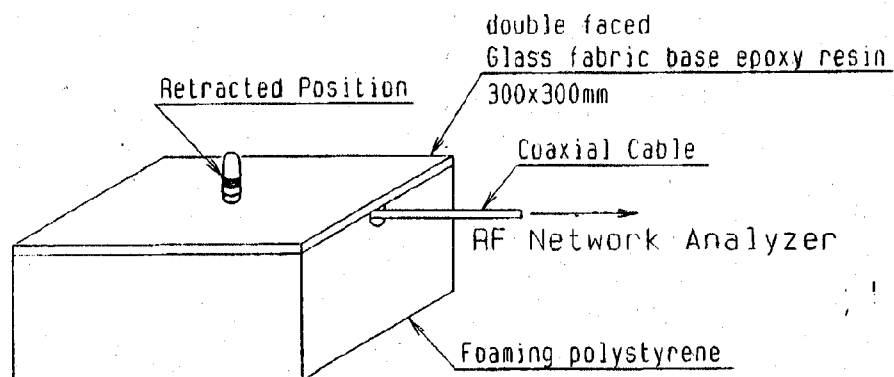


Retractable Antenna Performance

1. Description : Retractable whip type hand portable Cellular antenna
2. Your Part Number : 1AV4L90B0527N
3. Model Name : SA527N
4. Appearance and Architecture : As on drawing.
There should be no damage on outside appearance such as scratch, dirt or plating at the beginning.
5. Electrical Characteristics
 - 5-1. Contact Resistance :
Extended position, Holder-Stopper : MAX. 1Ω
Retracted position, Holder-Top plug: MAX. 1Ω
 - 5-2. Operating Frequency Range : 825 - 894 MHz(Fre.1)
1850 - 1989 MHz(Fre.2)
 - 5-3. VSWR : Within operating frequency, fixed to requested body, flip opened.
Within Fre. 1
Extended position MAX. 3.5
Retracted position MAX. 3.5
Within Fre. 2
Extended position MAX. 3.5
Retracted position MAX. 6.0
Dispatch inspection will be as following.
Resonant frequency to be within 1754 ± 20 MHz and return loss should be MAX. -10dB in resonant frequency when the antenna is retracted and mounted to 300x300mm earth plate.



N 8 - S 1 6 0 - M 0 0 E (1/4)

APPROVED	INSPECTED	DESIGN
M. Makino 5 SEP., '01	T. Zumi 5 sep., '01	J. Kobayashi 5 sep., '01



NIPPON ANTENNA

6. Mechanical Characteristics

6-1. Extension and Retraction Initial Force :

Holder-Top plug: 1.96- 4.9 N (Nippon Antenna insection: 2 -4.8 N
(200-500 gf) (204-490 gf)

Holder-Stopper : 1.96- 4.9 N (Nippon Antenna insection: 2 -4.8 N
(200-500 gf) (204-490 gf)

After initial inspection to be 0.98- 4.9 N (100~500 gf.)

6-2. Extension and Retraction Force

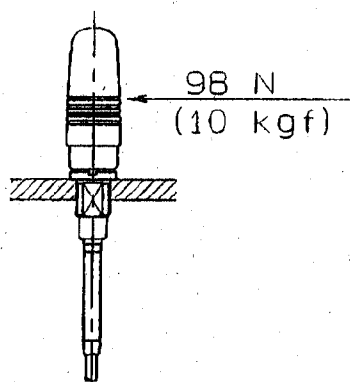
To be MIN. 0.98N(100gf) after 10,000 cycles at 30 times/Minute

6-3. Pulling Force :

Element not to come off after adding 98 N(10 kgf) for 60 seconds to direction of axial, under condition of the element To satisfy 5-3 and 6-1.

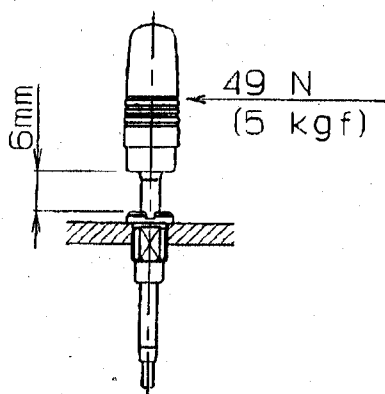
6-4. Break Strength1 :

Top part and Top plug not to break after 98 N(10kgf) for 30 seconds to the Top bottom part at direction of 90° center element axial, under condition of the holder fixed and Top part retracted. Bend to be allowed.



