1   Scope

This specification covers the high frequency air ultrasonic transducer which is used for double feed detection for scanners, copy machines, bank notes counters and others.

2   Part Number

300HE100 High Frequency Air 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	Operation Frequency	300KHz	
4-2	Overall Echo Sensitivity	2.0mVp-p -74dB (min)	driving frequency: 300KHz driving voltage: 10Vp-p, square wave burst number: 5 repetition rate: 10ms reflection distance: 10cm detail see attached Figure 2
4-3	Capacitance	1500pF	±20%, measured at 1 KHz
4-4	Beam Angle	12° (TYP.)	-6dB (Overall Sensitivity)
4-5	Maximum Driving Voltage	50Vp-p	5 bursts; more burst number less voltage
		12Vp-p	continuous square wave
4-6	Operating Temperature	-20℃ to +60℃	
4-7	Storage Temperature	-30℃ to +70℃	
4-8	Operating Humidity	15% to 90%RH	use without condensation
4-9	Storage Humidity	10% to 90%RH	use without condensation

5   **Sensitivity vs. Driving Burst Number:**

Driving voltage 10Vp-p square wave, Reflection target distance: 10cm @300KHz
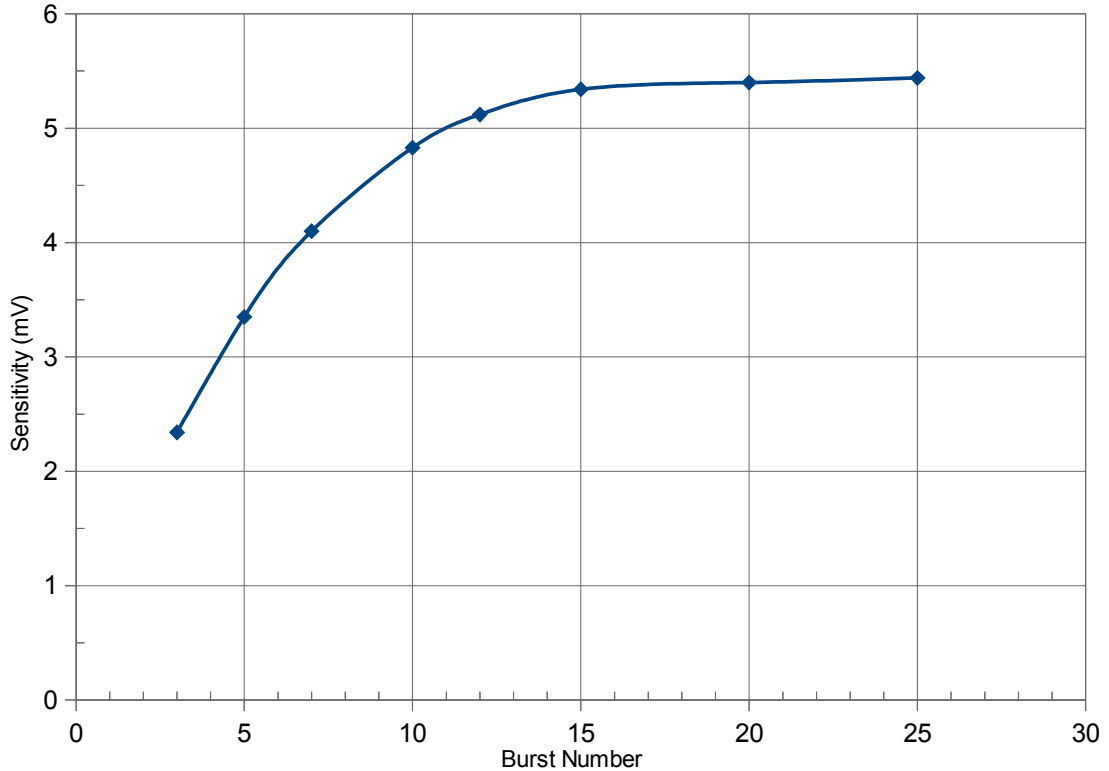
6   **Bandwidth vs. Driving Burst Number:**

