

KYOCERA SAW Filter for Connectivity Application

Jan., 27, 2014

KYOCERA Corporation
Corporate Electronic Comp. Group
Circuit Device Department

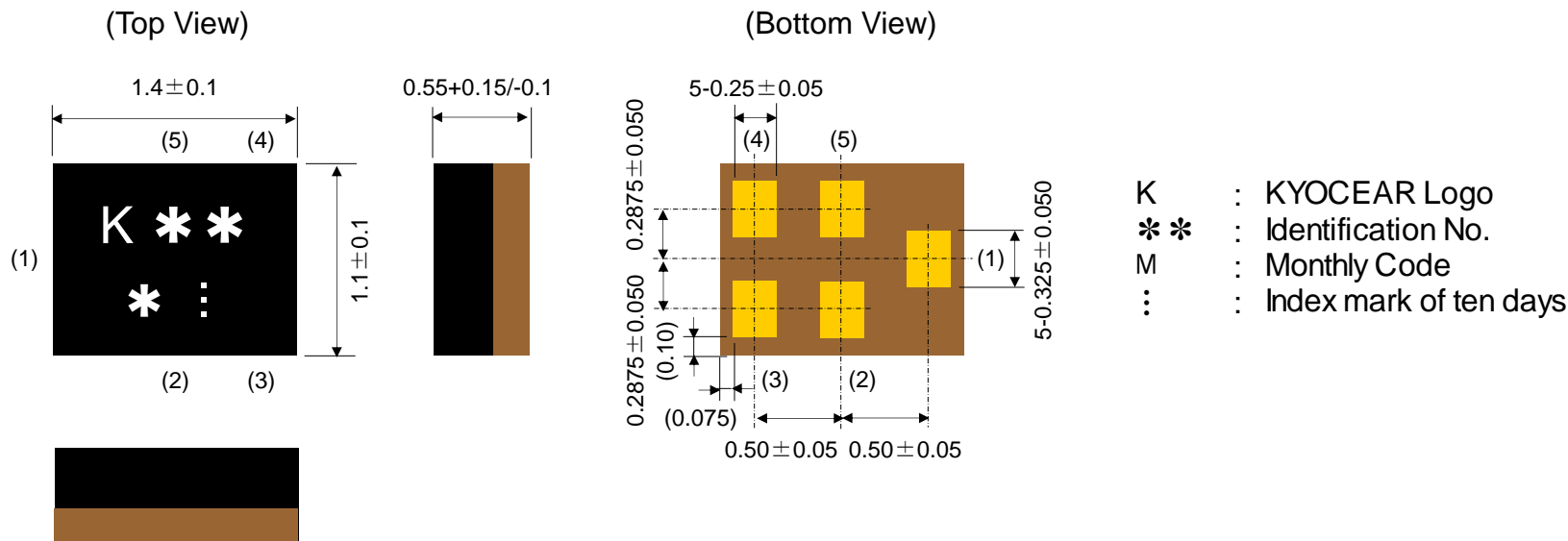
Line-up of SAW Filter for GNSS / WLAN



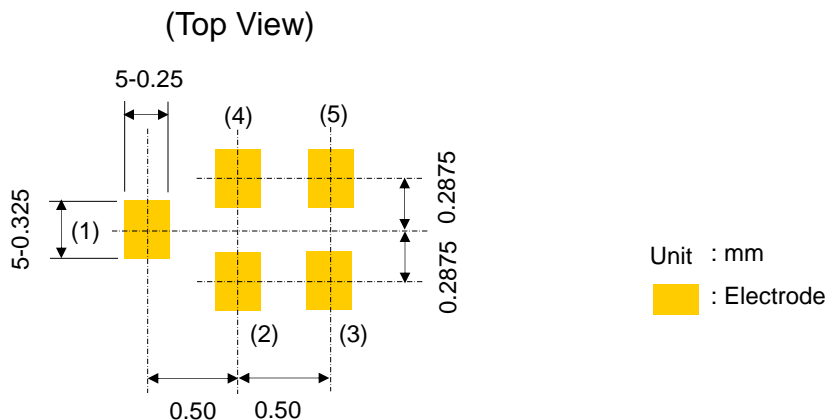
| Items | Type Name | Dimensions [mm] | Output Imp. [ohm] | Sample | Mass Production | Operating Temp. Range [deg.C] |
|----------------------------------|-----------------|----------------------|---------------------------|-----------|--------------------|--|
| GPS (Standard Type) | SF14-1575F5UUA1 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | -30~+85 |
| GPS (Ultra Low Loss Type) | SF14-1575F5UUC1 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | |
| GPS (Low Loss, Balanced Type) | SF14-1575M5UBA1 | 1.4 x 1.1 x 0.55 | 100ohm Balance | Available | Started | |
| GPS (High Att., Balance Type) | SF14-1575M5UBB1 | 1.4 x 1.1 x 0.55 | 100ohm Balance | Available | Started | |
| GPS/GLONASS/COMPASS | SF14-1582M5UUD2 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | |
| GPS (Low Loss, Balanced Type) | SF14-1575M5UBA2 | 1.4 x 1.1 x 0.55 | 100ohm Balance | Available | Started | -40~+85 |
| GPS (Standard Type) | SF14-1575F5UUA7 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | |
| GPS/GLONASS/COMPASS | SF14-1582M5UUD1 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | |
| WLAN/Bluetooth | SF14-2446M5UUA3 | 1.4 x 1.1 x 0.55 | 50ohm Unbalance | Available | Started | |

Package Information of 1411 Size SAW Filter

■ Dimensions

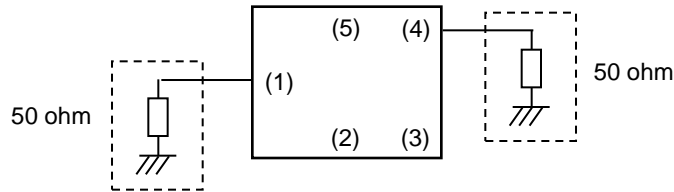


■ Recommendable Land Pattern



■ Unbalance Output

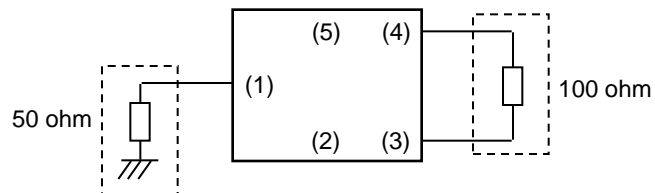
(Top View)



| Pin No. | Function |
|---------|----------|
| (1) | Input |
| (2) | GND |
| (3) | GND |
| (4) | Output |
| (5) | GND |

