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# ADVANCED SOUND TECHNOLOGY

**OBO Pro.2®**

# PIEZOELECTRIC BUZZER



| Model No.                        | Min.SPL@RESONANT FREQUENCY@10cm   | Dimension D(φ) x H(mm) |
|----------------------------------|-----------------------------------|------------------------|
| <b>SMD Piezo Buzzer</b>          |                                   |                        |
| OBO-10252SA ①                    | 70db at 5.2KHz/5Vp-p Square Wave  | 10.0 x 10.0 x 3.0      |
| OBO-11241SB ②                    | 70db at 4.1KHz/5Vp-p Square Wave  | 11.0 x 9.0 x 1.7       |
| OBO-13240SA ③                    | 75db at 4.0KHz/5Vp-p Square Wave  | 13.0 x 13.0 x 2.5      |
| OBO-14240SB ④                    | 80db at 4.0KHz/9Vp-p Square Wave  | 14.8 x 14.8 x 4.1      |
| OBO-15236SA ⑤                    | 85db at 3.65KHz/7Vp-p Square Wave | 14.8 x 14.8 x 7.4      |
| OBO-16240ST ⑥                    | 75db at 4KHz/5Vp-p Square Wave    | 16.0 x 16.0 x 2.5      |
| OBO-17240SB ⑦                    | 82db at 4.0KHz/9Vp-p Square Wave  | 17 x 5.0               |
| OBO-17240SA (with solder tabs) ⑧ | 82db at 4.0KHz/9Vp-p Square Wave  | 17 x 5.0               |

### External Drive Type

|                     |                                    |                |
|---------------------|------------------------------------|----------------|
| OBO-11240WA ⑨       | 65db at 4.0KHz/3.3Vp-p Square Wave | 10.5 x 4.1     |
| OBO-11250PA/PB ⑩    | 80db at 5.0KHz/9Vp-p Square Wave   | 10.5 x 4.0     |
| OBO-11250WA ⑪       | 80db at 5.0KHz/9Vp-p Square Wave   | 10.5 x 3.0     |
| OBO-13240PA ⑫       | 80db at 4.0KHz/9Vp-p Square Wave   | 12.6 x 7.0     |
| OBO-14240PA/PB/PC ⑬ | 80db at 4.0KHz/9Vp-p Square Wave   | 14.0 x 7.5     |
| OBO-152 ⑭           | 80db at 4.0KHz/9Vp-p Square Wave   | 16.5 x 4.0     |
| OBO-15230 ⑮         | 80db at 3.5KHz/9Vp-p Square Wave   | 14.0 x 7.5     |
| OBO-15240PA/PB ⑯    | 80db at 4.0KHz/9Vp-p Square Wave   | 17.0 x 8.0     |
| OBO-20205PA/PB ⑰    | 85db at 4.0KHz/9Vp-p Square Wave   | 22.0 x 8.0     |
| OBO-22240PA/PB ⑱    | 90db at 4.0KHz/12Vp-p Square Wave  | 22.0 x 12.0    |
| OBO-20235 ⑲         | 85db at 4.0KHz/9Vp-p Square Wave   | 24.0 x 5.5     |
| OBO-23220PB ⑳       | 85db at 2.0KHz/9Vp-p Square Wave   | 27.3 x 23 x 10 |
| OBO-25220 ㉑         | 80db at 2.0KHz/9Vp-p Square Wave   | 22.0 x 9.2     |
| OBO-27225 ㉒         | 85db at 2.5KHz/9Vp-p Square Wave   | 30.0 x 11.2    |
| OBO-27246 ㉓         | 90db at 4.4KHz/9Vp-p Square Wave   | 30.0 x 5.1     |

| Model No. | Min.SPL@RESONANT FREQUENCY@10cm | Dimension D(φ) x H(mm) |
|-----------|---------------------------------|------------------------|
|-----------|---------------------------------|------------------------|

