MASSA

GENERATIONS AHEAD IN SONAR & ULTRASONIC TECHNOLOGY

Model TR-2436/150
Plastic Ultrasonic Transducer

The Massa Model TR-2436/150 is an ultrasonic air transducer that operates in the 210 kHz frequency region. It is encased in a solid plastic housing, which results in a robust package with a completely sealed face.

The transducer is typically used in non-contact echo ranging applications where either a single TR-2436/150 is used to first transmit a short duration acoustic signal, and then receives the echo refected from a target; or two separate transducers are used, one to transmit and one to receive. The two curves below show how these transducers operate in these types of echo ranging systems.

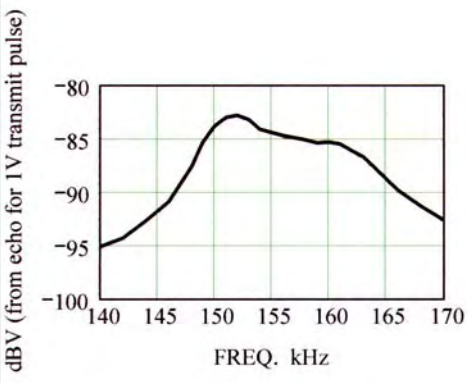
The System Echo Response Curve shows the typical voltage as a function of frequency produced on the receiving transducer by an echo from a flat target at a distance of 30 cm. The sound pulse was generated by applying a 1 Volt electrical signal to the transmitting drive voltage.

The System Directional Response shows the relative reduction in the received voltage produced by the echo as the target rotates to different bearing angles. The maximum system response is at the bearing perpendicular to the face of the transducer.

For more information on utrasonics, including using these curves showing the system responses and the individual transducer response curves shown on the reverse side of this data sheet, visit our Web Site at www.massa.com, or call a Massa Applications Engineer at 781-749-4800.

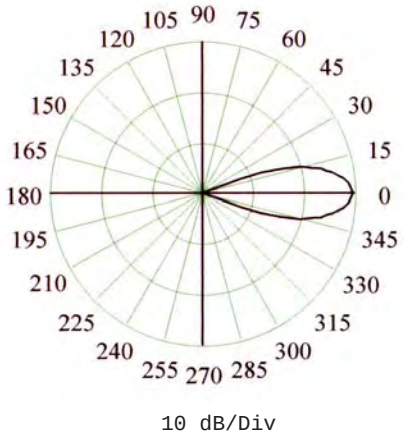
System Echo Response

(Voltage of echo from flat target at 30 cm, 1 V drive pulse.)



System Directional Response

(150 kHz)



(Photograph of transducer is approximately actual size.)

FEATURES

- Plastic Housing
- Sealed Transducer Face
- Operates in Adverse Environments
- Less Performance Variation With Temperature Than Typical Echo Ranging Transducers
- Broad Beam Angle For an Echo Ranging Transducer

APPLICATIONS

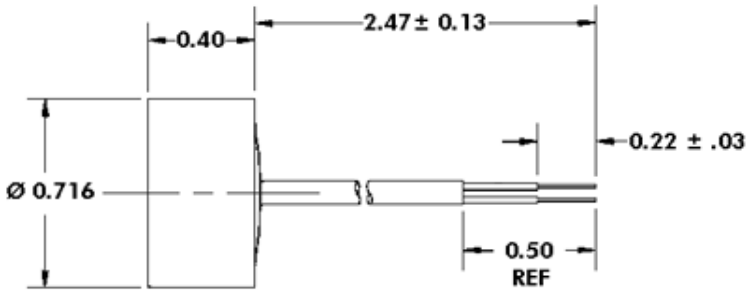
- Proximity Detection
- Robotics
- Level Measurement
- Mechanical Positioning
- Roll Diameter Measurement
- Web Loop Monitoring
- High Speed Counting
- Thickness Control

MASSA PRODUCTS CORPORATION
280 Lincoln St., Hingham, MA 02043 U.S.A.
Tel: 781-749-4800 Fax: 781-740-2045
Toll Free in USA: 800-962-7543
E-mail: sales@massa.com
Web Site: www.massa.com

090922

Model TR-2436/150

OUTLINE DIMENSIONS
(inches)



SPECIFICATIONS
(Typical at 22° C and 50% RH)

SYSTEM RESPONSE
(Same transducer used to transmit a sound pulse then receive an echo.)

