

# Lab Brick® LDA Series Digital Attenuators



- Input power to 2 Watts
- USB powered and controlled
- Includes easy to install and use GUI
- Programmable attenuation ramp
- Operate multiple devices directly from a PC or self powered USB hub
- Easily programmable for ATE applications

Lab Brick Digital Attenuators are bidirectional 50 Ohm RF step attenuators with calibrated operation up to 6 GHz and power handling up to 2 Watts. A simple connection to a USB host provides DC power and control. No additional DC supply voltage is required. Lab Brick Digital Attenuators are easily programmable for fixed attenuation or swept attenuation ramps directly from the included GUI. Lab Brick Digital Attenuator Windows®/Linux API dll's and LabVIEW compatible drivers are also available for custom programming applications.

## Applications include:

- Automated Test Equipment (ATE)
- WiMAX, 3G, 4G, LTE, DVB Fading Simulators
- Engineering/Production Test Labs

## Notes

1. These specifications are subject to change without notice.
2. Exceeding the maximum input level may cause permanent damage.
3. Customized models are available tailored to specific performance requirements.
4. The GUI software is included with the purchase of each Lab Brick Digital Attenuator.
5. A 6' USB cable is included with the purchase of each Lab Brick Digital Attenuator.

## Electrical

## LDA Series

### Operating Frequency, 50 Ohm

LDA-102	1 to 1000 MHz
LDA-102E	10 to 1000 MHz
LDA-302P-H	10 to 3000 MHz
LDA-302P-1	10 to 3000 MHz
LDA-302P-2	10 to 3000 MHz
LDA-602	6 to 6000 MHz
LDA-602E	400 to 6000 MHz

### Operating Frequency, 75 Ohm

LDA-102-75F	10 to 1000 MHz
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Attenuation:	Range	Step Size
LDA-102	63 dB	0.5 dB
LDA-102-75F	95 dB	0.5 dB
LDA-102E	120 dB	0.5 dB
LDA-302P-H	31.5 dB	0.5 dB
LDA-302P-1	63 dB	1.0 dB
LDA-302P-2	90 dB	2.0 dB
LDA-602	63 dB	0.5 dB
LDA-602E	120 dB	0.5 dB

Input:	Max Level <sup>2</sup>	Input IP3
LDA-102	+22 dBm	+32 dBm
LDA-102-75F	+30 dBm	+52 dBm
LDA-102E	+30 dBm	+55 dBm
LDA-302P-X	+33 dBm	+68 dBm
LDA-602	+22 dBm	+32 dBm
LDA-602E	+30 dBm	+55 dBm

Insertion Loss:	<1 GHz	1-2 GHz	2-3 GHz	4-6 GHz
LDA-102	7 dB	—	—	—
LDA-102-75F	6 dB	—	—	—
LDA-102E	5 dB	—	—	—
LDA-302P-X	4.5 dB	5.5 dB	7.5 dB	—
LDA-602	7 dB	8 dB	9 dB	10 dB
LDA-602E	5.5 dB	6.5 dB	7.5 dB	9.5 dB

### Attenuation Accuracy<sup>3</sup>

LDA-102, LDA-302, LDA-602	± 0.3 + 5% (3.5 dB max)
LDA-102E, LDA-102-75F, LDA-602E	± 0.3 + 3%

### Switching Speed

LDA-102	70 ns typ.
LDA-102-75F	1.5 us typ.
LDA-102E	4 us typ.
LDA-302P-X	2 us typ.
LDA-602	70 ns typ.
LDA-602E	4 us typ.

Input/Output VSWR	2.0:1 max, 1.3:1 typ.
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DC Power	5V/65 mA
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GUI Compatibility <sup>4</sup>	Windows™ 7, 8, XP, 2000
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## Mechanical

### Dimensions

LDA-102, LDA-302, LDA-602	3.86" x 2.52" x 1.35" (98 mm x 54 mm x 34 mm)
LDA-102E, LDA-602E	4" x 2.5" x .94" (101.6 mm x 63.5 mm x 23.9 mm)

### Weight

LDA-102, LDA-302, LDA-602	< 0.5 lbs (0.23 Kg)
LDA-102E, LDA-602E	0.6 lbs (0.27 Kg)

