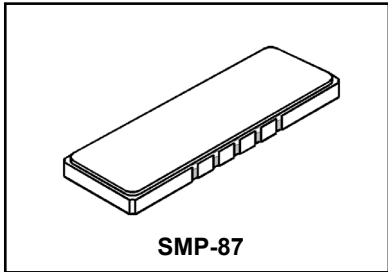


- *Designed for GSM BTS Receiver IF Applications*
- *Simple External Impedance Matching*
- *Hermetic SMP-87 Surface-mount Case*
- *Unbalanced Input and Output*
- *Extended Temperature Range Version of SF1081A*
- *Complies with Directive 2002/95/EC (RoHS)*

RoHS  
Compliant

SF1081A-1

71.00 MHz  
SAW Filter



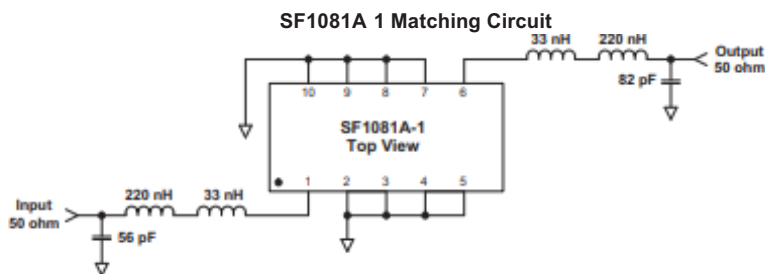
**Absolute Maximum Ratings**

| Rating   | Value           | Units |
|--|-----------------|-------|
| Maximum Incident Power in Passband                           | +10             | dBm   |
| Maximum DC Voltage on any Non-ground Terminal                | 30              | VDC   |
| Storage Temperature Range                                    | -40 to +85      | °C    |
| Suitable for Lead-free Soldering - Maximum Soldering Profile | 260 °C for 30 s |       |

**Electrical Characteristics**

| Characteristic              | Sym                                       | Notes                                     | Min    | Typ    | Max  | Units             |
|-----------------------------|---|---|--------|--------|------|-------------------|
| Nominal Center Frequency    | $f_C$                                     |   |        | 71.000 |      | MHz               |
| Passband                    | Insertion Loss at $f_C$                   | IL  |        | 6      | 8.0  | dB                |
|                             |   | 3 dB Passband                             | $BW_3$ | ±100   | ±140 | ±200              |
|                             | Amplitude Ripple over $f_C$ ±80 kHz       |   |        |        | 1.5  | dB <sub>P-P</sub> |
|                             | Group Delay Variation over $f_C$ ±50 kHz  | GDV                                       |        | 300    | 1000 | ns <sub>P-P</sub> |
|                             | Absolute Group Delay                      | GD  |        | 2.8    |      | µs                |
| Rejection                   | fc-600 to fc-400 and fc+400 to fc+600 kHz |   | 25     | 26     |      | dB                |
|                             |   | fc-1.0 to fc-0.6 and fc+0.6 to fc+1.8 MHz | 35     | 40     |      |                   |
|                             |   | 69.6 to 70.0 MHz                          | 40     | 45     |      |                   |
|                             |   | 31 to 69.6 and 71.8 to 111 MHz            | 35     | 50     |      |                   |
| Operating Temperature Range | $T_A$                                     |   | -40    |        | +85  | °C                |

