

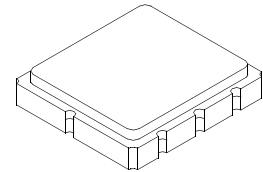
- **Ideal Front-End Filter for European Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

The RF3391D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 433.42 MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen. Typical applications of these receivers are wireless remote-control and security devices operating in Europe under ETSI I-ETS 300 220.

| Characteristic | Value | Units |
|---|-------------|-------|
| Input Power Level | +10 | dBm |
| DC Voltage | 12 | VDC |
| Storage Temperature Range | -40 to +125 | °C |
| Operating Temperature Range | -40 to +125 | °C |
| Soldering Temperature (10 seconds / 5 cycles maximum) | 260 | °C |

RF3391D

**433.42 MHz
SAW Filter**



**SM3838-8 Case
3.8 x 3.8**

Electrical Characteristics

| Characteristic | Sym | Notes | Minimum | Typical | Maximum | Units |
|---|---------------------------------------|-----------|----------------------------|------------------|---------|---------------------|
| Center Frequency at 25°C | f_c | | | 433.42 | | MHz |
| Insertion Loss | IL_{MIN} | | | 2.8 | 3.5 | dB |
| Passband Ripple (Relative to IL_{MIN}) $f_c \pm 200$ kHz | | | | 1.2 | 1.8 | dB |
| 3 dB Bandwidth | BW_3 | | 500 | 600 | 800 | kHz |
| Rejection relative to IL_{MIN} | 10 - 415 MHz | | 40 | 43 | dB | |
| | 415 - 425 MHz | | 30 | 33 | | |
| | 425 - 431 MHz | | 20 | 23 | | |
| | 435 - 440 MHz | | 10 | 13 | | |
| | 445 - 450 MHz | | 30 | 33 | | |
| 450 - 1000 MHz | | 40 | 43 | | | |
| Temperature Freq. Temp. Coefficient | FTC | | | 0.032 | | ppm/°C ² |
| Frequency Aging Absolute Value during the First Year | fA | | | ≤10 | | ppm/yr |
| Impedance @ f_c | Input $Z_{IN} = R_{IN} C_{IN}$ | Z_{IN} | 137.18 Ω 7.58 pF | | | |
| | Output $Z_{OUT} = R_{OUT} C_{OUT}$ | Z_{OUT} | 126.97 Ω 7.87 pF | | | |
| Lid Symbolization (Y=year WW=week S=shift) | 739, <u>YWWS</u> | | | | | |
| 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.**

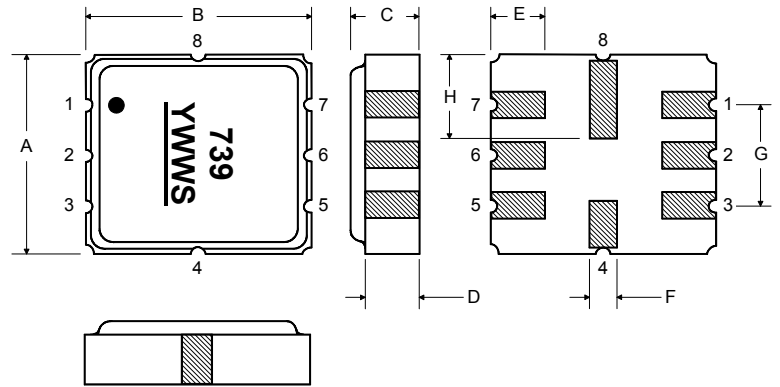
NOTES:

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

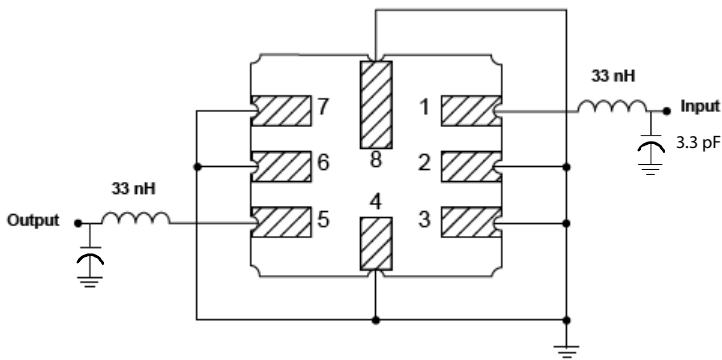
PRIMARY

Electrical Connections

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



Matching Circuit to 50Ω



Case Dimensions

| Dimension | mm | | | Inches | | |
|-----------|------|------|------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 3.6 | 3.8 | 4.0 | 0.14 | 0.15 | 0.16 |
| B | 3.6 | 3.8 | 4.0 | 0.14 | 0.15 | 0.16 |
| C | 1.00 | 1.20 | 1.40 | 0.04 | 0.05 | 0.055 |
| D | 0.95 | 1.10 | 1.25 | 0.033 | 0.043 | 0.05 |
| E | 0.90 | 1.0 | 1.10 | 0.035 | 0.04 | 0.043 |
| F | 0.50 | 0.6 | 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 |

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.

