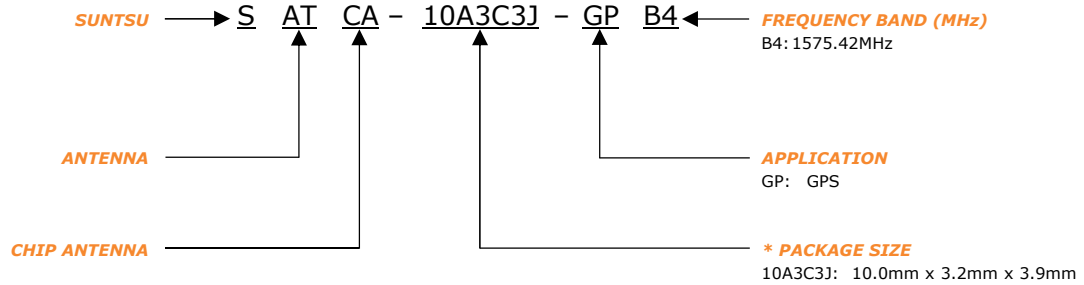


| FEATURES  | APPLICATIONS  |
|---|---|
| <ul style="list-style-type: none"> <li>- GPS</li> <li>- Chip Type</li> <li>- Stable And Reliable Performance</li> <li>- 1575.42MHz</li> <li>- SMT Process Compatible</li> </ul> | <ul style="list-style-type: none"> <li>- Navigation Systems</li> <li>- Tracking Systems</li> <li>- Hand-Held GPS Devices (PDA, Smart Phone, PND)</li> <li>- Fleet Management</li> <li>- Telematics</li> </ul> |