■ Balance Output

(Top View)



| Pin No. | Function |
|---------|----------|
| (1) | Input |
| (2) | GND |
| (3) | Output |
| (4) | Output |
| (5) | GND |

Type Name

SF14-1575F5UUA1

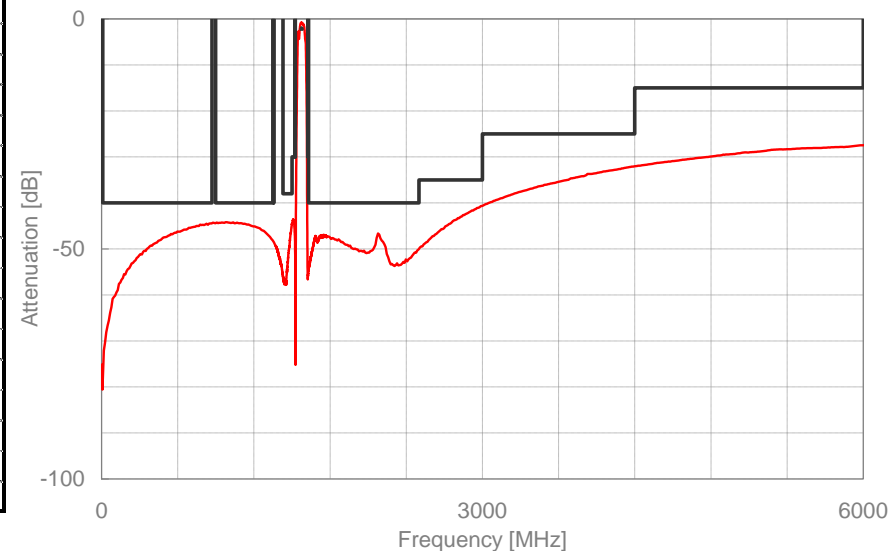
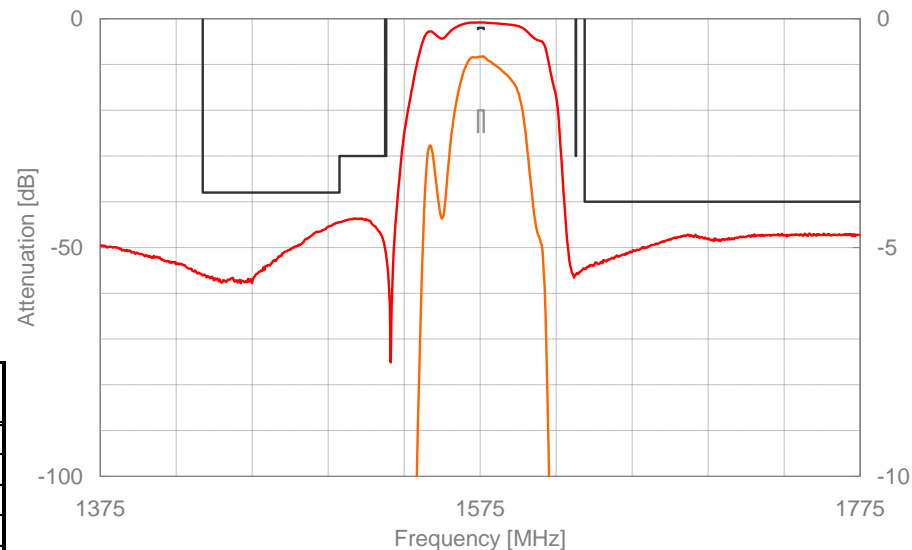
Feature

- Low Insertion Loss
- High Attenuation @ Tx Band of Mobile Phone

Specifications

| Items | Frequency [MHz] | Specification | | | Unit |
|--------------------------|--------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Center Frequency | | 1575.42 | | | MHz |
| Insertion Loss | 1573.92 to 1576.92 | - | 0.8 | 1.2 | dB |
| Ripple (peak to peak) | 1573.92 to 1576.92 | - | 0.02 | 0.6 | dB |
| Input VSWR | 1573.92 to 1576.92 | - | 1.1 | 1.7 | - |
| Output VSWR | 1573.92 to 1576.92 | - | 1.0 | 1.7 | - |
| Absolute Attenuation | 10 to 843 | 40 | 45 | - | dB |
| | 843 to 870 | 40 | 44 | - | dB |
| | 898 to 925 | 40 | 44 | - | dB |
| | 925 to 1350 | 40 | 44 | - | dB |
| | 1355.25 | 40 | 49 | - | dB |
| | 1429 to 1501 | 38 | 44 | - | dB |
| | 1501 to 1525 | 30 | 44 | - | dB |
| | 1525.42 | 30 | 49 | - | dB |
| | 1625.42 | 30 | 56 | - | dB |
| | 1630 to 1893 | 40 | 47 | - | dB |
| | 1893 to 1920 | 40 | 48 | - | dB |
| | 1920 to 1940 | 40 | 49 | - | dB |
| | 1940 to 1980 | 40 | 49 | - | dB |
| | 1980 to 2500 | 40 | 47 | - | dB |
| | 2500 to 3000 | 35 | 41 | - | dB |
| 3000 to 4200 | 25 | 32 | - | dB | |
| 4200 to 6000 | 15 | 27 | - | dB | |

