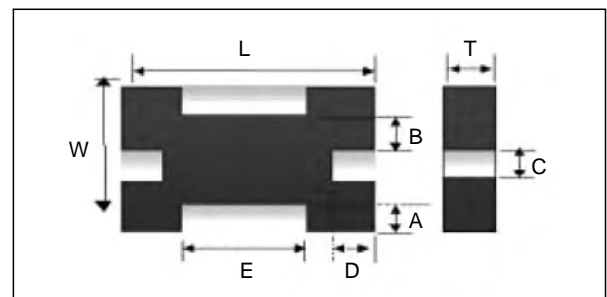
4.9/ 5.2/ 5.8 GHz High Frequency Devices-Band Pass Filter-RFBPF2012100K0T

How to Order

| RF | BPF | 201210 | 0 | K | 0 | T |
|---------------------|--|---|---|---|------------------------------|----------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code 201210 = Length = 20 Width = 12 Thickness = 10 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application K: ISM 4.9-5.9 GHz Application | Specification Design Code | Packing T= Reeled |

Dimensions

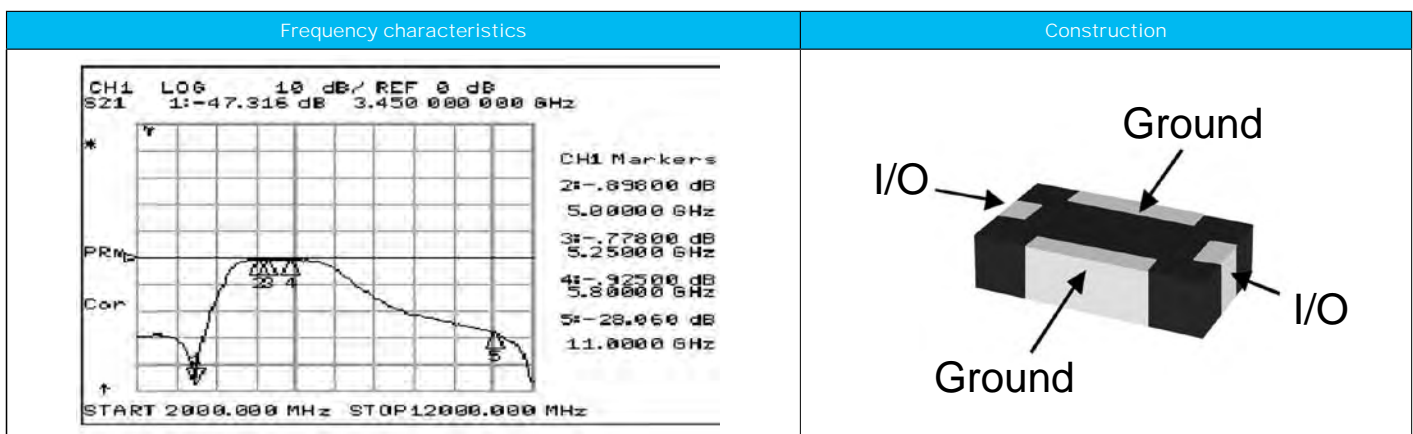
| Symbol | Dimension |
|--------|----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.95 ± 0.10 mm |
| A | 0.25 ± 0.15 mm |
| B | 0.25 ± 0.10 mm |
| C | 0.25 ± 0.10 mm |
| D | 0.25 ± 0.15 mm |
| E | 1.00 ± 0.15 mm |



RFBPF2012100K0T Series

| Item | Specification |
|---------------------|---|
| Central Frequency | 5400 ± 500 MHz |
| Insertion Loss (dB) | -1.7 dBi @ 4.90 GHz -1.5 dBi @ 5.25 GHz -1.5 dBi @ 5.85 GHz |
| VSWR | 2.0 Max. |
| Ripple | 0.6 dB |
| Attenuation (Min.) | -30 dBi @ 3450 MHz -20 dBi @ 11000 MHz |

Typical Electrical Characteristics:



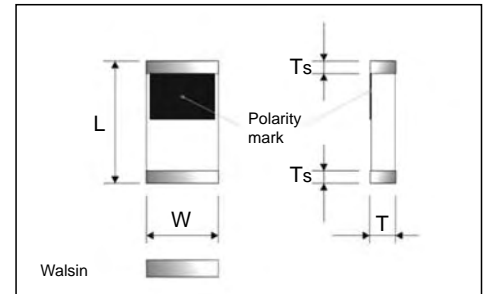
High Frequency Inductors

How to Order

| WL | 160808 | G | 4N7 | S | G | T | 03 |
|--|---|--|--|---|---|--------------------------------------|--|
| <u>Product code</u> WL: HF Inductor | <u>Dimension code</u> 160808 = L: 1.6mm W: 0.8mm T: 0.8mm 100505 = L: 1.0mm W: 0.5mm T: 0.5mm | <u>Material</u> A B C D E F G | <u>Inductance</u> For Ls<10nH 1N0=1.0nH 4N7=4.7nH 10N=10nH | <u>Tolerance</u> S: ±0.3nH J: ±5% K: ±10% C: Customized | <u>Specification</u> N=Normal A=±0.2nH G=Green | <u>Packing</u> T=Reeled B=Bulk | <u>Rated Current</u> 03=250mA or 300mA 02=150mA or 200mA |

Dimensions

| Symbol | WL1608 Series | WL1005 Series | WL0603 Series |
|--------|----------------|---------------|---------------|
| L | 1.60 ± 0.15 mm | 1.00 ± 0.10 | 0.60 ± 0.03 |
| W | 0.80 ± 0.15 mm | 0.50 ± 0.10 | 0.30 ± 0.03 |
| T | 0.80 ± 0.15 mm | 0.50 ± 0.10 | 0.30 ± 0.03 |
| Ts | 0.30 ± 0.20 mm | 0.25 ± 0.10 | 0.15 ± 0.05 |



High Frequency Inductors 1608 (0603)

| Part Number. | L(nH) | Tolerance | Q Min (100 MHz) | Typical Q @ Frequency (MHz) | | | SRF Typical (MHz) | DC Resistance Max. (Ω) | IDC (mA) |
|-------------------|-------|-----------|--------------------|-----------------------------|-----|------|----------------------|---------------------------|----------|
| | | | | 100 | 800 | 1800 | | | |
| WL160808G1N0SGT03 | 1.0 | ±0.3nH | 8 | 13 | 44 | 60 | 8100 | 0.10 | 300 |
| WL160808G1N2SGT03 | 1.2 | ±0.3nH | 8 | 13 | 44 | 60 | 8100 | 0.10 | 300 |
| WL160808G1N5SGT03 | 1.5 | ±0.3nH | 8 | 14 | 37 | 56 | 8100 | 0.10 | 300 |
| WL160808G1N8SGT03 | 1.8 | ±0.3nH | 8 | 12 | 37 | 55 | 8300 | 0.10 | 300 |
| WL160808G2N2SGT03 | 2.2 | ±0.3nH | 8 | 12 | 38 | 54 | 8000 | 0.10 | 300 |
| WL160808G2N7SGT03 | 2.7 | ±0.3nH | 8 | 13 | 38 | 53 | 7600 | 0.10 | 300 |
| WL160808G3N3SGT03 | 3.3 | ±0.3nH | 8 | 12 | 37 | 49 | 5800 | 0.12 | 300 |
| WL160808G3N9SGT03 | 3.9 | ±0.3nH | 8 | 14 | 44 | 62 | 5100 | 0.14 | 300 |
| WL160808G4N7SGT03 | 4.7 | ±0.3nH | 8 | 15 | 43 | 63 | 4600 | 0.16 | 300 |
| WL160808G5N6SGT03 | 5.6 | ±0.3nH | 8 | 15 | 45 | 59 | 4200 | 0.18 | 300 |
| WL160808G6N8JGT03 | 6.8 | ±5% | 8 | 15 | 43 | 58 | 3700 | 0.22 | 300 |
| WL160808G8N2JGT03 | 8.2 | ±5% | 8 | 15 | 44 | 52 | 3600 | 0.24 | 300 |
| WL160808G10NJGT03 | 10 | ±5% | 12 | 17 | 49 | 50 | 3500 | 0.26 | 300 |
| WL160808G12NJGT03 | 12 | ±5% | 12 | 15 | 41 | 37 | 2500 | 0.28 | 300 |
| WL160808G15NJGT03 | 15 | ±5% | 12 | 17 | 45 | 35 | 2600 | 0.32 | 300 |
| WL160808G18NJGT03 | 18 | ±5% | 12 | 16 | 45 | 39 | 2000 | 0.35 | 300 |
| WL160808G22NJGT03 | 22 | ±5% | 12 | 16 | 43 | 21 | 1800 | 0.40 | 300 |
| WL160808G27NJGT03 | 27 | ±5% | 12 | 16 | 41 | 11 | 1600 | 0.45 | 300 |
| WL160808G33NJGT03 | 33 | ±5% | 12 | 19 | 41 | 11 | 1500 | 0.55 | 300 |
| WL160808G39NJGT03 | 39 | ±5% | 12 | 19 | 42 | 17 | 1400 | 0.60 | 300 |
| WL160808G47NJGT03 | 47 | ±5% | 12 | 17 | 35 | - | 1300 | 0.70 | 300 |
| WL160808G56NJGT03 | 56 | ±5% | 12 | 19 | 31 | - | 1300 | 0.75 | 300 |
| WL160808G68NJGT03 | 68 | ±5% | 12 | 19 | 26 | - | 1150 | 0.85 | 300 |
| WL160808G82NJGT03 | 82 | ±5% | 12 | 19 | 21 | - | 1000 | 0.95 | 300 |
| WL160808GR10JGT03 | 100 | ±5% | 12 | 19 | 20 | - | 1000 | 1.00 | 300 |
| WL160808GR12JGT03 | 120 | ±5% | 12 | 19 | 16 | - | 950 | 1.20 | 300 |
| WL160808GR15JGT03 | 150 | ±5% | 12 | 19 | - | - | 800 | 1.50 | 300 |
| WL160808GR18JGT03 | 180 | ±5% | 12 | 19 | - | - | 750 | 1.90 | 300 |
| WL160808GR22JGT03 | 220 | ±5% | 12 | 18 | - | - | 680 | 2.20 | 300 |
| WL160808GR27JGT03 | 270 | ±5% | 12 | 20 | - | - | 600 | 2.50 | 300 |

High Frequency Inductors

High Frequency Inductors 1005 (0402)

| Part Number. | L(nH) | Tolerance | Q Min (100 MHz) | Typical Q @ Frequency (MHz) | | | SRF Typical (MHz) | DC Resistance Max. (Ω) | IDC (mA) |
|-------------------|-------|----------------|-----------------|-----------------------------|-----------|-----------|-------------------|------------------------|----------|
| | | | | 100 | 800 | 1800 | | | |
| WL100505G1N0SGT03 | 1.0 | ±0.3nH | 8 | 9 | 27 | 44 | 13000 | 0.12 | 300 |
| WL100505G1N2SGT03 | 1.2 | ±0.3nH | 8 | 9 | 25 | 45 | 12000 | 0.12 | 300 |
| WL100505G1N5SGT03 | 1.5 | ±0.3nH | 8 | 9 | 23 | 43 | 10000 | 0.13 | 300 |
| WL100505G1N8SGT03 | 1.8 | ±0.3nH | 8 | 9 | 24 | 43 | 9000 | 0.14 | 300 |
| WL100505G2N2SGT03 | 2.2 | ±0.3nH | 8 | 9 | 26 | 45 | 9000 | 0.16 | 300 |
| WL100505G2N7SGT03 | 2.7 | ±0.3nH | 8 | 9 | 26 | 42 | 8000 | 0.17 | 300 |
| WL100505G3N3SGT03 | 3.3 | ±0.3nH | 8 | 9 | 26 | 42 | 6500 | 0.19 | 300 |
| WL100505G3N9 GT03 | 3.9 | ±0.3nH ±10% | 8 | 9 | 26 | 40 | 6000 | 0.22 | 300 |
| WL100505G4N7 GT03 | 4.7 | ±0.3nH ±10% | 8 | 9 | 27 | 46 | 5000 | 0.23 | 300 |
| WL100505G5N6 GT03 | 5.6 | ±0.3nH ±10% | 8 | 10 | 28 | 40 | 4700 | 0.27 | 300 |
| WL100505G6N8 GT03 | 6.8 | ±5% ±10% | 8 | 10 | 28 | 36 | 4500 | 0.32 | 250 |
| WL100505G8N2 GT03 | 8.2 | ±5% ±10% | 8 | 10 | 28 | 36 | 4000 | 0.37 | 250 |
| WL100505G10N GT03 | 10 | ±5% ±10% | 8 | 10 | 27 | 33 | 3500 | 0.42 | 250 |
| WL100505G12N GT03 | 12 | ±5% ±10% | 8 | 11 | 31 | 41 | 3000 | 0.48 | 250 |
| WL100505G15N GT03 | 15 | ±5% ±10% | 8 | 10 | 27 | 33 | 2900 | 0.53 | 250 |
| WL100505G18N GT02 | 18 | ±5% ±10% | 8 | 11 | 29 | 31 | 2200 | 0.65 | 200 |
| WL100505G22N GT02 | 22 | ±5% ±10% | 8 | 10 | 26 | 15 | 2100 | 0.80 | 200 |
| WL100505G27N GT02 | 27 | ±5% ±10% | 8 | 10 | 23 | 15 | 2000 | 0.90 | 200 |
| WL100505G33N GT02 | 33 | ±5% ±10% | 8 | 10 | 22 note 1 | 24 note 2 | 1900 | 1.00 | 200 |
| WL100505G39N GT02 | 39 | ±5% ±10% | 8 | 10 | 19 note 1 | 20 note 2 | 1800 | 1.20 | 200 |
| WL100505G47N GT02 | 47 | ±5% ±10% | 8 | 12 | 22 note 1 | 20 note 2 | 1500 | 1.30 | 200 |
| WL100505G56N GT02 | 56 | ±5% ±10% | 8 | 12 | 22 note 1 | 18 note 2 | 1400 | 1.60 | 200 |
| WL100505G68N GT02 | 68 | ±5% ±10% | 8 | 11 | 18 note 1 | 10 note 2 | 1200 | 1.90 | 180 |
| WL100505G82N GT02 | 82 | ±5% ±10% | 8 | 12 | 20 note 1 | 7 note 2 | 1100 | 2.10 | 150 |
| WL100505GR10 GT01 | 100 | ±5% ±10% | 8 | 11 | 18 note 1 | - | 930 | 2.30 | 100 |

Note 1: at 500MHz

Note 2: at 1000MHz

For special inductance values, please contact with sales representatives of the HF Business Division.