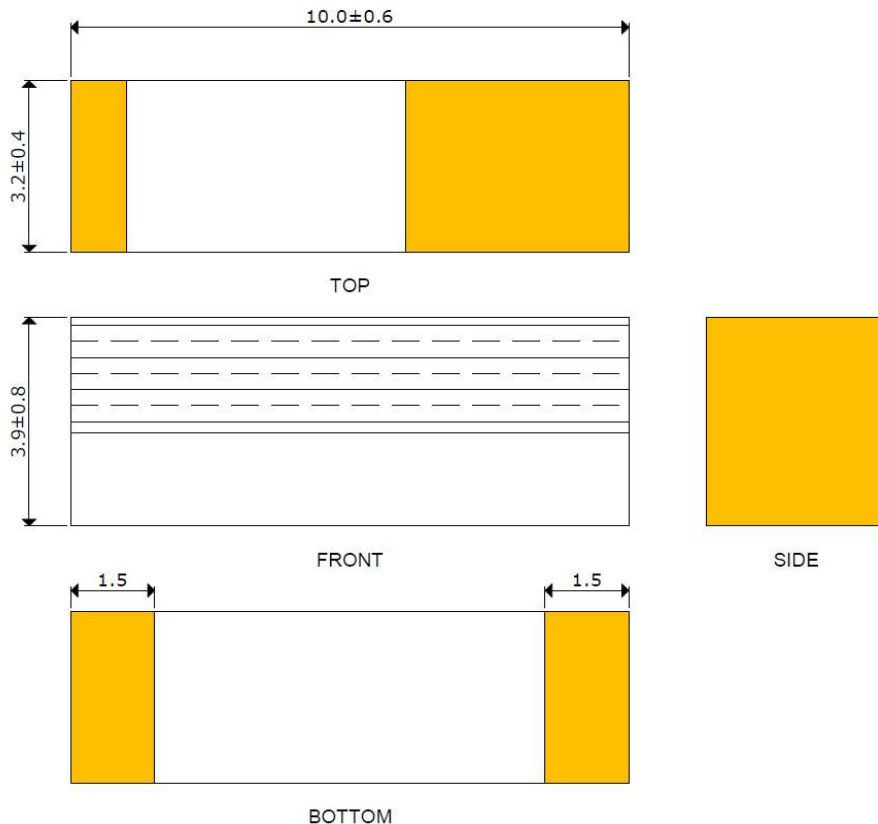
### PART NUMBERING GUIDE



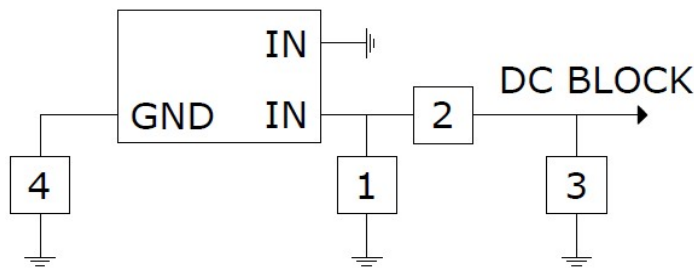
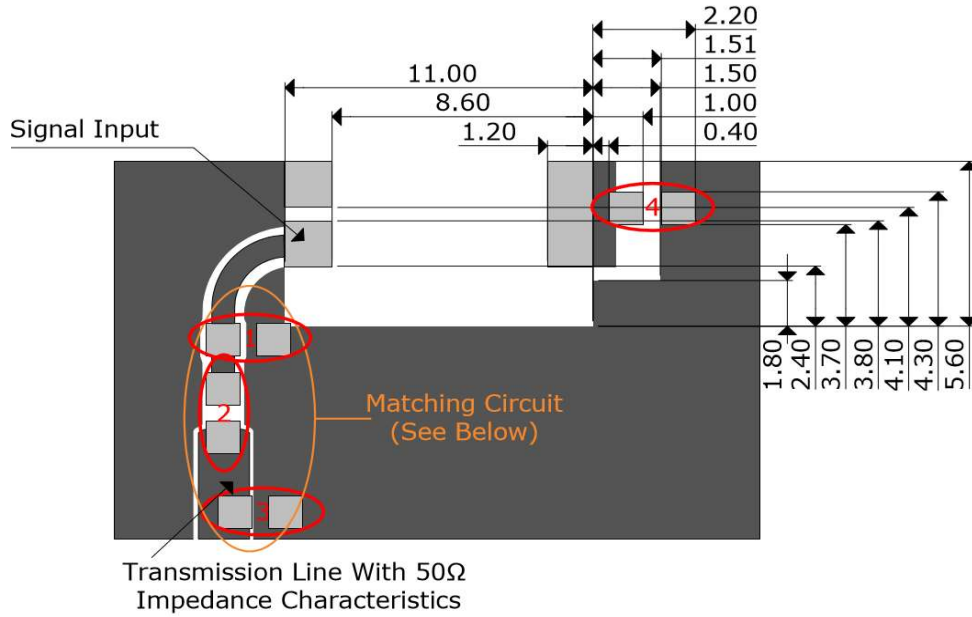
\* Where letters denote decimal location A=.0, B=.1, C=.2, etc. Ex: B5=0.15, 3A5=3.05, 9A=9.0  
To customize your parameters, contact a Suntsu representative.

| ELECTRICAL PARAMETERS (At 25°C) | UNITS    | MIN. | TYP.    | MAX | REMARKS             |
|---------------------------------|----------|------|---------|-----|---------------------|
| Frequency Band                  | MHz      |      | 1575.42 |     |                     |
| Impedance                       | $\Omega$ |      | 50      |     |                     |
| Polarization                    |          |      | Linear  |     |                     |
| Peak Gain                       | dBi      |      | 3       |     | At 1575MHz          |
| Efficiency                      | %        |      | 83      |     | At 1575MHz          |
| VSWR                            |          |      |         | 2   | At Center Frequency |
| Operating Temperature           | °C       | -40  |         | 85  |                     |

