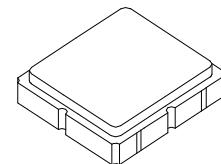


- **Designed for SDARS Receiver IF Application**
- **Low Insertion Loss**
- **3.8 X 3.8 X 1.0 mm Surface-Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**


Absolute Maximum Ratings

| Rating | Value | Units |
|--|----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Max. DC voltage between any 2 terminals | 30 | VDC |
| Storage Temperature Range | -40 to +85 | °C |
| Suitable for lead-free soldering - Max Soldering Profile | 260°C for 30 s | |

SF2024D-1
**467.751 MHz
SAW Filter**

SM3838-8
Electrical Characteristics

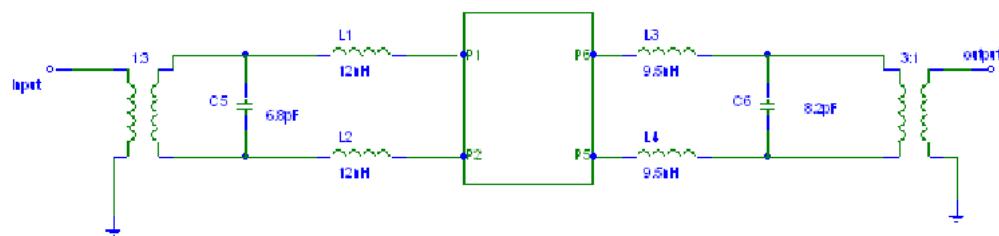
| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|----------------------------|---------|---|---------|---------|-------|
| Center Frequency | f _C | | 467.704 | 467.751 | 467.798 | MHz |
| Insertion Loss | IL | | 13 | 15.5 | | dB |
| Amplitude Ripple (p-p) | fc-6.250 to fc-4.3925 MHz | 1, 2 | | 0.7 | 2.0 | dB |
| | fc-4.3925 to fc-2.535 MHz | | | 0.8 | 2.0 | |
| | fc-2.5350 to fc-0.025 MHz | | | 0.9 | 2.0 | |
| | fc+0.025 to fc+2.535 MHz | | | 1.1 | 2.0 | |
| | fc+2.5350 to fc+4.3925 MHz | | | 1.1 | 2.0 | |
| | fc+4.3925 to fc+6.250 MHz | | | 1.2 | 2.0 | |
| Pass bandwidth of -2.0dB centered at fc | | | 13.0 | | | MHz |
| Pass bandwidth of -3 dB | | | | | | |
| Low Side Attenuation between 455.751 to 457.251 MHz (fc-10.5 MHz) | | | 32 | | | dB |
| Low Side Attenuation F<455.751 MHz | | | 32 | | | |
| High Side Attenuation between 476.751 to 479.751 MHz (fc+9.0 MHz) | | | 20 | | | |
| High Side Attenuation F>479.751 MHz | | | 32 | | | |
| Temperature Coefficient of frequency | | | | | -18 | ppm/K |
| Delay Ripple (p-p) | fc-6.250 to fc-4.3925 MHz | 1, 2, 3 | | 70 | 110 | ns |
| | fc-4.3925 to fc-2.535 MHz | | | 70 | 140 | |
| | fc-2.5350 to fc-0.025 MHz | | | 75 | 120 | |
| | fc+0.025 to fc+2.535 MHz | | | 80 | 120 | |
| | fc+2.5350 to fc+4.3925 MHz | | | 80 | 100 | |
| | fc+4.3925 to fc+6.250 MHz | | | 85 | 140 | |
| Source Impedance | Z _S | | 150 | | | Ω |
| Load Impedance | Z _L | | 150 | | | Ω |
| Case Style | | 6 | SM3838-8 3.8 x 3.8 mm Nominal Footprint | | | |
| Lid Symbolization (YY=year, WW=week, S=shift) See note 4 | | | 619 YWWS | | | |
| Operating Temperature | | | -40 | | +85 | °C |

Notes:

