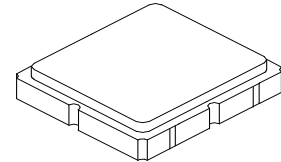


- Low Insertion Loss Dual SAW Filter
- 3.8 x 3.8 x mm Surface-mount Case
- Single-ended Input and Output
- Complies with Directive 2002/95/EC (RoHS)
- AECQ-200 Qualified



**SF2283D**

**433.20/434.64 MHz  
Dual SAW Filter**



**SM3838-8**

**Absolute Maximum Ratings**

| Rating   | Value           | Units |
|--|-----------------|-------|
| Maximum Input Power  | +10             | dBm   |
| Maximum DC Voltage Between any Two Terminals                 | 0               | VDC   |
| Storage Temperature Range in Tape and Reel                   | -40 to +85      | °C    |
| Operating Temperature Range                                  | -40 to +85      | °C    |
| Suitable for Lead-free Soldering - Maximum Soldering Profile | 260 °C for 30 s |       |

**Electrical Characteristics**

| Characteristic   | Sym      | Note | Min | Typ    | Max | Units |
|--|----------|------|-----|--------|-----|-------|
| Band 1 Center Frequency  | $f_{C1}$ |      |     | 433.20 |     | MHz   |
| Band 1 Insertion Loss, 433.10 to 433.30 MHz                    |          |      |     | 4      | 5.8 | dB    |
| Band 1 Amplitude Ripple, 433.10 to 433.30 MHz                  |          |      |     | 1      | 2.3 | dB    |
| Band 1 VSWR, 433.10 to 433.30 MHz                              |          |      |     | 1.7    | 2.8 |       |
| Band 1 Attenuation Referenced to 0 dB:<br>434.54 to 434.74 MHz |          |      | 25  | 37     |     | dB    |
| $f_{C1} + 2.40$ MHz  |          |      | 13  | 34     |     |       |
| $f_{C1} - 2.40$ MHz  |          |      | 25  | 33     |     |       |
| Band 2 Center Frequency  | $f_{C2}$ |      |     | 434.64 |     | MHz   |
| Band 2 Insertion Loss, 434.54 to 434.74 MHz                    |          |      |     | 4      | 5.8 | dB    |
| Band 2 Amplitude Ripple, 434.54 to 434.74 MHz                  |          |      |     | 1      | 2.3 | dB    |
| Band 2 VSWR, 434.54 to 434.74 MHz                              |          |      |     | 1.7    | 2.8 |       |
| Band 2 Attenuation Referenced to 0 dB:<br>433.10 to 433.30 MHz |          |      | 19  | 35     |     | dB    |
| $f_{C2} + 2.40$ MHz  |          |      | 30  | 32     |     |       |
| $f_{C2} - 2.40$ MHz  |          |      | 30  | 33     |     |       |

|  |   |  |  |  |  |                  |
|--|---|--|--|--|--|------------------|
| Case Style   | SM3838-8 3.8 x 3.8 mm Nominal Footprint |  |  |  |  |                  |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | A30, YWWS                               |  |  |  |  |                  |
| Standard Reel Quantity   | Reel Size 7 Inch                        |  |  |  |  | 500 Pieces/Reel  |
|  | Reel Size 13 Inch                       |  |  |  |  | 3000 Pieces/Reel |

