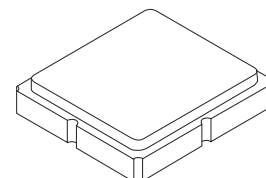


**SF2183E**

**400.00 MHz**  
**SAW Filter**



**SM3030-6**

- Low-low UHF SAW Filter
- Surface-mount 3.0 x 3.0 mm Package
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1

**Absolute Maximum Ratings**

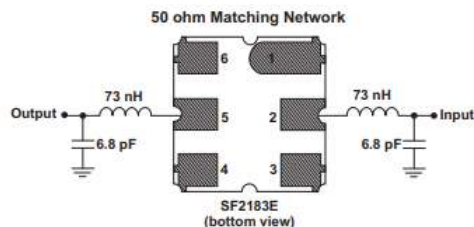
| Rating  | Value       | Units |
|---|-------------|-------|
| Input Power Level                                       | 10          | dBm   |
| DC Voltage on any Non-ground Terminal                   | 6           | V     |
| Operating Temperature Range                             | -40 to +85  | °C    |
| Component Storage Temperature Range                     | -40 to +125 | °C    |
| Storage Temperature Range in Tape and Reel              | -40 to +85  | °C    |
| Maximum Soldering Profile, 5 cycles/ 10 seconds maximum | 265         | °C    |

**Electrical Characteristics**

| Characteristic   | Sym                                     | Notes | Min | Typ                                 | Max | Units |
|--|---|-------|-----|-------------------------------------|-----|-------|
| Center Frequency   | $f_C$                                   |       |     | 400.00                              |     | MHz   |
| Minimum Insertion Loss   | $IL_{MIN}$                              |       |     | 3.0                                 | 4.0 | dB    |
| Passband Attenuation Relative to $IL_{MIN}$ , 399.875 to 400.125 MHz |   |       |     | 0.7                                 | 3.0 |       |
| Stopband Attenuation Referenced to $IL_{MIN}$ :                      |   |       |     |                                     |     | dB    |
| 10.0 to 370.0 MHz  |   |       | 50  | 56                                  |     |       |
| 370.0 to 390.0 MHz   |   |       | 42  | 46                                  |     |       |
| 390.0 to 398.8 MHz   |   |       | 22  | 25                                  |     |       |
| 401.0 to 409.0 MHz   |   |       | 10  | 22                                  |     |       |
| 409.0 to 414.0 MHz   |   |       | 30  | 40                                  |     |       |
| 414.0 to 800.0 MHz   |   |       | 42  | 50                                  |     |       |
| 800.0 to 2500.0 MHz  |   |       | 45  | 55                                  |     |       |
| Input Impedance  | $Z_S$                                   |       |     | $865 \Omega \parallel 2 \text{ pF}$ |     |       |
| Output Impedance   | $Z_L$                                   |       |     | $865 \Omega \parallel 2 \text{ pF}$ |     |       |
| Case Style   | SM3030-6 3.0 x 3.0 mm Nominal Footprint |       |     |                                     |     |       |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator     | 871, <u>YWW</u>                         |       |     |                                     |     |       |

**Electrical Connections**

| Connection  | Terminals  |
|-------------|------------|
| Input       | 2          |
| Output      | 5          |
| Case Ground | All others |

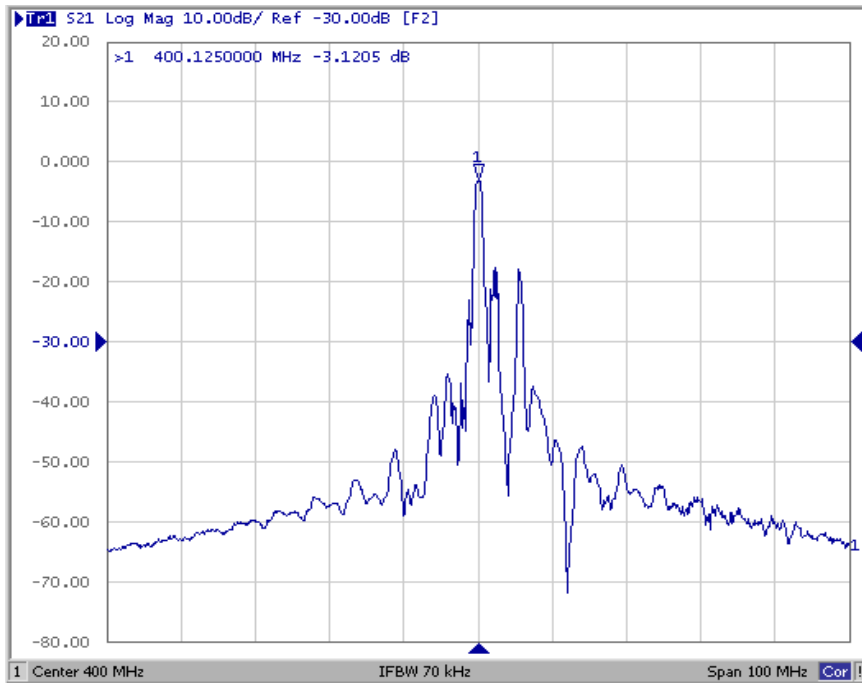


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

## SF2183E Wideband Response, 100 MHz Span

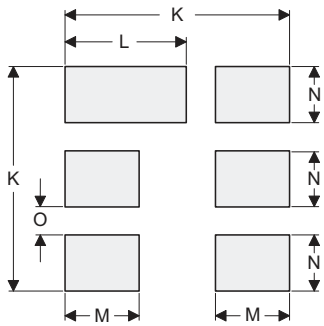
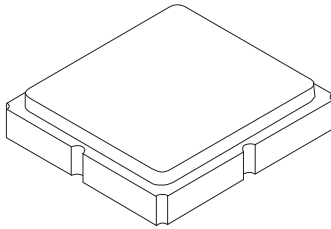


## SF2183E Passband Response, 4 MHz Span



# SM3030-6 Case

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



PCB Footprint Top View

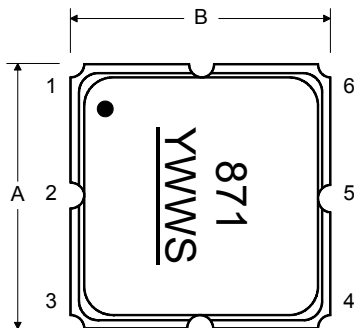
### Case and PCB Footprint Dimensions

| 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 |       |

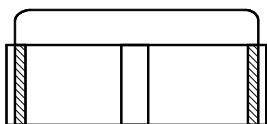
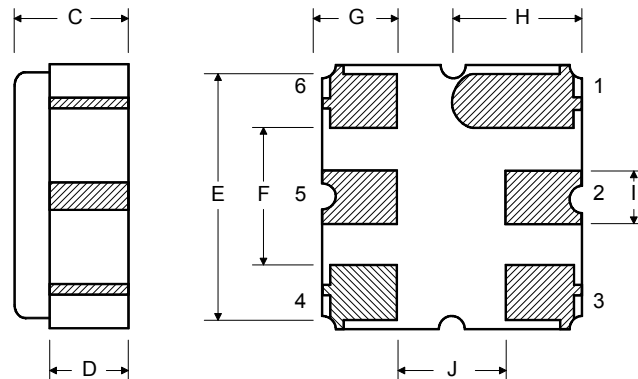
### Case Materials

| Materials          |  |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 $\mu\text{m}$ 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                                      |

### TOP VIEW



### BOTTOM VIEW





## 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.