High Frequency Inductors

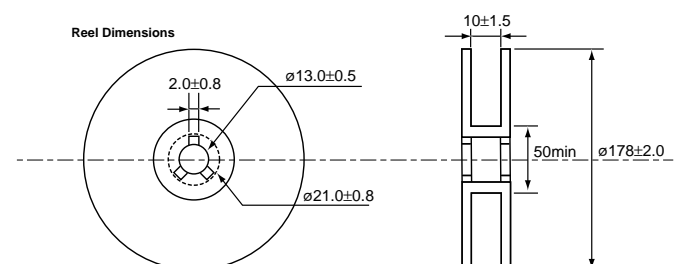
High Frequency Inductors 0603 (0201)

| Walsin Part Number. | L(nH) | Tolerance | Q Min (100 MHz) | Typical Q @ Frequency (MHz) | | | SRF Typical (MHz) | DC Resistance Max. (Ω) | IDC (mA) |
|---------------------|-------|-----------|-----------------|-----------------------------|-----|------|-------------------|------------------------|----------|
| | | | | 100 | 800 | 1800 | | | |
| WL060303G1N0SGT03 | 1.0 | ±0.3nH | 4 | 13 | 17 | 26 | 13000 | 0.12 | 300 |
| WL060303G1N2SGT03 | 1.2 | ±0.3nH | 4 | 14 | 17 | 26 | 13000 | 0.15 | 300 |
| WL060303G1N5SGT03 | 1.5 | ±0.3nH | 4 | 14 | 17 | 26 | 13000 | 0.18 | 300 |
| WL060303G1N8SGT03 | 1.8 | ±0.3nH | 4 | 15 | 17 | 28 | 10500 | 0.22 | 300 |
| WL060303G2N2SGT03 | 2.2 | ±0.3nH | 4 | 15 | 18 | 28 | 9500 | 0.26 | 300 |
| WL060303G2N7SGT03 | 2.7 | ±0.3nH | 4 | 16 | 18 | 18 | 8500 | 0.32 | 300 |
| WL060303G3N3SGT03 | 3.3 | ±0.3nH | 4 | 16 | 19 | 28 | 7500 | 0.38 | 300 |
| WL060303G3N9SGT03 | 3.9 | ±0.3nH | 4 | 16 | 20 | 26 | 6800 | 0.45 | 300 |
| WL060303G4N7SGT03 | 4.7 | ±0.3nH | 4 | 16 | 20 | 26 | 6000 | 0.50 | 300 |
| WL060303G5N6SGT03 | 5.6 | ±0.3nH | 5 | 16 | 20 | 25 | 5500 | 0.60 | 300 |
| WL060303G6N8JGT03 | 6.8 | ±5% | 5 | 16 | 20 | 25 | 4800 | 0.70 | 250 |
| WL060303G8N2JGT03 | 8.2 | ±5% | 5 | 16 | 20 | 23 | 4600 | 0.90 | 250 |
| WL060303G10NJGT03 | 10 | ±5% | 5 | 16 | 20 | 23 | 4000 | 1.20 | 250 |
| WL060303G12NJGT03 | 12 | ±5% | 5 | 16 | 19 | 22 | 3500 | 1.30 | 250 |
| WL060303G15NJGT03 | 15 | ±5% | 5 | 15 | 19 | 18 | 3000 | 1.40 | 250 |
| WL060303G18NJGT02 | 18 | ±5% | 5 | 15 | 19 | 16 | 2500 | 1.50 | 200 |
| WL060303G22NJGT02 | 22 | ±5% | 5 | 14 | 18 | 15 | 2200 | 1.80 | 200 |
| WL060303G27NJGT02 | 27 | ±5% | 5 | 13 | 18 | 9 | 1800 | 2.00 | 200 |
| WL060303G33NJGT02 | 33 | ±5% | 5 | 13 | 17 | 7 | 1500 | 2.30 | 200 |

Package

1. Reel material; Polystyrene
2. Ordering code No., Quantity, Batch No. and Walsin
3. Parts per reel:

| Size | Quantity / reel |
|----------------|-----------------|
| WL 1608 Series | 4K pcs |
| WL 1005 Series | 10K pcs |
| WL 0603 Series | 15K pcs |



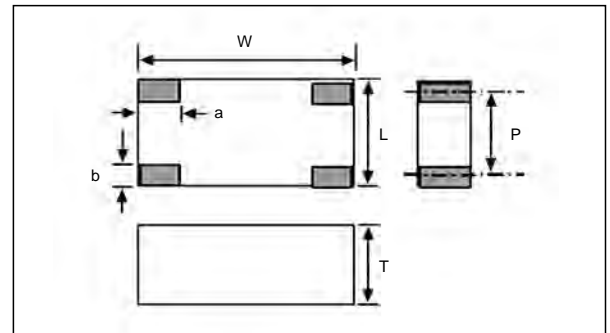
High Frequency Devices - Common Mode Filter - RFCMF1632140M T

How to Order

| RF | CMF | 163214 | 0 | M | 2 | T |
|----------------------------|--|---|--|--|-------------------------------------|----------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> CMF: Common Mode Filter | <u>Dimension code</u> 163214 = Length = 16 Width = 32 Thickness = 14 163210 = Length = 16 Width = 32 Thickness = 10 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> M: USB 2.0 / IEEE1394 | <u>Specification</u> Design Code | Packing T= Reeled |

Dimensions

| Symbol | RFCMF1632140M2T | RFCMF1632100M3T |
|--------|-----------------|-----------------|
| L | 1.60 ± 0.20 mm | 1.60 ± 0.20 mm |
| W | 3.20 ± 0.20 mm | 3.20 ± 0.20 mm |
| T | 1.40 ± 0.20 mm | 1.00 ± 0.20 mm |
| P | 1.10 ± 0.20 mm | 1.10 ± 0.20 mm |
| a | 0.60 ± 0.20 mm | 0.60 ± 0.20 mm |
| b | 0.50 ± 0.20 mm | 0.50 ± 0.20 mm |



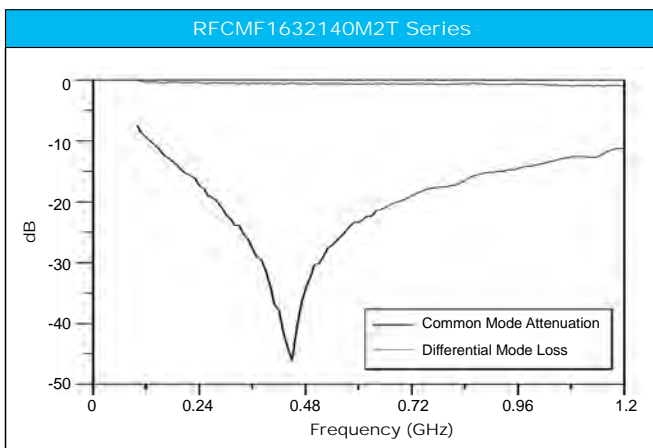
RFCMF1632140M2T Series

| Item | Specification |
|----------------------------------|---------------------------|
| Common Mode Attenuation | Min. 9 dB @ 140MHz ~ 1GHz |
| Differential Mode Insertion Loss | Max. 0.8 dB @ 240MHz |
| DC Resistance | Max. 2.5Ω |
| Rated Current | 300 mA |
| Characteristic Impedance | (Differential) 90Ω |

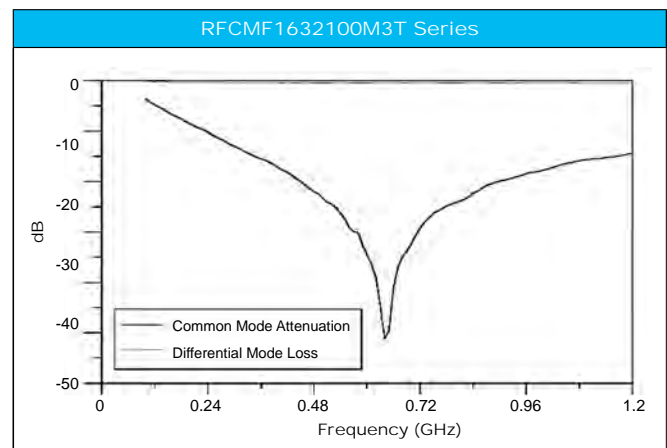
RFCMF1632100M3T Series

| Item | Specification |
|----------------------------------|---------------------------|
| Common Mode Attenuation | Min. 9 dB @ 240MHz ~ 1GHz |
| Differential Mode Insertion Loss | Max. 0.6 dB @ 240MHz |
| DC Resistance | Max. 1.5Ω |
| Rated Current | 300 mA |
| Characteristic Impedance | (Differential) 90Ω |

Typical Electrical Characteristics:



Typical Electrical Characteristics:



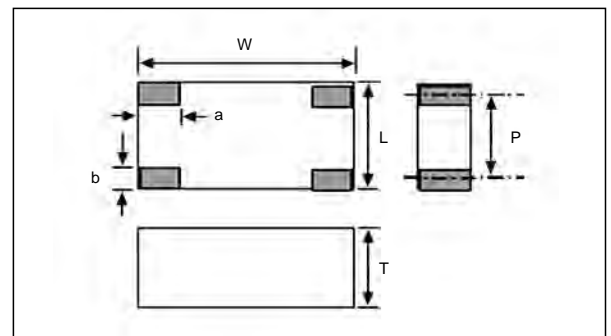
High Frequency Devices - Common Mode Filter - RFCMF1220100M T

How to Order

| RF | CMF | 122010 | 0 | M | | T |
|----------------------------|--|--|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> CMF: Common Mode Filter | <u>Dimension code</u> 122010 = Length = 12 Width = 20 Thickness = 10 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> M: USB 2.0 / IEEE1394 | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

| Symbol | Dimension |
|--------|----------------|
| L | 1.20 ± 0.20 mm |
| W | 2.00 ± 0.20 mm |
| T | 1.00 ± 0.20 mm |
| P | 0.80 ± 0.10 mm |
| a | 0.45 ± 0.20 mm |
| b | 0.40 ± 0.20 mm |



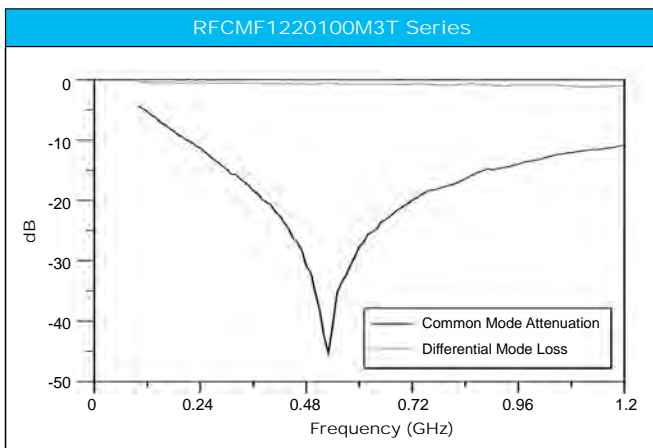
RFCMF1220100M3T Series

| Item | Specification |
|----------------------------------|---------------------------|
| Common Mode Attenuation | Min. 9 dB @ 240MHz ~ 1GHz |
| Differential Mode Insertion Loss | Max. 0.6 dB @ 240MHz |
| DC Resistance | Max. 1.5Ω |
| Rated Current | 300 mA |
| Characteristic Impedance | (Differential) 90Ω |

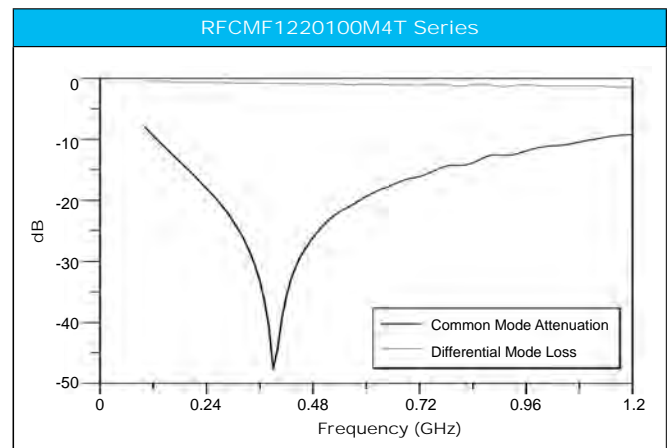
RFCMF1220100M4T Series

| Item | Specification |
|----------------------------------|---------------------------|
| Common Mode Attenuation | Min. 9 dB @ 130MHz ~ 1GHz |
| Differential Mode Insertion Loss | Max. 1.0 dB @ 240MHz |
| DC Resistance | Max. 2.5Ω |
| Rated Current | 200 mA |
| Characteristic Impedance | (Differential) 90Ω |