### OUTLINE DRAWING (NOTE: All dimensions are in millimeters [mm], unless otherwise noted. Drawings are not to scale.)

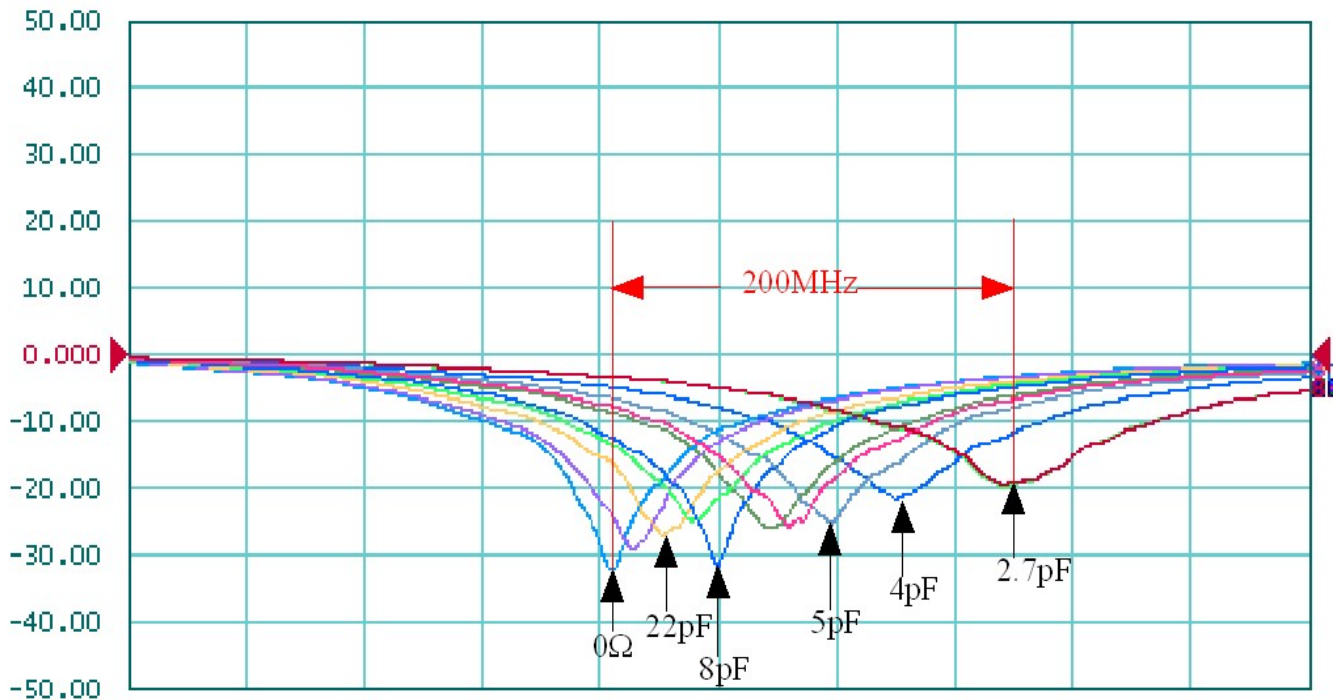


**RECOMMENDED LAND PATTERN & FREQUENCY TUNING SCENARIO CIRCUIT** (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)



| System Matching Circuit Components |             |            |           |
|------------------------------------|-------------|------------|-----------|
| Location                           | Description | Vendor     | Tolerance |
| 1                                  | 1.8pF       | TDK (0402) | -         |
| 2                                  | 4.7pF       | TDK (0402) | -         |
| 3                                  | N/A         | -          | -         |
| 4 (Fine Tuning)                    | 8pF, (0402) | TDK (0402) | -         |