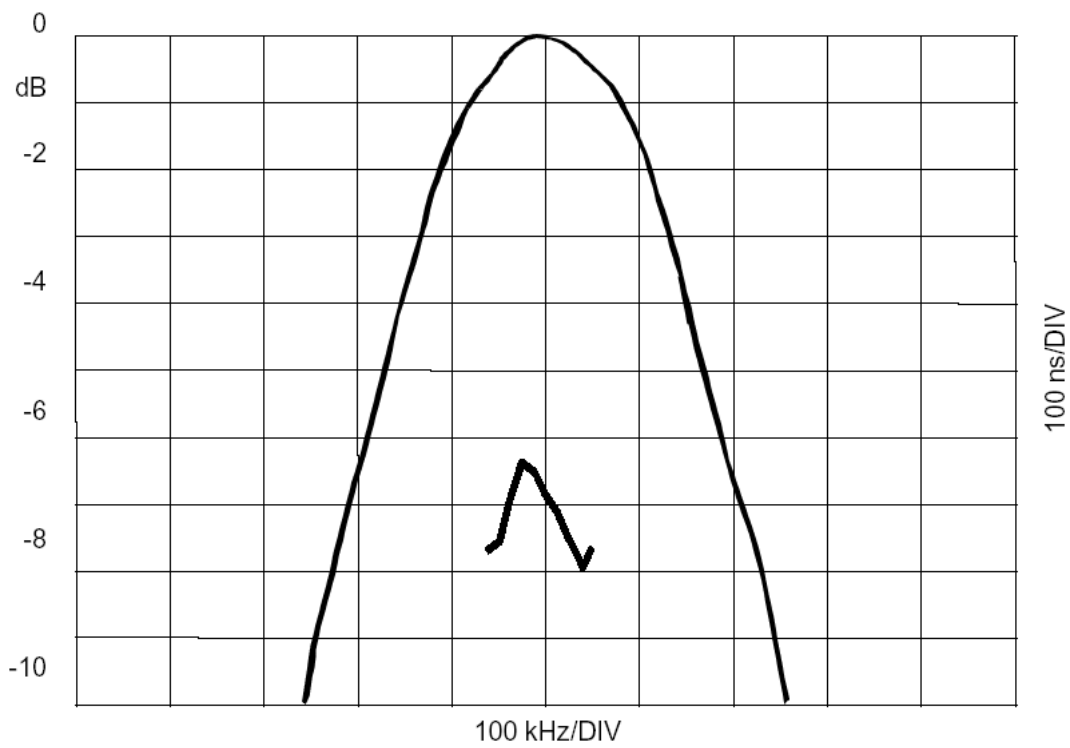
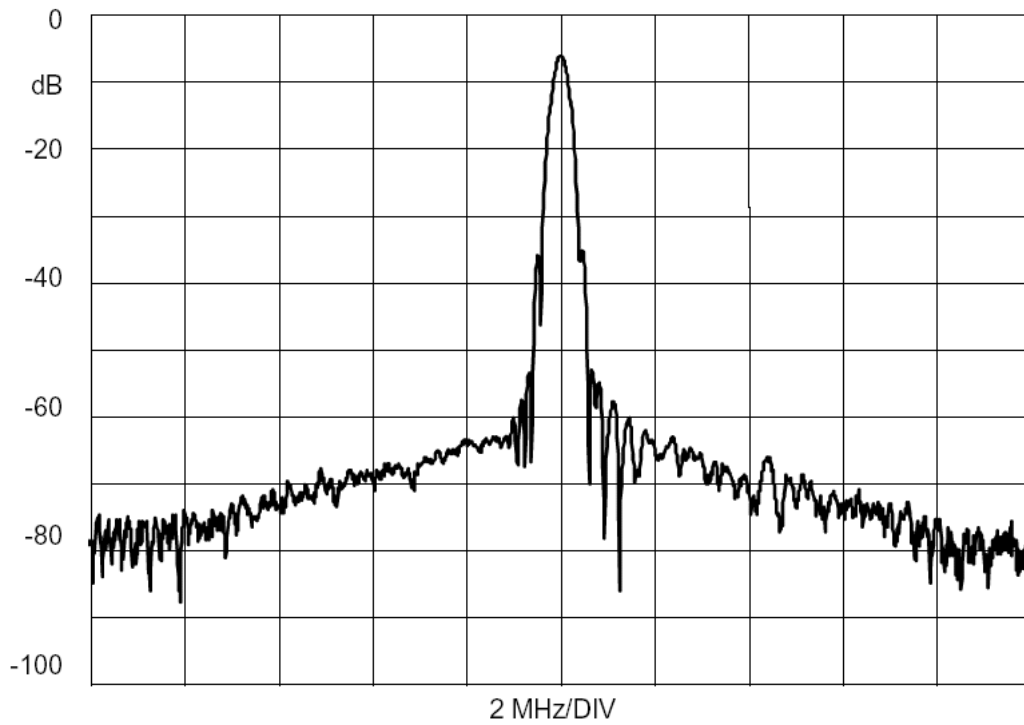
|  |                                      |
|--|--------------------------------------|
| Impedance Matching to 50 Ω unbalanced                  | External L-C                         |
| Case Style   | SMP-87 22.1 X 8 mm Nominal Footprint |
| Lid Symbolization (YY=year, WW=week, S=shift, ##=lot)) | RFM SF1081A-1 YYWWS##                |



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

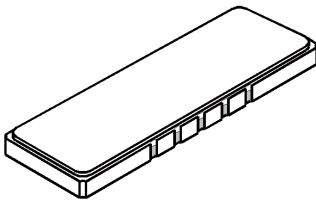
**NOTES:**

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.