### Drive Circuit Built-in Type

|               |                          |             |
|---------------|--------------------------|-------------|
| OBO-14C40PA ㉔ | 80db at 4.0±0.5KHz/9VDC  | 13.8 x 7.5  |
| OBO-14C45PA ㉕ | 82db at 4.4±0.5KHz/9VDC  | 13.8 x 8.2  |
| OBO-15210 ㉖   | 85db at 4.4±0.5KHz/9VDC  | 13.8 x 8.2  |
| OBO-20C1-15 ㉗ | 90db at 3.4±0.5KHz/9VDC  | 24.5 x 12.0 |
| OBO-20C3 ㉘    | 83db at 3.8±0.5KHz/9VDC  | 24.0 x 14.0 |
| OBO-20C4 ㉙    | 83db at 3.8±0.5KHz/9VDC  | 24.0 x 14.0 |
| OBO-20C5 ㉚    | 80db at 3.4±0.5KHz/9VDC  | 24.0 x 9.5  |
| OBO-20C6 ㉛    | 80db at 3.4±0.5KHz/9VDC  | 24.0 x 9.5  |
| OBO-20C7 ㉜    | 83db at 3.4±0.5KHz/9VDC  | 24.0 x 14.0 |
| OBO-20C9 ㉝    | 93db at 3.4±0.5KHz/9VDC  | 24.5 x 16.0 |
| OBO-27C0 ㉞    | 97db at 3.5±0.5KHz/9VDC  | 31.0 x 14.0 |
| OBO-27C1 ㉟    | 83db at 2.5±0.5KHz/9VDC  | 30.0 x 15.5 |
| OBO-27C2 ㊱    | 87db at 3.5±0.5KHz/9VDC  | 30.0 x 15.5 |
| OBO-27C3 ㊲    | 80db at 2.5±0.5KHz/9VDC  | 31.0 x 10.0 |
| OBO-27C4 ㊳    | 85db at 3.5±0.5KHz/9VDC  | 31.0 x 10.0 |
| OBO-27C8 ㊴    | 87db at 3.5±0.5KHz/9VDC  | 30.0 x 15.5 |
| OBO-27C9 ㊵    | 87db at 3.5±0.5KHz/9VDC  | 31.0 x 14.0 |
| OBO-27P2 ㊶    | 87db at 3.4±0.5KHz/9VDC  | 30.0 x 15.5 |
| OBO-35C1 ㊷    | 88db at 2.8±0.5KHz/9VDC  | 42.0 x 16.0 |
| OBO-35C2 ㊸    | 97db at 2.8±0.5KHz/9VDC  | 42.0 x 16.0 |
| OBO-35C4 ㊹    | 100db at 2.8±0.5KHz/9VDC | 42.0 x 16.5 |
| OBO-35D1 ㊺    | 97db at 2.9/3.05KHz/9VDC | 42.0 x 16.0 |
| OBO-35P2 ㊻    | 93db at 2.6±0.5KHz/9VDC  | 42.0 x 16.0 |

### Piezo Speaker & Ringer

|                |                                  |            |
|----------------|----------------------------------|------------|
| OBO-RW220334 ㊼ | 108H/-3db at 1.0KHz/1Vrms        | 22.4 x 3.4 |
| OBO-35T2 ㊽     | 80db at 1.2KHz/9Vp-p Square Wave | 34.5 x 9.0 |
| OBO-50240 ㊾    | 80db at 700Hz/9Vp-p Square Wave  | 50.0 x 2.0 |



