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Total Ultrasonic Solution
Pro-Wave Electronics Corp.

1 Scope

The Pulse/Tone Burst transducer is designed for echo ranging systems requiring a shorter ringing characteristic when comparing to our standard type transducers.

2 Part Number

400EP125-NBPN Pulse Transit Enclosed Type Ultrasonic Transducer

3 Dimension

As per Figure 1

4 Specification

(rated at temperature 25±3℃, 45 to 60% RH, unless otherwise noted)

	Items	Specification	Remarks
4-1	Center Frequency	40.0±1.0 KHz	
4-2	Ringing (max.) at 1.7ms	10 mV	See attached Figure 2
4-3	Sound Pressure Level	100 dB	At 40.0KHz re 0.0002μbar per 10Vrms at 30cm Detail see attached Figure 3
4-4	Sensitivity	-78 dB	At 0dB re 1Volt/μbar Detail see attached Figure 4
4-5	Bandwidth	1.5 KHz	-6dB (Figure of Mwrit)
4-6	Beam Angle	100°	-6dB
4-7	Capacitance	1400±20%pF	At 1KHz
4-8	Max. Driving Voltage	20Vrms	Cont.Wave
		100Vp-p	20 bursts maximum,25ms Repetition rate
4-9	Operation Temperature	-30° to +70°C	
4-10	Storage Temperature	-40° to +80°C	

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5 Environmental Characteristics

5-1 Overall echo sensitivity shall not change by more than ±3dB in the temperature range of -30℃ to 70℃, at a relative humidity of ±50%

5-2 Overall echo sensitivity shall not change by more than ±3dB in the humidity range of 10% to 90% at the temperature of 25℃

5-3 Overall echo sensitivity shall be within ±3dB of the specified values after the device is subjected to any or all of the belows

5-3-1 Operation at 90% relative humidity and 40℃ for 100 hours, followed by a normalization period of 24 hours at 30% and 25℃

5-3-2 Storage at -40℃ to + 80℃ for 24 hours followed by a normalization period of an hour at 25℃

5-3-3 Vibration at 10 to 55Hz, 1.5mm amplitude. 1 minute sweep. X, Y, Z, 3 each axis for 3 hours.

5-3-4 Shock: After impact of 50G is applied following. X, Y, Z, 3 axis /3 cycle / each direction.

5-3-5 Drop: After free drop from 1 meter height onto concrete floor, 3 times

6 Mechanical Characteristics

Lead strength

To pull longitudinally 1.0 kgf min.

To push longitudinally 1.0 kgf min.

7 Warranty

7-1 Warranty period is one year after delivery

7-2 Defective transducers attributable to manufacturer's responsibility shall be replaced for free, during the warranty period. However, following cases are out of the this replacement.

7-2-1 Unsuitable handling or misuse by user.

7-2-2 Modification or repair by user.

7-2-3 Any other cases not responsible for manufacturer such as natural calamity, accident, etc.

This warranty covers only replacement. Any loss derived from failure or malfunction of the transducer, or cost to replace is excluded from this warranty.

