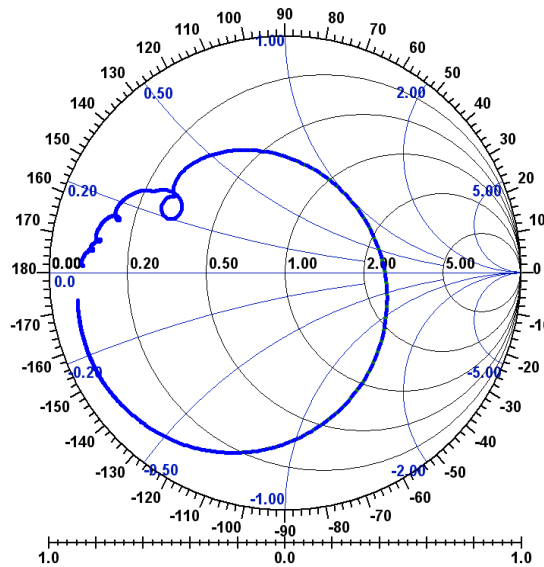


### SS2429BB2 Temperature sensor (1-port Resonator)

This product is lead-free in compliance with RoHs 2011/65/EU.

**Typical performance: S11 @ 23°C**



#### Test Conditions:

|   |             |
|---|-------------|
| RF power                                | -10 dBm     |
| Temperature                             | 23.0 °C     |
| DC Voltage                              | 0 V         |
| Terminating source impedance ( $Z_S$ ): | 50 $\Omega$ |
| Terminating load impedance ( $Z_L$ ):   | 50 $\Omega$ |

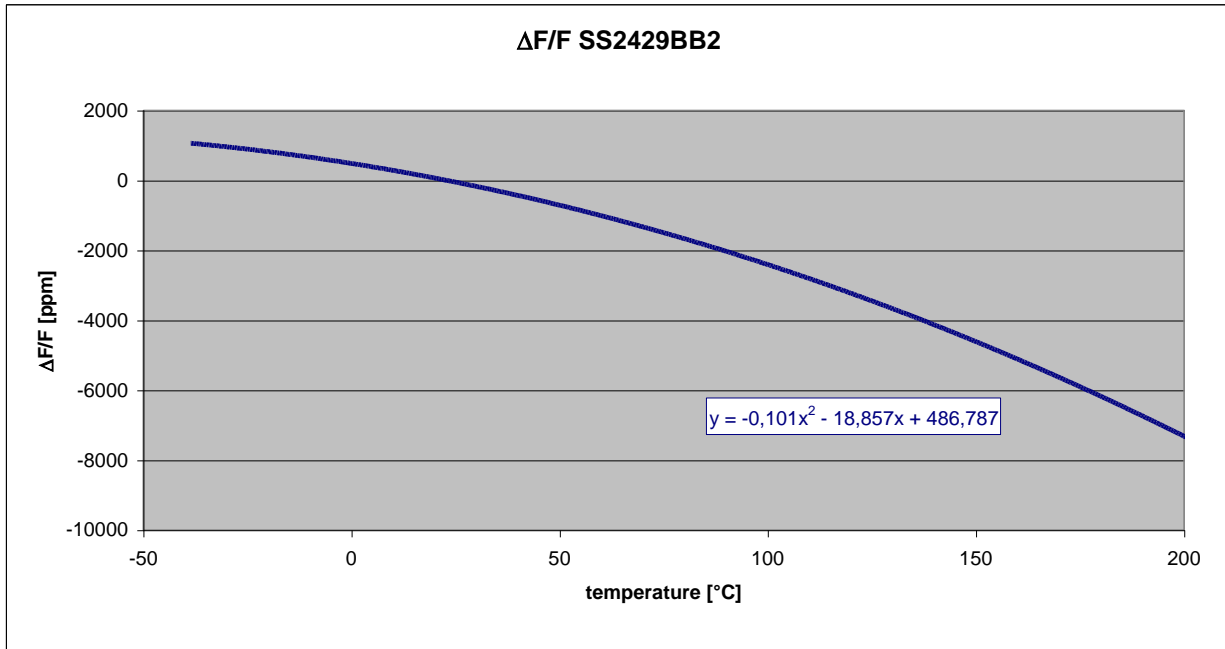
|                                      |          | min     | typical | max     | unit               |
|--------------------------------------|----------|---------|---------|---------|--------------------|
| Nominal frequency <sup>*1</sup>      | $F_n$    | 2429.53 | 2430.23 | 2430.93 | MHz                |
| Unloaded quality factor              | $Q_U$    | 7000    | 8750    |         |                    |
| Ageing @200°C                        |          |         |         | -0.5    | K/1000h            |
| <b>Equivalent Circuit elements</b>   |          |         |         |         |                    |
| Motional capacitance                 | $C_1$    |         | 7.212   |         | fF                 |
| Motional inductance                  | $L_1$    |         | 594.06  |         | nH                 |
| Motional resistance                  | $R_1$    |         | 1.03    |         | $\Omega$           |
| serial resistance                    | $R_0$    |         | 2.8     |         | $\Omega$           |
| Parallel capacitance                 | $C_0$    |         | 0.685   |         | pF                 |
| Operating temperature range          |          | -40     |         | 200     | °C                 |
| Temperature coefficient of frequency | $TC_F$   |         |         |         |                    |
|                                      | $\alpha$ |         | -0.101  |         | ppm/K <sup>2</sup> |
|                                      | $\beta$  |         | -18.86  |         | ppm/K              |
|                                      | $\delta$ |         | 486.8   |         | ppm                |

