

表面贴装电介质芯片天线

SURFACE MOUNTABLE CHIP ANTENNA

表面贴装电介质芯片天线是结合了应用广泛的本公司高频陶瓷技术与最先进高频设计技术的高性能透电式天线。具有小型、薄型、频带宽的特性。适合配置于小型便携式设备及通信模块中。

Surface mountable dielectric chip antennas are result of harmonizing our long experience in ceramic material & process technologies for high frequency applications together with cutting-edge RF design technologies. It is very small with low profile, but has a wide range of frequency band. It is suitable for compact mobile equipment and communication modules.

AHD1103-ST01、AHD1403-ST01

■特点

- 小型、超薄的全向性天线。
- 比组装基板薄，适合配置在卡片式设备内。
- 不需要外部调整电路。
- 备有频率系列产品，可迅速提供最合适贴装条件的天线。

AHD1103-ST01, AHD1403-ST01

■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- No external tuning circuit
- By applying series of items with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

AMD1103-ST01、AMD0302-ST01

■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可改变适用频带
AMD1103-ST01: 400MHz~1000 MHz
AMD0302-ST01: 2400MHz频带

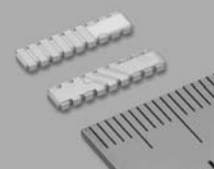
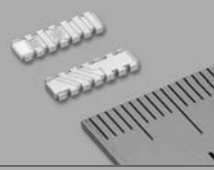
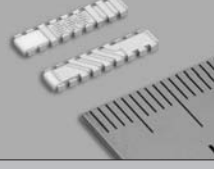
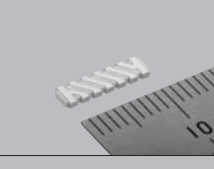

AMD1103-ST01, AMD0302-ST01

■Features

- Very small
- High gain
- Omni-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
AMD1103-ST01 : 400 MHz~1000 MHz.
AMD0302-ST01 : 2400 MHz band.

产品系列

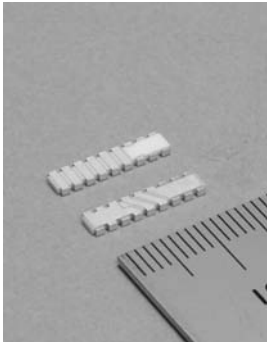
Products Line up

型号 Part number	形状 Style	频率范围 Frequency range	尺寸 Size	用途 Applications	页码 Page
AHD1403-244ST01		2400-2484MHz	13.5 × 3.0 × 0.8mm	<ul style="list-style-type: none"> • Bluetooth™ • ZigBee • 无线LAN • Wireless LAN 	83
AHD1103-244ST01		2400-2484MHz	10.5 × 3.0 × 0.8mm	<ul style="list-style-type: none"> • Bluetooth™ • ZigBee • 无线LAN • Wireless LAN 	83
AHD1403-191ST01		1880-1920MHz	13.5 × 3.0 × 0.8mm	<ul style="list-style-type: none"> • PHS • DECT 	85
AMD1103-ST01		利用外部调整电路，可在400~1000MHz的范围内改变适用频带 With an external tuning circuit, frequency range is applicable from 400 MHz to 1000 MHz.	10.5 × 3.0 × 0.8mm	<ul style="list-style-type: none"> • 遥测仪(工业用、医疗用)、遥控器、数据通信、无线开关系统、防盗报警系统、汽车安全系统、语音通信终端 • Telemetry (Industrial & medical use), Telemeter, Telecontroller, Datacommunication, Keyless entry system, Immobilizer system, Car security system, Voice communication terminal 	86 89
AMD0302-ST01		利用外部调整电路，可调整为2400MHz频带 With an external tuning circuit, the adjustment is possible to 2400 MHz band.	3.2 × 1.5 × 0.5(max)mm	<ul style="list-style-type: none"> • Bluetooth™ • ZigBee • 无线LAN • Wireless LAN 	84

贴片天线
CHIP ANTENNAS

用于2.4GHz带 For 2.4GHz Band

●AHD1403-244ST01



■特点

- 小型、超薄的全向性天线。
- 结构小巧，最适用于移动电话等贴装空间小的设备。
- 比组装基板薄，适合配置在卡片式设备内。
- 具有宽频特性，即使因组装条件或使用条件使中心频率变动，也能有效覆盖通讯频带范围。
- 不需要外部调整电路。
- 有准备频率系列品，可迅速提供最合适安装条件的天线。

■用途

- 无线局域网、蓝牙等。

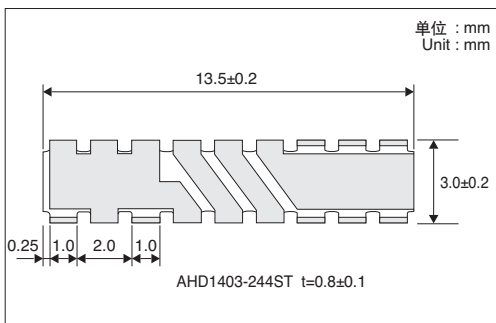
■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