# SMP-87 Case

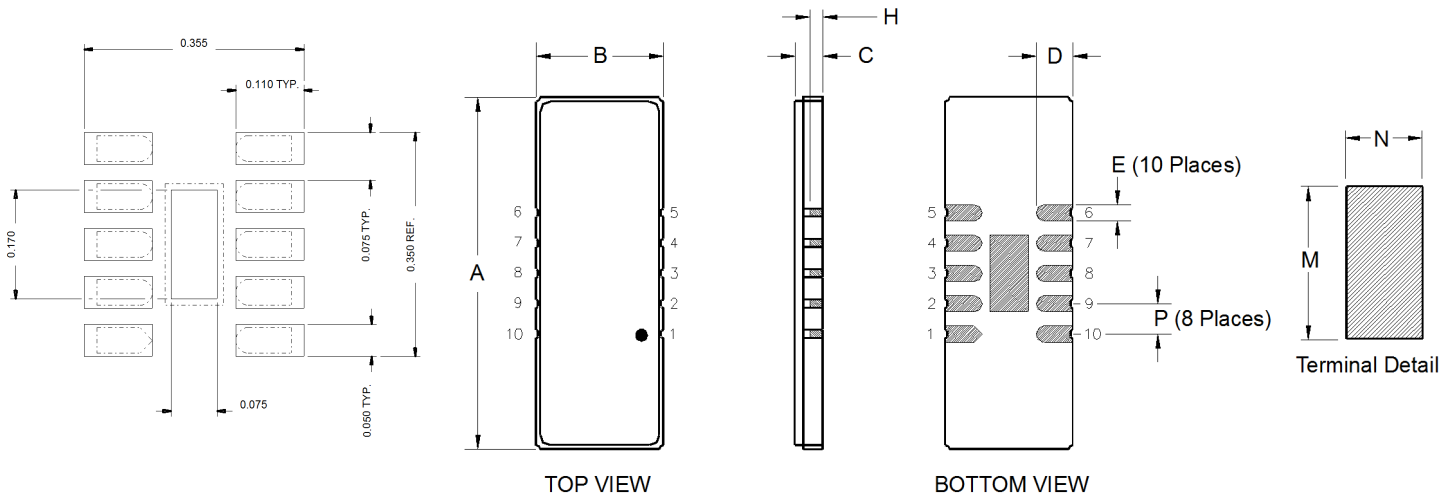
## 10-Terminal Ceramic Surface-Mount Case 22.1 x 8 mm Nominal Footprint



| Materials          |  |
|--------------------|--|
| Solder Pad Plating | 1.015 $\mu\text{m}$ Gold minimum over 2.030 $\mu\text{m}$ Nickel |
| Lid Plating        | 2.0 to 3.0 $\mu\text{m}$ Nickel                                  |
| Body               | $\text{Al}_2\text{O}_3$ Ceramic                                  |
| Pb Free            |  |

| Case Dimensions |       |       |       |        |       |       |
|-----------------|-------|-------|-------|--------|-------|-------|
| Dimension       | mm    |       |       | Inches |       |       |
|                 | Min   | Nom   | Max   | Min    | Nom   | Max   |
| A               | 21.90 | 22.10 | 22.40 | 0.862  | 0.870 | 0.882 |
| B               | 7.80  | 8.00  | 8.30  | 0.307  | 0.315 | 0.327 |
| C               |       | 1.78  | 2.00  |        | 0.070 | 0.079 |
| D               |       | 2.29  |       |        | 0.090 |       |
| E               |       | 1.02  |       |        | 0.040 |       |
| H               |       | 1.0   |       |        | 0.039 |       |
| M               |       | 4.83  |       |        | 0.190 |       |
| N               |       | 2.41  |       |        | 0.095 |       |
| P               |       | 1.905 |       |        | 0.075 |       |

| Electrical Connections |                  |                  |
|------------------------|------------------|------------------|
| Connection             |                  | Terminals        |
| Port 1                 | Input or Return  | 10               |
|                        | Return or Input  | 1                |
| Port 2                 | Output or Return | 5                |
|                        | Return or Output | 6                |
|                        | Ground           | All others       |
| Single-ended Operation |                  | Return is ground |
| Differential Operation |                  | Return is hot    |



## 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.