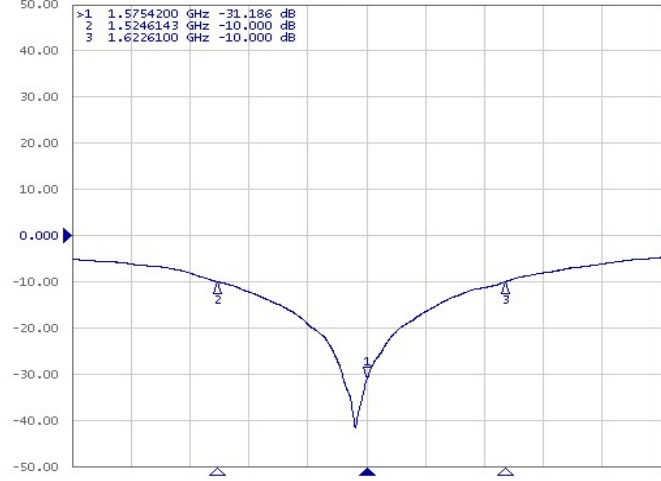
For these suggested values for the matching and tuning of components, the average frequency will be around 1575MHz on a standard 80 x 40mm<sup>2</sup> Evaluation board.  
Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.



**ELECTRICAL TEST**

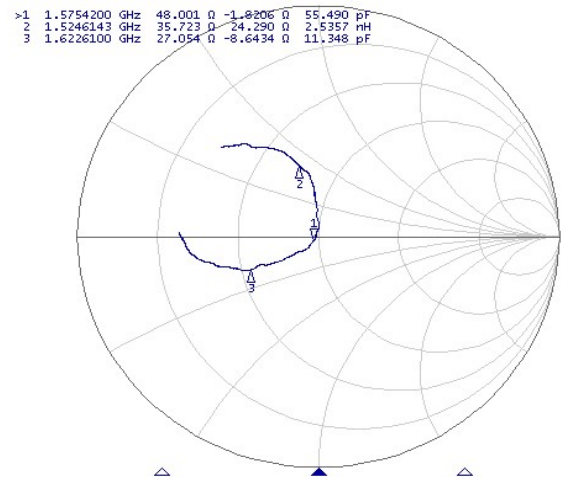
**RETURN LOSS**

S22 Log Mag 10.00dB/ Ref 0.000dB [F1]



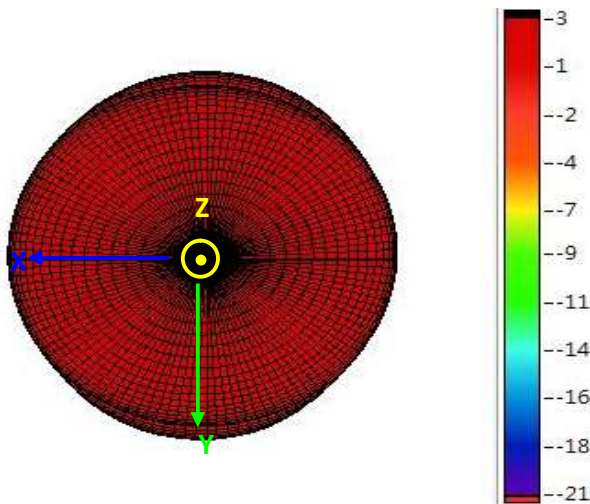
**SMITH CHART**

S22 Smith (R+jX) Scale 1.000U [F1]

