

M I C R O P H O N E S , H E A D S E T S & R E C E I V E R S
S E L E C T I O N G U I D E

A History of Excellence



Challenge Electronics, Inc. is a world class supplier of high-performance sounding devices and audible products used worldwide in telecommunications, security, medical, appliances and wireless applications.

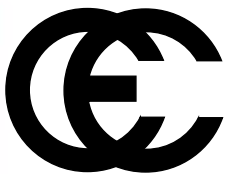
With outstanding product breadth and top-of-the-line technical expertise, Challenge provides standard, custom and hard-to-find products at competitive prices with off-the-shelf availability. This is backed up by an infrastructure that includes ISO-certified factory operations, decentralized warehousing and sales offices located strategically around the globe.

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Technical information is available
at www.challengeelectronics.com.



**CHALLENGE
ELECTRONICS**

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How to Order Microphones



1. Directivity. (C = Omni, U = Uni, N = Noise Canceling, B = Omni Back Electret)
2. Diameter with one decimal point (mm) e.g. 97 = 9.7
3. Height with the filter in one decimal point (mm) e.g. 67 = 6.7
4. Power supply (Vs) fig. 1
5. Resistor loading (RL) fig. 2
6. Sensitivity e.g. 42 = 42dB
7. Tolerance in sensitivity e.g. 2 = ± 2
8. Pin, Lead or none

IMPORTANT INFORMATION

In accordance with the recommendations of the I.E.C. (International Electrotechnical Commission), we are using "pascal" in place of "µbar." The relation is $1\text{pa} = 10\mu\text{bar}$. The sensitivity will increase 20dB when measuring by pa.
Example: $-60\text{dB} (0\text{dB} = 1\text{V}/\mu\text{bar}) = -40\text{dB} (0\text{dB} = 1\text{V}/\text{pa})$

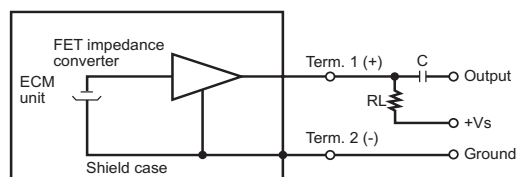
Power Supply (Vs) fig. 1

A. 1 V	G. 4 V
B. 1.5 V	H. 4.5 V
C. 2 V	I. 5 V
D. 2.5 V	J. 5.5 V
E. 3 V	K. 6 V
F. 3.5 V	

Resistor Loading (RL) fig. 2

A. 680 Ω
B. 1 KΩ
C. 1.5 KΩ
D. 2.2 KΩ
E. 3 KΩ

(Vs) standard operation voltage (RL) external resistance



Series	Directivity*	Diameter (mm)	Height (mm)	Power Supply (Vs)	External Resistor Loading (Ω)	Sensitivity (dB)	Terminal†	Page No.
CF4012	Omni	4.0	1.2	2.0	2200	-42	± 3 S	2
C4015	Omni	4.0	1.5	2.0	2200	-45	± 3 P/S	2
C4530	Omni	4.5	3.0	2.0	2200	-44, -46, -50	± 3 S	2
CF5822	Omni	5.8	2.2	2.0	2200	-38, -44	± 3 P/S	2
C6012	Omni	6.0	1.2	2.0	2200	-42	± 3 S	3
CF6016	Omni	6.0	1.6	2.0	2200	-44	± 3 P/S	3
C6022	Omni	6.0	2.2	2.0	2200	-44, -46	± 3 P/S	3
C6027	Omni	6.0	2.7	2.0	2200	-38, -42, -46	± 3 P/S	3
C6030	Omni	6.0	3.0	2.0	2200	-42, -44, -46	± 3 S	4
C6035	Omni	6.0	3.5	2.0	2200	-42, -44, -46	± 3 P/S	4
C6052	Omni	6.0	5.2	2.0	2200	-38, -42, -46	± 3 P/S	4
C8052	Omni	8.0	5.2	1.5	2200	-42, -46	± 3 S	4
C9465	Omni	9.4	6.5	4.5	1000	-45	± 2 P/S	5
C9745	Omni	9.7	4.5	1.5 / 2.5	3000/2200	-40, -42, -44 / -40, -42, -44, -46	± 3 P/S	5
C9752	Omni	9.7	5.2	2.5	2200	-42	± 2 S	5
CF9745	Omni	9.7	4.5	1.5 / 2.5	3000/2200	-40, -42, -44 / -40, -42, -44, -46	± 3 P	5
C9767	Omni	9.7	6.7	1.5 / 4.5	1500/2200	-36, -38, -40, -42, -44 / -38, -42, -46	$\pm 3, \pm 2$ P/S	6
CF1055	Omni	10.0	5.5	1.5	2200	-38	± 3 S	6
U6030	Uni	6.0	3.0	2.0	2200	-46	± 4 S	6
U6035	Uni	6.0	3.5	2.0	2200	-46	± 4 S	6
U6052	Uni	6.0	5.2	2.0	2200	-50	± 4 S	7
U8052	Uni	8.0	5.2	2.0	2200	-46	± 4 S	7
U9752	Uni	9.7	5.2	1.5	680	-47	± 4 S	7
N4530	Noise	4.5	3.0	2.0	2200	-54	± 3 S	7
N6027	Noise	6.0	2.7	2.0	2200	-51	± 4 S	8
N6035	Noise	6.0	3.5	2.0	2200	-46	± 4 S	8
N6052	Noise	6.0	5.2	1.5	2200	-50	± 4 S	8
N9752	Noise	9.7	5.2	1.5	680	-54	± 4 S	8
B6022	Back Omni	6.0	2.2	3.0	2200	-46	± 4 S	9
B6027	Back Omni	6.0	2.7	3.0	2200	-46	± 4 S	9
B6035	Back Omni	6.0	3.5	3.0	2200	-46	± 4 S	9
B6052	Back Omni	6.0	5.2	3.0	2200	-46	± 4 S	9