■Applications

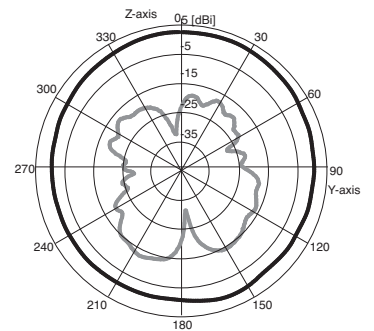
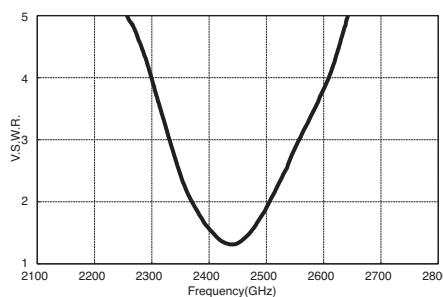
- Wireless LAN, Bluetooth™ etc.

■形状・尺寸 Dimensions

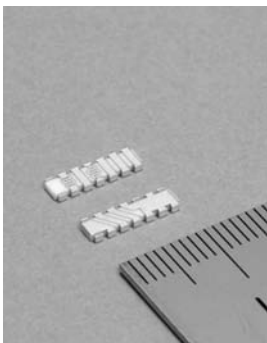


■AHD1403-244ST01的特性

Characteristics of AHD1403-244ST01



●AHD1103-244ST01



■特点

- 小型版AHD1403-ST01。
- 结构小巧，最适用于移动电话等贴装空间小的设备。
- 比组装基板薄，适合配置在卡片式设备内。
- 具有宽频特性，即使因组装条件或使用条件使中心频率变动，也能有效覆盖通讯频带范围。
- 不需要外部调整电路。
- 有准备频率系列品，可迅速提供最合适安装条件的天线。

■用途

- 无线局域网、蓝牙等。

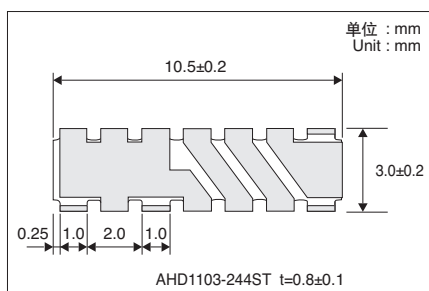
■Features

- Downsized version of AHD 1403 series.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

■Applications

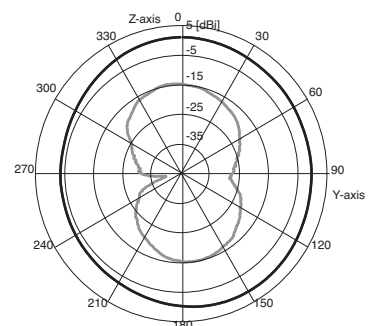
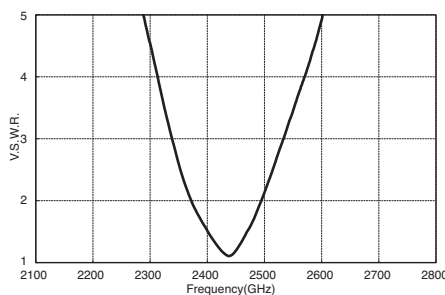
- Wireless LAN, Bluetooth™ etc.

■形状・尺寸 Dimensions



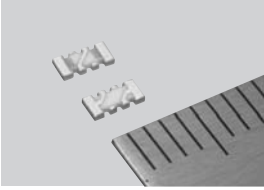
■AHD1103-244ST01的特性

Characteristics of AHD1103-244ST01



用于2.4GHz带 For 2.4GHz Band

●AMD0302-ST01



■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可调节适用频带

■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.

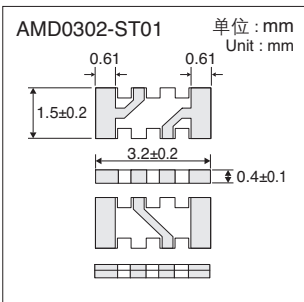
■用途

- 无线局域网、蓝牙等。

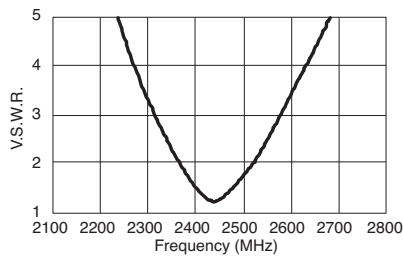
■Applications

- Wireless LAN, Bluetooth™ etc.