Electrostatic Sensitive Device

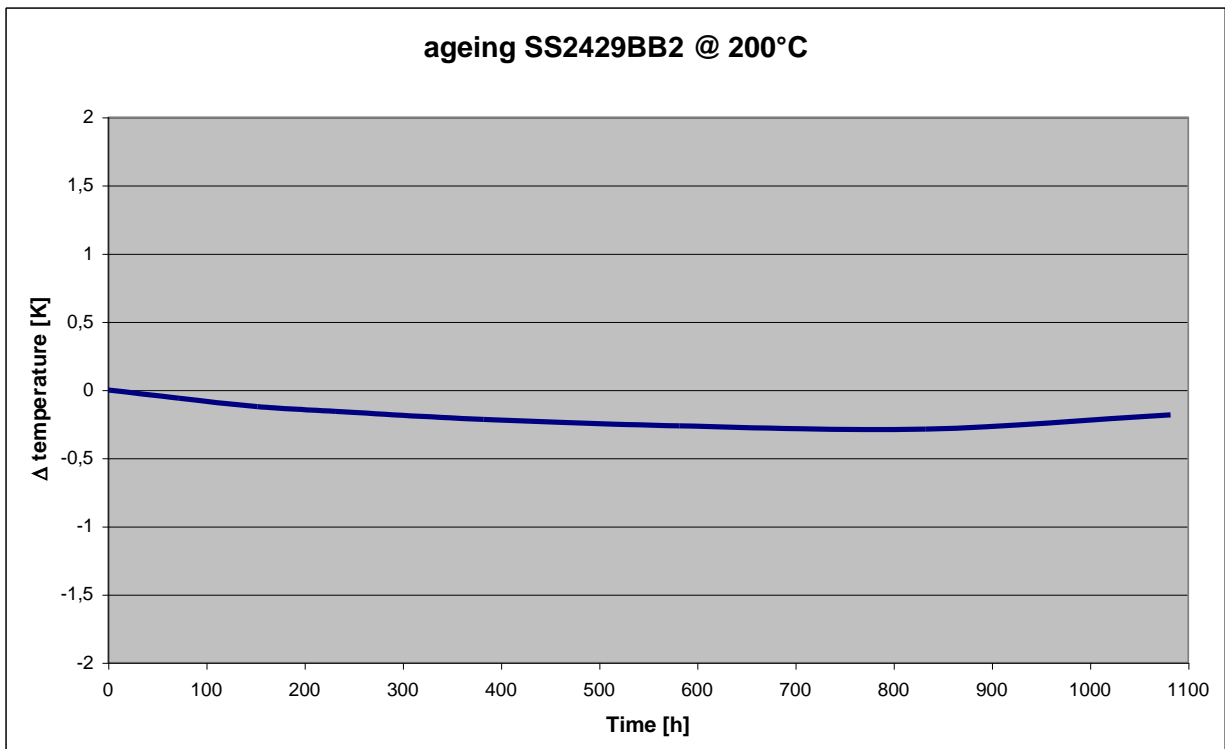
<sup>\*1</sup> Nominal frequency is defined as maximum impedance.

