

# A-Series



## Features

Thin film technology

Full Wraparound

Nickel Barrier for  
excellent solderability

Attenuation from 0 dB to 10  
dB in 1 dB increments,  
16 dB (A-1206, A-1612),  
20 dB (A-1612)

VSWR 1.5:1 max.  
(A-0402), 1.3:1 all others

**ims** International  
Manufacturing  
Services, Inc.  
50 Schoolhouse Lane  
Portsmouth, RI 02871  
Tel (401) 683-9700  
Fax (401) 683-5571  
e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>

## Thin Film Surface Mount Chip Attenuators

The **ims** A-Series thin film surface mount chip attenuator line is ideal for applications requiring precision attenuation in a small form factor packages. The attenuators are provided in the "π" configuration. Thin film technology insures a low noise, precise attenuator at a very affordable price. The wraparound terminations include a nickel barrier layer which affords excellent solderability and mechanical integrity. This chip attenuator line has the following features:

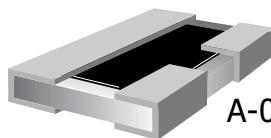
- Precision thin film attenuator element
- 99.5%  $\text{Al}_2\text{O}_3$  substrate material
- Nickel barrier layer for excellent solderability and mechanical integrity
- Ultra low noise attenuator element
- Excellent high frequency performance
- Low inductance and parasitic capacitance
- Stable characteristics over temperature and time
- Polyimide passivation of attenuator element
- Available in bulk or on tape and reel



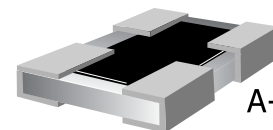
100% Matte Tin Finish

## Terminations

Full wraparound



A-0603, 0805, 1206, 1612

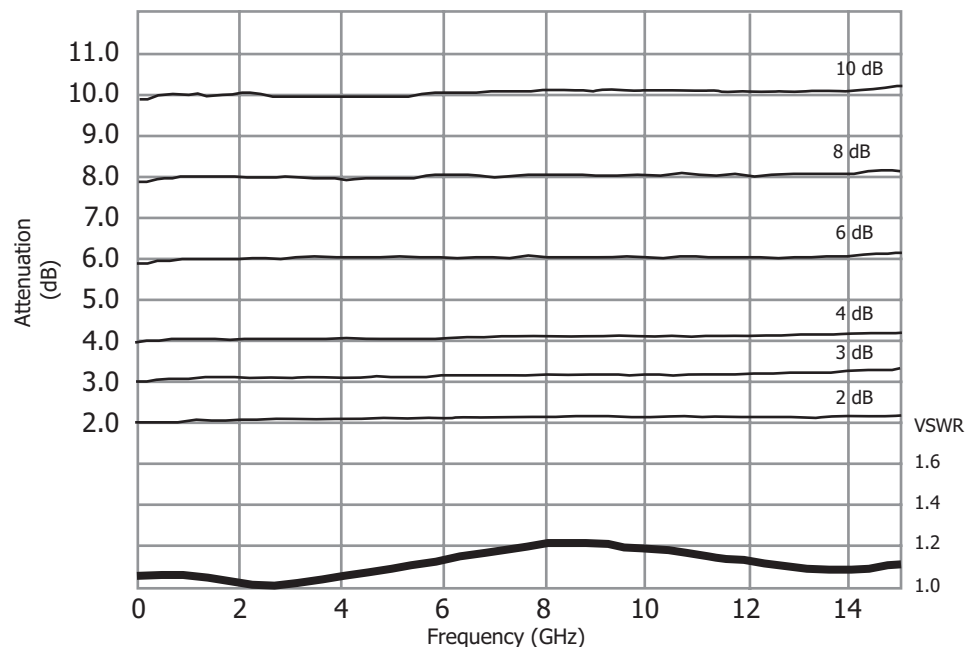


A-0402WA

## Attenuation Ranges

The A-Series is available in values from 0dB to 10 dB in 1 dB increments. Standard impedance is 50Ω.

## Frequency Characteristics (A-0805)\*



\*Performs within spec to 20 GHz when mounted face down.

