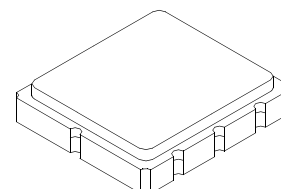




- **Designed for 433.92 MHz Applications**
- **Advanced (Lithium Tantalate) LiTaO<sub>3</sub> design for Low Insertion Loss**
- **Designed for Match to 50Ω, No External LC Required**
- **Hermetically Sealed Surface Mount Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

**RF1401D**

**433.92 MHz  
SAW Filter**



**SM3838-8 Case  
3.8 x 3.8**

| Item   | Minimum           | Typical          | Maximum | Units |
|--|-------------------|------------------|---------|-------|
| Center Frequency @ 25°C $F_C$ (MHz)                          | -                 | 433.920          | -       | MHz   |
| Minimum I.L. (433.0~434.71 MHz) (dB) $IL_{min}$              | -                 | 2.8              | 3.8     | dB    |
| Pass band (relative to $IL_{min}$ )<br>433.0~434.71 MHz (dB) | -                 | 0.5              | 1.0     | dB    |
| Pass bandwidth (relative to $IL_{min}$ ) $BW_3$ (KHz)        | 1000              |                  | -       | KHz   |
| Attenuation: (relative to $IL_{min}$ ) (dB)                  |                   |                  |         | dB    |
| 10~350 MHz (dB)  | 52                | 57               | -       |       |
| 350~393 MHz (dB)   | 47                | 52               | -       |       |
| 393~415 MHz (dB)   | 42                | 47               | -       |       |
| 415~425.5 MHz (dB)   | 37                | 45               | -       |       |
| 443.5~454 MHz (dB)   | 12                | 16               | -       |       |
| 454~475 MHz (dB)   | 34                | 39               | -       |       |
| 475~650 MHz (dB)   | 50                | 55               | -       |       |
| 650~800 MHz (dB)   | 45                | 49               | -       |       |
| Temperature Coeff  | -30               |                  |         | ppm/k |
| Operating Temperature Range                                  | -40               |                  | +85     | °C    |
| Lid Symbolization (in addition to Lot and/or Date Codes)     | 495, <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.**

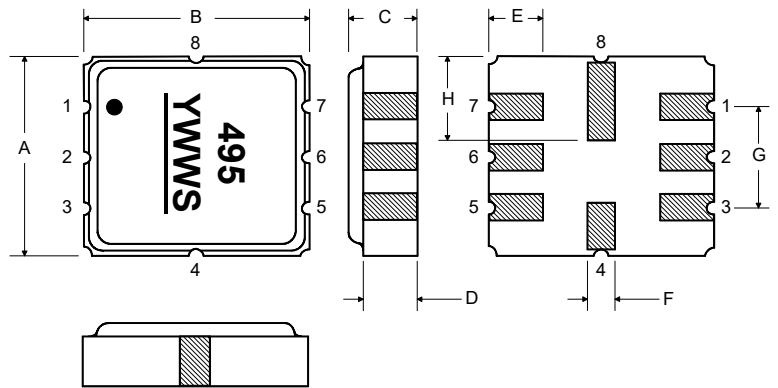
**NOTES:**

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.

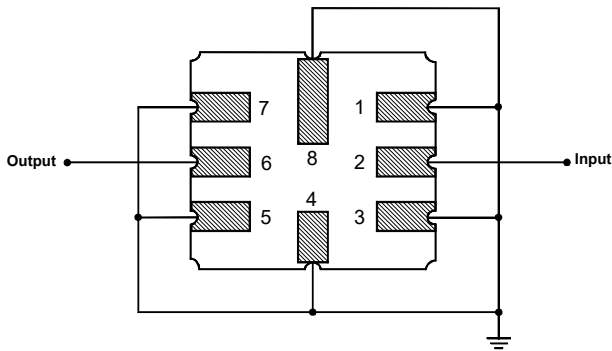
| Rating                           | Value                        | Units  |
|----------------------------------|------------------------------|--------|
| Input Power Level                | 10                           | dBm    |
| DC Voltage                       | 12                           | VDC    |
| Storage Temperature <sup>5</sup> | -45 to +90                   | °C     |
| Soldering Temperature            | (10 seconds / 5 cycles max.) | 260 °C |

### Electrical Connections

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



### Matching Circuit to 50Ω

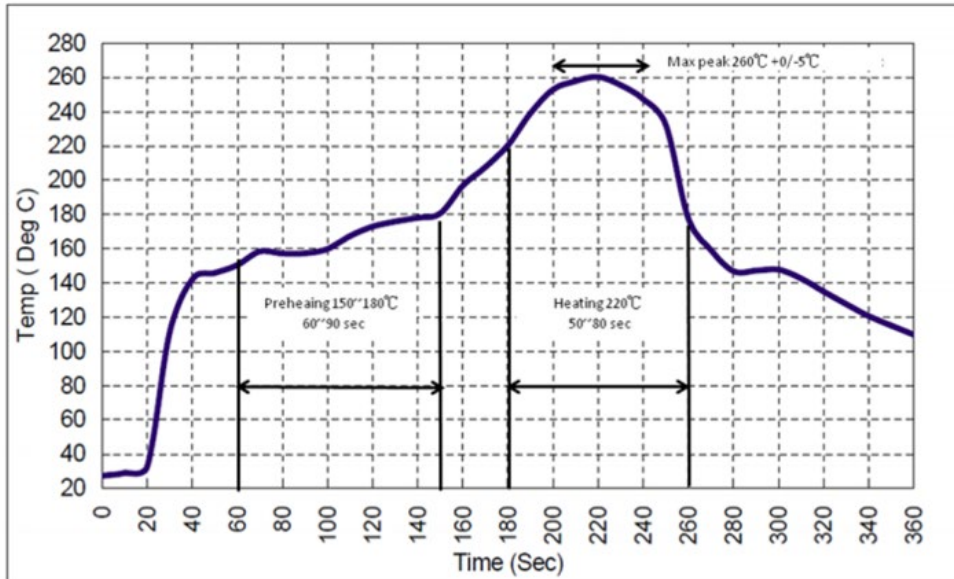


### Case Dimensions

| 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.



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