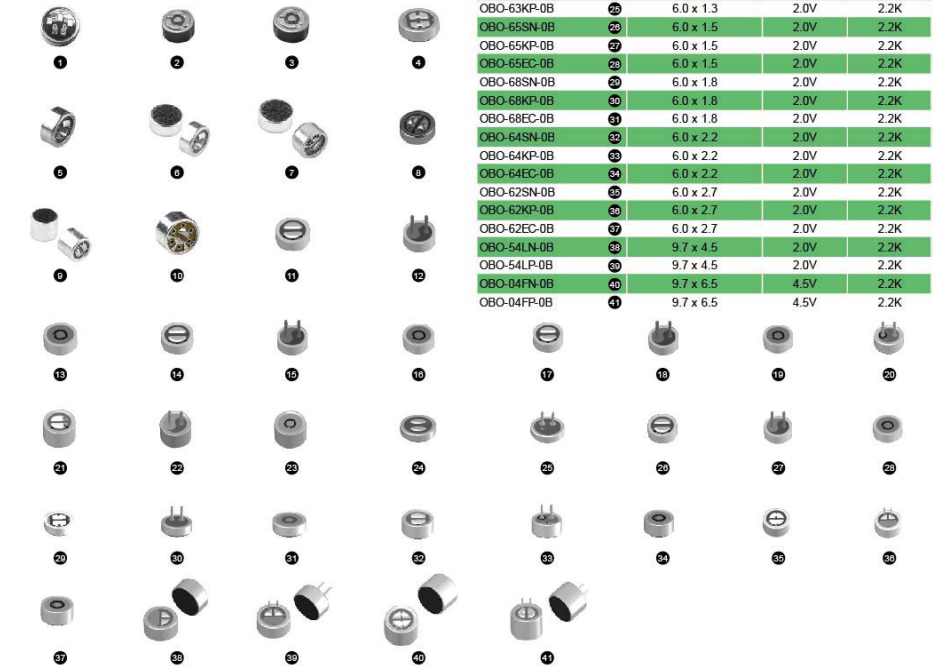
# PIEZOELECTRIC CERAMIC ELEMENT



| Model No.        | Resonant Frequency (KHz) | Resonant Impedance (max.Ω) | Capacitance (pF) | D (Φ) | d(Φ)  | T    | l    | PLATE    |
|------------------|--------------------------|----------------------------|------------------|-------|-------|------|------|----------|
| OBO-TE15241-16 ① | 4.1±0.6/0                | 500                        | 21,000±30%       | 15.00 | 11.30 | 0.17 | 0.10 | Brass    |
| OBO-TE15260-16 ② | 6.0±0.6                  | 500                        | 14,000±30%       | 15.00 | 11.30 | 0.22 | 0.10 | Brass    |
| OBO-TE18236-16 ③ | 3.6±0.5                  | 1000                       | 14,000±30%       | 18.00 | 11.30 | 0.23 | 0.10 | Brass    |
| OBO-TE20236-16 ④ | 3.9±0.5                  | 400                        | 25,000±30%       | 20.00 | 15.00 | 0.22 | 0.10 | Brass    |
| OBO-TE20265-16 ⑤ | 6.5±0.5                  | 350                        | 12,000±30%       | 20.00 | 14.80 | 0.40 | 0.20 | Brass    |
| OBO-TE21334-16 ⑥ | 3.4±0.5                  | 500                        | 18,000±30%       | 21.00 | 14.80 | 0.22 | 0.10 | Brass    |
| OBO-TE27226-16 ⑦ | 2.6±0.3                  | 300                        | 45,000±30%       | 27.00 | 19.80 | 0.28 | 0.15 | Brass    |
| OBO-TE27234-16 ⑧ | 3.4±0.5                  | 400                        | 24,000±30%       | 27.00 | 19.80 | 0.40 | 0.20 | Brass    |
| OBO-TE27241-16 ⑨ | 4.1±0.5                  | 300                        | 20,000±30%       | 27.00 | 19.80 | 0.45 | 0.22 | Brass    |
| OBO-TE27326-16 ⑩ | 2.6±0.4                  | 400                        | 33,000±30%       | 27.00 | 19.80 | 0.32 | 0.20 | Brass    |
| OBO-TE27335-16 ⑪ | 3.5±0.4                  | 400                        | 19,000±30%       | 27.00 | 19.80 | 0.42 | 0.20 | Brass    |
| OBO-TE27340-16 ⑫ | 4.0±0.5                  | 500                        | 17,000±30%       | 27.00 | 19.80 | 0.48 | 0.25 | Brass    |
| OBO-TE31213-26 ⑬ | 1.3±0.3                  | 500                        | 47,000±30%       | 31.00 | 19.80 | 0.22 | 0.10 | Ni-alloy |
| OBO-TE31216-16 ⑭ | 1.6±0.3                  | 1000                       | 40,000±30%       | 31.00 | 19.80 | 0.22 | 0.10 | Brass    |
| OBO-TE35229-16 ⑮ | 2.9±0.4                  | 300                        | 30,000±30%       | 35.00 | 24.80 | 0.58 | 0.30 | Brass    |
| OBO-TE50228-16 ⑯ | 2.8±0.5                  | 400                        | 35,000±30%       | 50.00 | 25.00 | 0.42 | 0.20 | Brass    |