## Dimensions

Part Number	Length	Width	Height	Terminal
A-0402WA	0.039 ± .004	0.020 ± .004	0.014 max.	0.009 ± .002
A-0603 & IMS2533	0.063 ± .004	0.032 ± .004	0.020 max.	0.016 ± .006
A-0805 & IMS1141	0.079 ± .008	0.049 ± .008	0.020 max.	0.020 ± .008
A-1206	0.126 ± .008	0.063 ± .008	0.020 max.	0.039 ± .010
A-1612	0.165 ± .008	0.118 ± .008	0.020 max.	0.037 ± .008

## Characteristics

Operating Temperature	-55°C to +125°C
Impedance	50 Ω
Frequency range	DC to beyond 10 GHz (A-0402WA, A-0603, A-0805) DC to 3 GHz (A-1206) DC to 2 GHz (A-1612)
VSWR	1.3:1 maximum (except A-0402WA - 1.5:1)
Attenuation	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 16*, 20** dB
Attenuation tolerance	
A-0805, 1141, A-1206, A-1612	± 0.3 dB, ± 0.5 dB (1206 - 16 dB, 1612 - 16 dB, 20dB)
A-0402WA, A-0603, 2533	± 0.3 dB (0 - 3dB) ± 0.5 dB (4 - 7 dB) ± 1.0 dB (8 - 10 dB)

\* A-1206, A-1612 only    \*\*A-1612 only

## Specifications

Maximum Working Voltage	
A-0402WA	1.26WVDC
A-0603 & IMS2533	1.77WVDC
A-0805 & IMS1141	2.24WVDC
A-1206	2.50WVDC
A-1612	3.53WVDC
Rated Power (70°C)	
A-0402WA	32mW
A-0603 & IMS2533	63mW
A-0805 & IMS1141	100mW
A-1206	125mW
A-1612	250mW

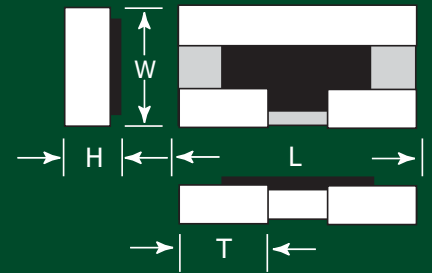
## Ordering Information

**Face Up Example: 3 dB, 100 mW, SMT 0805 attenuator.**

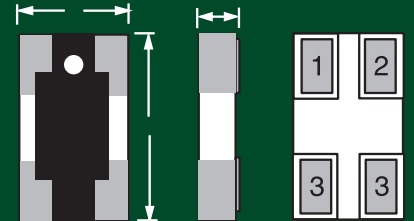
<b>A</b>	<b>-0805</b>	<b>- C</b>	<b>-03DB</b>
Prefix for Face Up Attenuator			Attenuation level 00 - 10 dB, 16*, 20**dB *A-1206 & 1612 only ** A-1612 only
Form factor 0402WA, 0603, 0805, 1206, 1612		C indicates 50Ω impedance	

**Face Down Example: 3 dB, 100 mW, SMT 0805 attenuator.**

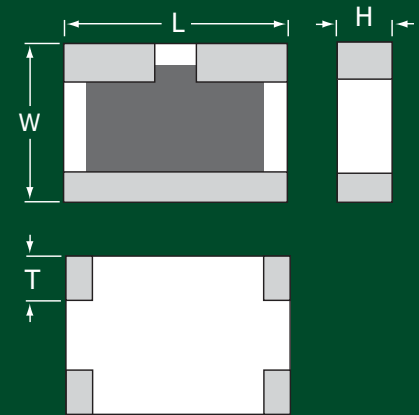
<b>IMS1141</b>	<b>- 03DB</b>
IMS2533 = Face Down 0603 IMS1141 = Face Down 0805	Attenuation level 00 - 10 dB



A-0603, A-0805, A-1206



A-0402WA



A-1612

**For higher dB values, higher power ratings or lead content attenuators see our IAX Series**

**Ask Us About Engineering Kits!**

**ims** International Manufacturing Services, Inc.  
50 Schoolhouse Lane  
Portsmouth, RI 02871  
Tel (401) 683-9700  
Fax (401) 683-5571  
e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>