Typical Electrical Characteristics:



Typical Electrical Characteristics:



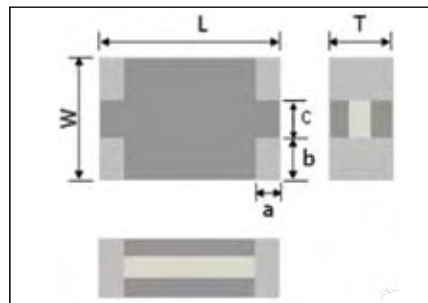
High Frequency Devices - Common Mode Filter - RGCMF1220080M5T

How to Order

| RG | CMF | 122008 | 0 | M | 5 | T |
|----------------------------|--|---|--|--|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> CMF: Common Mode Filter | <u>Dimension code</u> 122008 = Length = 12 Width = 20 Thickness = 8 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> M: USB 2.0 / IEEE1394 | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

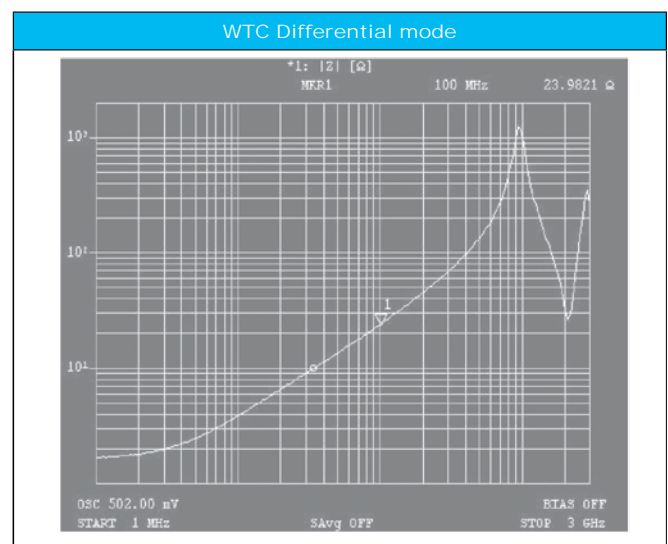
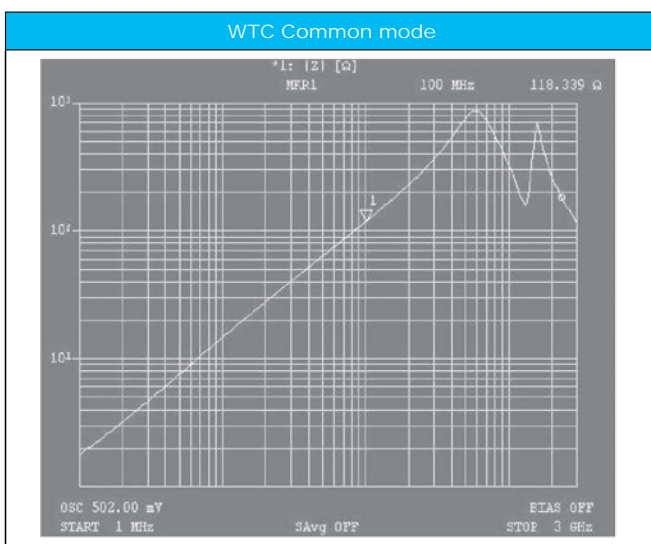
| Symbol | Dimension |
|--------|----------------|
| L | 1.29 ± 0.10 mm |
| W | 2.03 ± 0.10 mm |
| T | 0.80 ± 0.10 mm |
| A | 0.35 ± 0.10 mm |
| B | 0.35 ± 0.10 mm |
| C | 0.60 ± 0.10 mm |



RGCMF1220080M5T Series

| Item | Specification |
|--------------------------|-----------------------|
| Common Mode Attenuation | 120 ohm ±20% @ 100MHz |
| DC Resistance | Max. 1.5Ω |
| Rated Current | 400 mA |
| Characteristic Impedance | 90 Ω (Typical) |
| Operating Temperature | -40°C ~ 85°C |

Typical Electrical Characteristics:



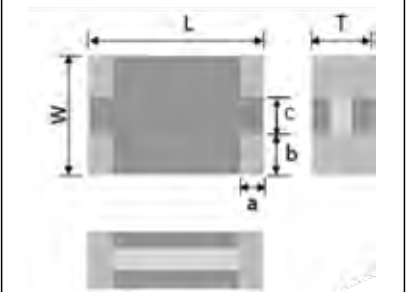

High Frequency Devices - Common Mode Filter - RGCMF1210080M T

How to Order

| RG | CMF | 121008 | 0 | M | | T |
|----------------------------|--|---|--|---|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> CMF: Common Mode Filter | <u>Dimension code</u> 121008 = Length = 12 Width = 10 Thickness = 8 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> M: USB 2.0 / IEEE1394 (mini) LVDS | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

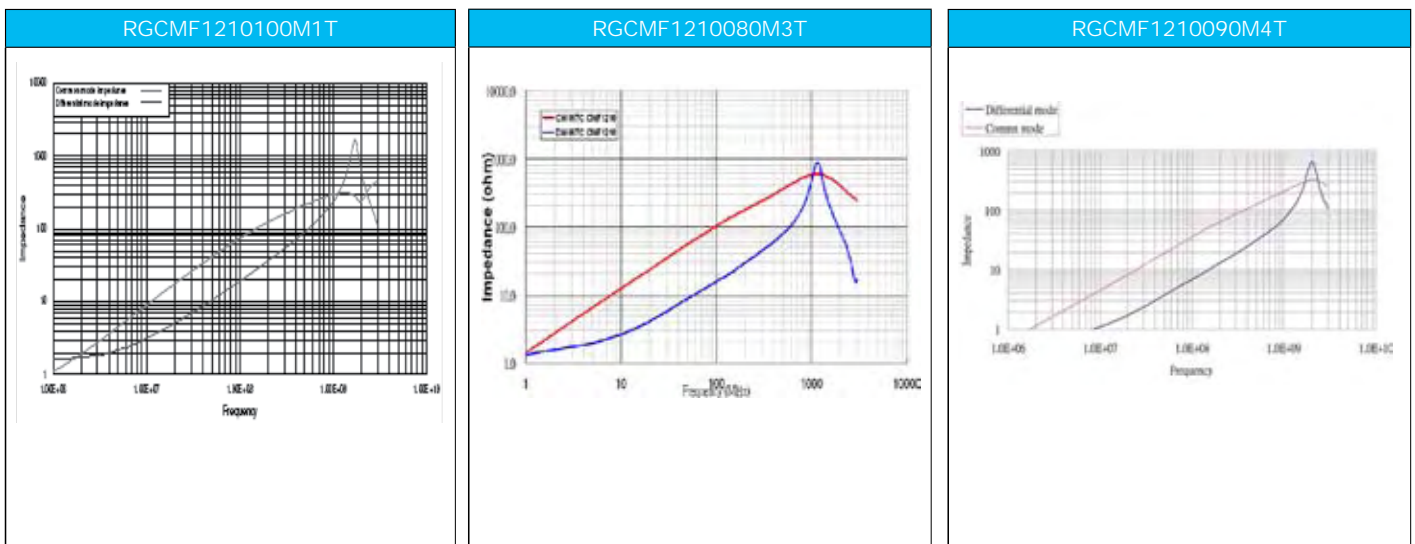
| Symbol | RGCMF 1210100M1T | RGCMF 1210080M3T | RGCMF 1210090M4T |
|--------|------------------|------------------|------------------|
| L | 1.25 ± 0.1 mm | 1.25 ± 0.1 mm | 1.25 ± 0.10 mm |
| W | 1.02 ± 0.1 mm | 1.02 ± 0.1 mm | 1.02 ± 0.10 mm |
| T | 1.00 ± 0.15 mm | 0.80 ± 0.1 mm | 0.90 ± 0.10 mm |
| A | 0.25 ± 0.1 mm | 0.25 ± 0.1 mm | 0.25 ± 0.10 mm |
| B | 0.37 ± 0.1 mm | 0.37 ± 0.1 mm | 0.37 ± 0.10 mm |
| C | 0.28 ± 0.1 mm | 0.28 ± 0.1 mm | 0.28 ± 0.10 mm |

RGCMF1210080M T Series

| Item | Specification RGCMF 1210100M1T | Specification RGCMF 1210080M3T | Specification RGCMF 1210090M4T |
|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Characteristic Impedance | 90 ohm (Typical) | 90 ohm (Typical) | 90 ohm (Typical) |
| DC Resistance | Max 1.0 ohm | Max 1.5 ohm | Max 1.5 ohm |
| Rated Current | 200 mA | 200 mA | 200 mA |
| Common Mode Attenuation | 70 ohm±/-20% @ 100HMZ | 90 ohm±/-20% @ 100HMZ | 120 ohm±20% @ 100MHz |
| Operating Temperature | -40°C ~ +85°C | -40°C ~ +85°C | -40°C ~ +85°C |

S Parameter & Impedance Vs. Frequency:



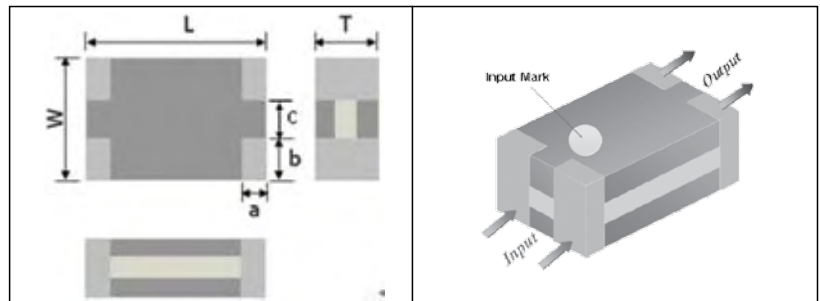
High Frequency Devices - Common Mode Filter - RGCMF2012100V1T

How to Order

| RG | CMF | 201210 | 0 | V | 1 | T |
|---------------------|---|---|---|--|------------------------------|----------------------|
| Walsin RF Device | Product code CMF: Common Mode Filter | Dimension code 201210 = Length = 20 Width = 12 Thickness = 10 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application V: High Speed Transmission Lines HDMI / SATA (mini) LVDS PCI-E / DVI Display Port | Specification Design Code | Packing T= Reeled |

Dimensions

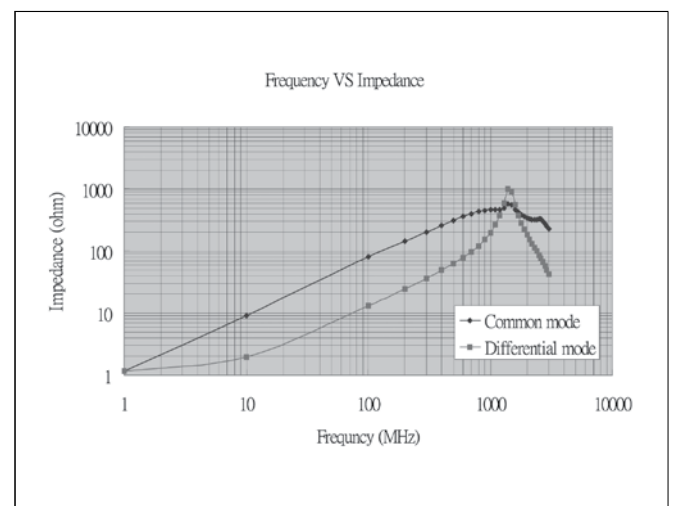
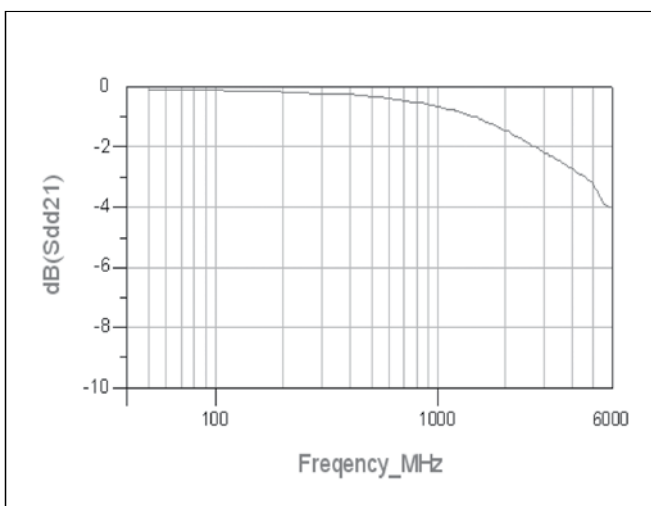
| Symbol | Dimension |
|--------|---------------|
| L | 1.98 ± 0.1 mm |
| W | 1.25 ± 0.1 mm |
| T | 0.96 ± 0.1 mm |
| A | 0.35 ± 0.1 mm |
| B | 0.30 ± 0.1 mm |
| C | 0.65 ± 0.1 mm |



RGCMF2012100V1T Series

| Item | Specification |
|--------------------------|----------------------|
| Characteristic Impedance | 100 ohm (Typical) |
| DC Resistance | Max 1.0 ohm |
| Rated Current | 200 mA |
| Common Mode Attenuation | 90 ohm+/-20%@ 100HMZ |
| Operating Temperature | -40°C ~ +85°C |

S Parameter & Impedance Vs. Frequency:



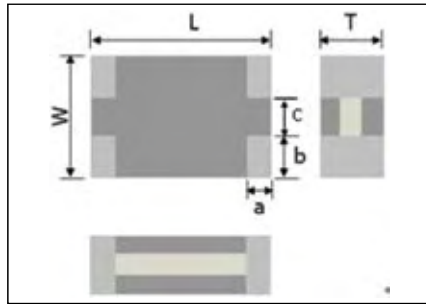
High Frequency Devices-Common Mode Filter-RGCMF1210080V T

How to Order

| RG | CMF | 121008 | 0 | V | | T |
|---------------------|--|--|---|---|------------------------------|----------------------|
| Walsin RF Device | Product code CMF:Common Mode Filter | Dimension code 121008 = Length=12 Width=10 Thickness=08 121010 = Length=12 Width=10 Thickness=10 | Unit of dimension 0: 0.1 mm 1: 1.0 mm | Application V: High Speed Transmission Lines HDMI/ SATA (mini)LVDS PCI-E/ DVI Display Port | Specification Design Code | Packing T= Reeled |

Dimensions

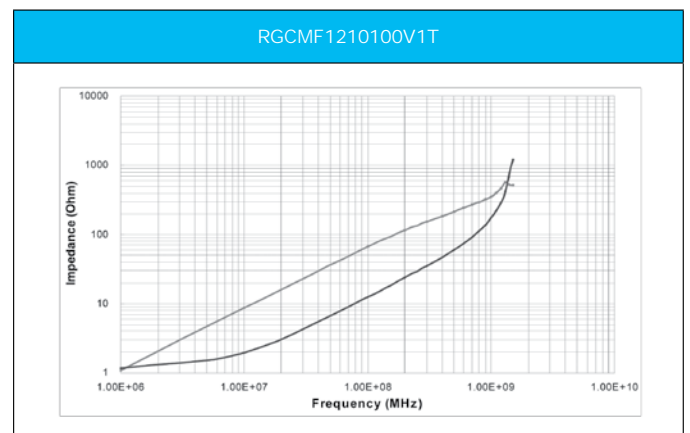
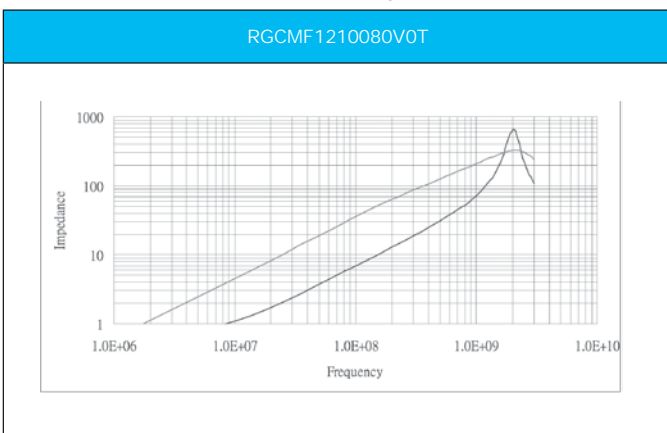
| Symbol | RGCMF1210080VOT | RGCMF1210100V1T |
|--------|------------------|-----------------|
| L | 1.25mm ± 0.10 mm | 1.25mm ± 0.1 mm |
| W | 1.02mm ± 0.10 mm | 1.02mm ± 0.1 mm |
| T | 0.80mm ± 0.10 mm | 1.00mm ± 0.1 mm |
| a | 0.25mm ± 0.10 mm | 0.25mm ± 0.1 mm |
| b | 0.37mm ± 0.10 mm | 0.36mm ± 0.1 mm |
| c | 0.28mm ± 0.10 mm | 0.27mm ± 0.1 mm |



RGCMF1210080V T Series

| Item | RGCMF1210080VOT | Item | RGCMF1210100V1T |
|--------------------------|--------------------|--------------------------|---------------------|
| Characteristic Impedance | 100 ohm (Typical) | Characteristic Impedance | 100 ohm (Typical) |
| DC Resistance | Max. 1.0 ohm | DC Resistance | Max. 1.0 ohm |
| Rated Current | 200 mA | Rated Current | 200 mA |
| Common Mode Impedance | 35ohm±25% @ 100MHz | Common Mode Impedance | 70 ohm±20% @ 100MHz |
| Operating Temperature | -40 °C~ +85 °C | Operating Temperature | -40 °C~ +85 °C |

Impedance Vs. Frequency:



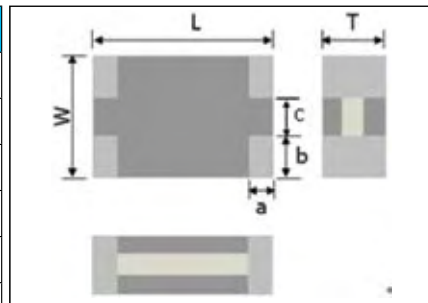
High Frequency Devices-Common Mode Filter-RGCMF1210080V T

How to Order

| RG | CMF | 121008 | 0 | V | | T |
|----------------------------|--|---|--|---|-------------------------------------|-----------------------------|
| <u>Walsin</u> RF Device | <u>Product code</u> CMF: Common Mode Filter | <u>Dimension code</u> 121008= Length = 12 Width = 10 Thickness = 08 121009= Length = 12 Width = 10 Thickness = 09 | <u>Unit of dimension</u> 0: 0.1 mm 1: 1.0 mm | <u>Application</u> V: High Speed Transmission Lines HDMI/ SATA (mini)LVDS PCI-E/ DVI Display Port | <u>Specification</u> Design Code | <u>Packing</u> T= Reeled |

Dimensions

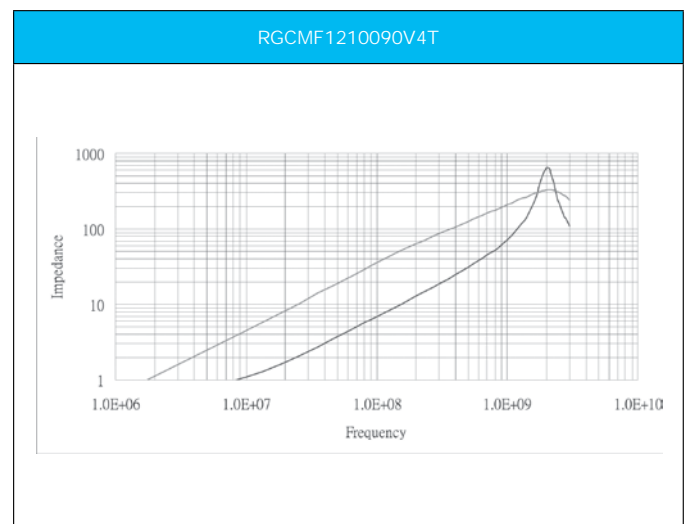
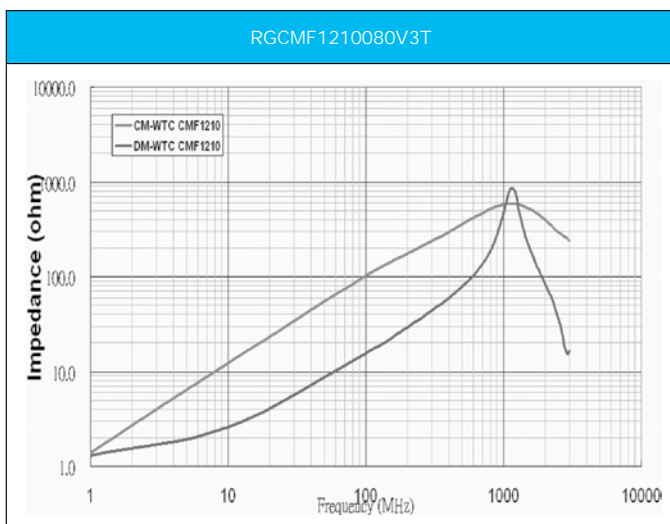
| Symbol | RGCMF1210080V3T | RGCMF1210090V4T |
|--------|------------------|------------------|
| L | 1.25mm ± 0.10 mm | 1.25mm ± 0.10 mm |
| W | 1.02mm ± 0.10 mm | 1.02mm ± 0.10 mm |
| T | 0.80mm ± 0.10 mm | 0.90mm ± 0.10 mm |
| a | 0.25mm ± 0.10 mm | 0.25mm ± 0.10 mm |
| b | 0.37mm ± 0.10 mm | 0.37mm ± 0.10 mm |
| c | 0.28mm ± 0.10 mm | 0.28mm ± 0.10 mm |



RGCMF1210080V T Series

| Item | RGCMF1210080V3T | Item | RGCMF1210090V4T |
|--------------------------|----------------------|--------------------------|----------------------|
| Characteristic Impedance | 100 ohm (Typical) | Characteristic Impedance | 100 ohm (Typical) |
| DC Resistance | Max. 1.5 ohm | DC Resistance | Max. 1.5 ohm |
| Rated Current | 200 mA | Rated Current | 200 mA |
| Common Mode Attenuation | 90ohm ± 20% @ 100MHz | Common Mode Attenuation | 120 ohm±20% @ 100MHz |
| Operating Temperature | -40 °C~ +85 °C | Operating Temperature | -40 °C~ +85 °C |

Impedance Vs. Frequency:



Multilayer Chip Varistor (MLV) - VZ Series & VH Series

How to Order

| VH | 0402 | M | 050 | C | G | T | 330 | - |
|---|---|----------------------------|--|--|--------------------|--------------------|---|-----------------|
| <u>Type code</u> | <u>Chip Size</u> | <u>Style</u> | <u>Rated Voltage</u> | <u>Cap. Tolerance</u> | <u>Termination</u> | <u>Packing</u> | <u>Cap. code (pf)</u> | <u>Special</u> |
| V: Walsin ZnO Varistor H: High Speed and RF, and Special Capacitance Concern Z: General Purpose | 0402, 0603 0805, 1206 Code is L x W (in inches) 0402 = 0.4 x 0.2 0603 = 0.6 x 0.3 0805 = 0.8 x 0.5 1206 = 1.2 x 0.6 | M: Multilayer A: Array* | 050: 5.5Vdc 090: 9.0Vdc 120: 12.0Vdc 140: 14.0Vdc 180: 18.0Vdc 300: 30.0Vdc | A: Typ. Capacitance for Z series C: Max. capacitance for H series | G : Green Material | T=Reeled B=Bulk | This item is only for H Series. Two significant digits followed by number of Zeros 3R0=3pF when C < 10pF 330=33x10 ⁰ =33pF 101=10x10 ¹ =100pF 102=10x10 ² =1000pF | Special Request |

Introduction - Plated & Lead-free Termination

High Speed ESD Voltage Suppressor is an advanced series of Walsin's Multilayer Chip Varistor (MLV). Nowadays, more and more communication devices become compact and apply denser and higher frequency circuits inside. Protection against the electronic static discharge (ESD) generated from human body transient voltage surge is more important when downsize of high-speed transistor makes its vulnerability to ESD and surge. Walsin's High Speed ESD Voltage Suppressor provides protection from ESD and EFT in high-speed data line and radio frequency (RF) circuits. Also, if capacitance of MLV is a concern to circuit designers, Walsin MLV H Series would supply a solution, MLV with specified capacitance and range. It is compatible with modern reflow and wave soldering procedures. We would give you a solution to transient over voltage and ESD protection to your products.

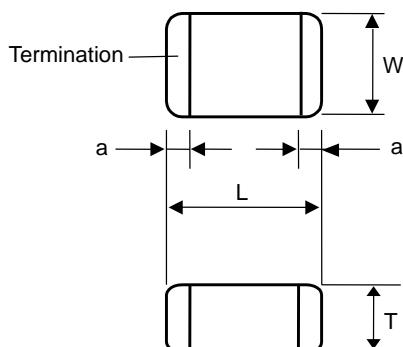
Features

- Multilayer Fabrication Technology
- Small size (0402 & 0603)
- -55°C to 125°C Operating Temperature Range
- Operating Voltage Range $V_M(DC)$ at 5.5V ~ 85V
- Able to withstand ESD test of IEC-61000-4-2
- Bi-directional Clamping characteristic
- Standard / Low / Customized Capacitance Types Available

Applications

- Protection of Cellular Phones, PDA, High Speed Data Line...etc.
- ESD Protection for Components Sensitive to IEC 61000-4-2, Provides Circuit Board Transient Voltage Protection for Transistors.
- Protection of Video & Audio ports.