# CONDENSER MICROPHONE

| Model No.                           | Dimension (D(Φ) x H(mm)) | Testing Condition Vs RL(Ω) |      |
|-------------------------------------|--------------------------|----------------------------|------|
| <b>Digital Microphone</b>           |                          |                            |      |
| OBO-D64SN-0B-10S ①                  | 6.0 x 2.2                | -                          | -    |
| <b>SMD Microphone</b>               |                          |                            |      |
| OBO-M41EC-2B-012 ②                  | 4.0 x 1.5                | 2.0V                       | 2.2K |
| OBO-M62EC-2B-012 ③                  | 6.0 x 2.2                | 2.0V                       | 2.2K |
| <b>xNoise Cancelling Microphone</b> |                          |                            |      |
| OBO-B68DN-0C ④                      | 6.0 x 1.8                | 2.0V                       | 2.2K |
| OBO-64DN-0C ⑤                       | 6.0 x 2.2                | 2.0V                       | 2.2K |
| OBO-08DN-0C ⑥                       | 6.0 x 2.7                | 2.0V                       | 2.2K |
| OBO-20DN-0C ⑦                       | 9.7 x 5.0                | 1.5v                       | 680Ω |
| <b>Uni-directional Microphone</b>   |                          |                            |      |
| OBO-B45BN-0B-017 ⑧                  | 4.0 x 1.5                | 2.0V                       | 2.2K |
| OBO-16BN-0C-002 ⑨                   | 6.0 x 5.2                | 2.0V                       | 2.2K |
| OBO-20BN-0C-0H7 ⑩                   | 9.7 x 5.0                | 1.5v                       | 680Ω |