Frequency of Peak Response:		150 kHz
Bandwidth:	-3 dB	13 kHz
	-6 dB	18 kHz
Peak System Sensitivity: (Voltage of echo from flat target at 30 cm, 1 V drive pulse.)		-83 dBV
System Total Beam Angle:	-3 dB	15°
	-6 dB	23°

TRANSDUCER RESPONSE at 150 kHz

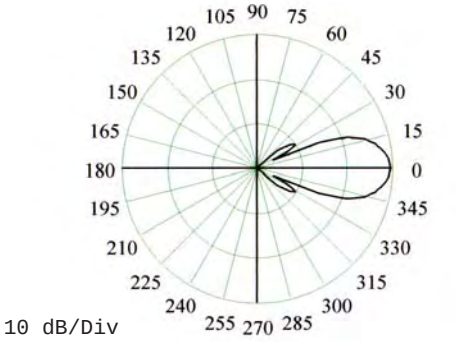
Transmitting Sensitivity: (dB re1µPa/V at 30 cm)		105 dB
Receiving Sensitivity: (dB re 1V/µPa)		-180 dB
Impedance Magnitude:		3000 Ω
Transducer Total Beam Angle:	-3 dB	23°
	-6 dB	32°

OTHER SPECIFICATIONS

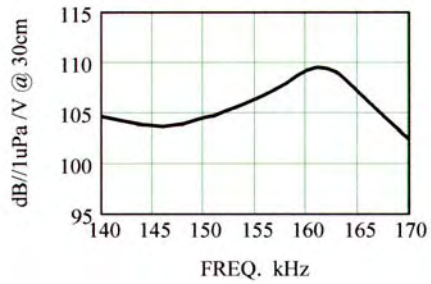
Operating Temperature:	-40° to 85° C
Relative Humidity:	0 to 90% (non-condensing)

All Specifications subject to change without notice.

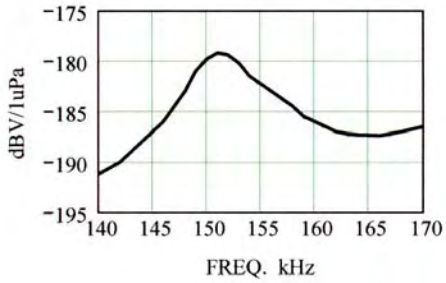
Transducer Directional Response
(210 kHz)



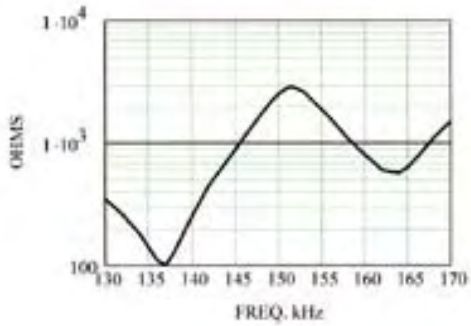
Transmitting Voltage Response



Receiving Response



Impedance Magnitude



MASSA
GENERATIONS AHEAD IN SONAR & ULTRASONIC TECHNOLOGY

VYDAS
Vydas International Marketing
Swan House Passfield Business Centre
Lynchborough Road Passfield
Hampshire GU30 7SB United Kingdom
Tel:44(0)1428 751822 Fax:44(0)1428 751833
Email:info@vydas.co.uk Web: www.vydas.co.uk