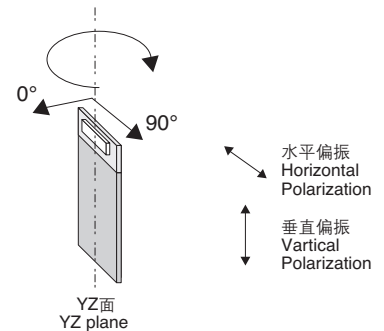
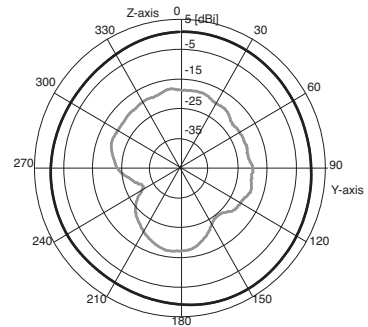
■形状・尺寸 Dimensions



■V.S.W.R.的特性及其放射特性(参考) 2440MHz调整



V.S.W.R. & radiation characteristics (Reference) : 2440 MHz

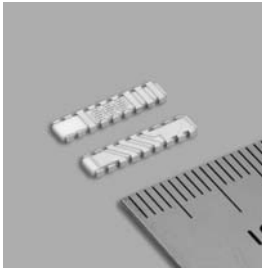


*上述特性为典型特性，并非保证特性。

*These characteristics are not guaranteed ones, but typical ones.

用于1.9GHz带 For 1.9GHz Band

●AHD1403-191ST01



■特点

- 小型、超薄的全向性天线。
- 结构小巧，最适用于移动电话等贴装空间小的设备。
- 比组装基板薄，适合配置在卡片式设备内。
- 具有宽频特性，即使因组装条件或使用条件使中心频率变动，也能有效覆盖通讯频段范围。
- 不需要外部调整电路。
- 有准备频率系列品，可迅速提供最适合安装条件的天线。

■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

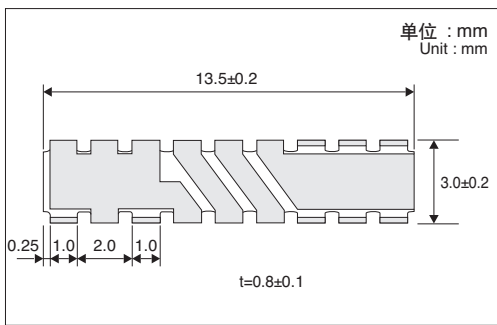
■用途

- PHS、DECT等

■Applications

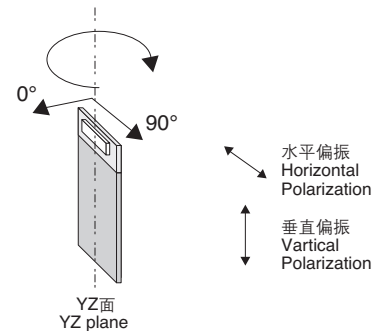
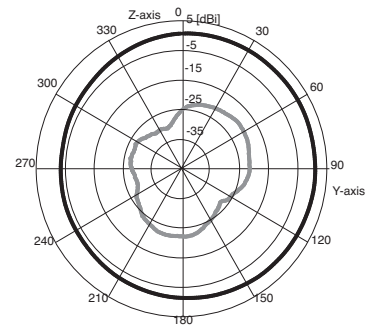
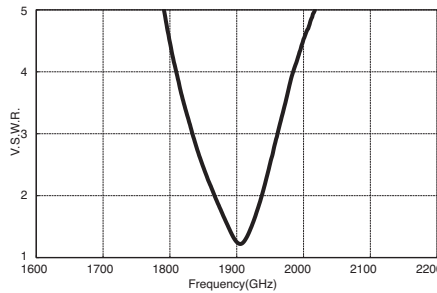
- PHS, DECT, etc

■形状・尺寸 Dimensions



■AHD1403-191ST01的特性

Characteristics of AHD1403-191ST01

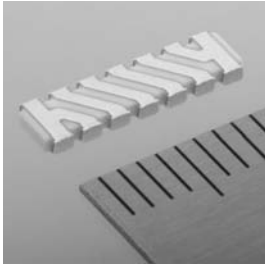


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*These characteristics are not guaranteed ones, but typical ones.

用于950MHz带 For 950MHz Band

●AMD1103-ST01



■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可调节适用频带
AMD1103-ST01: 400MHz~1000 MHz
(例)430 MHz、868MHz、915MHz、950MHz

