

VSSC

# MEMS Acoustic Sensor

Indian Space Research Organisation (ISRO) at its Vikram Sarabhai Space Centre (VSSC) has developed a technology for MEMS Acoustic sensor. The sensor is used for monitoring the Acoustic Levels generated during the launch of a satellite launch vehicle. It is a piezoelectric MEMS sensor with built-in electronics. MEMS technology enables miniature devices to be precision batch fabricated. The sensor works in harsh environments and can withstand Vibration test, Shock test, Humidity test, Temperature soak tests. It is the first indigenously developed MEMS sensor flight-tested in an Indian Launch Vehicle and has operational heritage of 12 successive PSLV flights.



## Salient features

- Bulk micro machined silicon diaphragm with Piezoelectric sense layer on Silicon
- Range : 100 to 180dB (2Pa to 20KPa)
- Frequency Range : 31.5Hz to 6.3KHz in 1/3rd Octave centre frequencies
- Sensitivity: 150 to 200uV/Pa
- Amplitude Linearity :  $\pm 2$ dB

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- Frequency response :  $\pm 3\text{dB}$
- Weight : 120grams
- Operating temperature range : -40 to +125°C
- System design done at ASCD/AVIONICS/VSSC
- Process design & fabrication at CEERI, Pilani
- Built in electronics and hence smart
- Elimination of external signal conditioners
- Reduction in cabling and ease of integration

*ISRO is willing to offer this technology to capable and interested parties who are in the field of manufacturing similar items.*

*Interested industries/ entrepreneurs are requested to contact the address given below with all relevant particulars regarding their line of current activity, infrastructure available, market assessment of the product, financial arrangements, strength of the company, turn over and sales of their products for the past few years and a copy of their latest annual report.*

**For further details, please contact:**

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