Driving voltage 10Vp-p square wave, Reflection target distance: 10cm
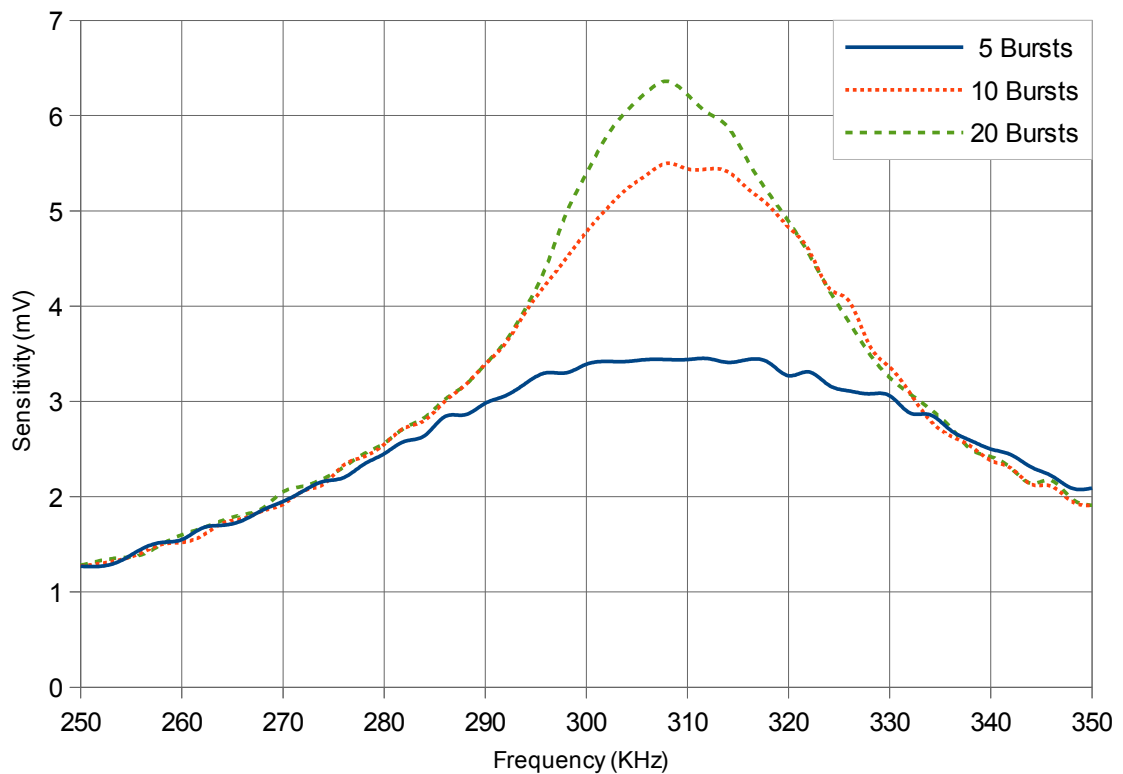
7   Environmental Characteristics

7-1   Overall echo sensitivity shall not change by more than ±3dB in the temperature range of -20℃ to 60℃, at a relative humidity of ±50%

7-2   Overall echo sensitivity shall not change by more than ±3dB in the humidity range of 15% to 90% at the temperature of 25℃

7-3   Overall echo sensitivity shall be within ±3dB of the specified values after the device is subjected to any or all of the belows

7-3-1 Operation at 90% relative humidity and 40℃ for 100 hours, followed by a normalization period of 24 hours at 30% and 25℃

7-3-2 Storage at -30℃ to + 70℃ for 24 hours followed by a normalization period of an hour at 25℃

7-3-3 Vibration at 10 to 55Hz, 1.5mm amplitude. 1 minute sweep. X, Y, Z, 3 each axis for 3 hours.

7-3-4 Shock: After impact of 50G is applied following. X, Y, Z, 3 axis /3 cycle / each direction.

7-3-5 Drop: After free drop from 1 meter height onto concrete floor, 3 times

8   Mechanical Characteristics

Lead strength

To pull longitudinally 1.0 kgf min.

To push longitudinally 1.0 kgf min.

9   Warranty

9-1   Warranty period is one year after delivery

9-2   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.

9-2-1 Unsuitable handling or misuse by user.

9-2-2 Modification or repair by user.