■用途

- 智能电表，有源标签等

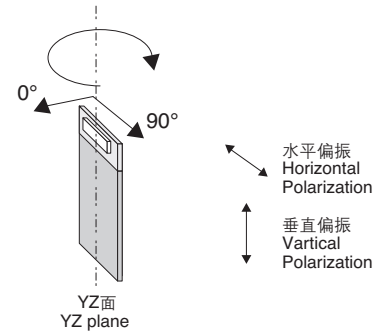
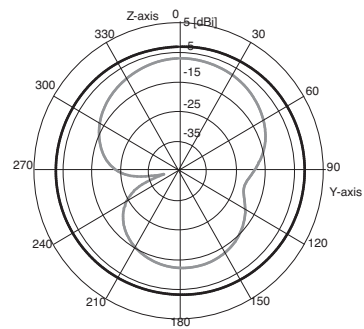
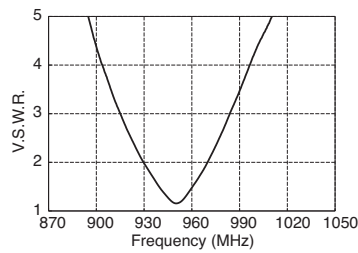
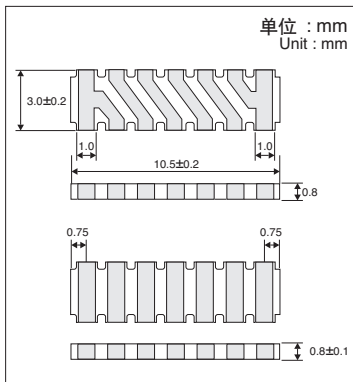
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
AMD1103-ST01 : 400 MHz~1000 MHz.
(For example)430 MHz、868MHz、915MHz、950MHz

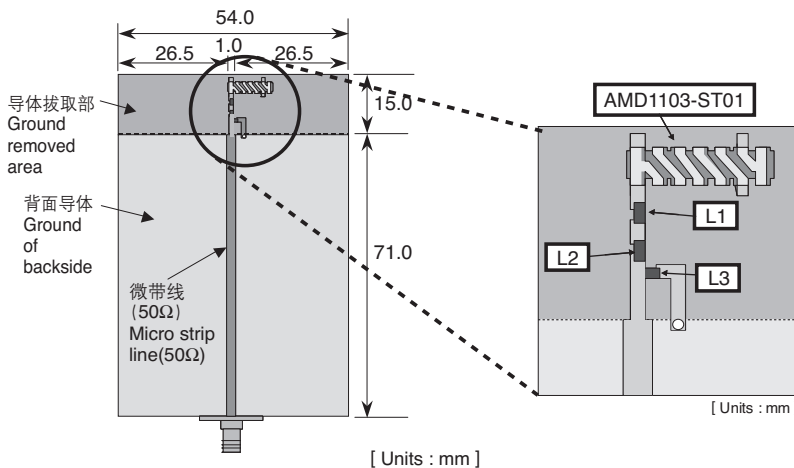
■Applications

- Smart Meter, Active Tag, etc

■形状・尺寸 Dimensions ■V.S.W.R.的特性及其放射特性(参考) 950MHz调整 V.S.W.R. & radiation characteristics (Reference) : 950 MHz



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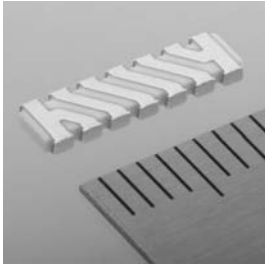


※本公司试验电路板调整实例

fc[MHz]	电感 [nH]		
950	L1	L2	L3
	11	33	6.8

用于915MHz带 For 915MHz Band

●AMD1103-ST01



■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可调节适用频带
AMD1103-ST01: 400MHz~1000 MHz
(例)430 MHz、868MHz、915MHz、950MHz

■用途

- 销往北美的无线设备

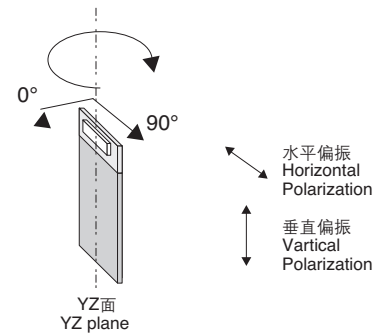
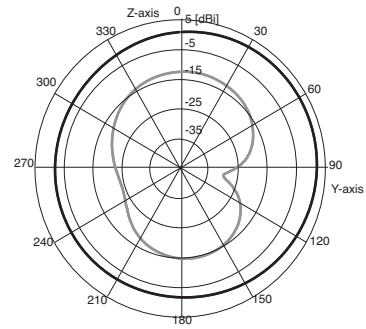
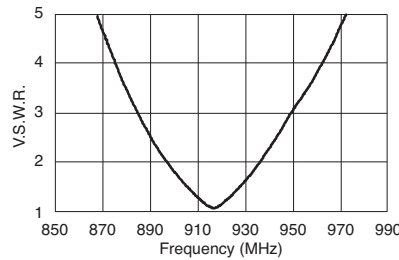
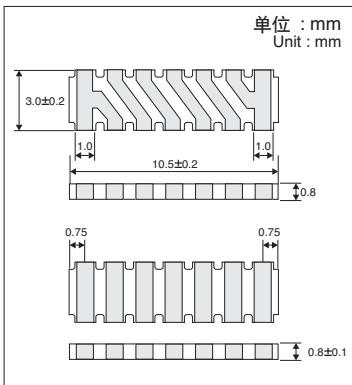
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
AMD1103-ST01: 400 MHz~1000 MHz.
(For example) 430 MHz、868MHz、915MHz、950MHz