Dimensions



Unit: mm

| Size | 0402 | 0603 | 0805 | 1206 |
|------|-------------|-------------|-------------|-------------------------------|
| L | 1.00 ± 0.10 | 1.60 ± 0.15 | 2.00 ± 0.20 | 3.20 ± 0.20 |
| W | 0.50 ± 0.10 | 0.80 ± 0.15 | 1.25 ± 0.20 | 1.60 ± 0.20 |
| T | 0.50 ± 0.10 | 0.80 ± 0.15 | 0.80 ± 0.20 | 0.80 ± 0.10* 1.10 ± 0.20** |
| a | 0.25 ± 0.15 | 0.35 ± 0.15 | 0.50 ± 0.20 | 0.65 ± 0.25 |

Note: *Means VZ1206 5.5Vdc~22Vdc items

**Means VZ1206 26Vdc~85Vdc items

Multilayer Chip Varistor (MLV) - VZ Series & VH Series

Quick Reference Specifications

VH Series

| Symbol | Maximum Ratings | | | Specifications | | | |
|------------------|------------------------------------|---|---|-------------------------------------|-------------------------|------------------------|----------|
| | Maximum Continuous Working Voltage | Maximum Non-Repetitive Surge Energy (10/1000µs) | Max. Clamping Voltage at Specified Current (8/20µs) | Nominal Voltage at 1mA (DC) Current | | Max. Capacitance @1MHz | |
| | | | | V _{N(DC)} Min. | V _{N(DC)} Max. | C | |
| | | | | (V) | (V) | (pF) | % |
| Part Number | V _{M(DC)} | W _{TM} | V _c | V _{N(DC)} Min. | V _{N(DC)} Max. | C | |
| | (V) | (J) | (V) | (V) | (V) | (pF) | % |
| VH0402M050CGT5R0 | 5 | 0.05 | 55 at 1A | 20 | 30 | 5 | +80/-20 |
| VH0402M050CGT100 | 5 | 0.05 | 60 at 1A | 24 | 36 | 10 | ± 30 |
| VH0402M050CGT220 | 5 | 0.05 | 45 at 1A | 15 | 25 | 22 | ± 30 |
| VH0402M050CGT330 | 5 | 0.05 | 45 at 1A | 15 | 25 | 33 | ± 30 |
| VH0402M050CGT560 | 5 | 0.05 | 45 at 1A | 15 | 25 | 56 | ± 30 |
| VH0402M050CGT101 | 5 | 0.05 | 30 at 1A | 11 | 21 | 100 | ± 30 |
| VH0402M120CGT5R0 | 12 | 0.05 | 85 at 1A | 33 | 50 | 5 | +80/-20 |
| VH0402M120CGT100 | 12 | 0.05 | 70 at 1A | 27 | 42 | 10 | ± 30 |
| VH0402M120CGT220 | 12 | 0.05 | 55 at 1A | 20 | 30 | 22 | ± 30 |
| VH0402M120CGT330 | 12 | 0.05 | 55 at 1A | 20 | 30 | 33 | ± 30 |
| VH0402M120CGT560 | 12 | 0.05 | 55 at 1A | 20 | 30 | 56 | ± 30 |
| VH0402M120CGT101 | 12 | 0.05 | 55 at 1A | 20 | 30 | 100 | ± 30 |
| VH0402M240CGT0R8 | 24 | 0.05 | 200 at 1A | 100 | 150 | 0.8~1 | ± 30 |
| VH0402M240CGT2R5 | 24 | 0.05 | 200 at 1A | 100 | 150 | 2~4 | ± 30 |
| VH0603M050CGT5R0 | 5 | 0.1 | 55 at 1A | 20 | 30 | 5 | +80/-20% |
| VH0603M050CGT100 | 5 | 0.1 | 60 at 1A | 24 | 36 | 10 | +/- 30% |
| VH0603M050CGT220 | 5 | 0.1 | 45 at 1A | 15 | 25 | 22 | +/- 30% |
| VH0603M050CGT330 | 5 | 0.1 | 45 at 1A | 15 | 25 | 33 | +/- 30% |
| VH0603M050CGT560 | 5 | 0.1 | 45 at 1A | 15 | 25 | 56 | +/- 30% |
| VH0603M050CGT101 | 5 | 0.1 | 30 at 1A | 11 | 21 | 100 | +/- 30% |
| VH0603M120CGT5R0 | 12 | 0.1 | 85 at 1A | 33 | 50 | 4~9 | +80/-20% |
| VH0603M120CGT100 | 12 | 0.1 | 70 at 1A | 27 | 42 | 10 | +/- 30% |
| VH0603M120CGT220 | 12 | 0.1 | 55 at 1A | 20 | 30 | 22 | +/- 30% |
| VH0603M120CGT330 | 12 | 0.1 | 55 at 1A | 20 | 30 | 33 | +/- 30% |
| VH0603M120CGT560 | 12 | 0.1 | 55 at 1A | 20 | 30 | 56 | +/- 30% |
| VH0603M120CGT820 | 12 | 0.1 | 55 at 1A | 20 | 30 | 82 | +/- 30% |
| VH0603M120CGT101 | 12 | 0.1 | 55 at 1A | 20 | 30 | 100 | +/- 30% |
| VH0603M240CGT0R8 | 24 | 0.1 | 200 at 1A | 100 | 150 | 0.8~1 | +/- 30% |
| VH0603M240CGT2R5 | 24 | 0.1 | 200 at 1A | 100 | 150 | 2~4 | +/- 30% |

| SPECIFICATIONS | | | | | | |
|-------------------|------------------------------------|-----------------------------|---|----------------------------------|-----------------------------|------------------------|
| Part Number | Maximum Continuous Working Voltage | Typical ESD Trigger Voltage | Typical ESD clamping Voltage after 30ns | Leakage Current @V _{DC} | Minimum ESD pulse withstand | Capacitance |
| | V _{M(DC)} | V _T | V _{clamp} | µA | Times | @1MHz |
| | (V) | (V) | (V) | (V) | | C _p (pF) |
| VH0402M060CGT0R20 | 6 | 150 | 30 | 0.05 | >2000 | 0.2-0.1/+0.5 |
| VH0402M240CGT0R05 | 24 | 350 | 50 | 0.001 | >2000 | 0.05+0.05/-0.05 |
| VH0603M060CGT0R20 | 6 | 150 | 30 | 0.05 | >2000 | 0.2-0.1/+0.5 |
| VH0603M240CGT0R05 | 24 | 350 | 50 | 0.001 | >2000 | 0.05+0.05/-0.05 |

Multilayer Chip Varistor (MLV) - VZ Series & VH Series

Quick Reference Specifications

VZ Series

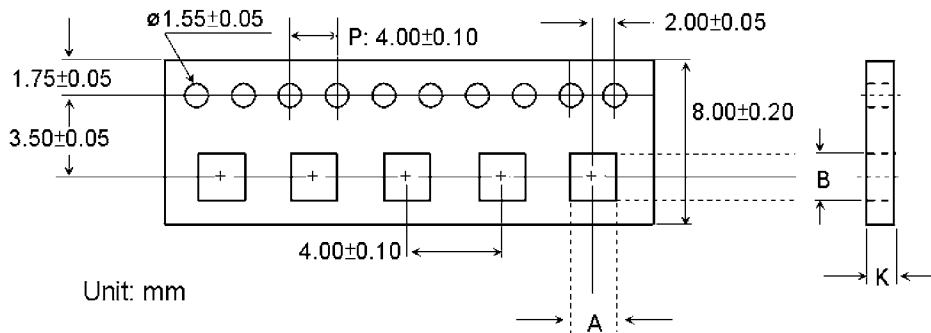
| Symbol Part Number | Maximum Ratings | | | | | Specifications | | |
|----------------------------------|------------------------------------|---------------------|---|---|--|-------------------------------------|--------------------------|------------------------|
| | Maximum Continuous Working Voltage | | Maximum Non-Repetitive Surge Current (8/20 μ s) | Maximum Non-Repetitive Surge Energy (10/1000 μ s) | Max. Claming Voltage at Specified Current (8/20 μ s) | Nominal Voltage at 1mA (DC) Current | | Max. Capacitance @1KHz |
| | V _M (DC) | V _M (AC) | I _{TM} | W _{TM} | V _c | V _N (DC) Min. | V _N (DC) Max. | C |
| | (V) | (V) | (A) | (J) | (V) | (V) | (V) | (pF) |
| VZ0402M050AGT | 5.5 | 4 | 20 | 0.05 | 20 at 1A | 8.0 | 11.0 | 295 |
| VZ0402M090AGT | 9 | 6 | 20 | 0.05 | 23 at 1A | 10.2 | 13.8 | 190 |
| VZ0402M110AGT | 11 | 8 | 20 | 0.05 | 25 at 1A | 12.75 | 17.25 | 160 |
| VZ0402M140AGT | 14 | 11 | 20 | 0.05 | 30 at 1A | 15.3 | 20.7 | 135 |
| VZ0402M180AGT | 18 | 14 | 20 | 0.05 | 40 at 1A | 21.6 | 26.4 | 93 |
| VZ0603M050AGT | 5.5 | 4 | 30 | 0.1 | 20 at 1A | 8.0 | 11.0 | 800 |
| VZ0603M090AGT | 9 | 6 | 30 | 0.1 | 23 at 1A | 10.2 | 13.8 | 680 |
| VZ0603M140AGT | 14 | 11 | 30 | 0.1 | 30 at 1A | 15.3 | 20.7 | 350 |
| VZ0603M180AGT | 18 | 14 | 30 | 0.1 | 39 at 1A | 21.6 | 26.4 | 270 |
| VZ0603M260AGT | 26 | 20 | 30 | 0.1 | 54 at 1A | 29.7 | 36.3 | 200 |
| VZ0603M300AGT | 30 | 25 | 30 | 0.1 | 65 at 1A | 35.1 | 42.9 | 120 |
| VZ0603M380AGT | 38 | 30 | 30 | 0.1 | 77 at 1A | 42.3 | 51.7 | 100 |
| VZ0805M050AGT | 5.5 | 4 | 80 | 0.1 | 20 at 1A | 8.0 | 11.0 | 1600 |
| VZ0805M090AGT | 9 | 6 | 80 | 0.1 | 23 at 1A | 10.2 | 13.8 | 1180 |
| VZ0805M140AGT | 14 | 10 | 100 | 0.2 | 35 at 1A | 15.3 | 20.7 | 1180 |
| VZ0805M180AGT | 18 | 14 | 100 | 0.2 | 39 at 1A | 21.6 | 26.4 | 550 |
| VZ0805M220AGT | 22 | 17 | 100 | 0.2 | 44 at 1A | 24.3 | 29.7 | 400 |
| VZ0805M260AGT | 26 | 20 | 100 | 0.3 | 54 at 1A | 29.7 | 36.3 | 350 |
| VZ0805M300AGT | 30 | 25 | 100 | 0.3 | 65 at 1A | 35.1 | 42.9 | 310 |
| VZ0805M380AGT | 38 | 30 | 100 | 0.3 | 77 at 1A | 42.3 | 51.7 | 280 |
| VZ0805M450AGT | 45 | 35 | 80 | 0.3 | 90 at 1A | 50.4 | 61.6 | 195 |
| VZ1206M050AGT | 5.5 | 4 | 100 | 0.2 | 20 at 1A | 8.0 | 11.0 | 3200 |
| VZ1206M140AGT | 14 | 11 | 100 | 0.3 | 30 at 1A | 15.3 | 20.7 | 1150 |
| VZ1206M180AGT | 18 | 14 | 100 | 0.3 | 38 at 1A | 21.6 | 26.4 | 900 |
| VZ1206M220AGT | 22 | 17 | 100 | 0.4 | 44 at 1A | 24.3 | 29.7 | 840 |
| VZ1206M260AGT | 26 | 20 | 100 | 0.5 | 54 at 1A | 29.7 | 36.3 | 490 |
| VZ1206M300AGT | 30 | 25 | 100 | 0.6 | 65 at 1A | 35.1 | 42.9 | 440 |
| VZ1206M380AGT | 38 | 30 | 100 | 0.7 | 77 at 1A | 42.3 | 51.7 | 400 |
| VZ1206M450AGT | 45 | 35 | 100 | 0.8 | 90 at 1A | 50.4 | 61.6 | 310 |
| VZ1206M560AGT | 56 | 40 | 100 | 1.0 | 110 at 1A | 61.2 | 74.8 | 280 |
| VZ1206M650AGT | 65 | 50 | 100 | 0.5 | 135 at 1A | 73.8 | 90.2 | 240 |
| VZ1206M850AGT | 85 | 60 | 100 | 0.6 | 165 at 1A | 90.0 | 110 | 160 |

Multilayer Chip Varistor (MLV) - VZ Series & VH Series Taping Specifications

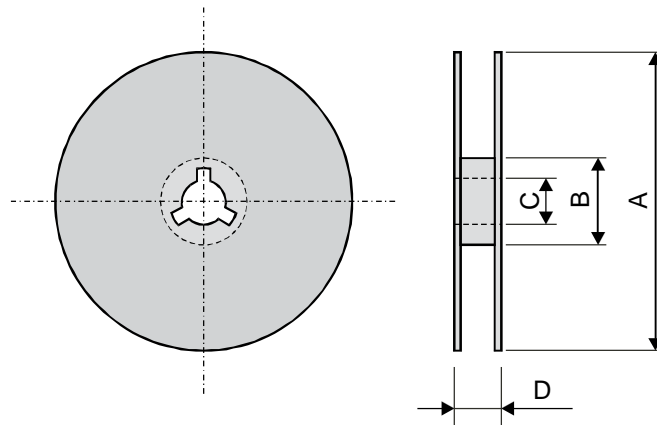
A. Paper tape size specification:

Unit: mm

| Label | 0402 | 0603 | 0805 | 1206 |
|-------|-----------------|-----------------|-----------------|-----------------|
| A | 0.62 ± 0.03 | 0.95 ± 0.05 | 1.45 ± 0.05 | 1.88 ± 0.05 |
| B | 1.12 ± 0.03 | 1.80 ± 0.05 | 2.25 ± 0.05 | 3.50 ± 0.05 |
| K | 0.60 ± 0.03 | 0.87 ± 0.05 | 0.87 ± 0.05 | 1.24 ± 0.05 |



B. Reel size specification



| Symbol | A | B | C | D |
|-----------|-----------------------------|----------------------------|----------------|----------------|
| Dimension | $\varnothing 178.0 \pm 2.0$ | $\varnothing 60.0 \pm 1.0$ | 13.0 ± 0.2 | 10.0 ± 1.5 |