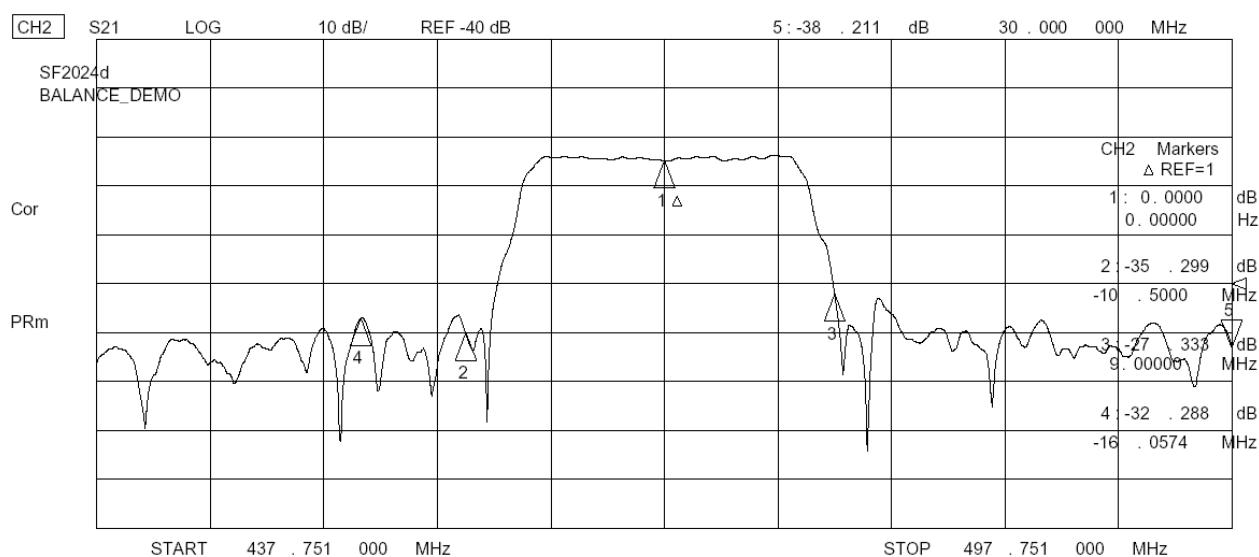
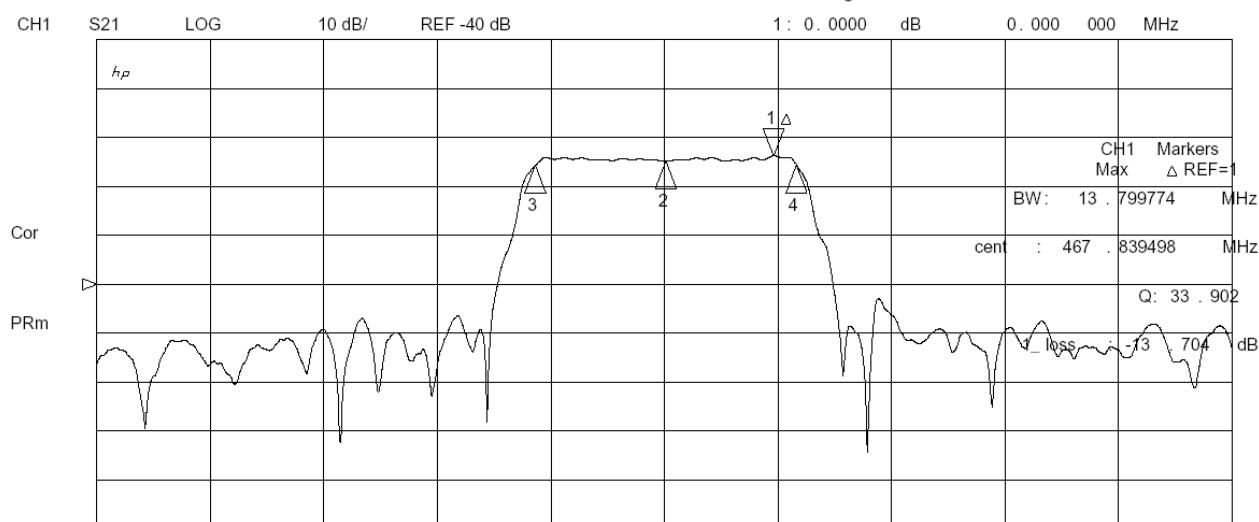
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal 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.