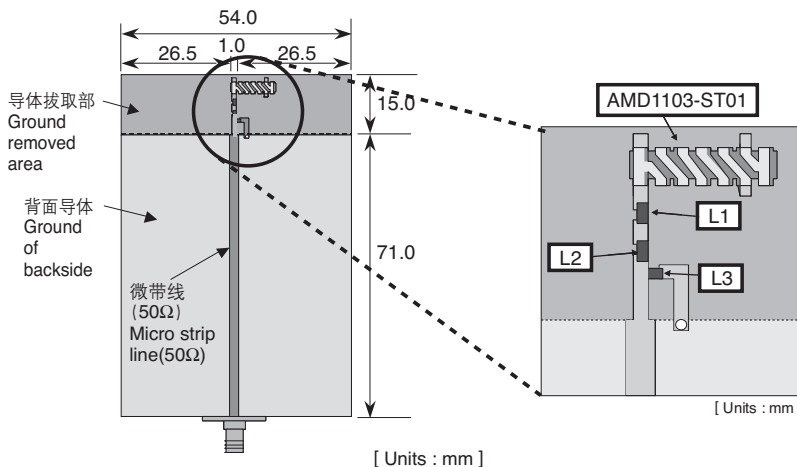
■Applications

- Wireless equipment for North America, etc

■形状・尺寸 Dimensions ■V.S.W.R.的特性及其放射特性(参考)915MHz调整 V.S.W.R. & radiation characteristics (Reference) : 915 MHz



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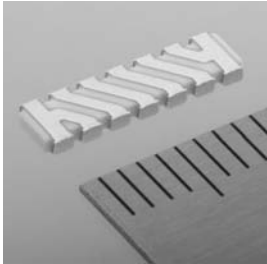


※本公司试验电路板调整实例

fc[MHz]	电感 [nH]		
915	L1	L2	L3
	8.7	39	7.5

用于868MHz带 For 868MHz Band

●AMD1103-ST01



■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可调节适用频带
AMD1103-ST01：400MHz~1000 MHz
(例)430 MHz、868MHz、915MHz、950MHz

■用途

- 销往欧洲的无线设备

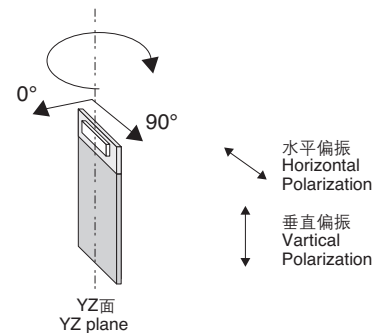
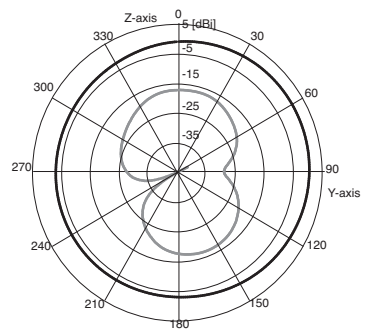
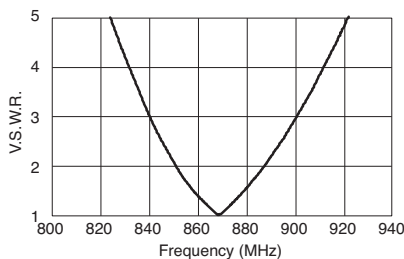
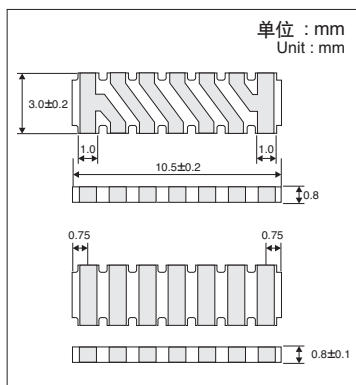
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
AMD1103-ST01 : 400 MHz~1000 MHz.
(For example)430 MHz、868MHz、915MHz、950MHz.

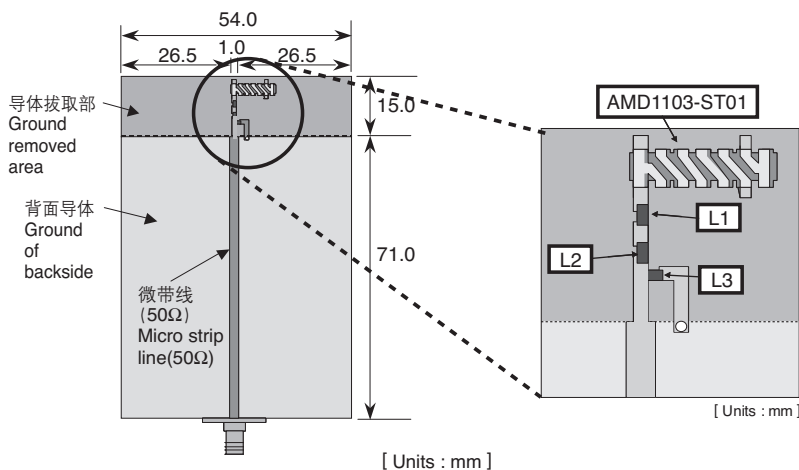
■Applications

- Wireless equipment for Europe, etc

■形状・尺寸 Dimensions ■V.S.W.R.的特性及其放射特性(参考) 868MHz调整 V.S.W.R. & radiation characteristics (Reference) : 868 MHz



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*These characteristics are not guaranteed ones, but typical ones.