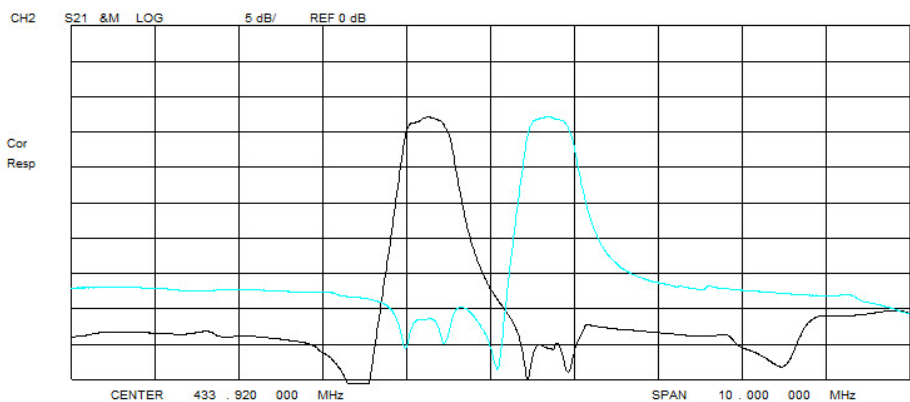
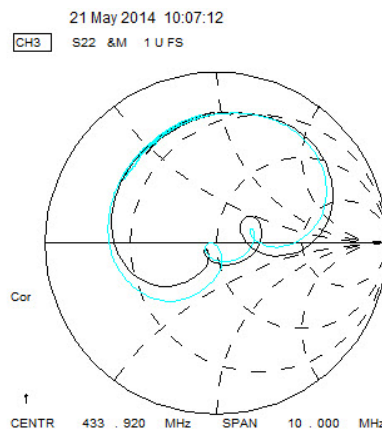
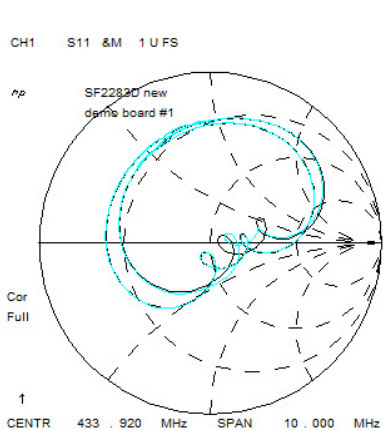
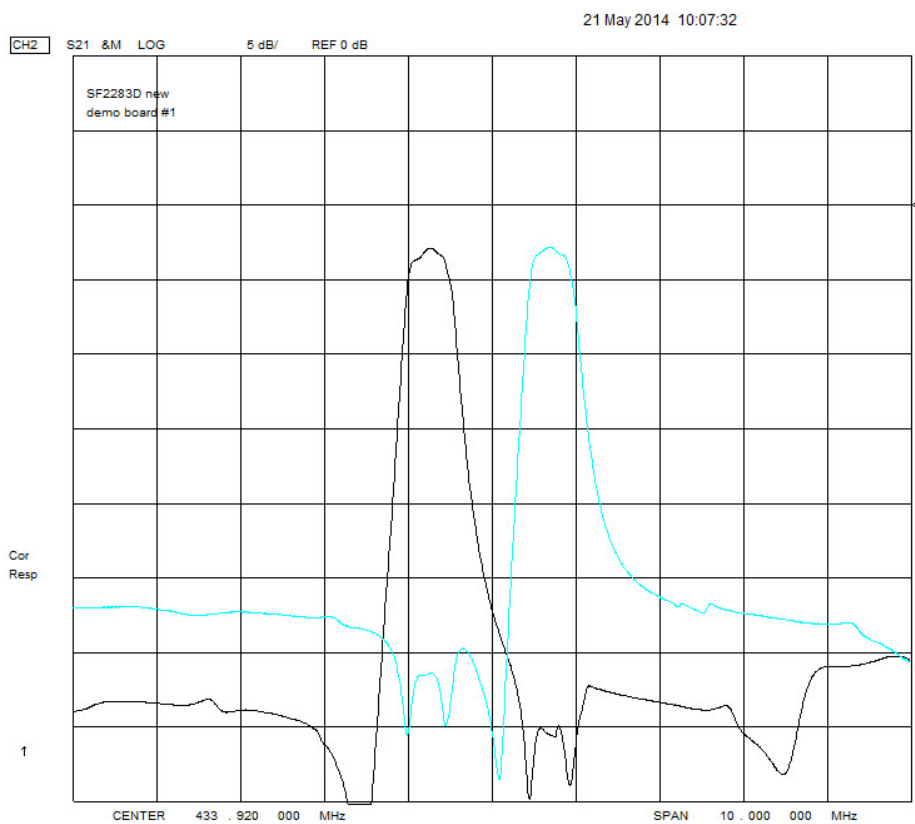