### RF Connectors

LDA-102, LDA-302, LDA-602	SMA-F or Type N-F
LDA-102E, LDA-602E	SMA-F

### USB Cable<sup>5</sup>

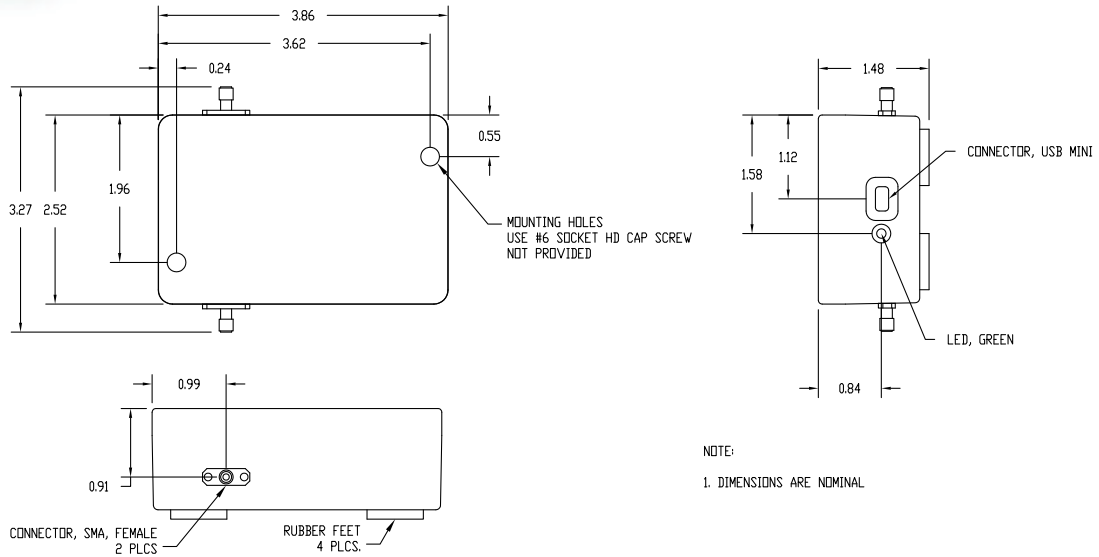
LDA-102, LDA-302, LDA-602	USB 2.0 A/miniB
LDA-102E, LDA-602E	USB 2.0 A/B



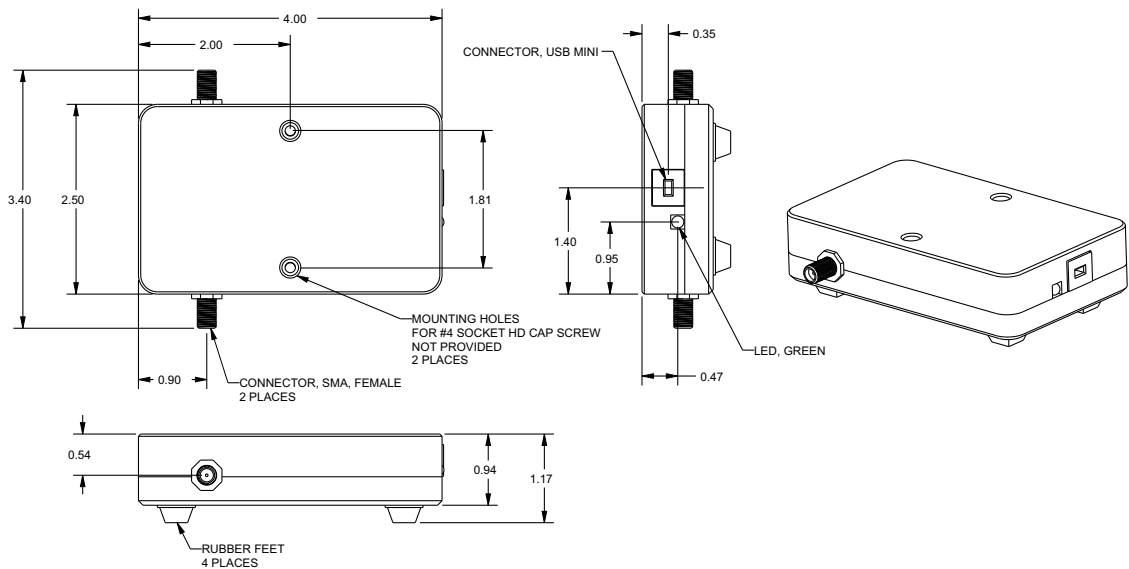
# Lab Brick® LDA Series Digital Attenuators



LDA-102  
LDA-302  
LDA-602



LDA-102E  
LDA-602E



See performance graphs online at [www.vaunix.com](http://www.vaunix.com)



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