Typical Curve Data



Type Name

SF14-1575F5UUC1

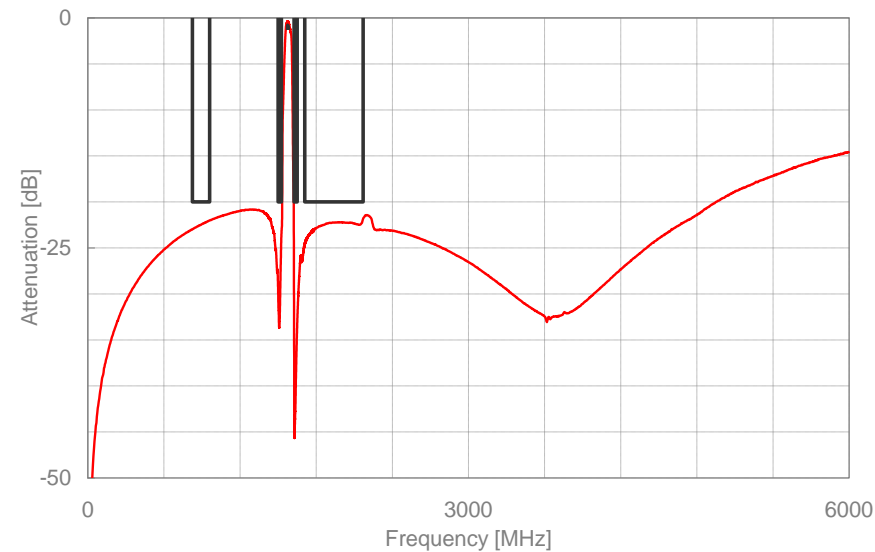
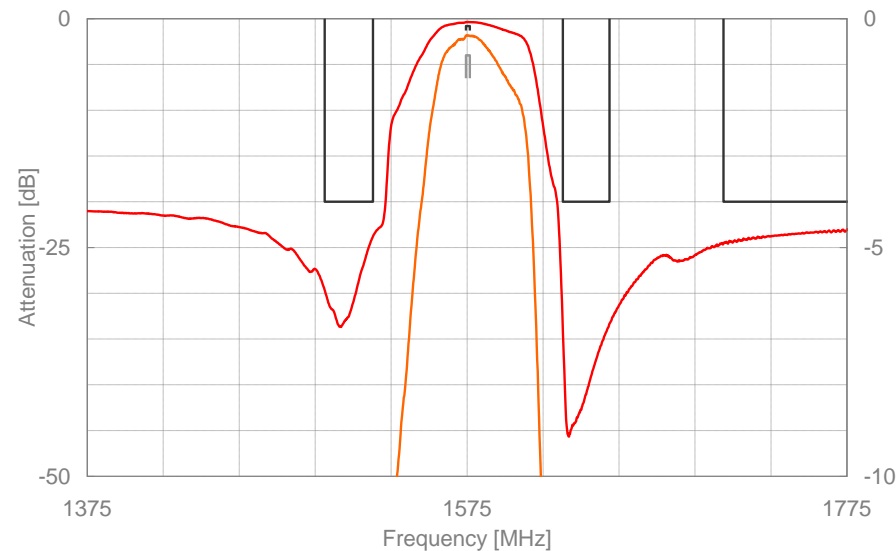
Feature

- Ultra Low Insertion Loss

Specifications

| Items | Frequency [MHz] | Specification | | | Unit |
|--------------------------|--------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Center Frequency | | 1575.42 | | | MHz |
| Insertion Loss | 1574.42 to 1576.42 | - | 0.45 | 0.8 | dB |
| Ripple (peak to peak) | 1574.42 to 1576.42 | - | 0.1 | 0.6 | dB |
| Input VSWR | 1574.42 to 1576.42 | - | 1.0 | 1.8 | - |
| Output VSWR | 1574.42 to 1576.42 | - | 1.0 | 1.8 | - |
| Absolute Attenuation | 824 to 960 | 20 | 22 | - | dB |
| | 1500 to 1525.42 | 20 | 24 | - | dB |
| | 1625.42 to 1650 | 20 | 34 | - | dB |
| | 1710 to 2170 | 20 | 22 | - | dB |

Typical Curve Data



Type Name

SF14-1575M5UBA1

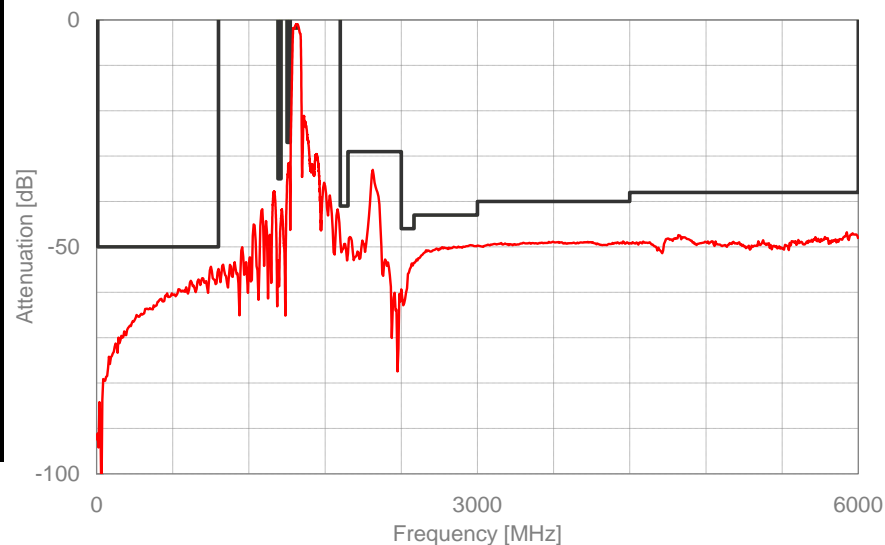
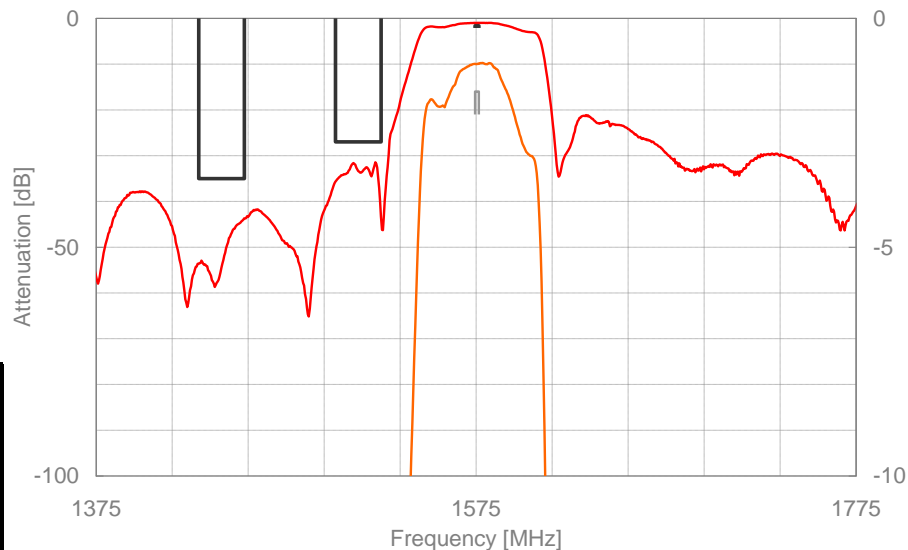
Feature