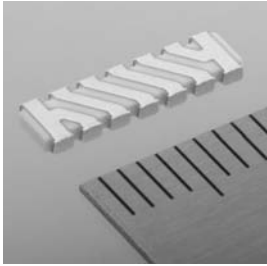


※本公司试验电路板调整实例

fc [MHz]	电感 [nH]		
868	L1	L2	L3
	4.3	47	8.2

用于430MHz带 For 430MHz Band

●AMD1103-ST01



■特点

- 小型、薄型天线
- 高增益
- 全向性
- 利用外部调整电路，可调节适用频带
AMD1103-ST01: 400MHz~1000 MHz
(例)430 MHz、868MHz、915MHz、950MHz

■用途

- 遥测仪(工业用、医疗用)、遥控器、数据通信、无线开关系统

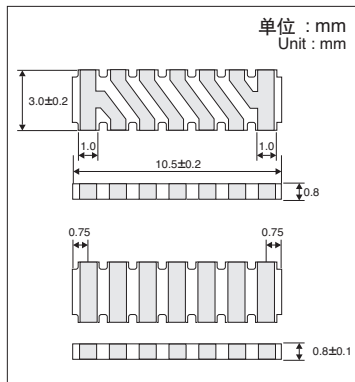
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
AMD1103-ST01: 400 MHz~1000 MHz.
(For example) 430 MHz、868MHz、915MHz、950MHz.

