

# Piezoelectric Speaker



## VSLBP/VSLBF Series

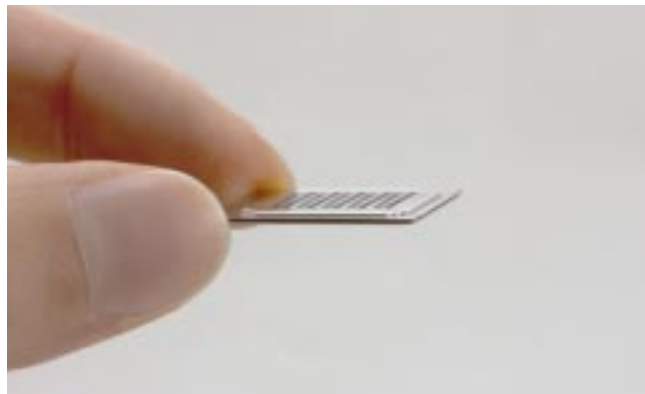
### ■ Features

- High Quality Sound & High Sound Pressure Level
- Ultra thin styling.  
 VSLBP Series: Thickness=1.2mm  
 VSLBF Series: Thickness=0.5mm  
 Side ventilation housing enables ultimate thickness reduction.
- Save battery power.
- No magnet-free from iron sand inhalation problem.
- No electromagnetic noise.
- Available for waterproof (IPX7)\*



### ■ Applications

Hand Held Phone / PDA / Solid State Audio / IC Recorder / DSC etc.



### ■ Standard Specifications

Item	Specifications	
	VSLBP1913E1400-T1/VSLBF1913E1400-T1	VSLBP2115E1100-T1
Rated Frequency Range	200Hz to 20kHz	200Hz to 20kHz
Sound Pressure Level	92.0dB±3.0dB *1	93.5dB±3.0dB *2
Resonant Frequency	1400Hz±20%	1150Hz±20%
Capacitance	0.9µF±30%	1.5µF±30%
Maximum Sinusoidal Voltage	5.0Vrms	5.0Vrms
Operating Temperature Range	-20 to +70°C	-20 to +70°C
Storage Temperature Range	-30 to +85°C	-30 to +85°C

Measurement Condition of Sound Pressure Level: \*1 Input Signal=5.0Vrms, Sine Wave, at 100mm, Average at 1.5k, 2.0k, 2.5k, 3.0kHz

\*2 Input Signal=5.0Vrms, Sine Wave, at 100mm, Average at 1.0k, 1.25k, 1.5k, 2.0kHz

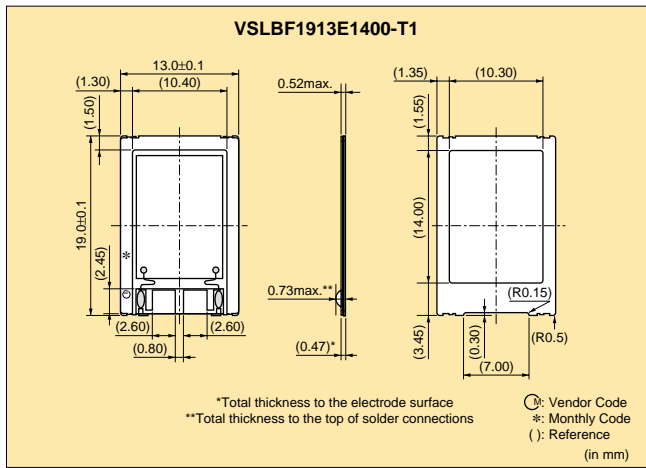
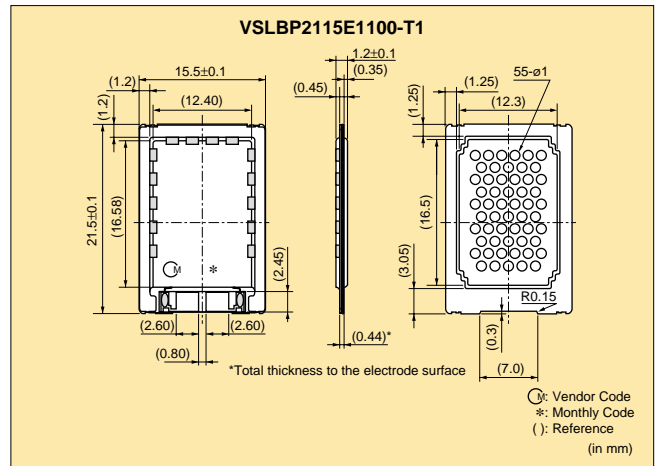
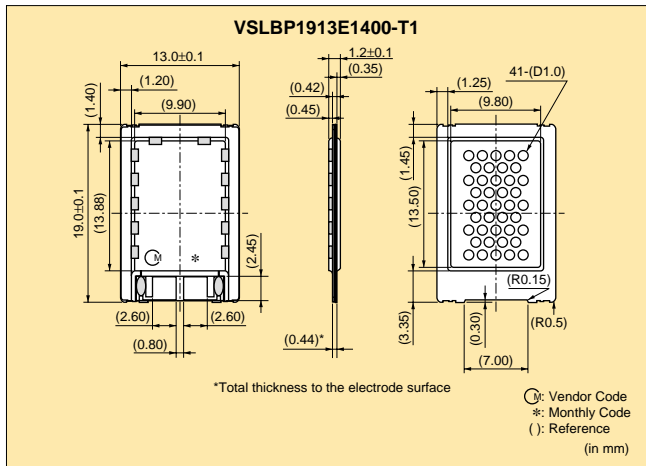
Measurement Condition of Capacitance: 0.1Vrms, at 120Hz