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Dimensions: unit mm

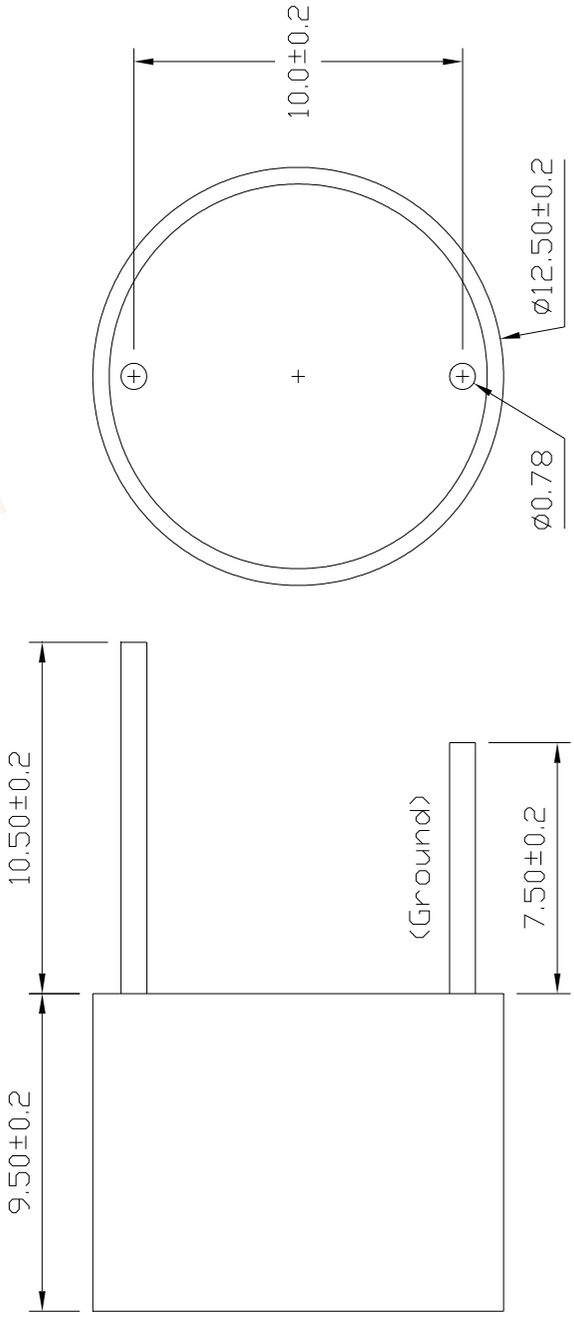


Figure 1

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Test Circuit:

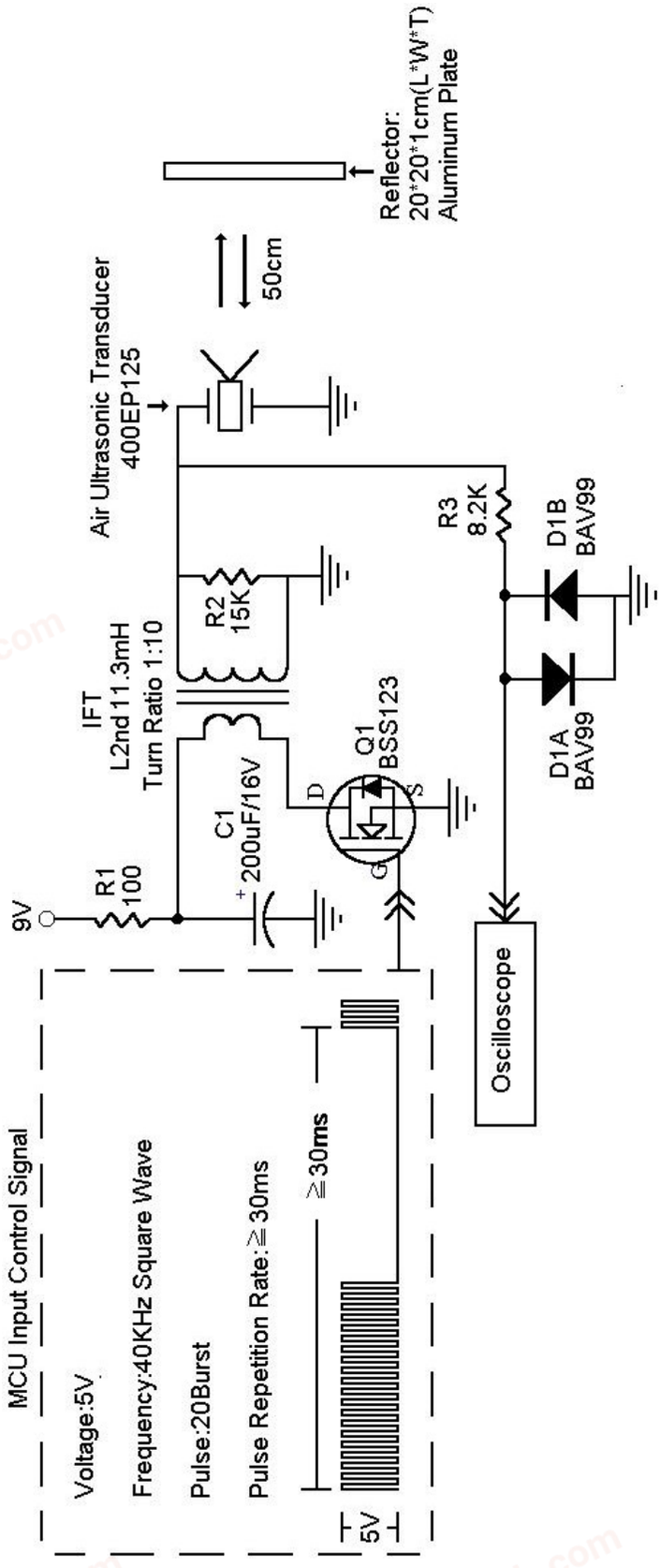


Figure 2

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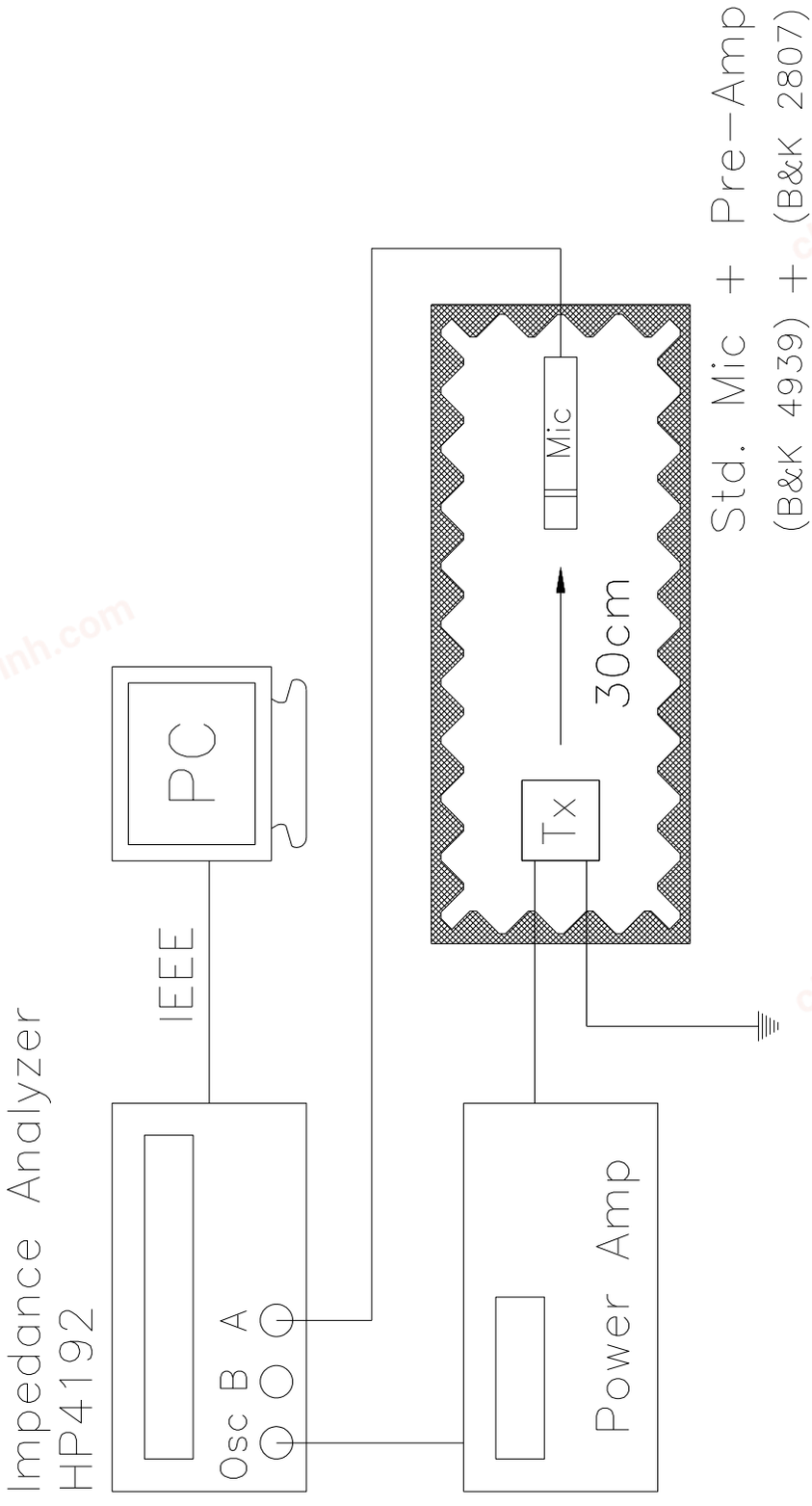