- Low Insertion Loss
- High Attenuation @ Tx Band of Mobile Phone

Specifications

| | Frequency Range (MHz) | Specification | | | Unit |
|-----------------------|-----------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Frequency | - | 1575.42 | | | MHz |
| Insertion Loss | 1574.42 to 1576.42 | - | 1.1 | 1.6 | dB |
| Amplitude Ripple(P-P) | 1574.42 to 1576.42 | - | 0.01 | 1.0 | dB |
| Input VSWR | 1574.42 to 1576.42 | - | 1.1 | 1.6 | - |
| Output VSWR | 1574.42 to 1576.42 | - | 1.1 | 1.6 | - |
| Absolute Attenuation | 10 to 810 | 50 | 57 | - | dB |
| | 810 to 960 | 50 | 55 | - | dB |
| | 1429 to 1453 | 35 | 44 | - | dB |
| | 1501 to 1525 | 27 | 32 | - | dB |
| | 1920 to 1980 | 41 | 49 | - | dB |
| | 1980 to 2400 | 29 | 33 | - | dB |
| | 2400 to 2500 | 46 | 54 | - | dB |
| | 2500 to 3000 | 43 | 50 | - | dB |
| | 3000 to 4200 | 40 | 49 | - | dB |
| 4200 to 6000 | 38 | 47 | - | dB | |
| Amplitude Imbalance | 1574.42 to 1576.42 | -1.4 | 0.3 | +1.4 | dB |
| Phase Imbalance | 1574.42 to 1576.42 | -8.0 | 2.0 | +8.0 | deg. |

Typical Curve Data



Type Name

SF14-1575M5UBB1

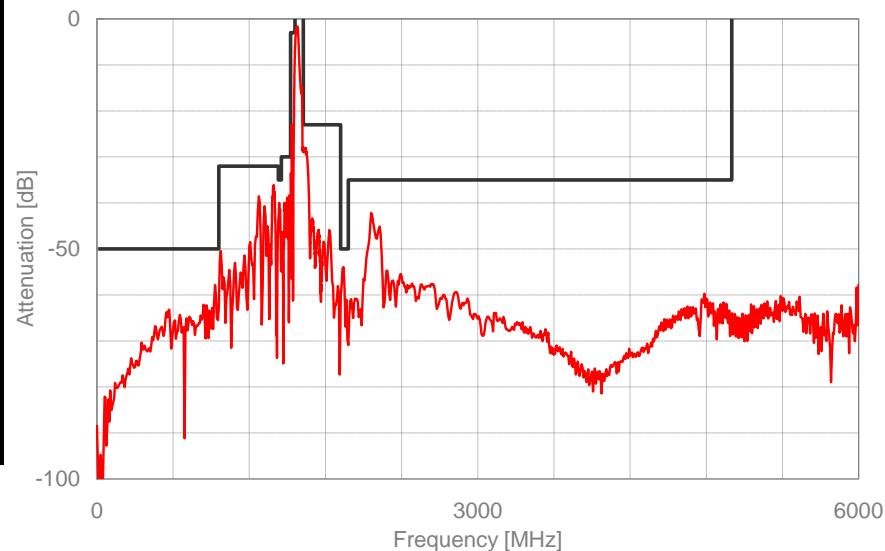
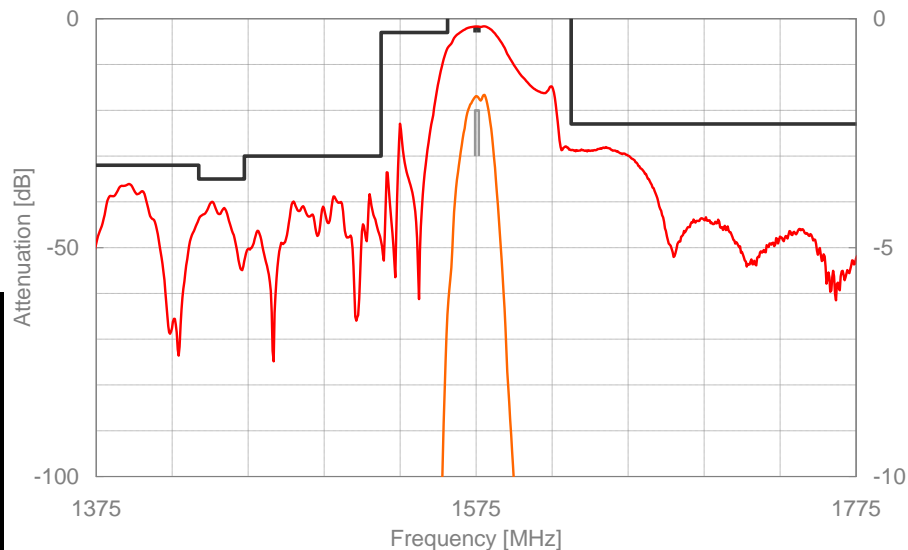
Feature

- High Attenuation @ Tx Band of Mobile Phone

Specifications

| | Frequency Range (MHz) | Specification | | | Unit |
|-----------------------|-----------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Frequency | - | 1575.42 | | | MHz |
| Insertion Loss | 1574.42 to 1576.42 | - | 1.7 | 2.0 | dB |
| Amplitude Ripple(P-P) | 1574.42 to 1576.42 | - | 0.05 | 1.0 | dB |
| Input VSWR | 1574.42 to 1576.42 | - | 1.3 | 1.8 | - |
| Output VSWR | 1574.42 to 1576.42 | - | 1.1 | 1.8 | - |
| Absolute Attenuation | 10 to 250 | 50 | 76 | - | dB |
| | 250 to 810 | 50 | 63 | - | dB |
| | 810 to 960 | 50 | 58 | - | dB |
| | 960 to 1429 | 32 | 36 | - | dB |
| | 1429 to 1453 | 35 | 40 | - | dB |
| | 1453 to 1525 | 30 | 38 | - | dB |
| | 1525 to 1560 | 3 | 6 | - | dB |
| | 1625 to 1920 | 23 | 28 | - | dB |
| | 1920 to 1980 | 50 | 54 | - | dB |
| | 1980 to 5000 | 35 | 42 | - | dB |
| Amplitude Imbalance | 1574.42 to 1576.42 | -1.8 | -0.6 | +1.8 | dB |
| Phase Imbalance | 1574.42 to 1576.42 | -11 | -4.5 | +11 | deg. |