6-5. Break Strength2 :

Top part and Top plug not to break after 49 N (5kgf) for 30 seconds to the Top bottom part at direction of 90° center element axial, under condition of the holder fixed and Top part extended 6 mm from the holder surface. Bend to be allowed.



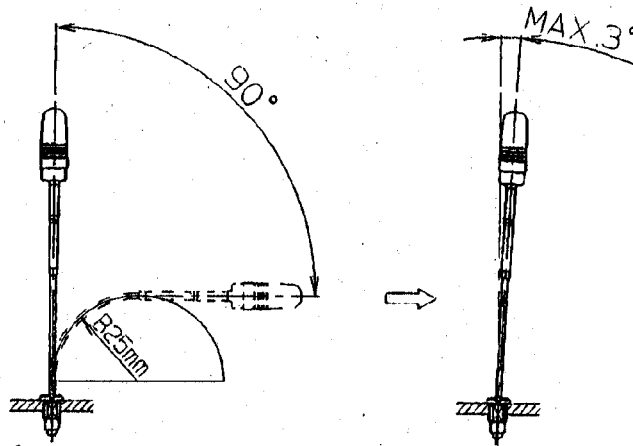
N 8 - S 1 6 0 - M 0 0 E (2/4)



NIPPON ANTENNA

6-6. Bending Force:

Bend to be MAX. 3° after returned by itself, under condition of force the Top and give a 90° bend against a R25 mm cylinder, element extended and holder fixed.



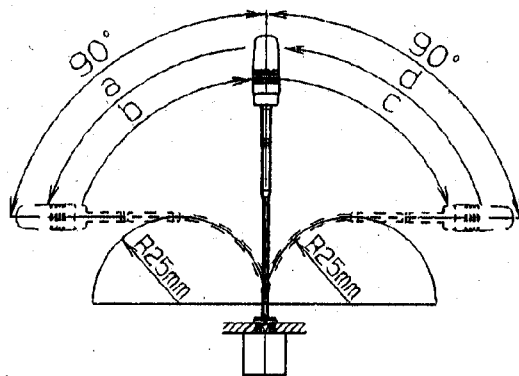
6-7. Anti-Cleep Age Performance :

To be no break after following condition.

Bend 90° left and by hand to R25 mm cylinder, holder fixed.

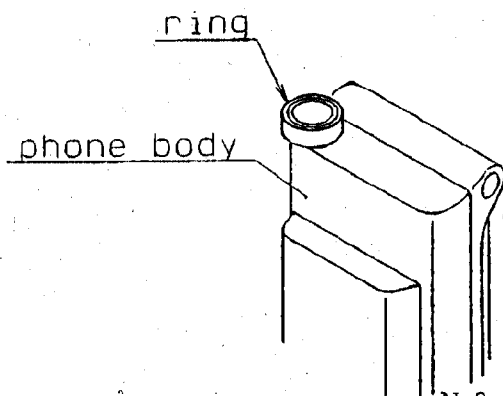
1,000 cycles, 1 cycle to be (a-b-c-d) at speed of 20 cycle/Minute.

Bending deformation of element allowed.



6-8. Shock Resistance :

5-3 and 6-1 to be satisfied after spontaneous drop 6 times from 180 cm height to concrete floor, drop antenna downwards under the condition of element fully retracted to specified phone body. To satisfy the specification, the ring besides the part where the antenna is protected is installed. Weight of the phone body is 130g. But Top part Scratch, Whiting, dent and Top plug bent to be allowed.



N 8 - S 1 6 0 - M 0 0 E (3/4)



NIPPON ANTENNA

6-9. Holder Strength :

Not to break after putting 78.4 N · cm (8 kgf · cm) of fixing torque to your specified phone body.

7. Environmental Resistance

7-1. Vibration Resistance :

5-3 and 6-1 to be satisfied after 5-150 Hz of vibration test to 3 directions under the condition

Antenna fully retracted

Acceleration : 3G constant.

Sweep : 20 minutes.

7-2. Humidity Resistance :

5-3 and 6-1 to be satisfied after humidity test Antenna fully retracted and under following condition.

Leave for 96 hours under condition of $40 \pm 2^\circ\text{C}$, 90-95% then leave for 2 hours at room temperature after removing moisture.

7-3. Humidity resistance operation.

5-3 and 6-1 to be satisfied after left in test chamber of $40 \pm 2^\circ\text{C}$, relative humidity 90-95% for 1-2 hours.

7-4. Working Temperature :

5-3 and 6-1 to be satisfied after left for 1-2 hours at -30°C and $+60^\circ\text{C}$ for Working temperature.