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

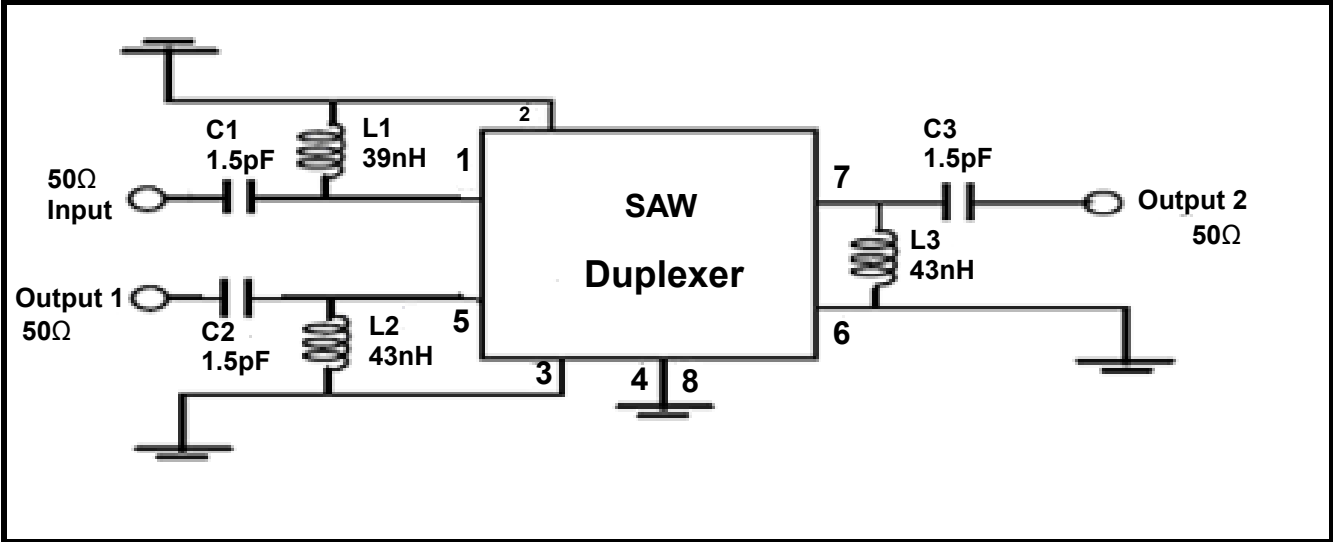
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.

# Frequency Characteristics



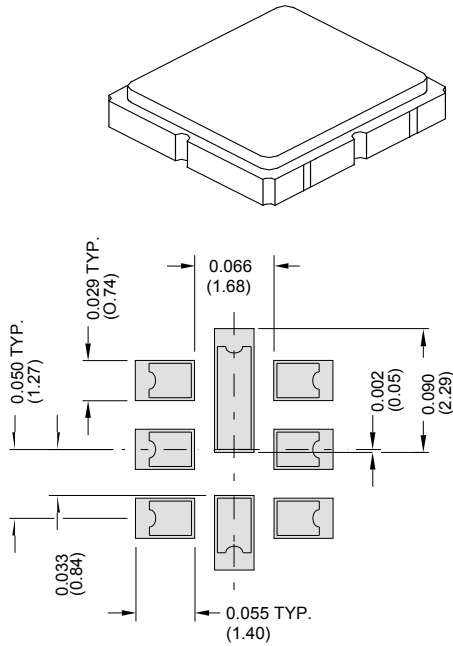
# SF2283D Schematic



# SM3838-8 Case

## 8-Terminal Ceramic Surface-mount Case

### 3.8 X 3.8 mm Nominal Footprint



Typical PCB Footprint

#### Case Dimensions

| Dimension | 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         | 1.05 | 1.20 | 1.40 | 0.041  | 0.047 | 0.055 |
| D         | 0.95 | 1.10 | 1.25 | 0.037  | 0.043 | 0.049 |
| 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

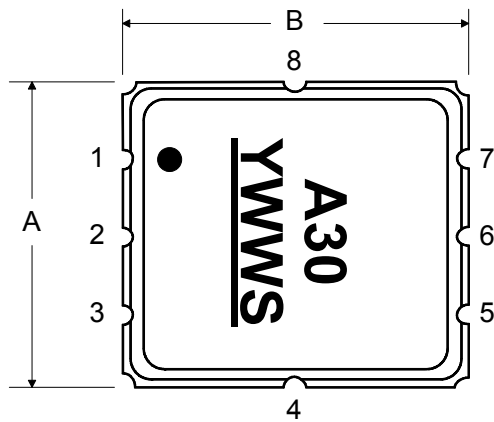
| Pin   | Connection    |
|-------|---------------|
| 1     | Input         |
| 2,3,6 | RF Ground     |
| 4,8   | Case Ground   |
| 5     | Band 1 Output |
| 7     | Band 2 Output |

