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Series 9000 Transducer

SensComp's Series 9000 Piezoelectric transducer is specifically intended for operation in air at ultrasonic frequencies.

Features

48 kHz Piezoelectric Transducer
Asymmetrical Beam Angle of 16° by 38° (typ.)
Rugged Construction
Suited for Harsh Environments
Specifically Intended for Operation in Air at Ultrasonic Frequencies

Part No.

*PID# 618417LF – Series 9000 Transducer
*RoHS Compliant

Benefits

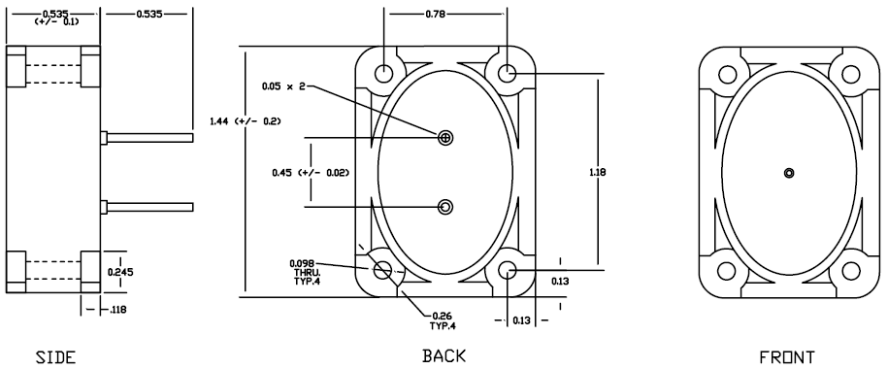
Meets or Exceeds SAE Specification J1455 for Heavy-duty Trucks
Withstands Demands of Automotive Exteriors

Applications

Level Measurement, Proximity Detection, Presence Detection, Robotics, Educational Products
Operation in Outdoor Environments

Description

The Piezoelectric based Series 9000 transducer is specifically intended for operation in air at ultrasonic frequencies. Its rugged construction and unique asymmetrical beam pattern make it an ideal choice to withstand the rigorous demands of the automotive exterior and other harsh environments. This transducer design is intended to meet or exceed the guidelines set forth in SAE specification J1455 for heavy-duty trucks.

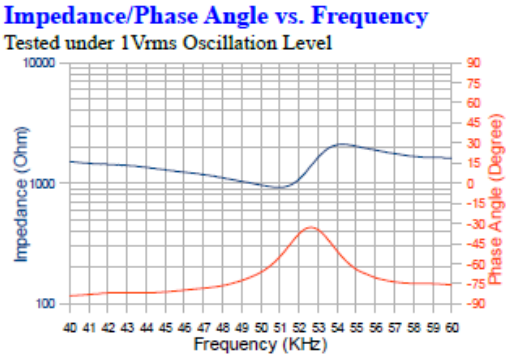


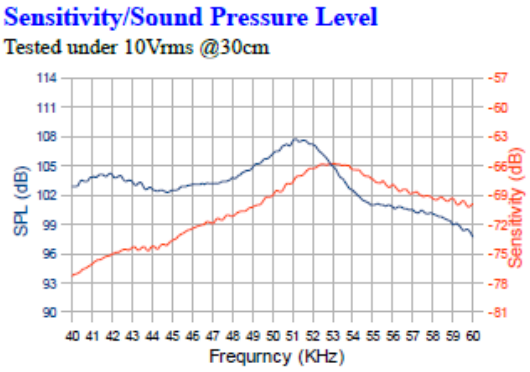
Series 9000 Specifications

Operating Frequency .....48 KHz ±1 kHz
Ringing .....1.2 mS max.
Bandwidth (97dB) Transmitter.....15 kHz
(-80dB) Receive.....15 kHz
Transmitting Sound Pressure Level.....100 dB min
0dB re 0.0002 µbar at 30 cm,
10 Vrms, at 48 kHz
Receiving Sensitivity .....-80 dB min
at 48 kHz; 0dB = 1 volt/µbar
Total Beam Angle.....See Graph
Asymmetrical.....16° typ. x 38° typ.
Suggested AC Driving Voltage 10-120Vp-p
Driving Voltage (10% duty cycle) .....140Vp-p max
Impedance .....1000 ohms ±10%
at resonant frequency 48 kHz
Capacitance at 1 KHz ±20% .....2400 pF
Construction
Outer Housing.....Valox Plastic
Cone.....Anodized Aluminum
Dimensions in inches.....See Drawing

Operating Temperature.....-30 to +70°C
Storage Temperature .....-40 to +80°C
Relative Humidity (non condensing) .....98% at 38°C
Salt Spray .....5% @ 95% Rh
Altitude Operating .....12,000 feet
Non-Operating.....40,000 feet
Dust, Sand, Gravel Bombardment .....
1 quart #50 Abrasive Sand, 3.6 ft. drop,
(20) Repetitions
Mechanical Vibration
10 G Random Triaxial Vibration,
50 Hz – 2 KHz for 1 hour
Mechanical Shock
Survives a 3 foot drop on concrete floor
Steam Cleaning
Input Pressure
4.5 bf/in^2 min at 200° F
Pressure Wash
102 lb/ in^2 at 104° F at 150 gal/minute
Chemical Exposure
Gasoline, Solvent, Cleaners, Lubricants

All specifications are taken @ 25°C typ.





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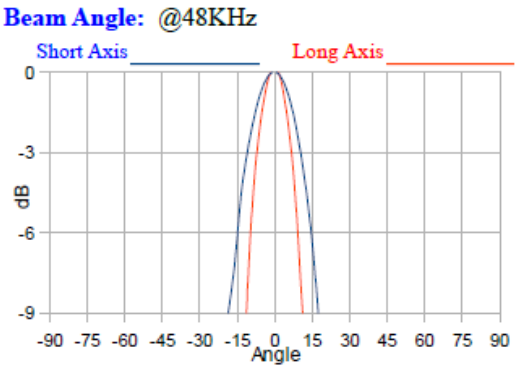

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