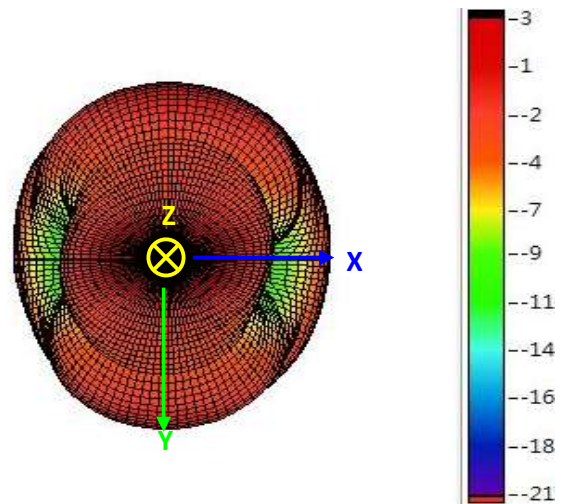


**3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY**

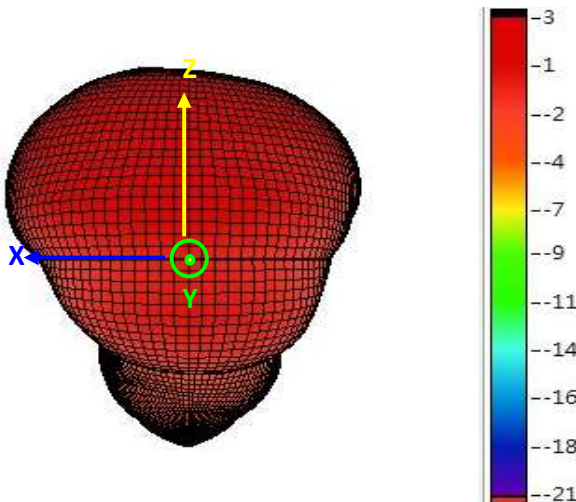
1575MHz



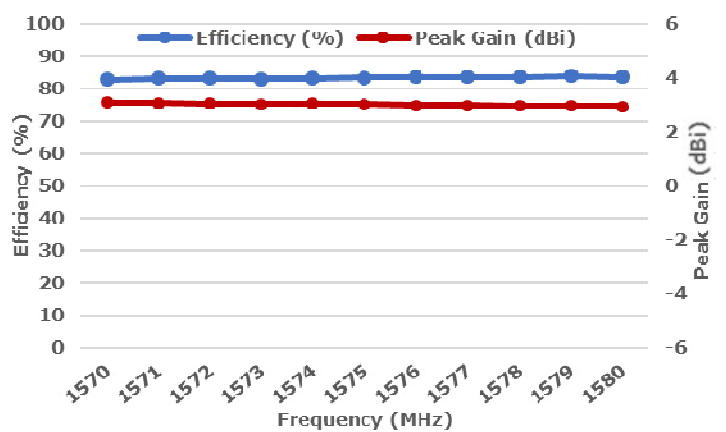
1575MHz



1575MHz



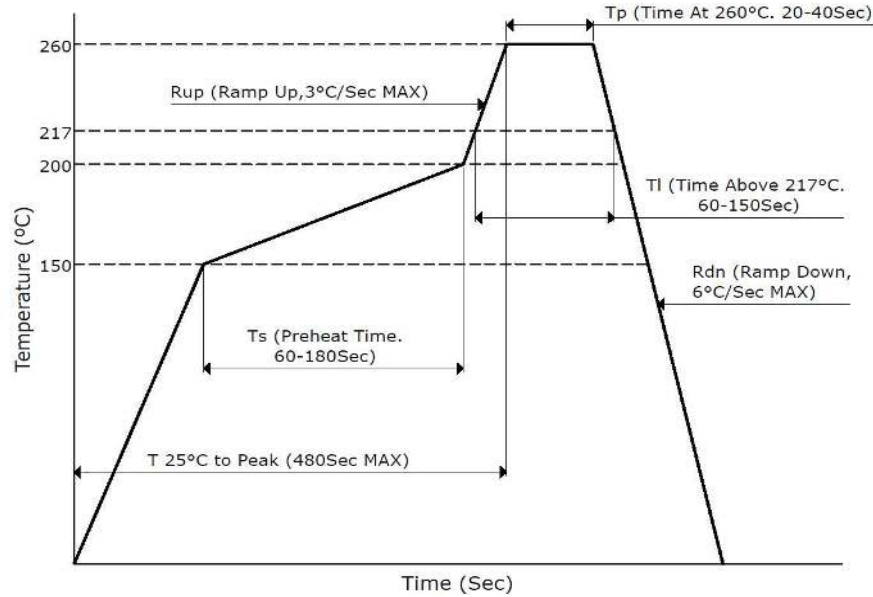
1575MHz



| Freq.    | 1570 | 1571 | 1572 | 1573 | 1574 | 1575 | 1576 | 1577 | 1578 | 1579 | 1580 |
|----------|------|------|------|------|------|------|------|------|------|------|------|
| Eff. (%) | 82.9 | 83.3 | 83.3 | 83.1 | 83.3 | 83.5 | 83.7 | 83.7 | 83.7 | 84   | 83.7 |
| P.G.     | 3.09 | 3.08 | 3.06 | 3.03 | 3.04 | 3.02 | 2.99 | 2.98 | 2.97 | 2.96 | 2.95 |