7-5. Storage Temperature :

No be no permanent abnormality or deformation at $-40 - +85^\circ\text{C}$.

But Bending of element on condition of Antenna fully retracted, fixed to your specified body to be allowed.

7-6. High temperature withstand :

5-3 and 6-1 to be satisfied after left at $+85^\circ\text{C}$ for 96 hours, than 2 hours in room temperature.

To be permanent abnormality or deformation.

7-7. Low temperature withstand :

5-3 and 6-1 to be satisfied after left at -40°C for 96 hours, than 2 hours in room temperature.

To be permanent abnormality or deformation.

7-8. Temperature cycle :

5-3 and 6-1 to be satisfied after 20 cycles at 1 cycle condition of

$-40^\circ\text{C}/30$ minutes at $+85^\circ\text{C}/30$ minutes, than left 2 hours in room temperature.

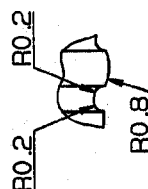
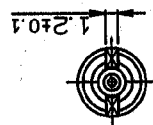
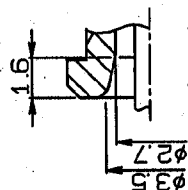
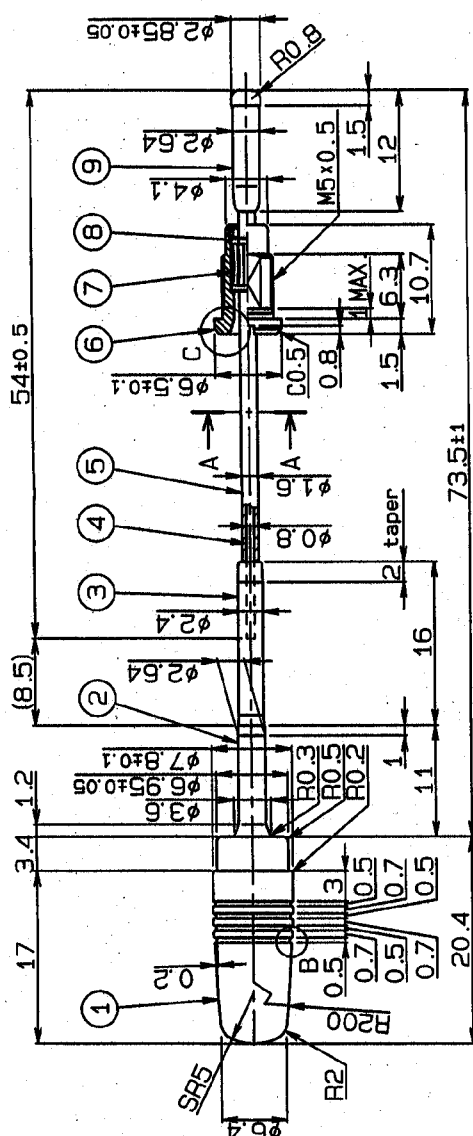
To be no permanent abnormality or deformation.



DO NOT SCALE DRAWING

10

SA527N



B (10:1)

A-A

C (5:1)

ITEM	DESCRIPTION	QUANTITY	INSPECTED	APPROVED	MATERIAL TREATMENT	PART DRAWING NO.	NOTE
9	STOPPER	1			BRASS · MBCr		
8	HOLDER LING	1			BRASS · MBNi		
7	SPRING	1			C1720R		
6	HOLDER	1			ZDC · MZNi		
5	TUBE	1			PBT		983181·GRAY
4	ELEMENT	1			Ni-Ti		983181·GRAY
3	JOINT	1			NYLON		
2	TOP PLUG	1			BRASS · MBCr		
1	TOP	1			ABS		OC-P0405·GRAY

NOTES

1. Tolerance, not stated to be ± 0.2
2. Nut part to clear Screw thread (grade 2)

SYMBOL	DATE	REVISION RECORD
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△		
△		
△		
△		

SCALE	DESIGNED	DRAWN	INSPECTED	APPROVED	MATERIAL TREATMENT	PART DRAWING NO.	NOTE
R 2:1	1.1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1

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4	ELEMENT	1			Ni-Ti		983181·GRAY
3	JOINT	1			NYLON		
2	TOP PLUG	1			BRASS · MBCr		
1	TOP	1			ABS		OC-P0405·GRAY

N8-S160-H00E

日本アンテナ株式会社

NIPPON ANTENNA CO., LTD.

MICRO CADAM Ver3.18

REVISION RECORD

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