# MYLAR SPEAKER



| Model No.       | Impedance<br>(Ω±15%) | Power Rating<br>(mW) |      | Fo<br>(Hz±20%) | SPL<br>(+/-3db) | Frequency<br>(Hz) | Dimensions<br>(mm) | Weight<br>(gms)   |      |
|-----------------|----------------------|----------------------|------|----------------|-----------------|-------------------|--------------------|-------------------|------|
|                 |                      | Normal               | Max. |                |                 |                   |                    |                   |      |
| OBO-13008F-0603 | 1                    | 8                    | 300  | 500            | 1050            | 88                | 700 ~ 7000         | 13.0 x 2.75       | 1.0  |
| OBO-10032F-05   | 2                    | 32                   | 10   | 20             | 700             | 98                | 400 ~ 6,000        | 10.0 x 3.3        | 1.7  |
| OBO-15032F-02   | 3                    | 32                   | 30   | 50             | 680             | 103               | 680 ~ 20000        | 15.0 x 4.2        | 1.7  |
| OBO-23032F-0301 | 4                    | 32                   | 200  | 500            | 780             | 81                | 500 ~ 5000         | 23.0 x 4.2        | 3.5  |
| OBO-28008F-65   | 5                    | 8                    | 1500 | 2000           | 500             | 95                | 500 ~ 20000        | 28.0 x 5.1        | 7.0  |
| OBO-28008G-02   | 6                    | 8                    | 500  | 800            | 600             | 80                | 340 ~ 10000        | 28.0 x 4.0        | 2.9  |
| OBO-30150F-01   | 7                    | 150                  | 500  | 1000           | 400             | 78                | 400 ~ 20000        | 30.0 x 5.3        | 5.8  |
| OBO-36004F-01   | 8                    | 4                    | 500  | 1000           | 600             | 85                | 350 ~ 7000         | 36.0 x 4.8        | 8.3  |
| OBO-36008F-02   | 9                    | 8                    | 200  | 500            | 550             | 81                | 350 ~ 6,000        | 36.0 x 4.8        | 8.1  |
| OBO-36008F-03   | 10                   | 8                    | 500  | 1000           | 530             | 86                | 350 ~ 6,800        | 36.0 x 4.8        | 8.3  |
| OBO-36008G-05   | 11                   | 8                    | 1000 | 2000           | 680             | 84                | 680 ~ 20000        | 36.0 x 6.0        | 5.8  |
| OBO-36016F-02   | 12                   | 16                   | 500  | 1000           | 530             | 85                | 350 ~ 11000        | 36.0 x 4.8        | 8.5  |
| OBO-36032F-01   | 13                   | 32                   | 100  | 200            | 400             | 80                | 300 ~ 5000         | 36.0 x 4.8        | 8.1  |
| OBO-36025F-01   | 14                   | 25                   | 200  | 500            | 500             | 81                | 320 ~ 7200         | 36.0 x 4.8        | 8.5  |
| OBO-36100F-03   | 15                   | 100                  | 200  | 500            | 500             | 81                | 380 ~ 6500         | 36.0 x 4.8        | 8.3  |
| OBO-40008F-01   | 16                   | 8                    | 200  | 500            | 500             | 80                | 400 ~ 12000        | 40.0 x 5.0        | 9.45 |
| OBO-40008F-03   | 17                   | 8                    | 500  | 1000           | 550             | 84                | 350 ~ 5800         | 40.0 x 5.0        | 9.45 |
| OBO-40008F-04   | 18                   | 8                    | 1000 | 2000           | 550             | 87                | 350 ~ 5000         | 40.0 x 5.0        | 9.2  |
| OBO-40008F-22   | 19                   | 8                    | 1000 | 2000           | 680             | 89                | 350 ~ 4500         | 40.0 x 5.0        | 9.6  |
| OBO-40008F-2502 | 20                   | 8                    | 500  | 1000           | 480             | 118               | 480 ~ 12000        | 40.0 x 5.0        | 9.4  |
| OBO-40008K-09   | 21                   | 8                    | 1000 | 2000           | 550             | 80                | 300 ~ 20000        | 40.0 x 20.0 x 5.7 | 7.5  |
| OBO-40016F-05   | 22                   | 16                   | 500  | 1000           | 500             | 86                | 350 ~ 5000         | 40.0 x 5.0        | 9.8  |
| OBO-40016F-12   | 23                   | 16                   | 500  | 1000           | 500             | 86                | 350 ~ 8000         | 40.0 x 5.0        | 9.8  |
| OBO-40032F-01   | 24                   | 32                   | 200  | 500            | 560             | 80                | 320 ~ 6,500        | 40.0 x 5.0        | 9.5  |
| OBO-40032F-08   | 25                   | 32                   | 500  | 1000           | 800             | 87                | 500 ~ 10,000       | 40.0 x 5.0        | 9.5  |
| OBO-40050F-01   | 26                   | 50                   | 200  | 500            | 530             | 80                | 320 ~ 6,000        | 40.0 x 5.0        | 9.2  |
| OBO-50004F-01   | 27                   | 4                    | 1500 | 2000           | 550             | 88                | 350 ~ 20,000       | 50.0 x 7.5        | 13.2 |
| OBO-50008F-01   | 28                   | 8                    | 250  | 500            | 500             | 82                | 390 ~ 8,500        | 50.0 x 7.5        | 13.0 |
| OBO-50008G-01   | 29                   | 8                    | 200  | 500            | 400             | 82                | 280 ~ 11,000       | 50.0 x 8.1        | 11.0 |
| OBO-50050G-01   | 30                   | 50                   | 200  | 500            | 400             | 82                | 250 ~ 11,000       | 50.0 x 8.1        | 11.0 |
| OBO-57008F-01   | 31                   | 8                    | 500  | 1000           | 500             | 88                | 350 ~ 13,000       | 57.0 x 8.4        | 16.8 |
| OBO-57032F-01   | 32                   | 32                   | 500  | 1000           | 500             | 86                | 500 ~ 20000        | 57.0 x 8.4        | 17.0 |
| OBO-25008K-01   | 33                   | 8                    | 1000 | 2000           | 800             | 81                | 800 ~ 20,000       | 25.0 x 14.0 x 4.5 | 1.7  |
| OBO-35004K-01   | 34                   | 4                    | 1000 | 2000           | 600             | 81                | 600 ~ 20,000       | 35.0 x 16.0 x 5.0 | 2.6  |
| OBO-35008K-01   | 35                   | 8                    | 1000 | 2000           | 600             | 81                | 450 ~ 20,000       | 35.0 x 16.0 x 5.0 | 2.6  |
| SPS0916N-J-01   | 36                   | 8                    | 1000 |                | 850             | 94.5              |                    | 9.0 x 16.0        | 1.5  |
| SPS1115G-J-02   | 37                   | 8                    | 1000 |                | 870             | 94.5              |                    | 11.0 x 15.0       | 1.5  |
| SPS1217H-04     | 38                   | 8                    | 1000 |                | 850             | 95                |                    | 12.0 x 17.0       | 1.5  |
| SLS1216B-01     | 39                   | 7                    | 1000 |                | 880             | 96                |                    | 12.0 x 16.0       | 1.5  |
| SPS1318D-J-03   | 40                   | 8                    | 1000 |                | 800             | 94                |                    | 13.0 x 18.0       | 1.5  |