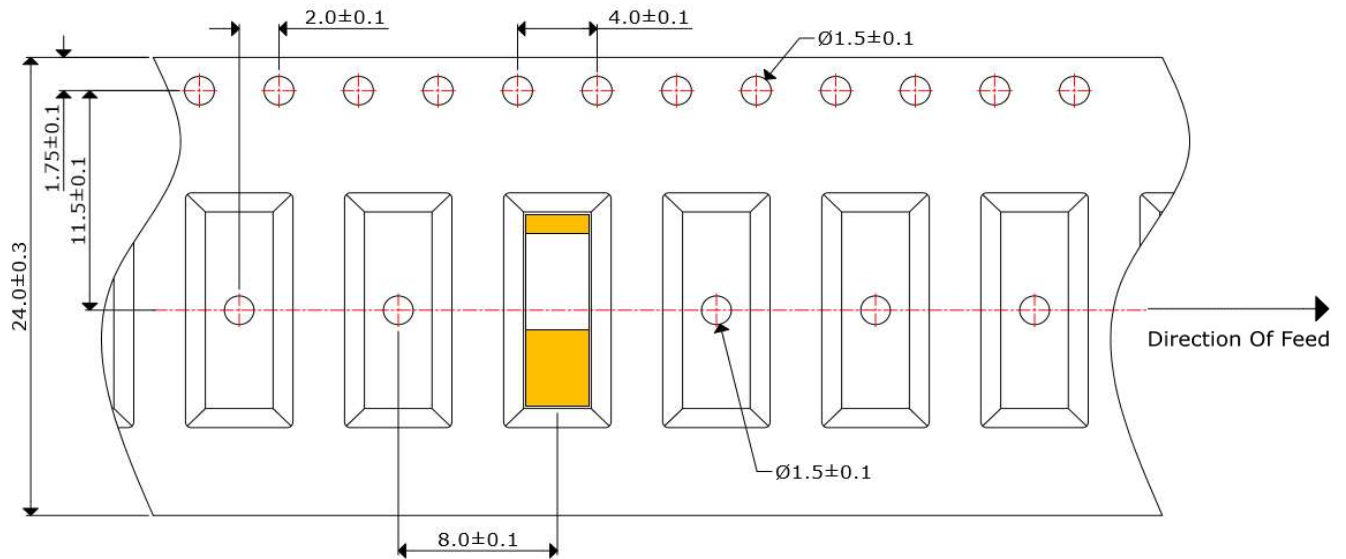
## SOLDERING CONDITIONS

Typical Soldering Profile For Lead-Free Process



## PACKAGING - TAPE AND REEL (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)

2,000pcs / Reel



## ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

|                       |   |
|-----------------------|---|
| High Temperature Test | 85°C for 500 hours, and then to normal temperature/humidity for 24hours.  |
| Low Temperature Test  | -30°C for 500 hours, and then to normal temperature/humidity for 24hours.   |
| Humidity Test         | 85°C / 90-95% for 96 hours, and then to normal temperature/humidity for 24hours.  |
| Thermal Shock Test    | -30°C for 30 min and +85°C for 30 min. 5 cycles, then expose to normal temperature/humidity for 24 hours or more.                   |
| Vibration Test        | 5 to 200 to 5Hz, swept in 10min, 4.5G at max(2mm amplitude), in X and Y directions for 2 hours each and in Z direction for 4 hours. |