C. Packaging on tape & reel:

| Size | 0402 | 0603 | 0805 | 1206 |
|-----------------|---------|--------|--------|--------|
| Quantity / reel | 10K pcs | 4K pcs | 3K pcs | 3K pcs |

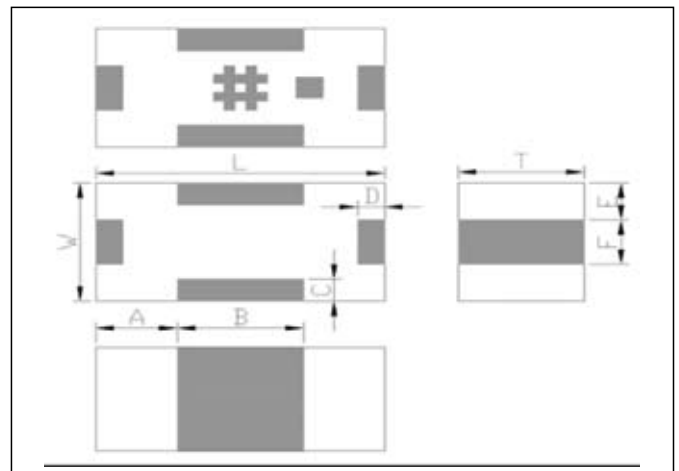
2.6 GHz WiMAX Band Working Frequency- Band Pass Filter- RFBPF16082G6W0T

How to Order

| RF | BPF | 1608 | 2G6 | W | O | T |
|---------------------|--|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, e.g. : 1608 = Length =16 Width =08 | Unit of dimension 2G6: 2.6GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

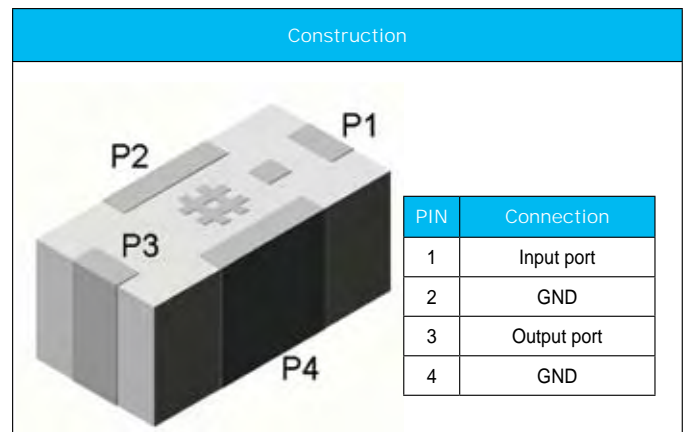
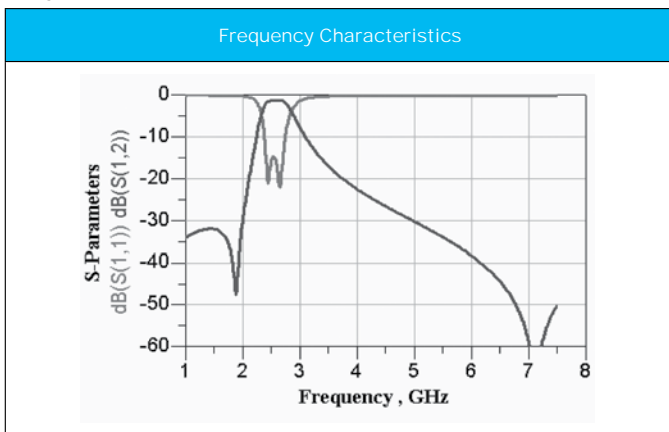
| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.40 ± 0.15 mm |
| B | 0.80 ± 0.15 mm |
| C | 0.20 ± 0.15 mm |
| D | 0.20 ± 0.15 mm |
| E | 0.25 ± 0.15 mm |
| F | 0.30 ± 0.15 mm |



RFBPF16082G6W0T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2600 ± 100MHz |
| Insertion Loss | 2.2dB (max.) |
| VSWR | 2.0(max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 30dB @ 880~960 MHz 30dB @ 1710~1785 MHz 30dB @ 1850~1910 MHz 30dB @ 1920~1980 MHz 13dB @ 3300~3900 MHz 20dB @ 4900~5900 MHz |

Typical Electrical Characteristics:



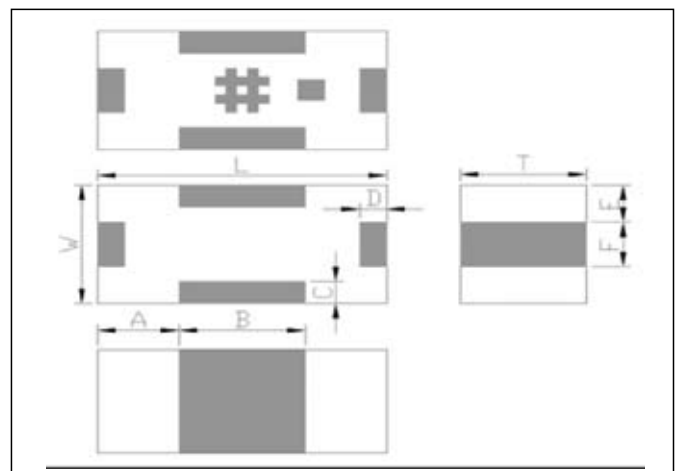
3.5 GHz WiMAX Band Working Frequency- Band Pass Filter- RFBPF16083G5W0T

How to Order

| RF | BPF | 1608 | 3G5 | W | O | T |
|---------------------|--|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPF : Band Pass Filter | Dimension code Per 2 digits of Length, Width, e.g. : 1608 = Length =16 Width =08 | Unit of dimension 3G5: 3.5GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

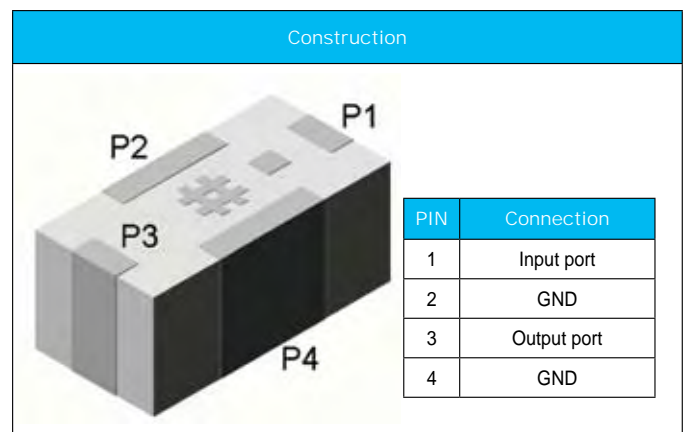
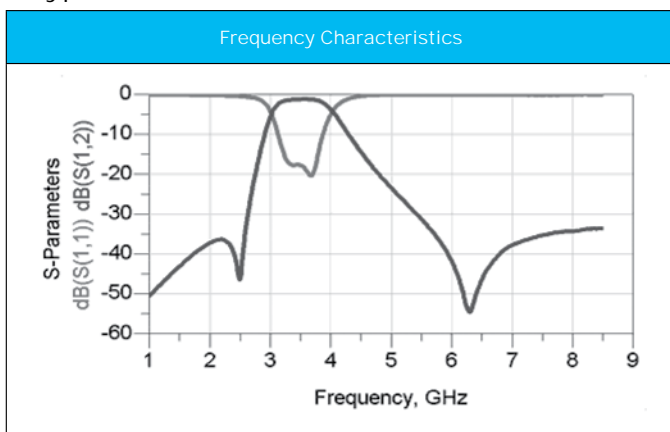
| Symbol | Dimension |
|--------|----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.40 ± 0.15 mm |
| B | 0.80 ± 0.15 mm |
| C | 0.20 ± 0.15 mm |
| D | 0.20 ± 0.15 mm |
| E | 0.25 ± 0.15 mm |
| F | 0.30 ± 0.15 mm |



RFBPF16083G5W0T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 3500 ± 200MHz |
| Insertion Loss | 1.8dB (max.) |
| VSWR | 2.0(max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 30dB @ 806~915 MHz 30dB @ 1710~1785 MHz 30dB @ 1850~1910 MHz 30dB @ 1920~1980 MHz 31dB @ 2400~2500 MHz 18dB @ 4900~5900 MHz |

Typical Electrical Characteristics:



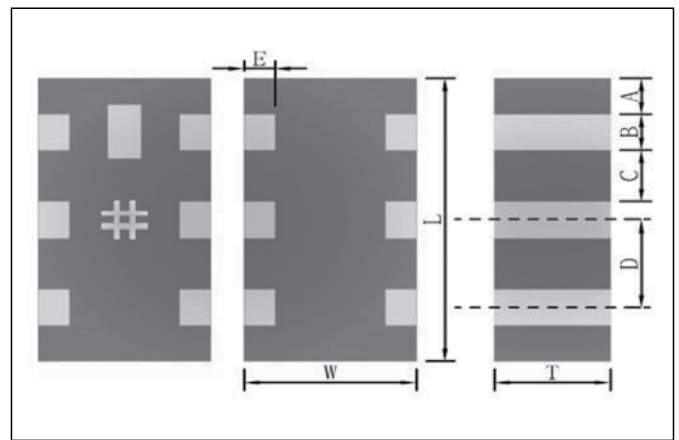
2.6 GHz WiMAX Band Working Frequency- Low Pass Filter- RFLPF16082G6W0T

How to Order

| RF | LPF | 1608 | 2G6 | W | O | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code LPF : Low Pass Filter | Dimension code Per 2 digits of Length, Width, e.g. : 1608 = Length =16 mm Width =08 mm | Unit of dimension 2G6: 2.6GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

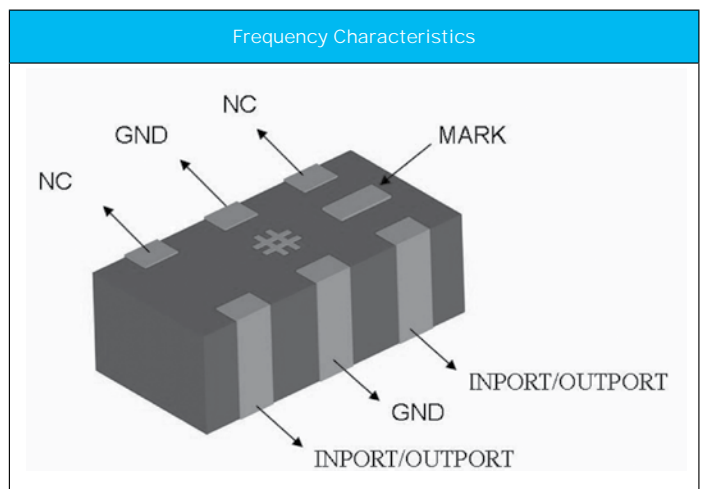
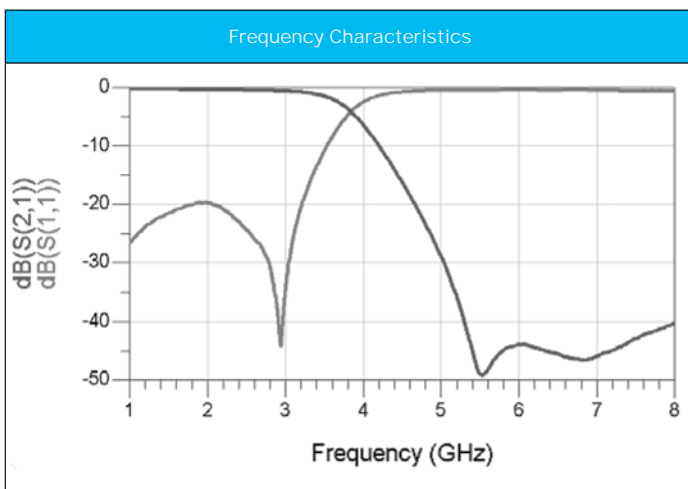
| Symbol | Dimension |
|--------|-----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.175 ± 0.15 mm |
| B | 0.25 ± 0.15 mm |
| C | 0.25 ± 0.15 mm |
| D | 0.50 ± 0.15 mm |
| E | 0.20 ± 0.15 mm |



RFLPF16082G6W0T Series

| Item | Specification |
|-----------------------|--|
| Frequency range (MHz) | 2425 ± 145MHz |
| Insertion Loss | 0.6dB (max.) |
| VSWR | 2.0(max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 26dB @ 4800-5390 MHz 26dB @ 7200-8085 MHz |

Typical Electrical Characteristics:



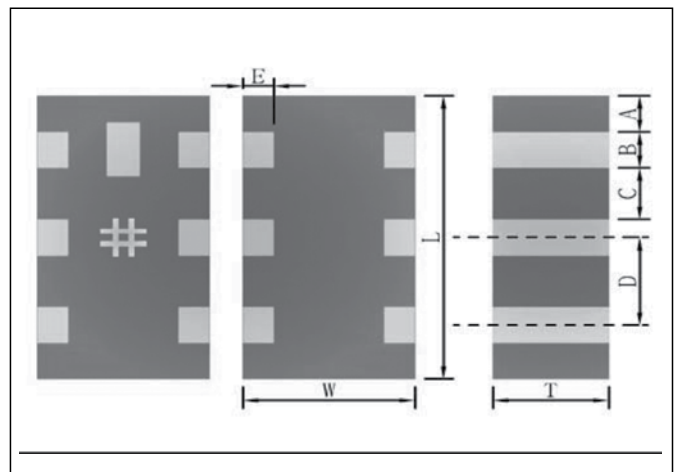
3.5 GHz WiMAX Band Working Frequency- Loss Pass Filter- RFLPF16083G5W0T