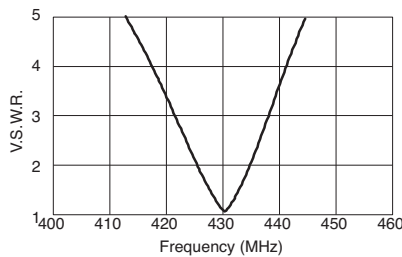
■Applications

- Telemeter, Telecontroller, Data communication, etc

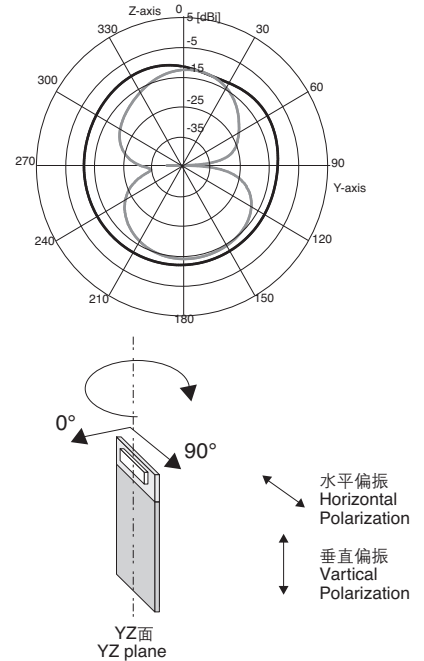
■形状・尺寸 Dimensions



■V.S.W.R.的特性及其放射特性(参考) 430MHz调整

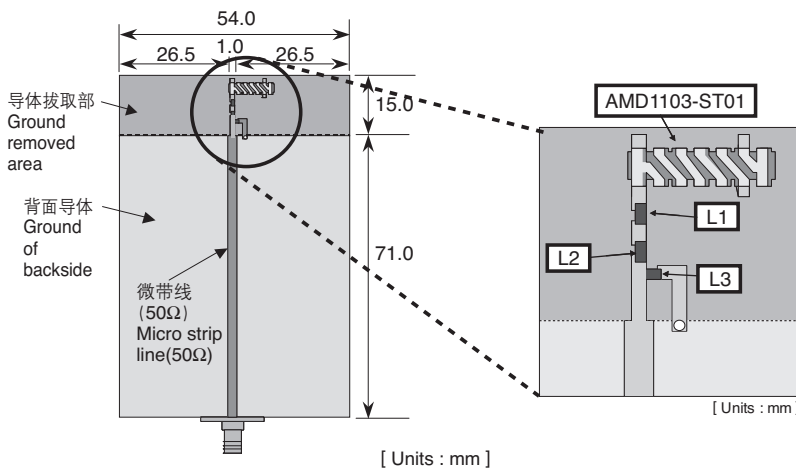


V.S.W.R. & radiation characteristics (Reference) : 430MHz



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贴片天线
CHIP ANTENNAS

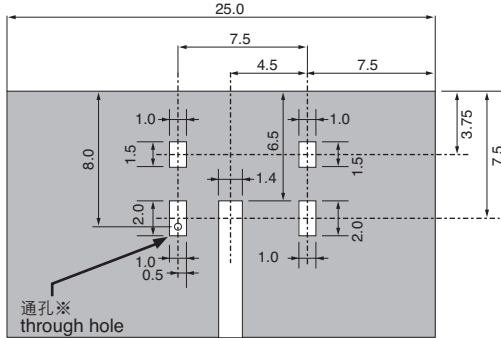


※本公司试验电路板调整实例

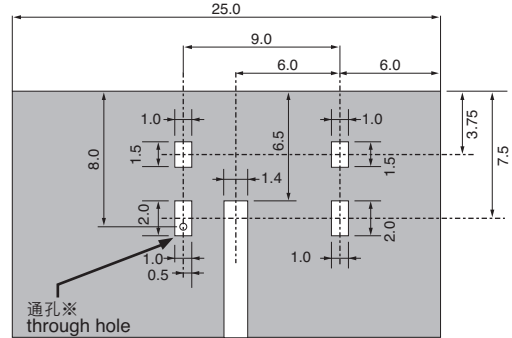
fc [MHz]	电感 [nH]		
430	L1	L2	L3
	30	220	16

推荐焊盘布局(参考) Recommended Land Pattern (Reference)

电极图形(主板表面): AHD1103-244ST01
Land pattern (Surface of the Substrate)

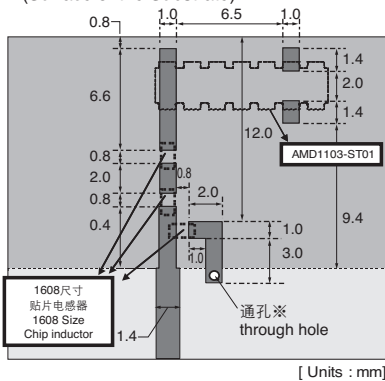


电极图形(主板表面): AHD1403-244ST01
Land pattern (Surface of the Substrate)

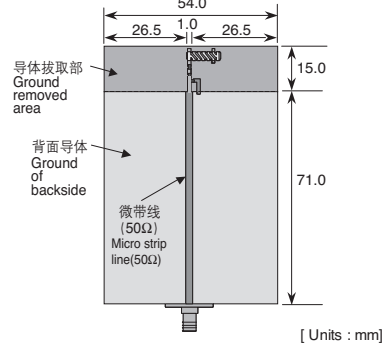


※通过通孔(Ø0.4mm)将表面焊盘与背面GND连接。
※Connection to ground pattern via through hole (Ø0.4mm) recommended.

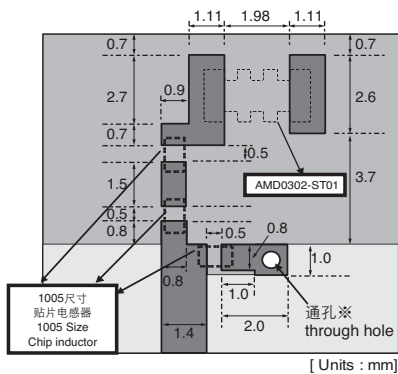
电极图形(主板表面): AMD1103-ST01
Land pattern (Surface of the Substrate)



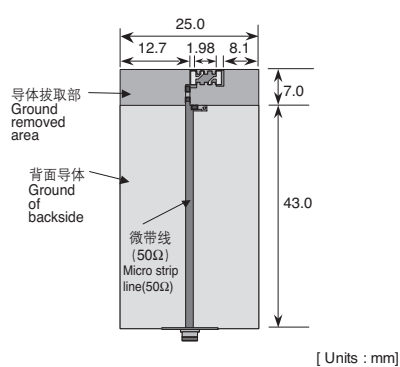
底板全图(主板表面): AMD1103-ST01
Evaluated board (Surface of the Substrate)



电极图形(主板表面): AMD0302-ST01
Land pattern (Surface of the Substrate)



底板全图(主板表面): AMD0302-ST01
Evaluated board (Surface of the Substrate)

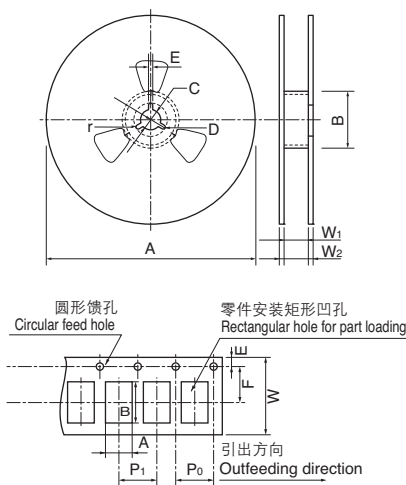
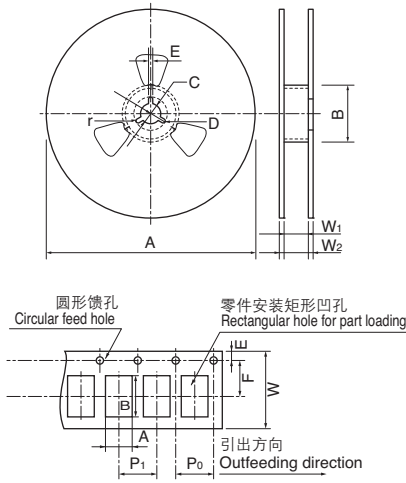