Maximum sinusoidal signal voltage continuously - for 240 hours - applicable to the speaker.

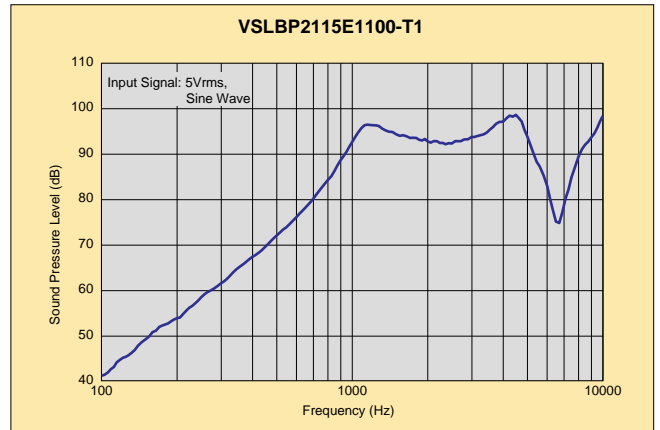
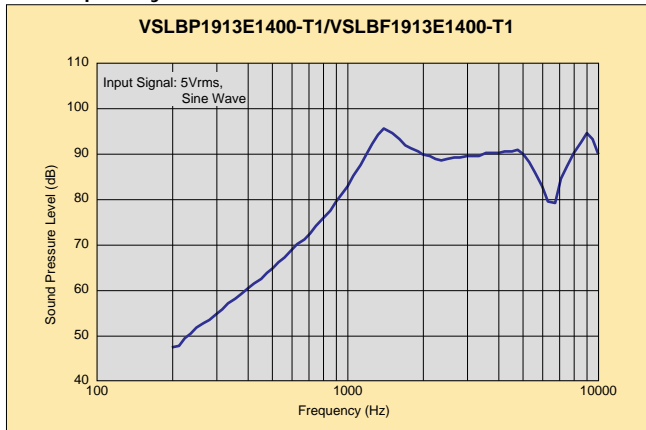
\* A Water proof type: VSLBG Series is also available.

Please contact your most convenient Murata window for more information.

■ Dimensions



■ Frequency Characteristics of Sound Pressure Level



Measurement Condition of Sound Pressure Level: Input Signal: 5.0Vrms, Sine Wave, at 100mm  
 Back Cavity: VSLBP1913E1400-T1 (VSLBF1913E1400-T1)=0.7cc, VSLBP2115E1100-T1=1.0cc

### EU RoHS Compliant

- All the products in this catalog comply with EU RoHS.
- EU RoHS is "the European Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment."
- For more details, please refer to our website 'Murata's Approach for EU RoHS' (<http://www.murata.com/info/rohs.html>).

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##### 2. Please contact our sales representatives or product engineers before using the products in this catalog for the applications listed below, which require especially high reliability for the prevention of defects which might directly damage a third party's life, body or property, or when one of our products is intended for use in applications other than those specified in this catalog.

- |                             |  |
|-----------------------------|--|
| ① Aircraft equipment        | ② Aerospace equipment  |
| ③ Undersea equipment        | ④ Power plant equipment  |
| ⑤ Medical equipment         | ⑥ Transportation equipment (vehicles, trains, ships, etc.)   |
| ⑦ Traffic signal equipment  | ⑧ Disaster prevention / crime prevention equipment   |
| ⑨ Data-processing equipment | ⑩ Application of similar complexity and/or reliability requirements to the applications listed above |

##### 3. Product specifications in this catalog are as of June 2011. They are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering. If there are any questions, please contact our sales representatives or product engineers.

##### 4. Please read rating and ⚠CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.

##### 5. This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please review our product specifications or consult the approval sheet for product specifications before ordering.

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