

### Overview

Multilayer piezoelectric bimorph actuators are ceramic elements used to convert electrical energy into mechanical energy such as displacement or force by utilizing the piezoelectric longitudinal effect.

KEMET's piezoelectric acoustic module use multilayer piezoelectric bimorph actuators which are produced based on our unique element structure design and piezoelectric ceramic materials with high electrostrictive factors.

The piezoelectric acoustic module generates both sound and vibration from the chassis simultaneously.

### Applications

- Smartphone Receiver
- Speaker

### Benefits

- Sound comes from panel surface
- No sound hole required
- Easy to hear in noisy surrounding
- More design flexibility
- Ideal for waterproof and dust-proofing design
- Fast and easy installation, provided with adhesive tape
- High reliability
- Operating temperature range from -25°C to +70°C
- Stable sound pressure through our proprietary ceramic material characterized by high Curie temperature with high d constant
- RoHS/REACH compliant



### Ordering Information

R	11-	24	40	18	-01
Receiver	Type of Design	Length (mm)	Width (mm)	Thickness (mm)	Model Type
R	11	24 = 23.6 mm	40 = 4.0 mm	18 = 1.9 mm	01

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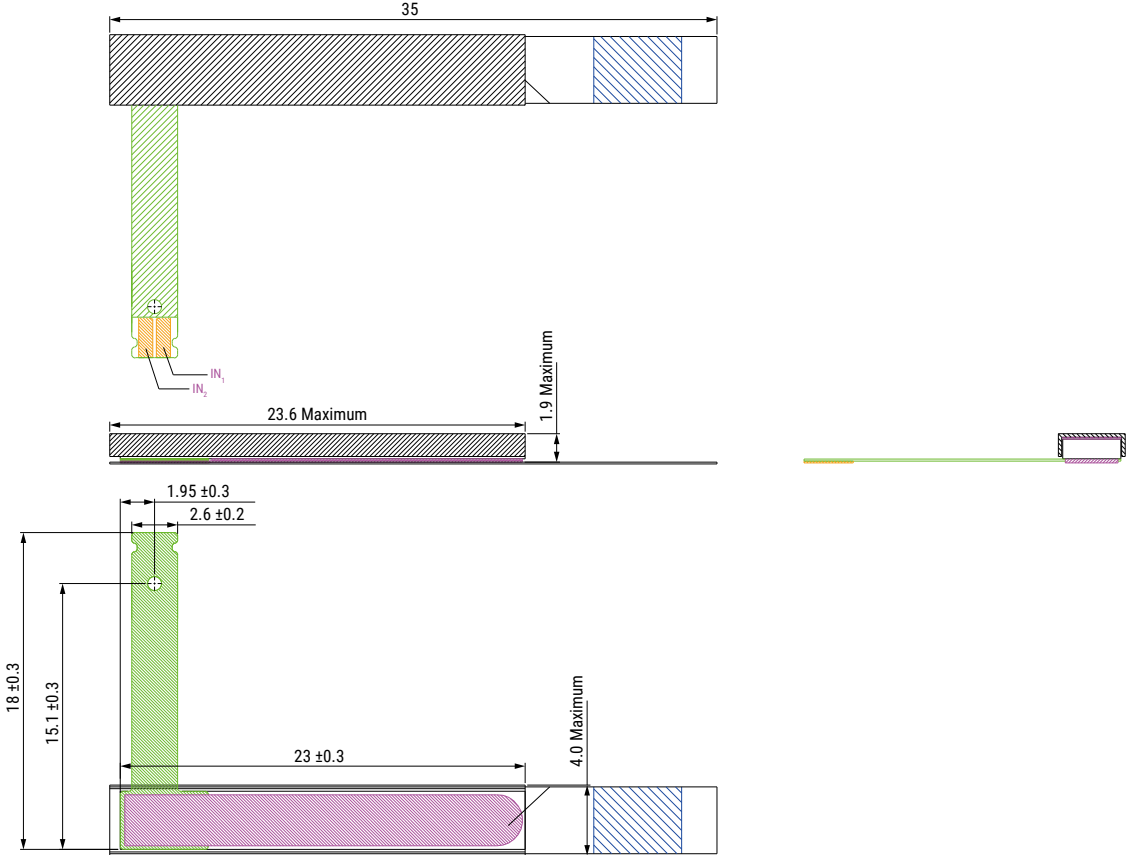
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 Москва (495)268-04-70  
 Мурманск (8152)59-64-93  
 Набережные Челны (8552)20-53-41  
 Нижний Новгород (831)429-08-12  
 Новокузнецк (3843)20-46-81  
 Ноябрьск (3496)41-32-12  
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# NOT FOR NEW DESIGN