# MYLAR SPEAKER



| Model No.        | Impedance<br>(Ω±15%) | Power Rating<br>(mW) |      | Fo<br>(Hz±20%) | SPL<br>(+/-3db) | Frequency<br>(Hz) | Dimensions<br>(mm) | Remark   |
|------------------|----------------------|----------------------|------|----------------|-----------------|-------------------|--------------------|----------|
|                  |                      | Normal               | Max. |                |                 |                   |                    |          |
| <b>2 in 1</b>    |                      |                      |      |                |                 |                   |                    |          |
| OBO-40204F-01    | 4                    | 5000                 | 8000 | 1000           | 84              | 300~12000         | 42.0 x 23.0        | Speaker  |
|                  |                      | 27Vp-p               |      | 4000           | 85              |                   |                    | Buzzer   |
| SL50815A-03      | 7                    | 20                   | 1000 | 550            | 91              |                   | 8 x 12 x 2.5       | Speaker  |
|                  |                      | 20                   | 1000 | 475            | 121             |                   |                    | Receiver |
| <b>Receiver</b>  |                      |                      |      |                |                 |                   |                    |          |
| NFR0612A-J-01-02 | 30                   | 20                   |      | 390            | 119             |                   | 6 x 12 x 2.0       |          |
| NFR0612A-J-04    | 28                   | 50                   |      | 480            | 123             |                   | 6 x 12 x 2.0       |          |