Figure 3

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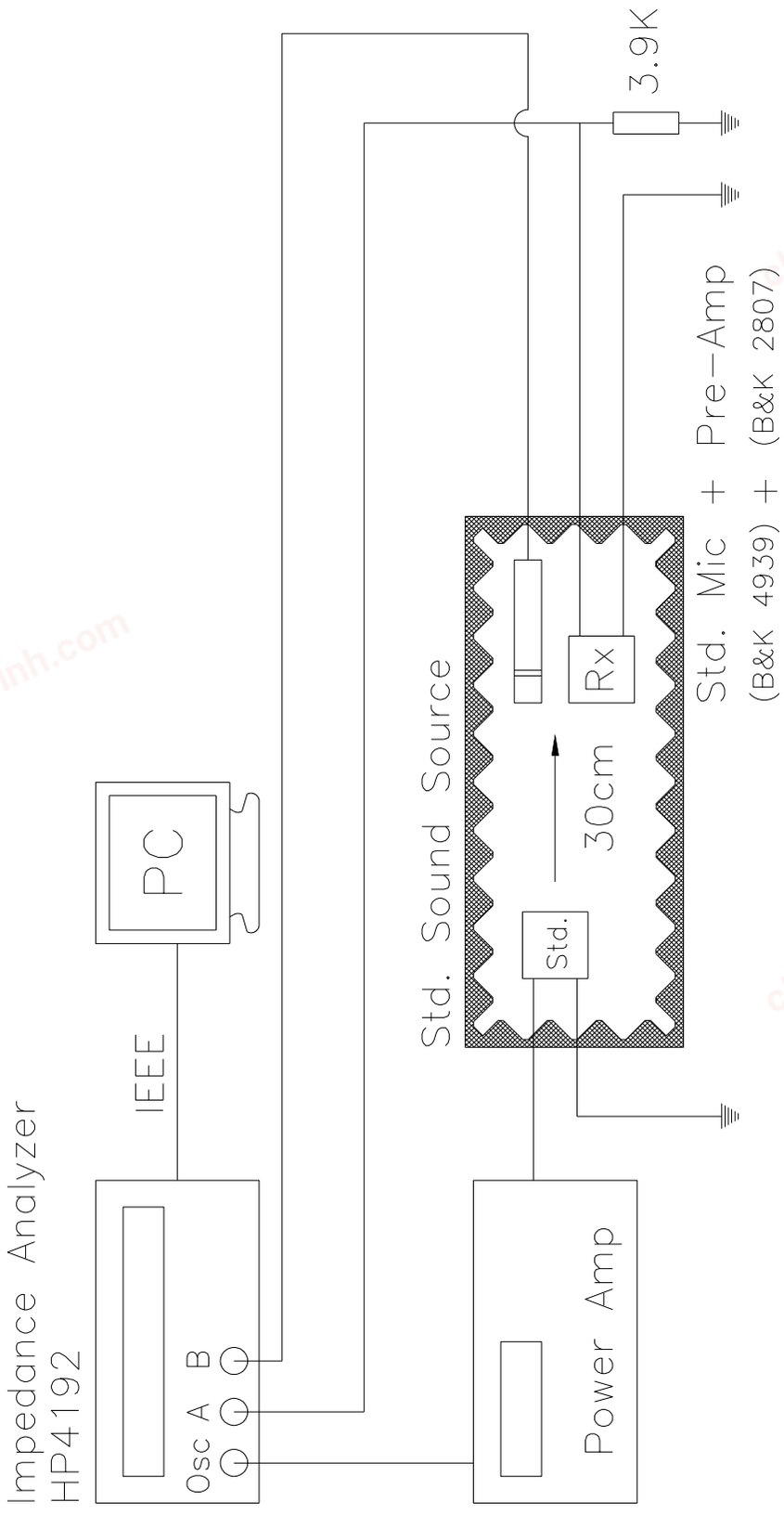


Figure 4