How to Order

| RF | LPF | 1608 | 3G5 | W | O | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code LPF : Low Pass Filter | Dimension code Per 2 digits of Length, Width, e.g. : 1608 = Length =16 mm Width =08 mm | Unit of dimension 3G5: 3.5GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

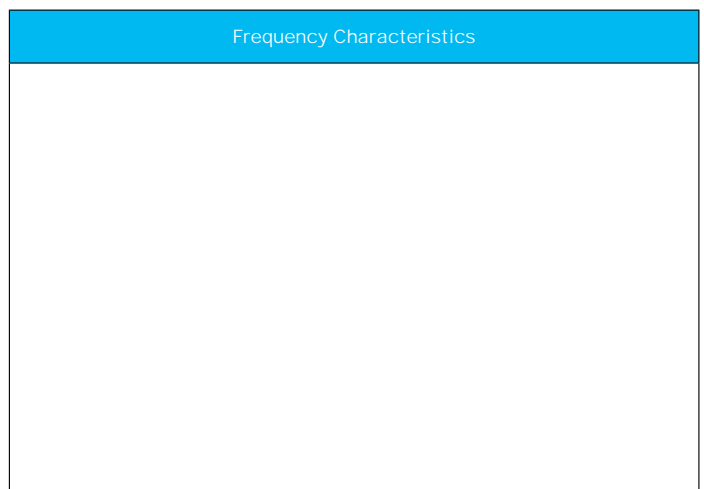
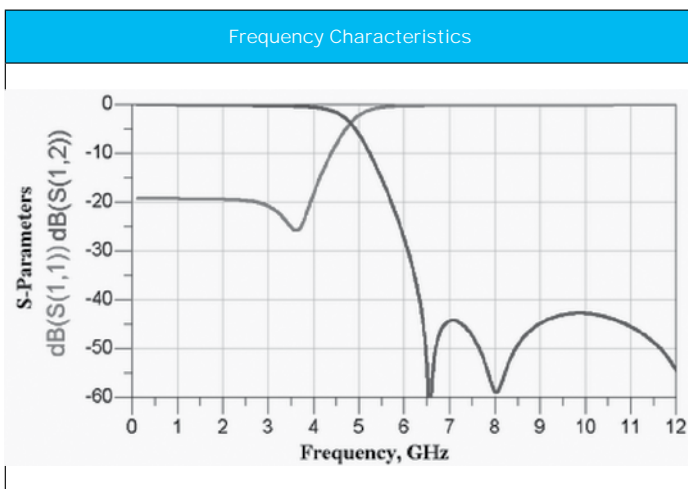
| Symbol | Dimension |
|--------|-----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.175 ± 0.15 mm |
| B | 0.25 ± 0.15 mm |
| C | 0.25 ± 0.15 mm |
| D | 0.50 ± 0.15 mm |
| E | 0.20 ± 0.15 mm |



RFLPF16083G5W0T Series

| Item | Specification |
|-----------------------|-------------------------------------|
| Frequency range (MHz) | 3300-3800MHz |
| Insertion Loss | 0.55dB (max.) |
| VSWR | 1.7(max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 35dB @ 7600 MHz 25dB @ 11400 MHz |

Typical Electrical Characteristics:



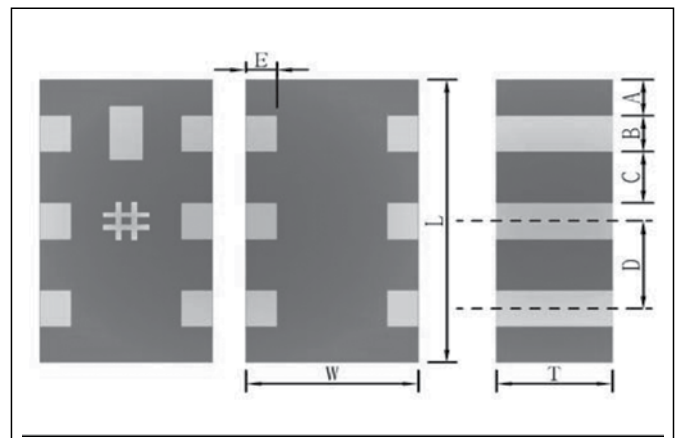
3.5 GHz WiMAX Band Working Frequency- Low Pass Filter- RFLPF16083G5W7T

How to Order

| RF | LPF | 1608 | 3G5 | W | 7 | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code LPF : Low Pass Filter | Dimension code Per 2 digits of Length, Width, e.g. : 1608 = Length =16 mm Width =08 mm | Unit of dimension 3G5: 3.5GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

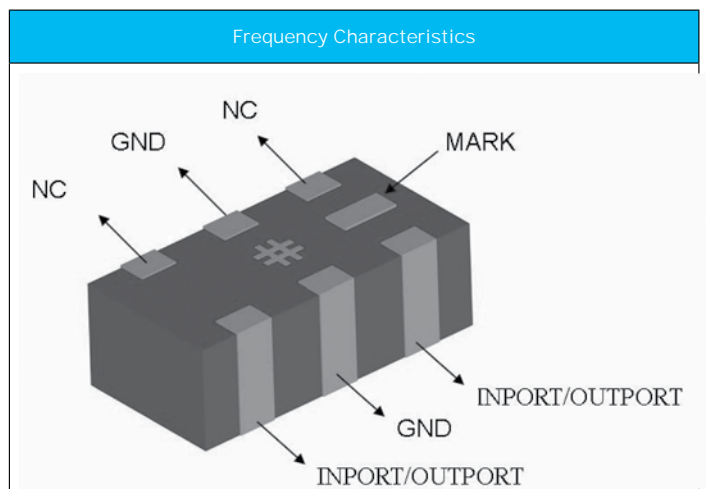
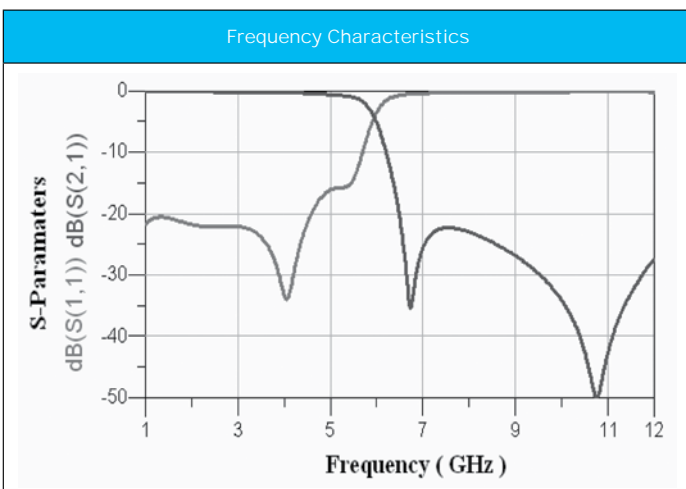
| Symbol | Dimension |
|--------|-----------------|
| L | 1.60 ± 0.15 mm |
| W | 0.80 ± 0.15 mm |
| T | 0.60 ± 0.10 mm |
| A | 0.175 ± 0.15 mm |
| B | 0.25 ± 0.15 mm |
| C | 0.25 ± 0.15 mm |
| D | 0.50 ± 0.15 mm |
| E | 0.20 ± 0.15 mm |



RFLPF16083G5W7T Series

| Item | Specification |
|-----------------------|---|
| Frequency range (MHz) | 3550 ± 250MHz |
| Insertion Loss | 0.55dB (max.) |
| VSWR | 1.9(max.) |
| Impedance | 50 Ω |
| Attenuation (min.) | 17dB @ 6600-7600 MHz 20dB @ 9900-11400 MHz |

Typical Electrical Characteristics:



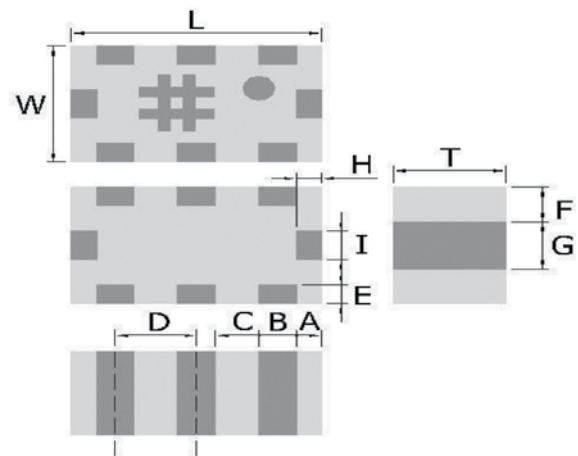
2.6 GHz WiMAX Band Working Frequency- Blanced Filter- RFBPB20122G6W0T

How to Order

| RF | BPB | 2012 | 2G6 | W | O | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPB : Balanced Filter | Dimension code Per 2 digits of Length, Width, e.g. : 2012 = Length =20 mm Width =12 mm | Unit of dimension 2G6: 2.6GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

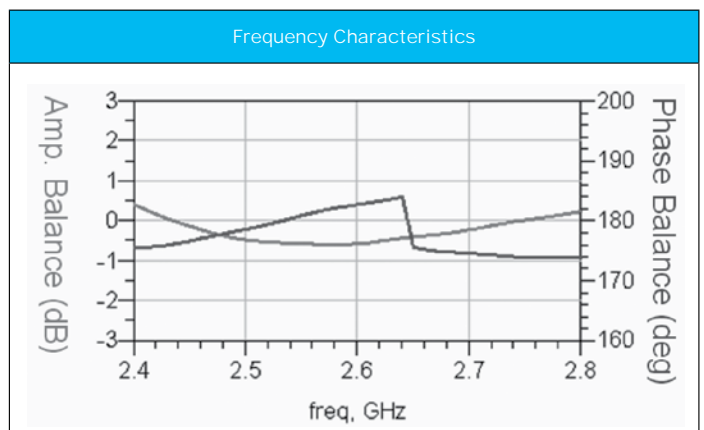
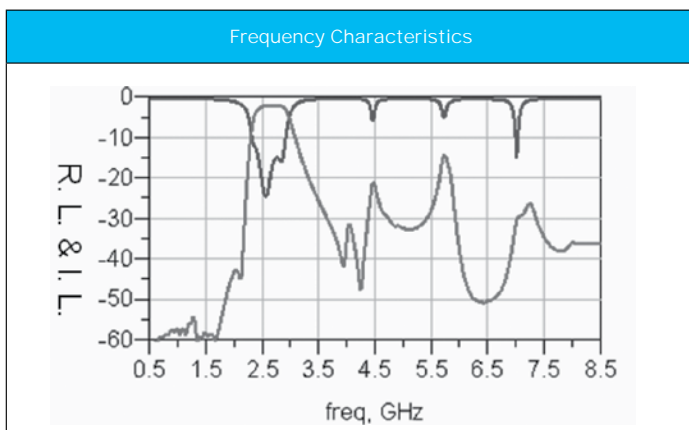
| Symbol | Dimension |
|--------|-----------------|
| L | 2.00 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.90 ± 0.10 mm |
| A | 0.30 ± 0.15 mm |
| B | 0.30 ± 0.15 mm |
| C | 1.85 ± 0.15 mm |
| D | 0.40 ± 0.15 mm |
| E | 0.40 ± 0.15 mm |
| F | 0.325 ± 0.15 mm |
| G | 0.30 ± 0.15 mm |
| P | 0.80 ± 0.15 mm |



RFBPB20122G6W0T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2500-2690 MHz |
| Insertion Loss | 3.2dB (max.) |
| VSWR | 2.0(max.) |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Blanced) | 50 Ω |
| Attenuation (min.) | 40dB @ 824-960 MHz 40dB @ 1650-1990 MHz 25dB @ 2110-2170 MHz 10dB @ 3300-3600 MHz 28dB @ 4150-4500 MHz |

Typical Electrical Characteristics:



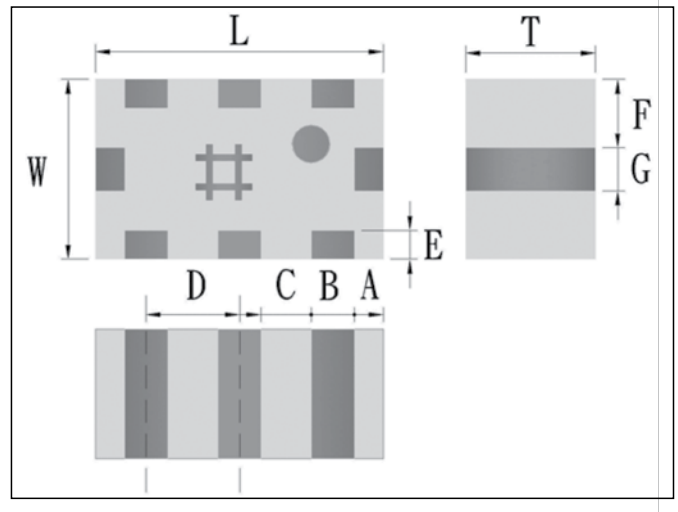
3.5 GHz WiMAX Band Working Frequency- Blanced Filter- RFBPB20123G5W0T

How to Order

| RF | BPB | 2012 | 3G5 | W | O | T |
|---------------------|---------------------------------------|--|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPB : Balanced Filter | Dimension code Per 2 digits of Length, Width, e.g. : 2012 = Length =20 mm Width =12 mm | Unit of dimension 3G5: 3.5GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