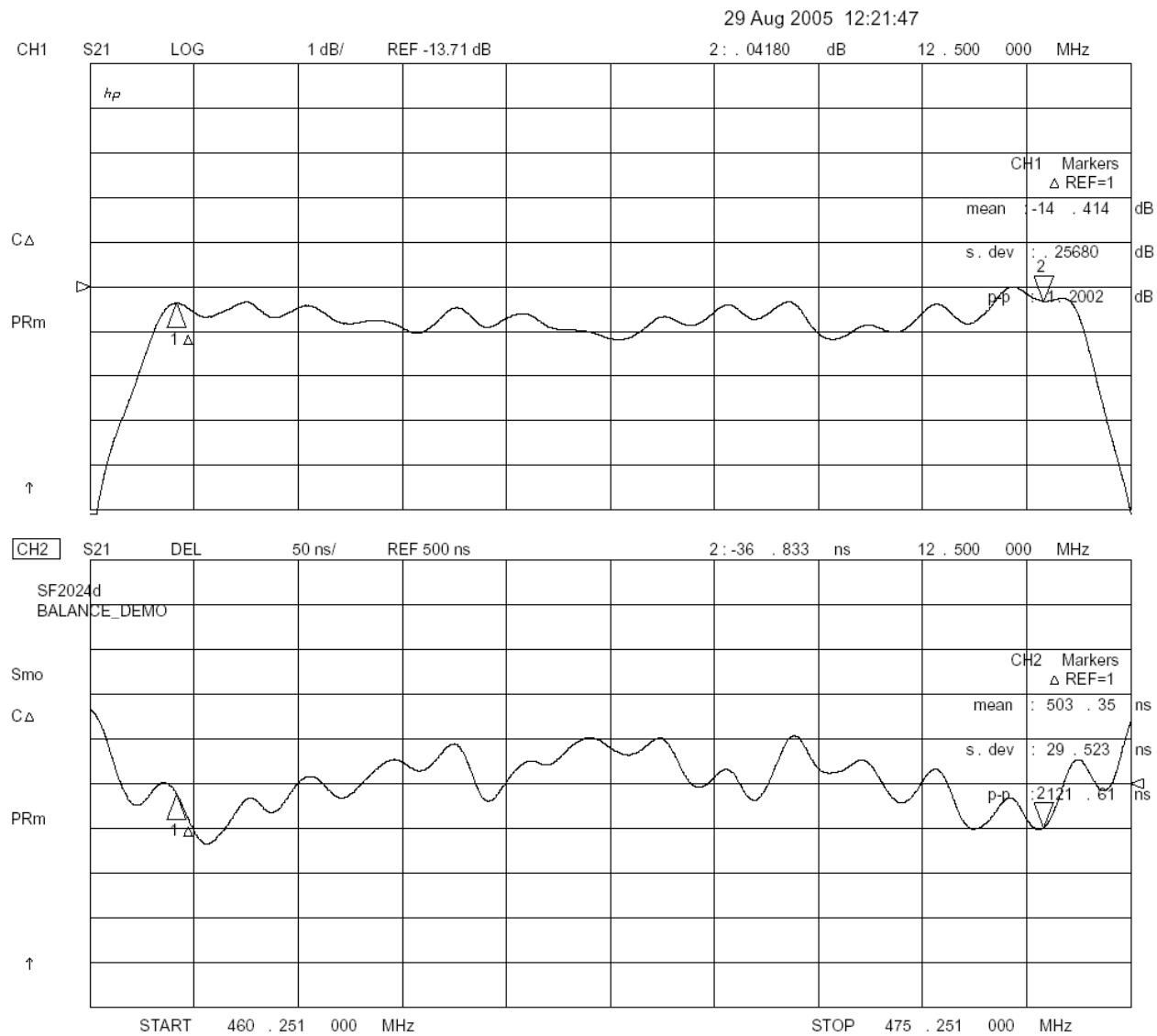
5. Tape and Reel Standard Per ANSI / EIA 481.
6. US and international patents may apply.
7. Murata, Murata stylized logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.
8. ©Copyright 2015, Murata N.A., Inc.

Electrostatic Sensitive Device. Observe precautions for handling



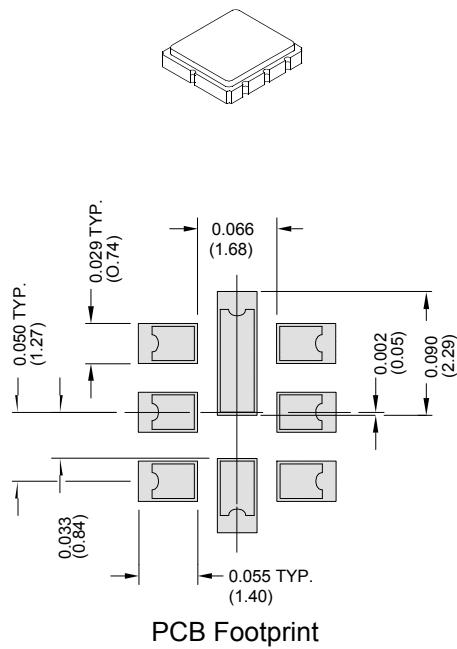
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SM3838-8-Thin Case