Typical Curve Data



Type Name

SF14-1582M5UUD2

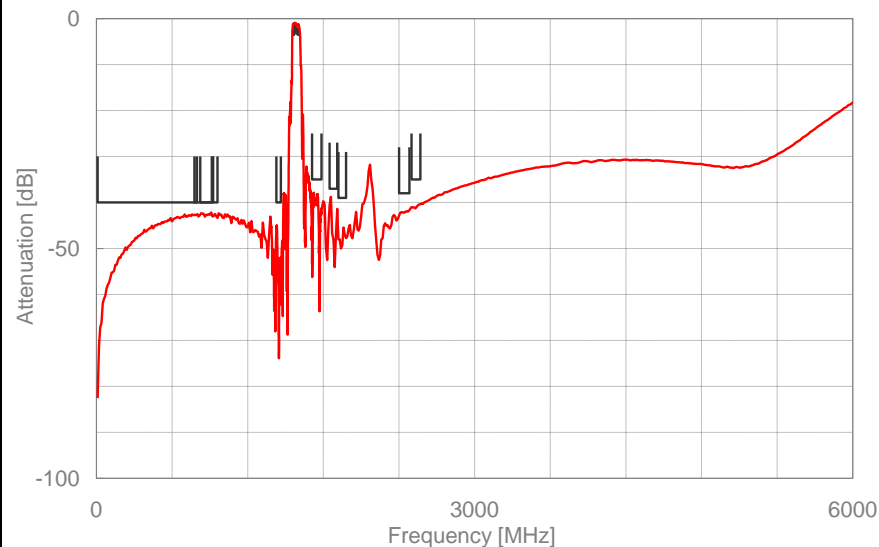
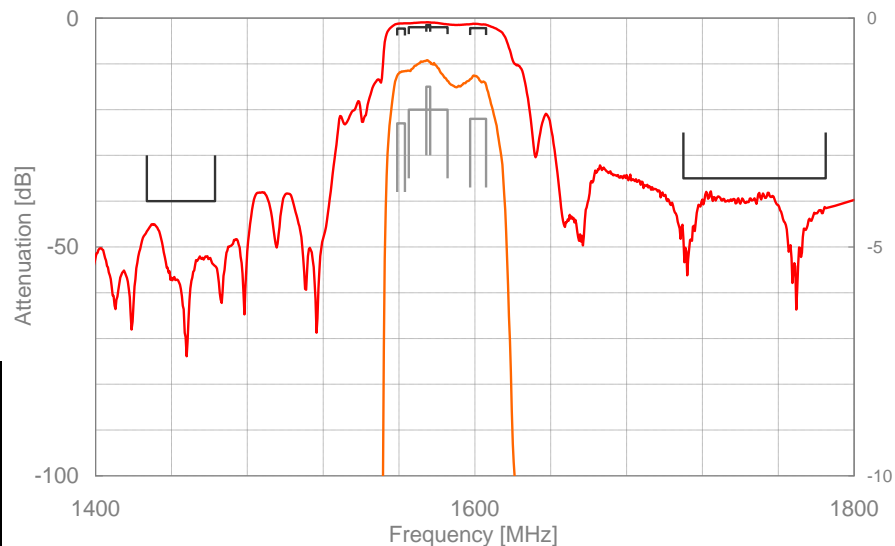
Feature

- Multi-GNSS SAW Filter
- Low Insertion Loss

Specifications

| Items | Frequency [MHz] | | Tentative Specification | | | Unit |
|--------------------------|---|------------|-------------------------|------|------|------|
| | | | min. | typ. | max. | |
| Nominal Center Frequency | - | | 1582 | | | MHz |
| Insertion Loss | 1574.39 | to 1576.45 | - | 0.9 | 1.5 | dB |
| | 1565.19 | to 1585.65 | - | 1.2 | 2.0 | dB |
| | 1559.05 | to 1563.15 | - | 1.2 | 2.3 | dB |
| | 1597.55 | to 1605.89 | - | 1.4 | 2.2 | dB |
| Group Delay Ripple | 1597.55 | to 1605.89 | - | 5.5 | 15 | ns |
| Input VSWR | 1574.39 | to 1576.45 | - | 1.2 | 2.0 | - |
| | 1565.19 | to 1585.65 | - | 1.7 | 2.0 | - |
| | 1559.05 | to 1563.15 | - | 1.3 | 2.2 | - |
| | 1597.55 | to 1605.89 | - | 1.5 | 2.0 | - |
| Output VSWR | 1574.39 | to 1576.45 | - | 1.2 | 2.0 | - |
| | 1565.19 | to 1585.65 | - | 1.7 | 2.0 | - |
| | 1559.05 | to 1563.15 | - | 1.3 | 2.3 | - |
| | 1597.55 | to 1605.89 | - | 1.6 | 2.0 | - |
| Absolute Attenuation | 777 | to 798 | 40 | 42 | - | dB |
| | 824 | to 915 | 40 | 42 | - | dB |
| | 10 | to 925 | 40 | 42 | - | dB |
| | 925 | to 960 | 40 | 42 | - | dB |
| | 1427 | to 1463 | 40 | 45 | - | dB |
| | 1710 | to 1785 | 35 | 37 | - | dB |
| | 1850 | to 1910 | 37 | 39 | - | dB |
| | 1920 | to 1980 | 39 | 45 | - | dB |
| 700MHz harmonic | Input : 15dBm at 787.76MHz Measure : second harmonic at 1575.52MHz | | - | -77 | -73 | dBm |

