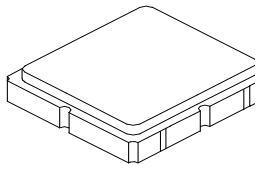
# Preliminary

RFM products are now Murata products.

# RF3618E

## 902.875 MHz SAW Filter

- ***Low-loss RF SAW Filter***
- ***3 x 3 mm Surface-mount Package***
- ***Complies with Directive 2002/95/EC (RoHS)***



**SM3030-6**

### Absolute Maximum Ratings

| Rating | Value | Units |
|---|---|---|
| Input Power Level | +10 | dBm |
| DC Voltage on any Non-ground Terminal | ±6 | V |
| Operating Temperature Range | -40 to +105 | °C |
| Component Storage Temperature Range | -40 to +105 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |

### Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| Center Frequency | $f_C$ | | | 902.875 | | MHz |
| 3 dB Bandwidth | $BW_3$ | | | 2.3 | | MHz |
| Minimum Insertion Loss | $IL_{MIN}$ | | | 2.4 | 3.2 | dB |
| 902.20 to 903.55 MHz Passband Relative to $IL_{MIN}$ | | | | 0.5 | 2.0 | |
| 902.10 to 903.65 MHz Passband Relative to $IL_{MIN}$ | | | | 1.0 | 3.5 | |
| Rejection Relative to $IL_{MIN}$: | | | | | | |
| 820.0 to 884.0 MHz | | | 43 | 47 | | |
| 884.0 to 892.0 MHz | | | 36 | 40 | | |
| 892.0 to 900.5 MHz | | | 20 | 27 | | |
| 906.0 to 910.5 MHz | | | 19 | 23 | | |
| 910.5 to 929.0 MHz | | | 27 | 31.5 | | |
| 929.0 to 945.0 MHz | | | 42 | 57 | | |
| 945.0 to 1000.0 MHz | | | 45 | 53 | | |
| Matching to 50 ohm Source Impedance | $Z_S$ | | | TBD | | |
| Matching to 50 ohm Load Impedance | $Z_L$ | | | TBD | | |

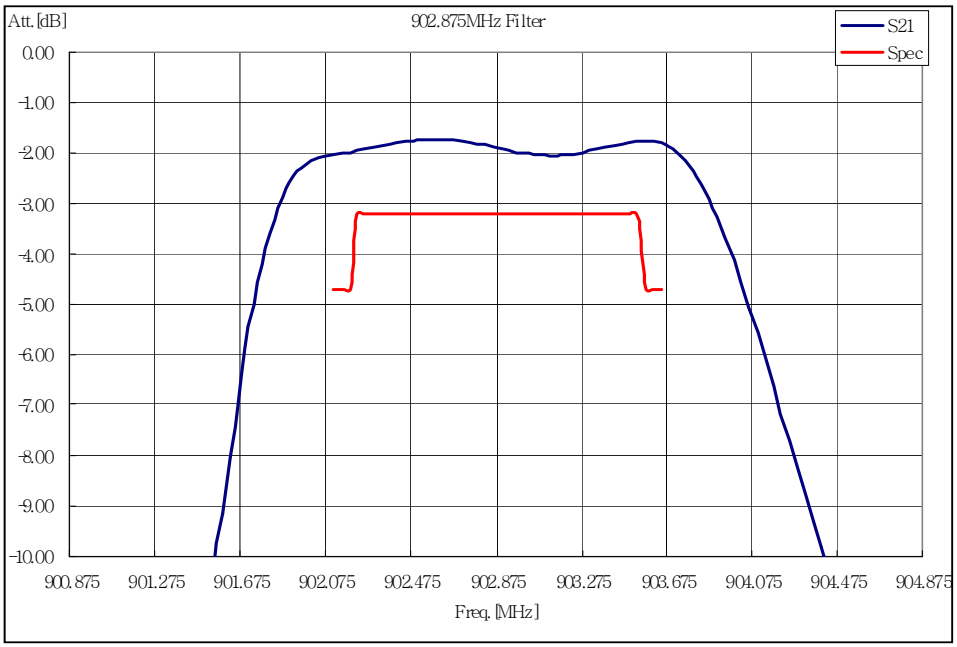
| | |
|---|---|
| Case Style | SM3030-6 3.0 x 3.0 mm Nominal Footprint |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | A12, YWWS |
| Standard Reel Quantity Reel Size 7 Inch | 500 Pieces/Reel |
| Reel Size 13 Inch | 3000 Pieces/Reel |