8-Terminal Ceramic Surface-Mount Case
3.8 X 3.8 mm Nominal Footprint

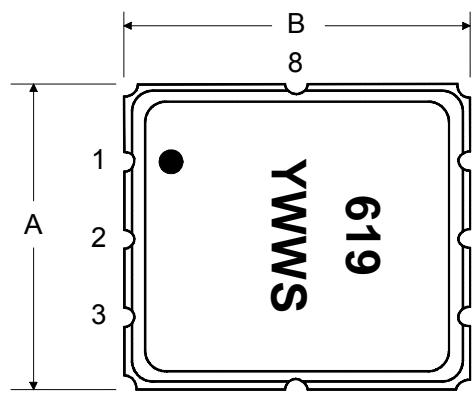


| Dimension | Case Dimensions | | | | | |
|-----------|-----------------|------|------|--------|-------|-------|
| | mm | | | Inches | | |
| | Min | Nom | Max | Min | Nom | Max |
| A | 3.6 | 3.8 | 4.0 | 0.142 | 0.150 | 0.157 |
| B | 3.6 | 3.8 | 4.0 | 0.142 | 0.150 | 0.157 |
| C | 0.90 | 1.00 | 1.1 | 0.035 | 0.040 | 0.043 |
| D | 0.80 | 0.90 | 1.0 | 0.031 | 0.035 | 0.040 |
| E | 0.90 | 1.00 | 1.10 | 0.035 | 0.040 | 0.043 |
| F | 0.50 | 0.60 | 0.70 | 0.020 | 0.024 | 0.028 |
| G | 2.39 | 2.54 | 2.69 | 0.090 | 0.100 | 0.110 |
| H | 1.40 | 1.75 | 2.05 | 0.055 | 0.069 | 0.080 |

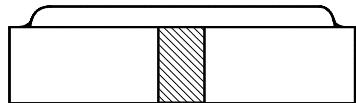
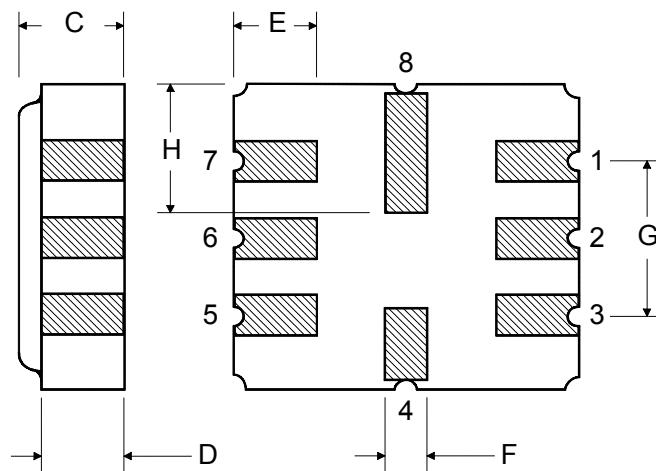
| Electrical Connections | | |
|-------------------------------|---------------------|-------------------------|
| | Connection | Terminals |
| Port 1 | Differential Input | 1, 2 |
| Port 2 | Differential Output | 5, 6 |
| | Ground | All Others |
| Single Ended Operation | | Return is Ground |
| Differential Operation | | Return is Hot |
| Dot Indicates Pin 1 | | |

| Materials | |
|------------------------|---|
| Solder Pad Termination | Au plating 30 - 60 μ inches (76.2-152 μ M) over 80-200 μ inches (203-508 μ M) Ni. |
| Lid | Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μ inches Thick |
| Body | Al_2O_3 Ceramic |
| Pb Free | |

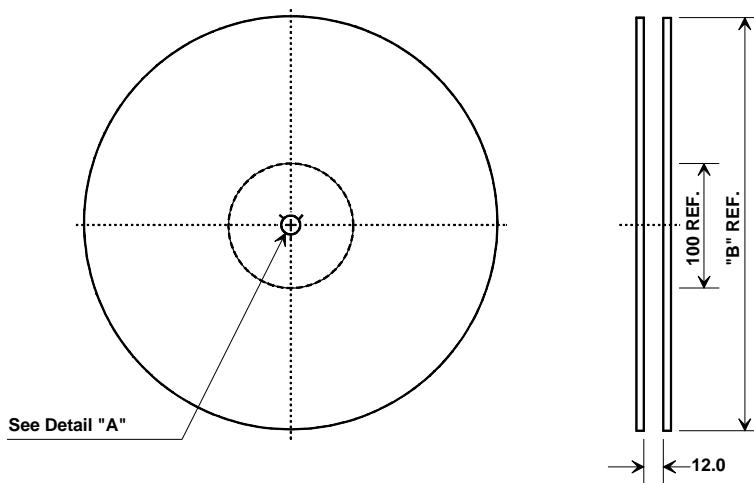
TOP VIEW



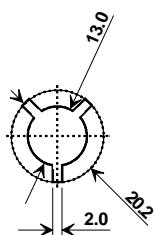
BOTTOM VIEW



Tape and Reel Specifications



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



COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 4.25 mm |
| Bo | 4.25 mm |
| Ko | 1.30 mm |
| Pitch | 8.0 mm |
| W | 12.0 mm |