9-2-3 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.
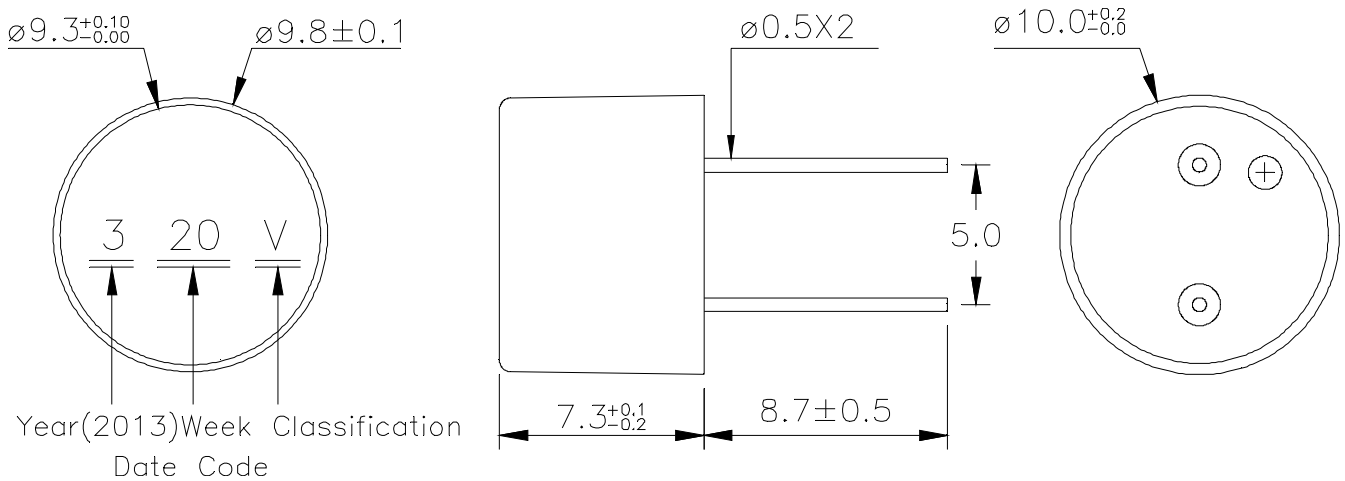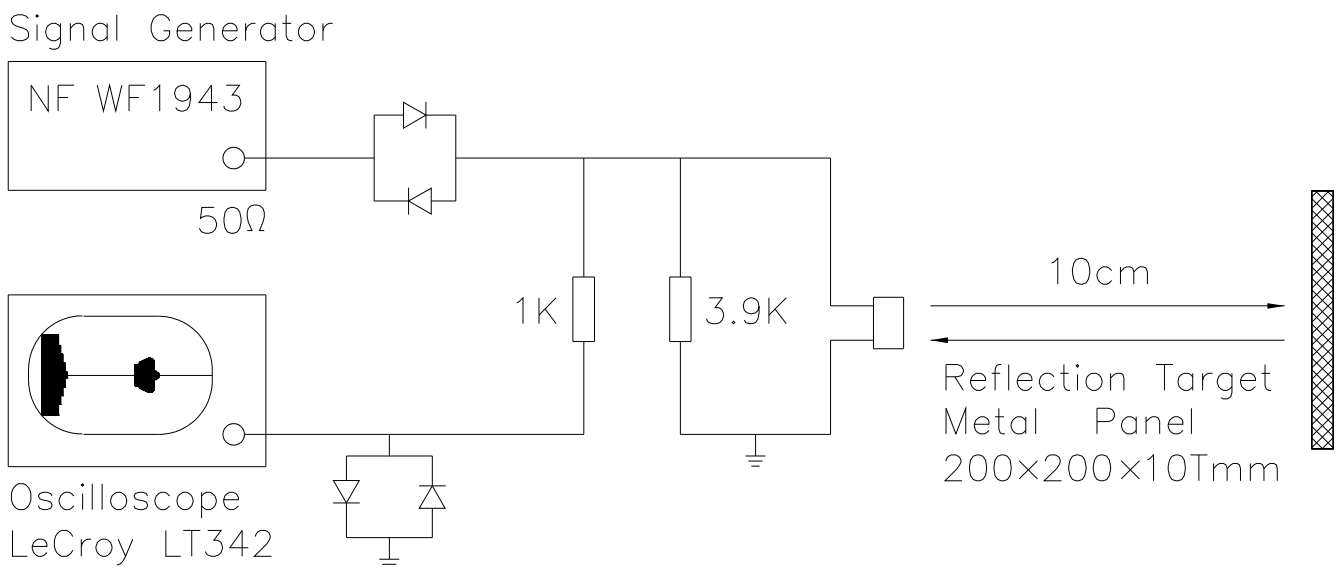
Dimensions: unit mm

Figure 1

Test Circuit:

Figure 2

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Proximity Sensors *category:*

Click to view products by Pro-Wave Electronics *manufacturer:*

Other Similar products are found below :

01.001.5653.1 70.340.1028.0 70.360.2428.0 70.364.4828.0 70.810.1053.0 72.360.1628.0 73.363.6428.0 8027AL20NL2CPXX FYCC8E1-2 9221350022 922AA2W-A9P-L PLS2 GL-12F-C2.5X10(LOT3) 972AB2XM-A3N-L 972AB3XM-A3P-L PS3251 980659-1 QT-12 E2E2-X5M41-M4 E2E-X14MD1-G E2E-X2D1-G E2EX2ME2N E2EX3D1SM1N E2E-X4MD1-G E2E-X5E1-5M-N E2E-X5Y2-N E2E-X7D1-M1J-T-0.3M-N E2FMX1R5D12M E2K-F10MC1 5M EH-302 EI3010TBOP EI5515NPAP MS605AU EP175-32000 IFRM04N35B1/L IFRM04P1513/S35L IFRM06P1703/S35L IFRM08P1501/S35L IFRM12N17G3/L IFRM12P17G3/L IFRM12P3502/L IFRM12P37G1/S14L ILFK12E9189/I02 ILFK12E9193/I02 IMM2582C OISN-013 25.161.3253.0 25.332.0653.1 25.352.0653.0 25.352.0753.0