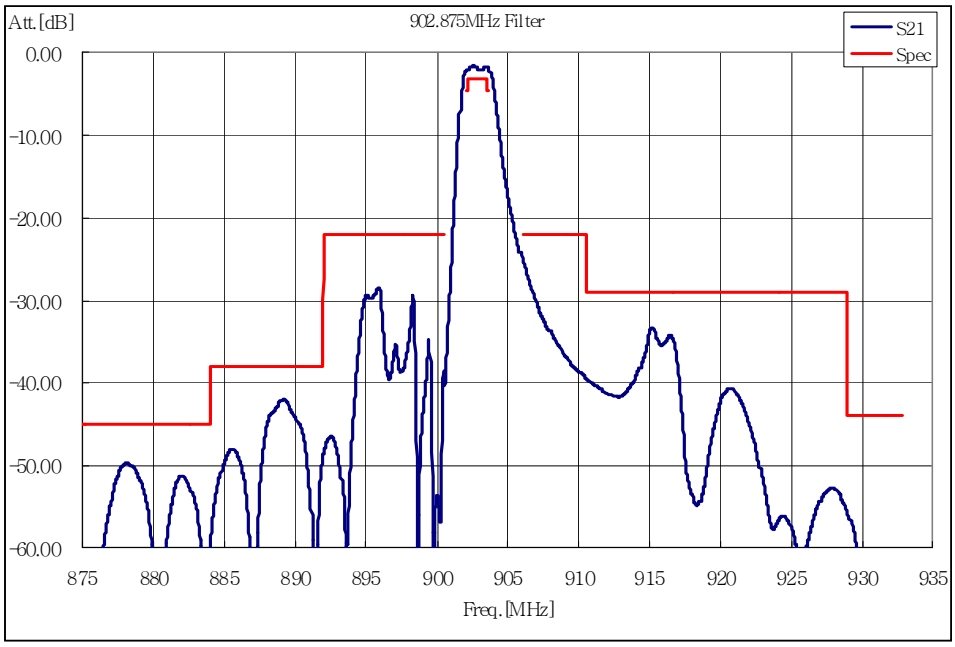
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

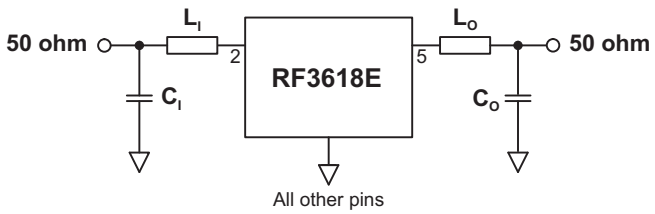
**NOTES:**

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

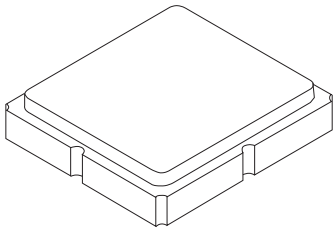
# RF3618E Response Simulations

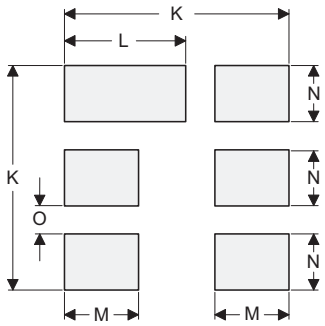


# 6-Terminal SM3030-6 Ceramic Surface-Mount Case
# 3.0 X 3.0 mm Nominal Footprint






**PCB Footprint Top View**

### Case and PCB Footprint Dimensions

| Dimension | mm | | | Inches | | |
|---|---|---|---|---|---|---|
| | Min | Nom | Max | Min | Nom | Max |
| **A** | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| **B** | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| **C** | 1.12 | 1.25 | 1.38 | 0.044 | 0.049 | 0.054 |
| **D** | 0.77 | 0.90 | 1.03 | 0.030 | 0.035 | 0.040 |
| **E** | 2.67 | 2.80 | 2.93 | 0.105 | 0.110 | 0.115 |
| **F** | 1.47 | 1.60 | 1.73 | 0.058 | 0.063 | 0.068 |
| **G** | 0.72 | 0.85 | 0.98 | 0.028 | 0.033 | 0.038 |
| **H** | 1.37 | 1.50 | 1.63 | 0.054 | 0.059 | 0.064 |
| **I** | 0.47 | 0.60 | 0.73 | 0.019 | 0.024 | 0.029 |
| **J** | 1.17 | 1.30 | 1.43 | 0.046 | 0.051 | 0.056 |
| **K** | | 3.20 | | | 0.126 | |
| **L** | | 1.70 | | | 0.067 | |
| **M** | | 1.05 | | | 0.041 | |
| **N** | | 0.81 | | | 0.032 | |
| **O** | | 0.38 | | | 0.015 | |

