

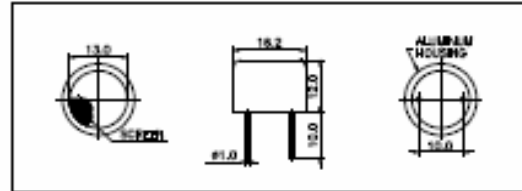
## Apéndice D. Hoja de Especificaciones del Transductor Ultrasonico 400T/R160.

### Air Ultrasonic Ceramic Transducers

400ST/R160



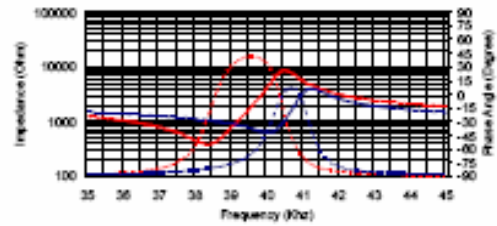
**Dimensions:** dimensions are in mm



### Impedance/Phase Angle vs. Frequency

Tested under 1Vrms Oscillation Level

400SR160 Impedance ————  
 400SR160 Phase ————  
 400ST160 Impedance - - - - -  
 400ST160 Phase - - - - -

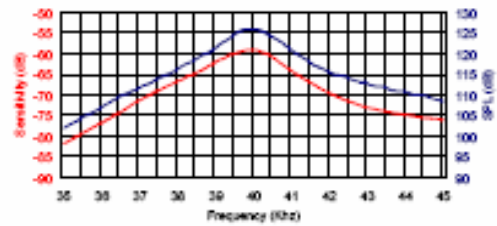


### Specification

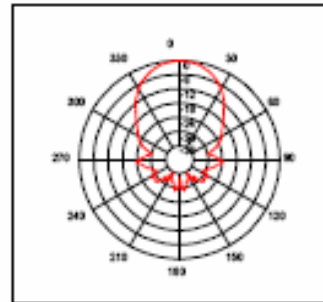
|  |                 |        |
|--|-----------------|--------|
| 400ST160   | Transmitter     |        |
| 400SR160   | Receiver        |        |
| Center Frequency                                 | 40.0±1.0Khz     |        |
| Bandwidth (-6dB)                                 | 400ST160        | 2.0Khz |
|  | 400SR160        | 2.5Khz |
| Transmitting Sound Pressure Level                | 120dB min.      |        |
| at 40.0Khz; 0dB re 0.0002µbar per 10Vrms at 30cm |                 |        |
| Receiving Sensitivity                            | -65dB min.      |        |
| at 40.0Khz 0dB = 1 volt/µbar                     |                 |        |
| Capacitance at 1Khz                              | ±20%<br>2400 pF |        |
| Max. Driving Voltage (cont.)                     | 20Vrms          |        |
| Total Beam Angle -6dB                            | 55° typical     |        |
| Operation Temperature                            | -30 to 80°C     |        |
| Storage Temperature                              | -40 to 85°C     |        |

### Sensitivity/Sound Pressure Level

Tested under 10Vrms @30cm



**Beam Angle:** Tested at 40.0Khz frequency



All specification taken typical at 25°C  
 Closer frequency tolerance can be supplied upon request.

Models available:

|   |            |                          |
|---|------------|--------------------------|
| 1 | 400ST/R160 | Aluminum Housing         |
| 2 | 400ST/R16B | Black Al. Housing        |
| 2 | 400ST/R10P | Plastic Housing          |
| 3 | 400ST/R16F | Al. Housing w/Solid Grid |

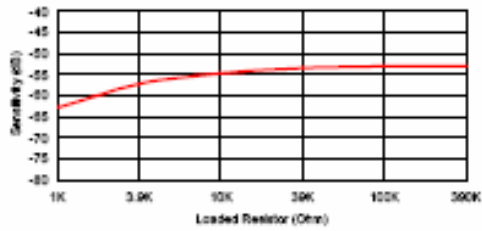
**Air Ultrasonic Ceramic Transducers**

**400ST/R160**

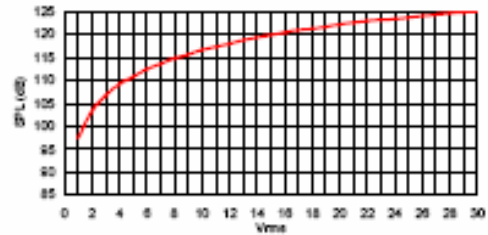
**400SR160 Receiver**

**400ST160 Transmitter**

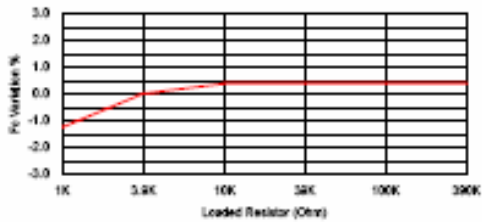
**Sensitivity Variation vs. Loaded Resistor**



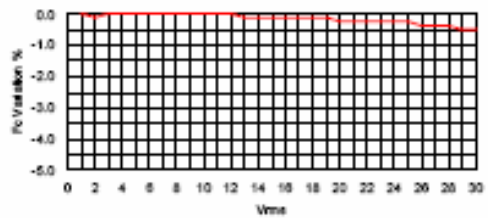
**SPL Variation vs. Driving Voltage**



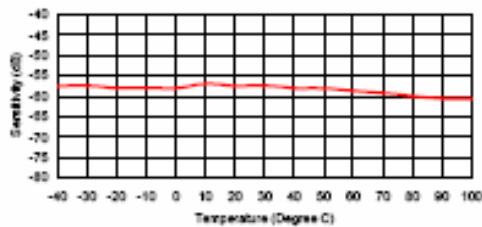
**Center Frequency Shift vs. Loaded Resistor**



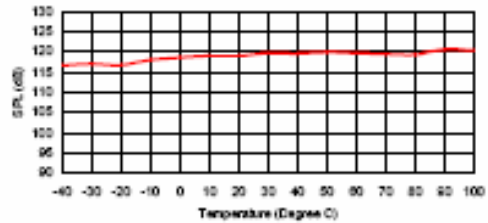
**Center Frequency Shift vs. Driving Voltage**



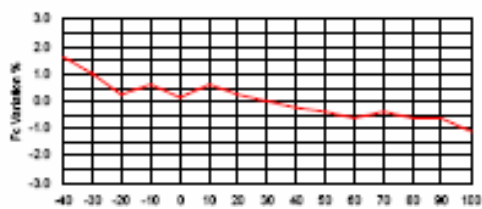
**Sensitivity Variation vs. Temperature**



**SPL Variation vs. Temperature**



**Center Frequency Shift vs. Temperature**



**Center Frequency Shift vs. Temperature**