Typical Curve Data



Type Name

SF14-1575M5UBA2

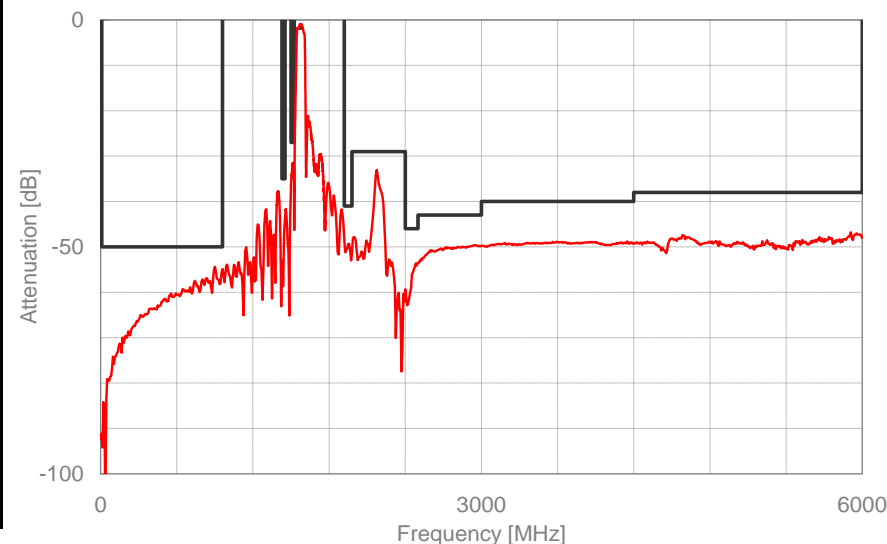
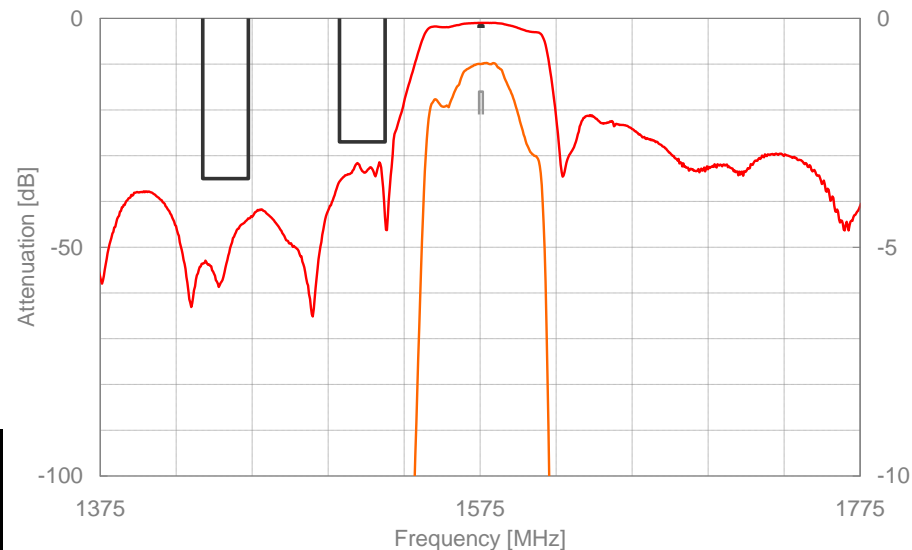
Feature

- Low Insertion Loss
- High Attenuation @ Tx Band of Mobile Phone
- Operating Temp. Range : -40 to +85 deg. C

Specifications

| | Frequency Range (MHz) | Specification | | | Unit |
|-----------------------|-----------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Frequency | - | 1575.42 | | | MHz |
| Insertion Loss | 1574.42 to 1576.42 | - | 1.1 | 1.6 | dB |
| Amplitude Ripple(P-P) | 1574.42 to 1576.42 | - | 0.01 | 1.0 | dB |
| Input VSWR | 1574.42 to 1576.42 | - | 1.1 | 1.7 | - |
| Output VSWR | 1574.42 to 1576.42 | - | 1.1 | 1.7 | - |
| Absolute Attenuation | 10 to 810 | 50 | 57 | - | dB |
| | 810 to 960 | 50 | 55 | - | dB |
| | 1429 to 1453 | 35 | 44 | - | dB |
| | 1501 to 1525 | 27 | 32 | - | dB |
| | 1920 to 1980 | 41 | 49 | - | dB |
| | 1980 to 2400 | 29 | 33 | - | dB |
| | 2400 to 2500 | 46 | 54 | - | dB |
| | 2500 to 3000 | 43 | 50 | - | dB |
| | 3000 to 4200 | 40 | 49 | - | dB |
| 4200 to 6000 | 38 | 47 | - | dB | |
| Amplitude Imbalance | 1574.42 to 1576.42 | -1.4 | 0.3 | +1.4 | dB |
| Phase Imbalance | 1574.42 to 1576.42 | -8.0 | 2.0 | +8.0 | deg. |

Typical Curve Data



Type Name

SF14-1575F5UUA7

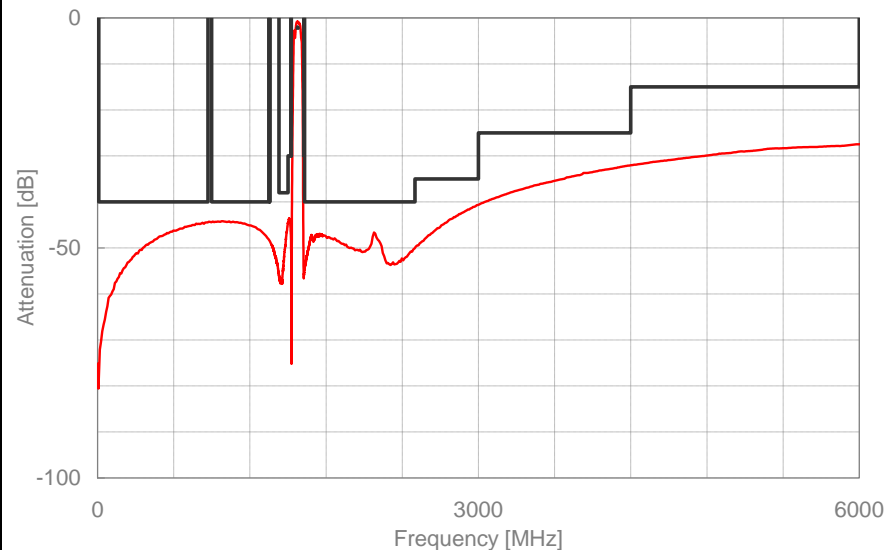
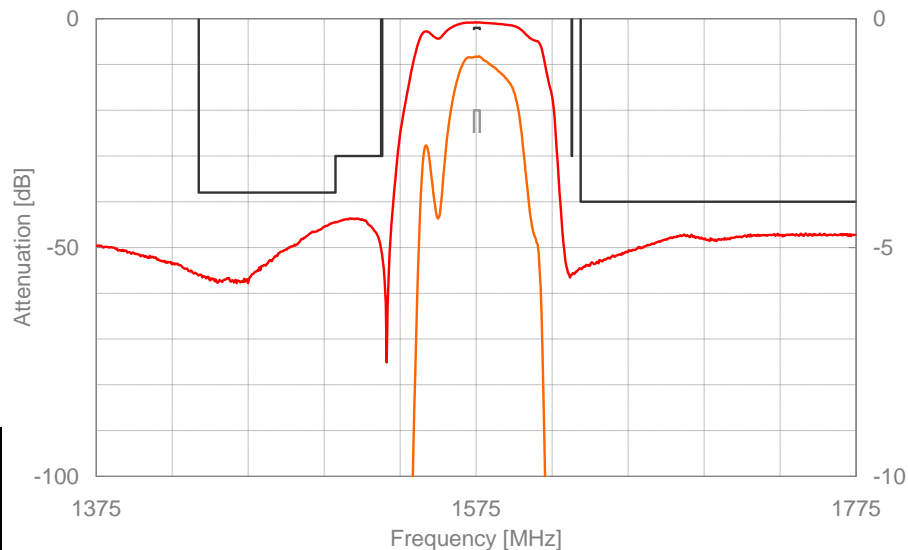
Feature