包装形状和使用上的注意点

PACKING FORM AND PRECAUTIONS

单位: mm
Unit : mm

■包装形状 Packing form

包装记号 Packing code	型号 Part number	包装数量 Packing Qty.	包装形状 Packing form																																																				
T	AHD1403 AHD1103 AMD1103	4,000	 <table border="1" data-bbox="986 338 1461 443"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>W₁</th> <th>W₂</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>ø330 +0 -3</td> <td>ø80 +1 -0</td> <td>ø13.0 ±0.2</td> <td>R10.5 ±0.4</td> <td>2.0 ±0.5</td> <td>24.4 ±0.6</td> <td>30.4≥</td> <td>0.5</td> </tr> </tbody> </table> <table border="1" data-bbox="954 501 1461 712"> <thead> <tr> <th>适用</th> <th>A</th> <th>B</th> <th>E</th> <th>F</th> <th>P0</th> <th>P1</th> <th>W</th> <th>安装孔 Loading hole</th> </tr> </thead> <tbody> <tr> <td>AHD1403</td> <td>3.3 ±0.1</td> <td>13.8 ±0.1</td> <td>1.75 ±0.1</td> <td>11.5 ±0.1</td> <td>4.0 ±0.1</td> <td>8.0 ±0.1</td> <td>24 ±0.3</td> <td>凹形方孔 Rectangular hole</td> </tr> <tr> <td>AHD1103</td> <td>3.3 ±0.1</td> <td>10.8 ±0.1</td> <td>1.75 ±0.1</td> <td>11.5 ±0.1</td> <td>4.0 ±0.1</td> <td>8.0 ±0.1</td> <td>24 ±0.3</td> <td>凹形方孔 Rectangular hole</td> </tr> <tr> <td>AMD1103</td> <td>3.3 ±0.1</td> <td>10.8 ±0.1</td> <td>1.75 ±0.1</td> <td>11.5 ±0.1</td> <td>4.0 ±0.1</td> <td>8.0 ±0.1</td> <td>24 ±0.3</td> <td>凹形方孔 Rectangular hole</td> </tr> </tbody> </table>	A	B	C	D	E	W ₁	W ₂	r	ø330 +0 -3	ø80 +1 -0	ø13.0 ±0.2	R10.5 ±0.4	2.0 ±0.5	24.4 ±0.6	30.4≥	0.5	适用	A	B	E	F	P0	P1	W	安装孔 Loading hole	AHD1403	3.3 ±0.1	13.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	凹形方孔 Rectangular hole	AHD1103	3.3 ±0.1	10.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	凹形方孔 Rectangular hole	AMD1103	3.3 ±0.1	10.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	凹形方孔 Rectangular hole
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B	全产品 All types	100	聚乙烯袋 Poly bag 																																																				

■使用注意事项 Precautions

- 适用温度范围
使用温度范围: -40°C ~ +85°C
保存温度范围: -40°C ~ +85°C
- 操作处理时的注意
本产品为陶瓷产品, 施加过度的冲击或负荷可能会损坏元件。
单体及基板搭载后的操作处理和运输等应加以充分注意。
- 保管方法
请在密封状态(盖带未开封状态)在保管于恒温恒湿场所。若保管在以下环境中, 可能会导致产品特性劣化, 请加以注意。
· 特殊气体环境(SOx、NOx、Cl₂、NH₃等)
· 多尘场所、湿气大易结露的场所

- Operating temperature range
Operating temperature range : -40°C ~ +85°C
Storage temperature range : -40°C ~ +85°C
- Handling
Excessive stress or mechanical shock may damage to products, therefore, please be careful in handling or transporting products and assemblies with this product.
- Storage
Products should be stored as it packaged (as sealed up) under normal temperature and humidity. To avoid degradation or destruction of products, please do not store under conditions below.
· In an atmosphere containing corrosive gas (SOx, NOx, Cl₂, NH₃ etc.)
· Dusty Place
· Humid place, where water condenses

请在购入后3个月内使用。另外, 盖带开封后应立即使用。
保管期超过3个月时, 请在使用前确认可焊性。

Stored products should be used within 3 months of receipt (If once the seal of covertape is broken, please use immediately).
If this period is exceeded please verify solderability of products.

※推荐保管条件
温度: -10°C ~ +40°C
湿度: 15%R.H ~ 85%R.H

[Recommended storage condition]
Temperature : -10°C ~ +40°C
Humidity : 15%R.H ~ 85%R.H