# MAGNETIC TRANSDUCER



| Model No.                              | Dimensions (mm)    | Rated Voltage(V) | Operating Voltage(V) | Resistance (Ω) | Rated Frequency(Hz) | SPL at 10cm(dBA) | Current Consumption(Ma) |
|--|--------------------|------------------|----------------------|----------------|---------------------|------------------|-------------------------|
| <b>SMD External Drive Type</b>         |                    |                  |                      |                |                     |                  |                         |
| OBO-30AX1 ①                            | 5.0 x 5.0 x 3.0    | 3.0              | 2-5                  | 12±2           | 4,000               | Min.70           | Max. 100                |
| OBO-30AL1 ②                            | 8.5 x 8.5 x 3.0    | 3.0              | 2-4                  | 16±3           | 2,300               | Min. 83          | Max. 100                |
| OBO-30AP1 ③                            | 8.5 x 8.5 x 3.0    | 3.0              | 2-4                  | 16±3           | 2,700               | Min. 85          | Max. 100                |
| OBO-40AL1 ④                            | 8.5 x 8.5 x 4.0    | 3.0              | 2-4                  | 16±3           | 2,300               | Min. 87          | Max. 80                 |
| OBO-40AP1 ⑤                            | 8.5 x 8.5 x 4.0    | 3.0              | 2-4                  | 16±3           | 2,700               | Min. 90          | Max. 80                 |
| OBO-40BS2 ⑥                            | 09.0 x 4.0         | 3.0              | 2-4                  | 15±3           | 2,730               | Min. 85          | Max. 80                 |
| OBO-45AL1 ⑦                            | 8.5 x 8.5 x 4.5    | 3.0              | 2-4                  | 16±3           | 2,300               | Min. 87          | Max. 80                 |
| OBO-45AP1 ⑧                            | 8.5 x 8.5 x 4.5    | 3.0              | 2-4                  | 16±3           | 2,700               | Min. 87          | Max. 80                 |
| OBO-45BP1 ⑨                            | 09.0 x 4.5         | 3.0              | 2-4                  | 16±3           | 2,700               | Min. 85          | Max. 100                |
| OBO-0903S-A2 ⑩                         | 8.5 x 8.5 x 3.0    | 3.0              | 2-5                  | 16±4           | 2,700               | Min. 87          | Max. 100                |
| OBO-0905S-A2 ⑪                         | 8.5 x 8.5 x 3.0    | 5.0              | 4-7                  | 30±4           | 2,700               | Min. 87          | Max. 100                |
| <b>SMD Drive Circuit Built-In Type</b> |                    |                  |                      |                |                     |                  |                         |
| OBO-50UP1 ⑫                            | 9.6 x 9.6 x 5.5    | 5.0              | 4-7                  | 2,700±300      |                     | Min. 82          | Max. 30                 |
| OBO-65UN1 ⑬                            | 12.8 x 12.8 x 7.0  | 5.0              | 4-7                  | 2,400±300      |                     | Min. 85          | Max. 30                 |
| OBO-100UN1 ⑭                           | 12.8 x 12.8 x 10.0 | 12.0             | 8-16                 | 2,400±300      |                     | Min. 85          | Max. 30                 |
| <b>Drive Circuit Built-In Type</b>     |                    |                  |                      |                |                     |                  |                         |
| OBO-1206C-A2 ⑮                         | 12.0 x 9.5         | 6.0              | 3-8                  | 2,300±300      |                     | Min. 85          | Max. 30                 |
| OBO-1212C-A2 ⑯                         | 12.0 x 9.5         | 12.0             | 8-16                 | 2,300±300      |                     | Min. 85          | Max. 30                 |
| OBO-1203D-A2 ⑰                         | 12.0 x 7.5         | 3.0              | 2-5                  | 2,300±400      |                     | Min. 83          | Max. 30                 |
| OBO-1205D-A2 ⑱                         | 12.0 x 7.5         | 5.0              | 3-7                  | 2,300±400      |                     | Min. 83          | Max. 30                 |
| OBO-1212D-A2 ⑲                         | 12.0 x 7.5         | 12.0             | 9-15                 | 2,300±400      |                     | Min. 83          | Max. 30                 |
| <b>External Drive type</b>             |                    |                  |                      |                |                     |                  |                         |
| OBO-0901A-A2 ⑳                         | 9.0 x 4.0          | 1.5              | 1-2                  | 5.5±1          | 2,730               | Min. 85          | Max. 80                 |
| OBO-0903A-A2 ㉑                         | 9.0 x 4.0          | 3.0              | 2-4                  | 15±3           | 2,730               | Min. 85          | Max. 80                 |
| OBO-0905A-A2 ㉒                         | 9.0 x 4.0          | 5.0              | 4-6                  | 30±5           | 2,730               | Min. 85          | Max. 80                 |
| OBO-1001R-A201 ㉓                       | 9.6 x 5.0          | 1.5              | 1-3                  | 5.5±2          | 2,730               | Min. 85          | Max. 80                 |
| OBO-1005R-A201 ㉔                       | 9.6 x 5.0          | 5.0              | 4-6                  | 30±5           | 2,730               | Min. 85          | Max. 100                |
| OBO-1201G-A1 ㉕                         | 12.0 x 8.5         | 1.5              | 1-2                  | 16±2           | 2,048               | Min. 85          | Max. 55                 |
| OBO-1201G-B1 ㉖                         | 12.0 x 8.5         | 1.5              | 1-3                  | 42±6           | 2,048               | Min. 85          | Max. 15                 |
| OBO-1206G-C1 ㉗                         | 12.0 x 8.5         | 6.0              | 4-8                  | 73±6           | 2,048               | Min. 82          | Max. 30                 |
| OBO-1201M-A3 ㉘                         | 12.0 x 5.5         | 1.5              | 1-3                  | 16±2           | 2,048               | Min. 75          | Max. 30                 |
| OBO-1201M-B3 ㉙                         | 12.0 x 5.5         | 1.5              | 1-3                  | 42±6           | 2,048               | Min. 70          | Max. 15                 |
| OBO-1203M-A3 ㉚                         | 12.0 x 5.5         | 3.0              | 1-5                  | 16±2           | 2,048               | Min. 85          | Max. 70                 |
| OBO-1205M-B3 ㉛                         | 12.0 x 5.5         | 5.0              | 3-8                  | 42±6           | 2,048               | Min. 85          | Max. 50                 |
| OBO-1205A-D2 ㉜                         | 12.0 x 9.0         | 5.0              | 3-7                  | 42±5           | 2,048               | Min. 82          | Max. 50                 |
| OBO-1212A-D2 ㉝                         | 12.0 x 9.0         | 12.0             | 7-16                 | 140±14         | 2,400               | Min. 85          | Max. 40                 |
| OBO-1201A-A2 ㉞                         | 12.0 x 9.0         | 1.5              | 1-2                  | 6.5±1          | 2,400               | Min. 75          | Max. 70                 |
| OBO-1206A-A2 ㉟                         | 12.0 x 9.0         | 6.0              | 4-8                  | 45±6           | 2,400               | Min. 85          | Max. 50                 |
| OBO-1212A-A2 ㊱                         | 12.0 x 9.0         | 12.0             | 6-15                 | 140±14         | 2,400               | Min. 85          | Max. 40                 |