- Low Insertion Loss
- High Attenuation @ Tx Band of Mobile Phone
- Operating Temp. Range : -40 to +85 deg. C

Specifications

| Items | Frequency [MHz] | Specification | | | Unit |
|--------------------------|--------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Nominal Center Frequency | | 1575.42 | | | MHz |
| Insertion Loss | 1573.92 to 1576.92 | - | 0.8 | 1.2 | dB |
| Ripple (peak to peak) | 1573.92 to 1576.92 | - | 0.02 | 0.6 | dB |
| Input VSWR | 1573.92 to 1576.92 | - | 1.1 | 1.7 | - |
| Output VSWR | 1573.92 to 1576.92 | - | 1.0 | 1.7 | - |
| Absolute Attenuation | 10 to 843 | 40 | 45 | - | dB |
| | 843 to 870 | 40 | 44 | - | dB |
| | 898 to 925 | 40 | 44 | - | dB |
| | 925 to 1350 | 40 | 44 | - | dB |
| | 1355.25 | 40 | 49 | - | dB |
| | 1429 to 1501 | 38 | 44 | - | dB |
| | 1501 to 1525 | 30 | 44 | - | dB |
| | 1525.42 | 30 | 49 | - | dB |
| | 1625.42 | 30 | 56 | - | dB |
| | 1630 to 1893 | 40 | 47 | - | dB |
| | 1893 to 1920 | 40 | 48 | - | dB |
| | 1920 to 1940 | 40 | 49 | - | dB |
| | 1940 to 1980 | 40 | 49 | - | dB |
| | 1980 to 2500 | 40 | 47 | - | dB |
| 2500 to 3000 | 35 | 41 | - | dB | |
| 3000 to 4200 | 25 | 32 | - | dB | |
| 4200 to 6000 | 15 | 27 | - | dB | |

Typical Curve Data



Type Name

SF14-1582M5UUD1

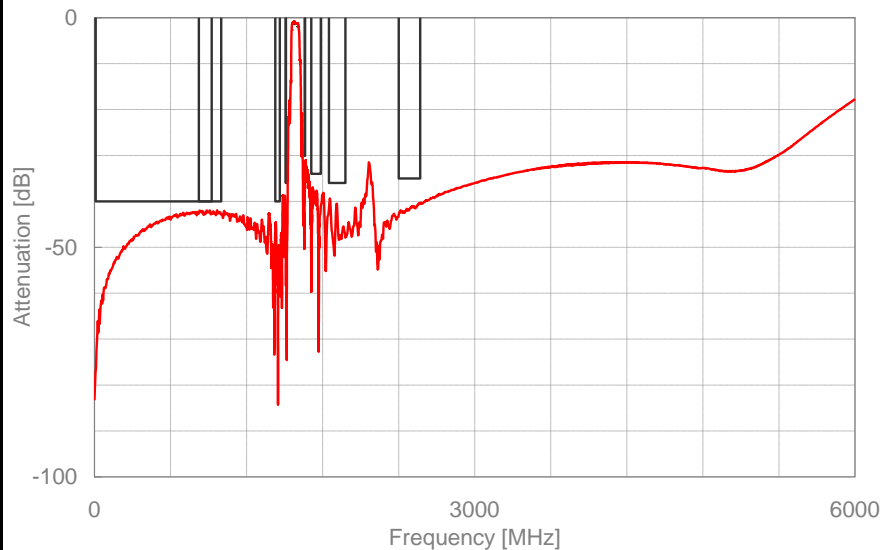
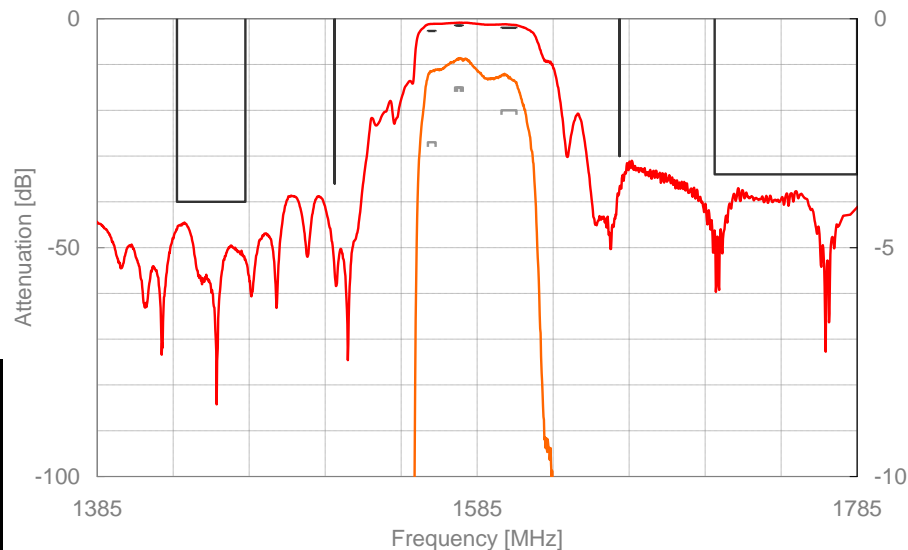
Feature