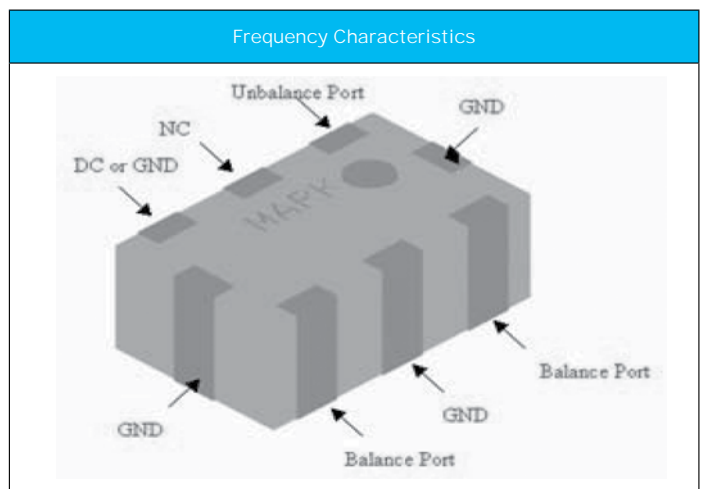
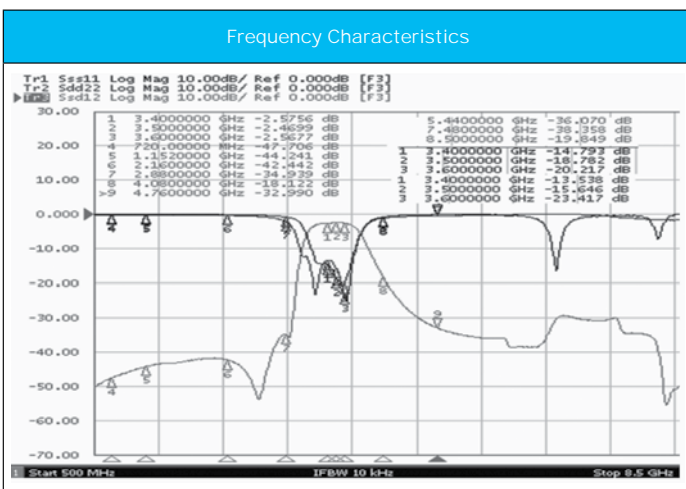
| Symbol | Dimension |
|--------|-----------------|
| L | 2.0 ± 0.15 mm |
| W | 1.25 ± 0.15 mm |
| T | 0.90 ± 0.10 mm |
| A | 0.175 ± 0.10 mm |
| B | 0.35 ± 0.15 mm |
| C | 0.30 ± 0.15 mm |
| D | 0.65 ± 0.10 mm |
| E | 0.20 ± 0.10 mm |
| F | 0.35 ± 0.10 mm |
| G | 0.50 ± 0.10 mm |



RFBPB20123G5W0T Series

| Item | Specification |
|------------------------|---|
| Frequency range (MHz) | 3500 ± 100 MHz |
| Insertion Loss | 3.0 dB max |
| VSWR | 2.1 max |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Blanced) | 50 Ω |
| Attenuation (min.) | 40dB @ 680~720 MHz 20dB @ 4760~5040 MHz 40dB @ 1088~1152 MHz 23dB @ 5440~5760 MHz 30dB @ 2040~2160 MHz 12dB @ 6800~7200 MHz 31dB @ 2720~2880 MHz 8dB @ 7480~7920 MHz 10dB @ 4080~4320 MHz |

Typical Electrical Characteristics:



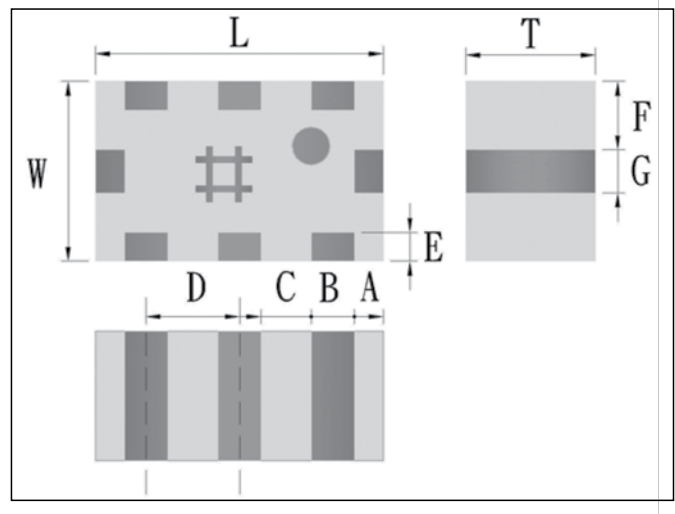
3.5 GHz WiMAX Band Working Frequency- Blanced Filter- RFBPB20123G5W7T

How to Order

| RF | BPB | 2012 | 3G5 | W | 7 | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPB : Balanced Filter | Dimension code Per 2 digits of Length, Width, e.g. : 2012 = Length =20 mm Width =12 mm | Unit of dimension 3G5: 3.5GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

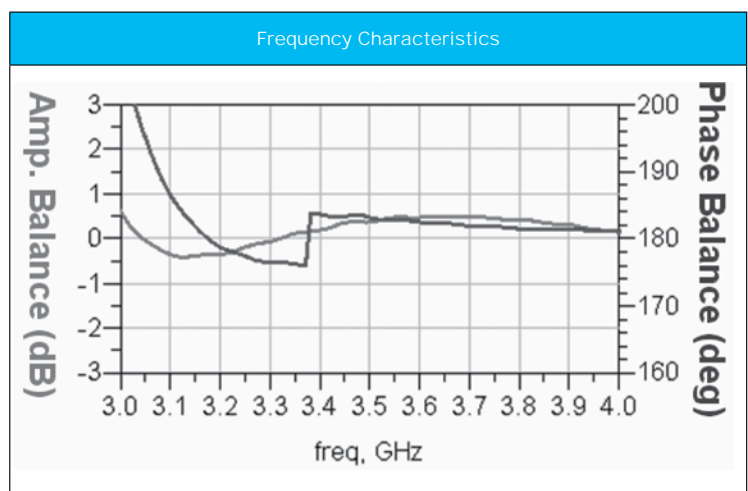
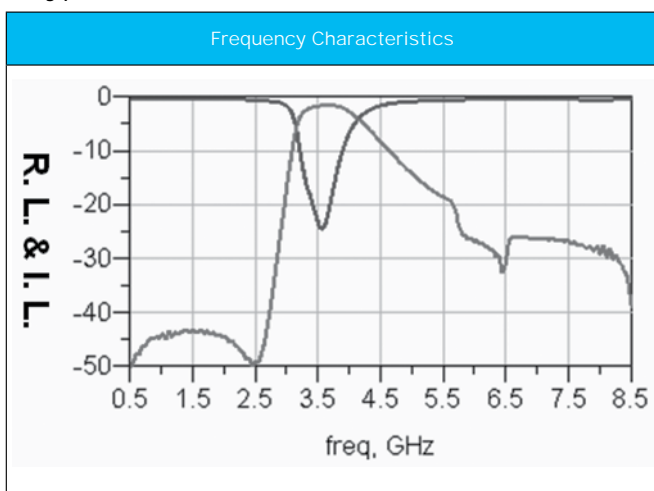
| Symbol | Dimension |
|--------|-----------------|
| L | 2.0 ± 0.15 mm |
| W | 1.20 ± 0.10 mm |
| T | 0.40 ± 0.10 mm |
| A | 0.175 ± 0.10 mm |
| B | 0.35 ± 0.15 mm |
| C | 0.30 ± 0.15 mm |
| D | 0.65 ± 0.10 mm |
| E | 0.20 ± 0.10 mm |
| F | 0.35 ± 0.10 mm |
| G | 0.50 ± 0.10 mm |



RFBPB20123G5W7T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 3550 ± 250MHz |
| Insertion Loss | 2.5dB (max.) |
| VSWR | 2.1(max.) |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Blanced) | 100 Ω |
| Attenuation (min.) | 40dB @ 1710~1990 MHz 40dB @ 2110~2170 MHz 35dB @ 2400~2500 MHz 10dB @ 4900~5850 MHz |

Typical Electrical Characteristics:



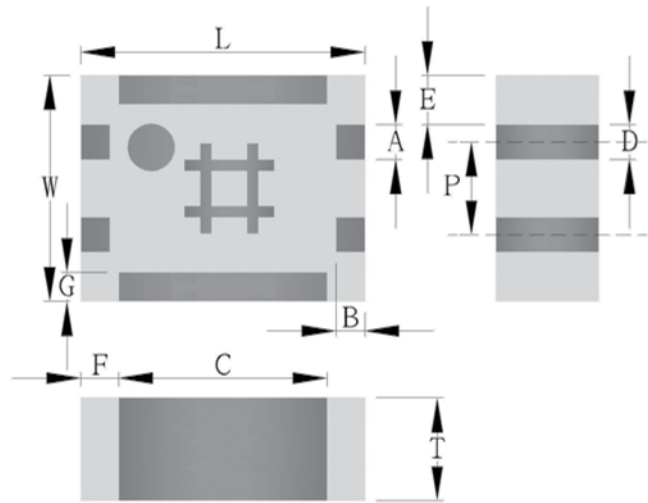
2.6 GHz WiMAX Band Working Frequency- Blanced Filter- RFBPB25202G6W0T

How to Order

| RF | BPB | 2520 | 2G6 | W | O | T |
|---------------------|---------------------------------------|---|----------------------------------|-------------------------|------------------------------|---------------------|
| Walsin RF Device | Product code BPB : Balanced Filter | Dimension code Per 2 digits of Length, Width, e.g. : 2520 = Length =25 mm Width =20 mm | Unit of dimension 2G6: 2.6GHz | Application W: WiMax | Specification Design Code | Packing T=Reeled |

Dimensions

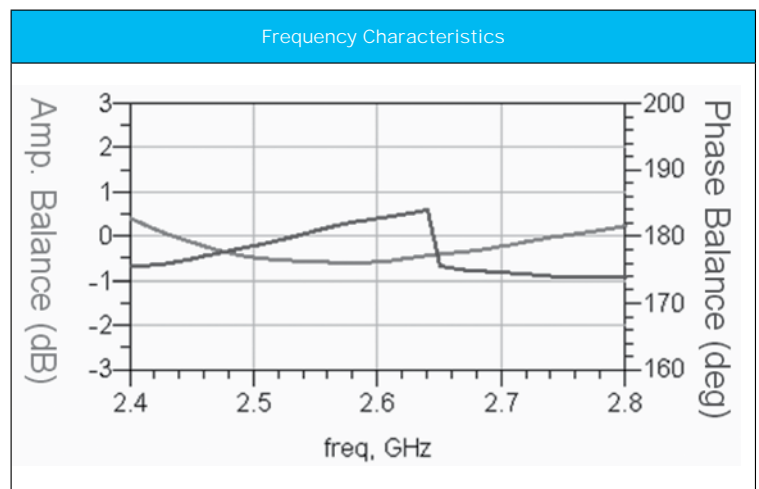
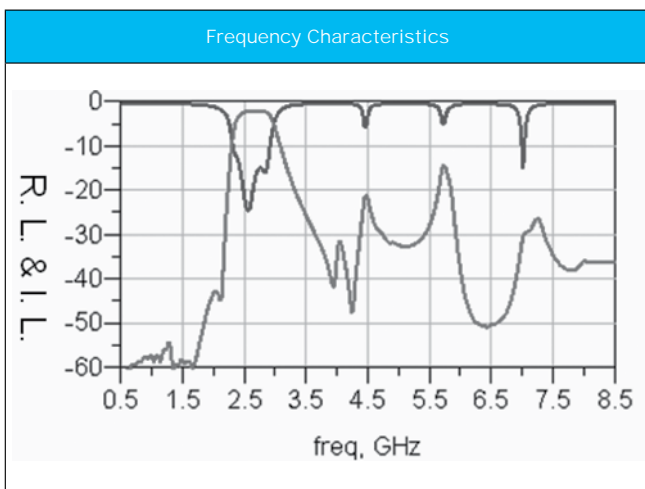
| Symbol | Dimension |
|--------|-----------------|
| L | 2.50 ± 0.20 mm |
| W | 2.00 ± 0.20 mm |
| T | 0.90 ± 0.10 mm |
| A | 0.30 ± 0.15 mm |
| B | 0.30 ± 0.15 mm |
| C | 1.85 ± 0.15 mm |
| D | 0.40 ± 0.15 mm |
| E | 0.40 ± 0.15 mm |
| F | 0.325 ± 0.15 mm |
| G | 0.30 ± 0.15 mm |
| P | 0.80 ± 0.15 mm |



RFBPB25202G6W0T Series

| Item | Specification |
|------------------------|--|
| Frequency range (MHz) | 2600 ±100MHz |
| Insertion Loss | 3.3dB (max.) |
| VSWR | 2.1(max.) |
| Impedance (Unbalanced) | 50 Ω |
| Impedance (Blanced) | 100 Ω |
| Attenuation (min.) | 47dB @ 824-960 MHz 39dB @ 1710-1990 MHz 29dB @ 2110-2170 MHz 20dB @ 7500-8100 MHz |

Typical Electrical Characteristics:





Yang-Mei

Walsin Technology Corporation
566-1, Kao-Shi Road, Yang-Mei,
Tao-Yuan, Taiwan
Tel: 886-3-475-8711
Fax: 886-3-475-7129 475-7130
E-mail: info@passivecomponent.com

Kaohsiung

Walsin Technology Corporation
1st, West 13 Street, K.E.P.Z.
Kaohsiung, Taiwan
Tel: 886-7-821-8171
Fax: 886-7-813-1661
E-mail: info@passivecomponent.com