Acoustic Analyzer for Consumer Product



OBO-3022

- Support digital microphone channels
- Support 4 channels digital microphone, 2 data path L/R channel (switching)
- Power for digital microphone / 1.5V~4.5V DC
- Clock for digital microphone / 2.4M Hz



OBO-3055

- 10 power input channels
- Provide bias voltage supply (24V) or constant current supply (4 mA) for reference microphone or ear simulator
- 2 analog input channels / For Headset SPK
- 5 amplifier channels / provide power amplify for mouth simulator or speaker
- 3 analog output channels / For Headset Mic.



Acoustic Analyzer for Microphone Module/ Speaker



OBO-1014

- AI/AO Channels / 4 AI for analog or digital microphone  
1 AO for sound source with 10W power amplifier
- Sample Rate / 96KS / sec
- ADC Resolution / 24 bits
- Test Items / Sensitivity, Response, THD, THDN, Phase(\*1)

\*1 It must have reference microphone

Microphone Module Jig



OBO-AC190

Chamber Specification

- Outside Dimension / L: 190mm \* W: 190mm \* H: 180mm
- Net Weight / ~ 4Kg
- Construction / Phenolic Plastics
- Sound Pressure Level / 102dB SPL @1Vrms
- Sound Insulation Ability / >20dB(A-Weighting) SPL ref.20uPa
- Frequency Response / 100~20KHz
- Total Harmonic Distortion / <1% at 94dB SPL ref.20uPa

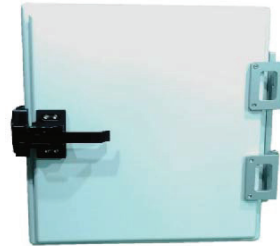


Acoustic Chamber for Consumer Product (1)

## OBO-AC420

### Chamber Specification

- Outside Dimension / L:521mm \* W:420mm \* H:420mm
- Inside Dimension / L: 470mm \* W: 363mm \* H: 355mm
- Net Weight / ~ 25Kg
- Construction / Aluminum
- Sound Insulation Ability / >30dB(A-Weighting)SPL ref.20uPa
- Operating Working Space / ~ 1000mm (L) X 1000mm (W)
- Power Request / N/A



## OBO-AC800

### Chamber Specification

- Outside Dimension / L: 935mm \* W: 910mm \* H: 590mm
- Inside Dimension / L: 650mm \* W: 650mm \* H: 380mm
- Net Weight / ~ 85Kg
- Construction / Aluminum
- Sound Insulation Ability / >30dB(A-Weighting)SPL ref.20uPa
- Operating Working Space / ~ 1000mm (L) X 1000mm (W)
- Operation / Manual



Acoustic Chamber for Consumer Product (2)

## OBO-PB4

### Chamber Specification

- Outside Dimension / L: 89.5cm \* W: 82.2cm \* H: 118cm
- Inside Dimension / L: 41cm \* W: 41cm \* H: 41cm
- Net Weight / ~ 150Kg
- Construction / Aluminum
- Sound Insulation Ability / >40dB(A-Weighting) SPL ref.20uPa
- Operating Working Space / ~ 800mm (L) X 850mm (W)
- Operation / Air Cylinder Automatic Control