## Temperature coefficient of frequency

$$\Delta F/F_n = \alpha * T^2 + \beta * T + \delta \text{ with } T \text{ in } ^\circ\text{C}$$

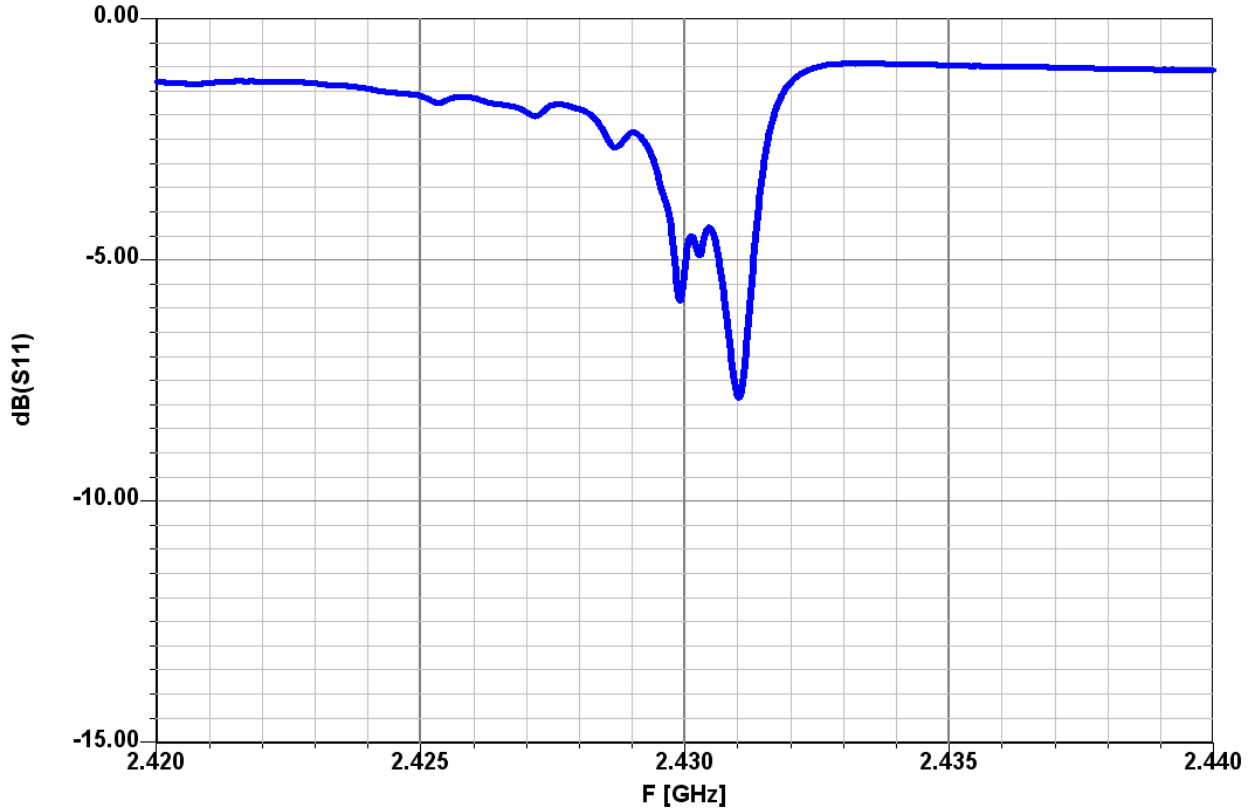


## ageing

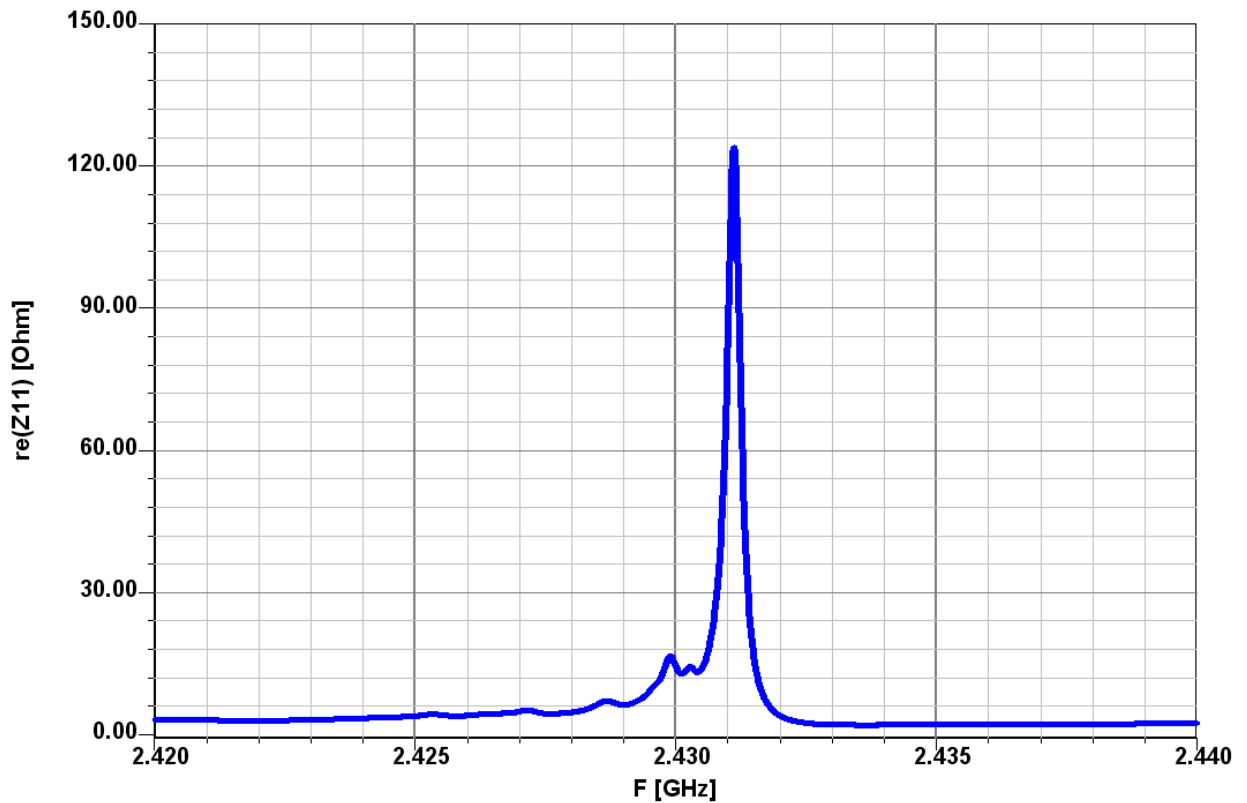


### Typical performance:

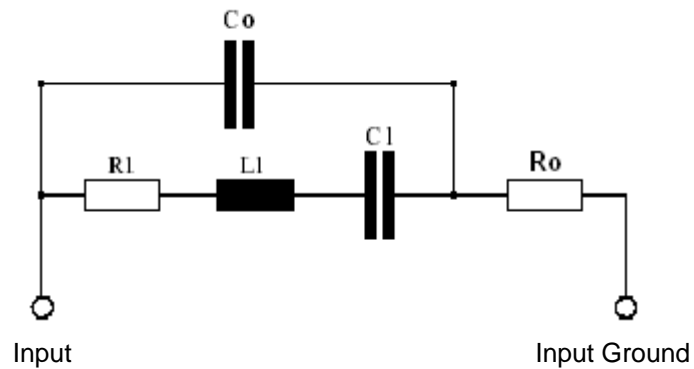
#### Magnitude:



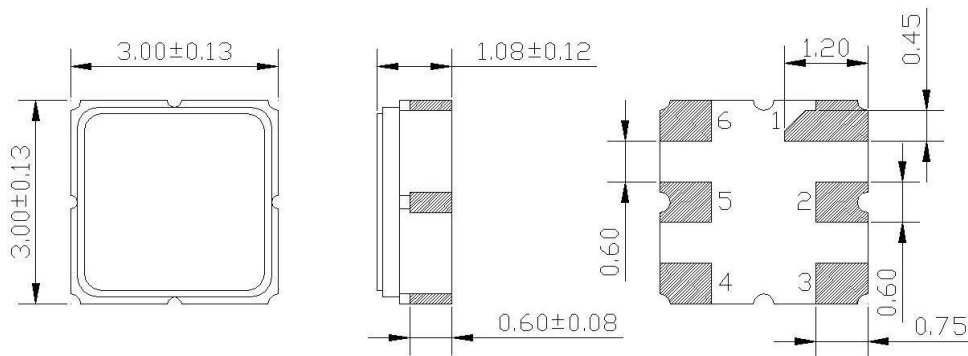
#### Impedance :



## Equivalent Circuit



## Package: S25 / 3.0\*3.0mm<sup>2</sup>



All dimensions in mm

|       |                        |       |                        |
|-------|------------------------|-------|------------------------|
| Pin 1 | Case ground            | Pin 6 | not connected          |
| Pin 2 | Antenna (Input/Ground) | Pin 5 | Antenna (Ground/Input) |
| Pin 3 | not connected          | Pin 4 | Case ground            |

## Marking

|        |               |
|--------|---------------|
| S...   | Type          |
| XXZZLL | Date code     |
| XX     | Year          |
| ZZ     | Calendar week |
| LL     | Lot Number    |