## Dimensions in mm



Part Number	Length (mm) Maximum	Width (mm) Maximum	Thickness (mm) Maximum
R11-244018-01	23.6	4.0	1.9

## Performance Characteristics

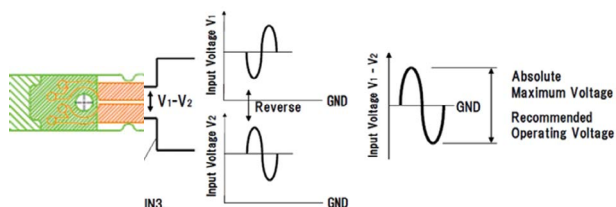
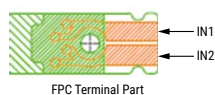
Item	Performance Characteristics	Remarks
Rating Driving Voltage	20 V Peak-Peak	IEC268-5 Compliant
Maximum Driving Voltage	25 V Peak-Peak	IEC268-5 Compliant
Operating Temperature Range	-25°C to +70°C	
Operating Humidity Range	≤ 70%	
Storage Temperature Range	-25°C to +85°C	
Storage Humidity	≤ 70%	

## Structure

Composition	Remarks
Molding Material	Siloxane content shall be less than 50 ppm
Piezoelectric Ceramics	
Double-sided Adhesive Tape	
FPC	

## Input Pin Assignment

Mark	Function
IN1	Input Terminal V1
IN2	Input Terminal V2



## Table 1 – Ratings & Part Number Reference

Part Number	Sound Pressure Level <sup>1</sup> (dBspl)	Static Capacitance <sup>2</sup> (nF)	Capacitance Tolerance (nF)	Self Resonance Frequency (kHz)	Weight (g)
R11-244018-01	107 ±3	1,000	±200	6	1.2

<sup>1</sup> Measurement conditions: 100 Hz, 1 V<sub>rms</sub>

<sup>2</sup> Measurement frequency: 1,000 Hz; Input voltage: 10 V peak-peak; Measurement distance: 10 mm by KEMET Jig

# NOT FOR NEW DESIGN

## Packaging

Part Number	Packaging Type	Pieces per Tray	Pieces per Box	Weight (g)
R11-244018-01	Tray	50	1,000	1.2

## Handling Precautions

### Precautions to be taken when using piezoelectric acoustic modules (Please read these precautions before using our products)

Material selection, installation and activation of piezoelectric ceramics should be decided upon by users according to the applications. For proper evaluation and decision, products should be tested repeatedly in both realistic and abnormal operating conditions.

- Do NOT use near flammable gas or solvent as alcohol, thinner, benzene, gasoline, propane gas due to risk of explosion or fire.
- Do NOT clean with flammable solvent such as alcohol, thinner and benzene due to risk of explosion or fire.
- R11 Receivers are breakable if bending stress is applied or in case of strong shocks due to drop.
- Do NOT drop, apply bending or other mechanical stress as it may change the performance characteristics.
- Do NOT apply bending stress during product handling or assembling process.
- Do NOT remodel R11 Receivers to fit into the design.
- Do NOT remove R11 Receivers after having applied to the application.
- Do NOT operate or store in dusty high temperature environment, near fire, under strong light or sunshine, in the air containing salt or oil.
- KEMET recommends that maximum storage temperature not exceed 85°C and maximum storage humidity not exceed 70% relative humidity and atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts.
- Handle products properly as industrial waste. When disposing, please contact your local waste disposal service and make sure the disposal methods meet all legal requirements.
- Acoustic Modules' stock should be used promptly, preferably within 1 year of receipt.

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