- Low Insertion Loss
- Operating Temp. Range : -40 to +85 deg. C

Specifications

| Items | Frequency [MHz] | | Specification | | | Unit | Note |
|--------------------------|-----------------|------------|---------------|------|------|------|--------------|
| | | | min. | typ. | max. | | |
| Nominal Center Frequency | - | | 1582 | | | MHz | |
| Insertion Loss | 1574.39 | to 1576.45 | - | 0.9 | 1.5 | dB | |
| | 1597.78 | to 1605.66 | - | 1.4 | 2.0 | dB | |
| | 1559.05 | to 1563.15 | - | 1.4 | 2.8 | dB | -40 to +85°C |
| | | | | | 2.7 | dB | |
| | 1573.37 | to 1577.47 | - | 0.9 | 1.5 | dB | |
| Input VSWR | 1574.39 | to 1576.45 | - | 1.2 | 1.8 | - | |
| | 1597.78 | to 1605.66 | | 1.5 | 2.0 | - | |
| | 1559.05 | to 1563.15 | | 1.4 | 2.2 | - | |
| | 1573.37 | to 1577.47 | | 1.3 | 1.8 | - | |
| Output VSWR | 1574.39 | to 1576.45 | - | 1.2 | 1.8 | - | |
| | 1597.78 | to 1605.66 | | 1.6 | 2.0 | - | |
| | 1559.05 | to 1563.15 | | 1.3 | 2.3 | - | |
| | 1573.37 | to 1577.47 | | 1.3 | 1.8 | - | |
| Absolute Attenuation | 10 | to 1000 | 40 | 42 | - | dB | |
| | 824 | to 925 | 40 | 42 | - | dB | |
| | 1427 | to 1463 | 40 | 45 | - | dB | |
| | 1510 | | 36 | 49 | - | dB | |
| | 1660 | | 30 | 37 | - | dB | |
| | 1710 | to 1785 | 34 | 37 | - | dB | |
| | 1850 | to 1980 | 36 | 39 | - | dB | |
| | 2400 | to 2570 | 35 | 40 | - | dB | |

Typical Curve Data



Type Name

SF14-2446M5UUA3

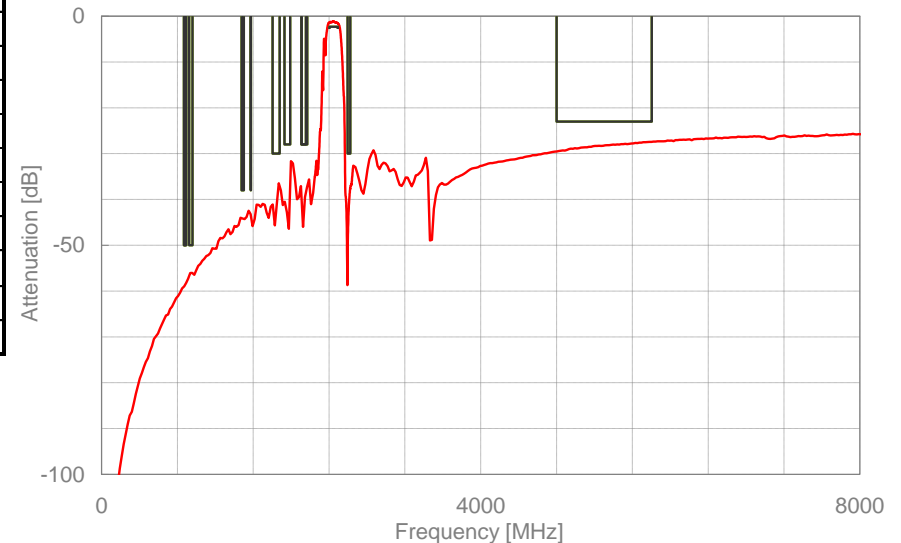
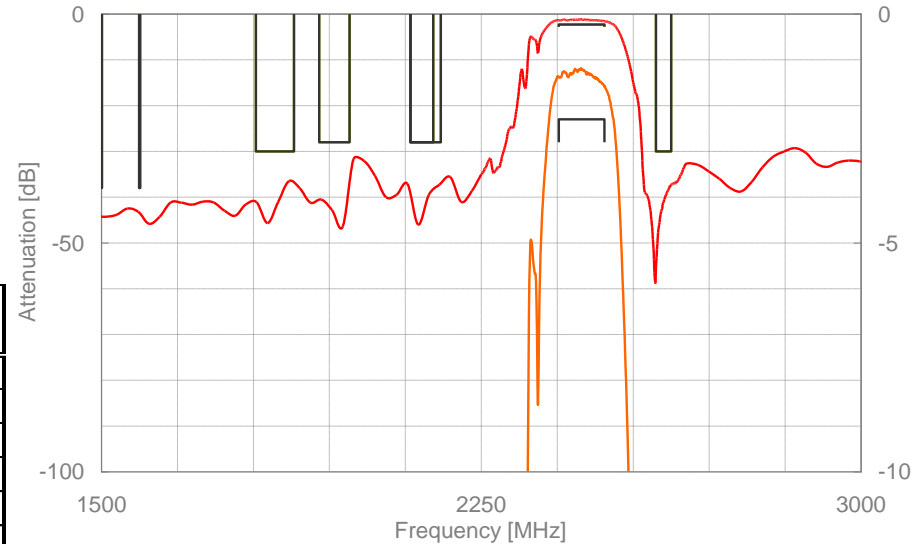
Feature

- Low Insertion Loss

Specifications

| Items | Frequency (MHz) | Specification | | | Unit |
|----------------------|--------------------|---------------|------|------|------|
| | | min. | typ. | max. | |
| Insertion Loss | 2400 to 2493 | - | 1.5 | 2.3 | dB |
| Ripple | 2400 to 2493 | - | 0.3 | 1.4 | dB |
| Input VSWR | 2400 to 2493 | - | 1.3 | 2.1 | - |
| Output VSWR | 2400 to 2493 | - | 1.3 | 2.1 | - |
| Absolute Attenuation | 875 to 885 | 50 | 59 | - | dB |
| | 869 to 894 | 50 | 58 | - | dB |
| | 925 to 960 | 50 | 56 | - | dB |
| | 1477 to 1501 | 38 | 44 | - | dB |
| | 1574.42 to 1576.42 | 38 | 44 | - | dB |
| | 1805 to 1880 | 30 | 37 | - | dB |
| | 1930 to 1990 | 28 | 33 | - | dB |
| | 2110 to 2155 | 28 | 38 | - | dB |
| | 2110 to 2170 | 28 | 36 | - | dB |
| | 2595 to 2625 | 30 | 39 | - | dB |
| 4800 to 5805 | 23 | 27 | - | dB | |
| Input Impedance | | 50//2.7nH | | | ohm |
| Output Impedance | | 50//2.7nH | | | ohm |

Typical Curve Data



THE NEW VALUE FRONTIER



KYOCERA Corporation

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
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(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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