

GSM and DCS.MICROWAVE DIELECTRIC ANTENNA

SPECIFICATION

1. Introduction

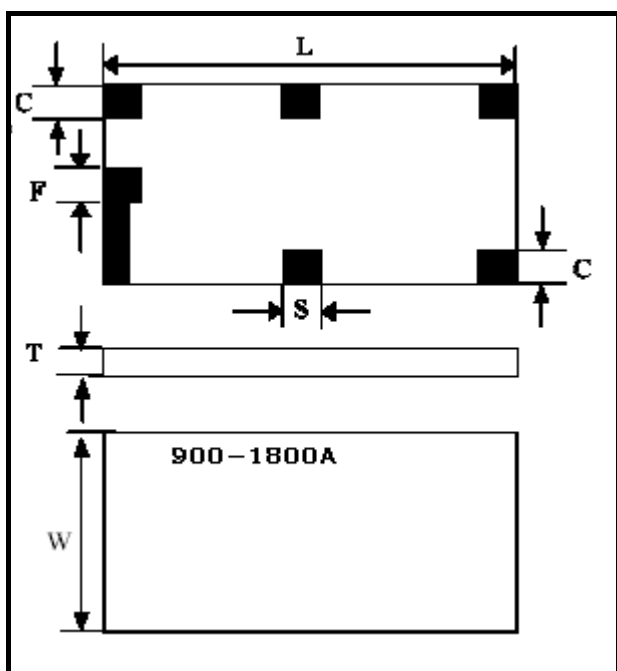
"SBtron" microwave dielectric antenna elements and its series have been to design to meet the applications in mobile phone for GSM and DCS. The surface-mount ceramic antenna has the advantage of a low profile and low return loss, etc.

2. Part Number

DAI900-1800A

Explanation: DAI Product Series
 900-1800 Working Frequency (900MHz-1800MHz)
 A No. 1 Product

3. Dimension (Unit: mm)



	Dimension
L	17±0.5
W	11±0.5
S	2±0.3
C	2±0.3
F	2±0.3
T	2±0.3

Note:

F: Feeding Termination S: Solder Termination C: Solder Termination

4. Electrical Characteristics

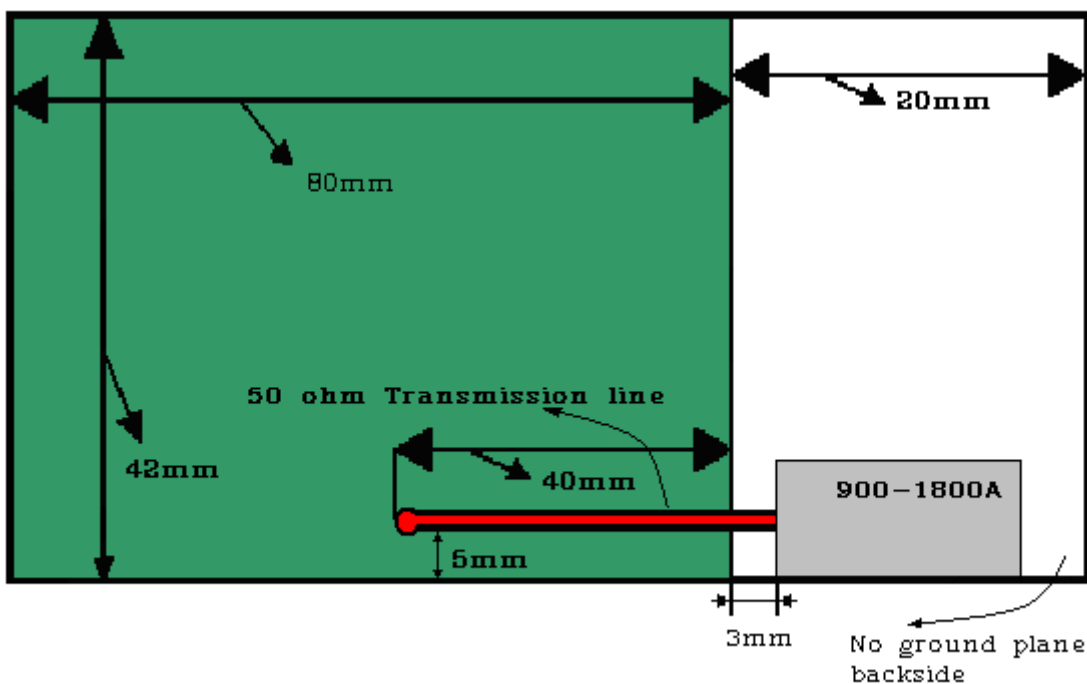
		Post environmental tolerance
Working Frequency	890-960MHz 1710-1880MHz	± 5 MHz
Bandwidth*	30 MHz@900MHz 100 MHz@1800MHz	± 5 MHz
VSWR*	2.0 max	

Gain*	2.0dBi max@925MHz 2.0dBi max@1800MHz	-----
Polarization	Linear	-----
Impedance	50Ω	-----
Operating Temperature	-40 ~+85	-----
Azimuth	Omni-directional	-----

Note: *Dependant on ground plane size and tuning circuit of customer

5. Testing

Test Board Dimension for S11 (Return Loss)



Note: FR-4 PCB thickness = 0.8 mm

The width of transmission line = 1.56mm (depends on PCB thickness)

Testing curve

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6. Reliability: MTBF= 1×10^{-6} /pc.hr

Temperature: 40 ± 5

Load: DC=5V \pm 0.5 V

Quantity: 2000pcs

Sustained Time: 480h

7. Environmental specifications

Post Environmental Tolerance (Refer to the table 3)

Temperature range 25 ± 3

Relative Humidity range 55~75%RH

Operating Temperature range -40 ~+85

Storage Temperature range -40 ~+100

8.1 Moisture Proof

The device should satisfy the electrical characteristics specified in paragraph table 3 after exposed to the temperature 40 ± 2 and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

8.2 Vibration Resist

The device should satisfy the electrical characteristics specified in paragraph table 3 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

8.3 Drop Shock

The device should satisfy the electrical characteristics specified in paragraph table 3 after dropping onto the hard wooden board from the height of 30cm for 3 times each facet of the 3 dimensions of the device.

8.4 High Temperature Endurance

The device should satisfy the electrical characteristics specified in paragraph table 3 after exposed to temperature 80 ± 5 for 24 ± 2 hours and 1~2 hours recovery time under normal temperature.

8.5 Low Temperature Endurance

The device should also satisfy the electrical characteristics specified in paragraph table 3 after exposed to the temperature -40 ± 5 for 24 ± 2 hours and to 2 hours recovery time under normal temperature.

8.6 Temperature Cycle Test

The device should also satisfy the electrical characteristics specified in paragraph table 3 after exposed to the low temperature -25 and high temperature $+85$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

8.7 Resistance to soldering heat

Resistance to soldering heat: 260 ± 5 for 10 ± 0.5 sec. in a static solder bath.