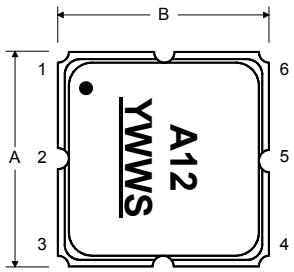
### Case Materials

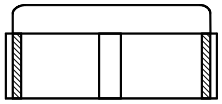
| Materials | |
|---|---|
| Solder Pad Plating | 0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel |
| Lid Plating | 2.0 to 3.0 µm Nickel |
| Body | $Al_2O_3$ Ceramic |
| Pb Free | |

### Electrical Connections

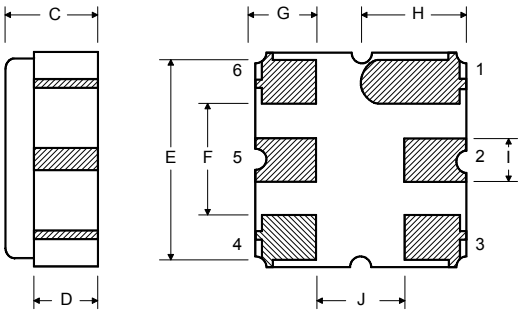
| Connection | Terminals |
|---|---|
| Input Port | 2 |
| Output Port | 5 |
| Case Ground | 1, 3, 4, 6 |

**Top**

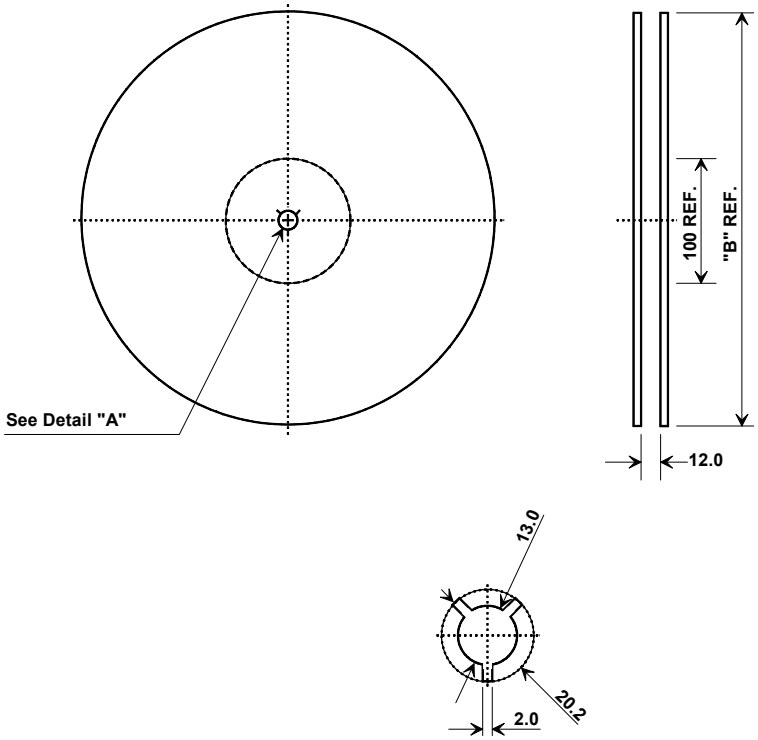


**Bottom**



**Tape and Reel Specifications**




| "B " | | Quantity Per Reel |
|---|---|---|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 3000 |

**COMPONENT ORIENTATION and DIMENSIONS**

| Carrier Tape Dimensions | |
|---|---|
| Ao | 3.35 mm |
| Bo | 3.35 mm |
| Ko | 1.40 mm |
| Pitch | 8.0 mm |
| W | 12.0 mm |