Dot Indicates Pin 1

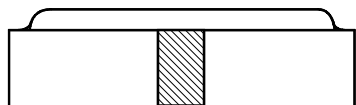
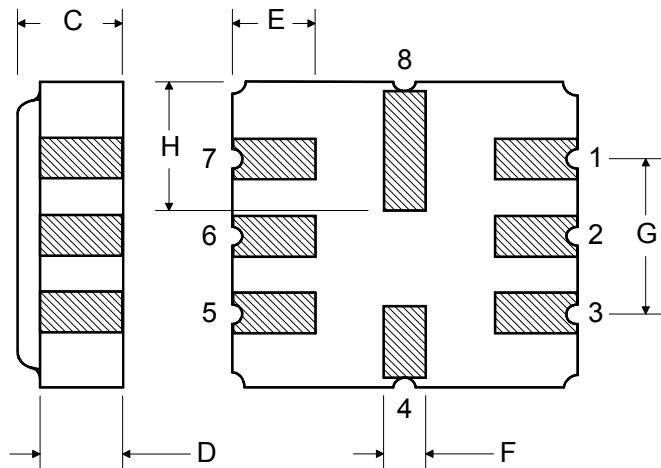
#### Materials

|                    |  |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel |
| Lid Plating        | 2.0 to 3.0 $\mu\text{m}$ Nickel                                      |
| Body               | $\text{Al}_2\text{O}_3$ Ceramic                                      |
| Pb Free            |  |

#### TOP VIEW

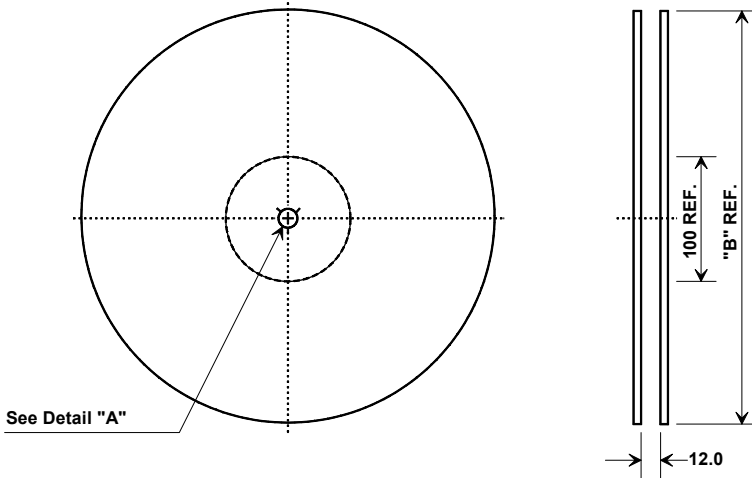


#### BOTTOM VIEW

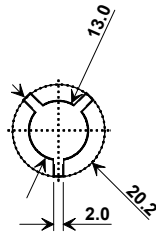


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

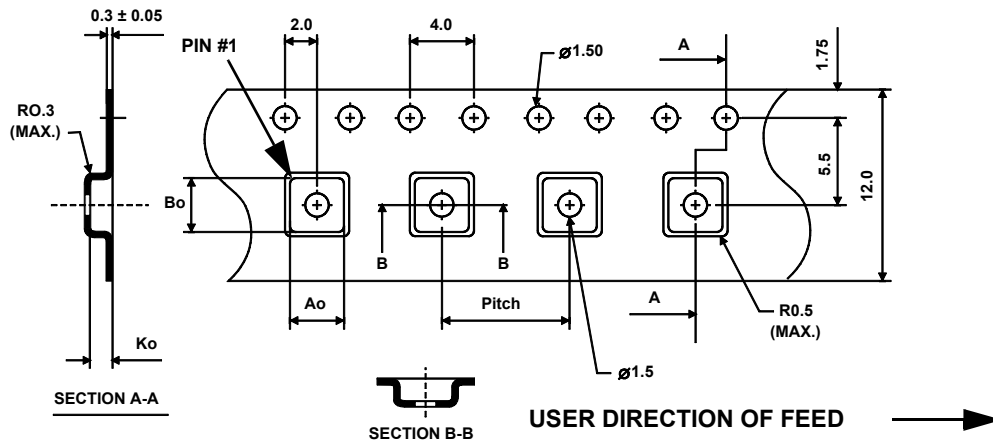


| "B" Nominal Size |             | Quantity Per Reel |
|------------------|-------------|-------------------|
| Inches           | millimeters |                   |
| 7                | 178         | 500               |
| 13               | 330         | 3000              |



### 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 |



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