* Omni - Omni Directional, Uni - Uni Directional, Noise - Noise Canceling, Back Omni - Back Electret Omni.

† Leadwire type is available on request.

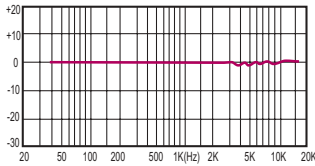
Condenser Microphones

CF4012



Color: Silver
Housing: Aluminum
Terminal: NIL

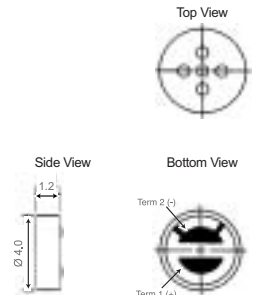
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		CF4012CD423
Sensitivity	(dB)	-42 ± 3
Directivity		OMNI
Power Supply Vs	(V)	2.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION



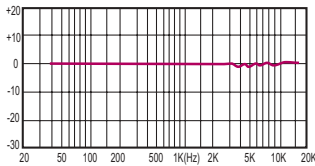
all dimensions are in mm

C4015



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

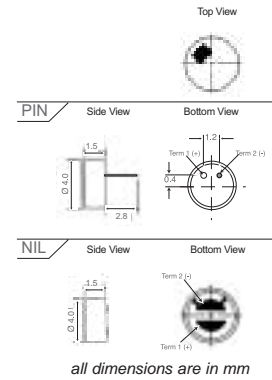
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		C4015CD453	C4015CD453-P
Sensitivity	(dB)	-45 ± 3	-45 ± 3
Directivity		OMNI	OMNI
Power Supply Vs	(V)	2	2
Resistance Loading RL	(Ω)	2.2K	2.2K
Max. Current	(mA)	0.5	0.5
Frequency Range	(Hz)	100-10000	50-16000
Max. Operation Voltage	(V)	10	10
Sensitivity Reduction within 1.5 V	(dB)	-3	-3
S/N Ratio	(dB)	> 60	> 60

DIMENSION



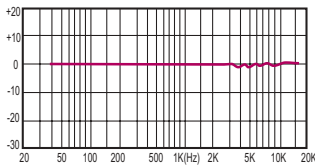
all dimensions are in mm

CF4530



Color: Silver
Housing: Aluminum
Terminal: NIL

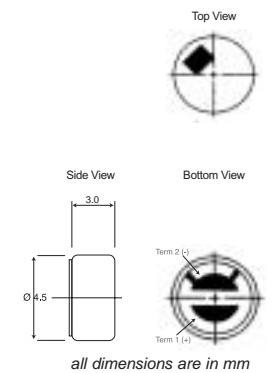
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		C4530CD443D	C4530CD463D	C4530CD503D
Sensitivity	(dB)	-44 ± 3	-46 ± 3	-50 ± 3
Directivity		OMNI	OMNI	OMNI
Power Supply Vs	(V)	2	2	2
Resistance Loading RL	(Ω)	2.2K	2.2K	2.2K
Max. Current	(mA)	0.5	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000	50-16000
Max. Operation Voltage	(V)	10	10	10
Sensitivity Reduction within 1.5 V	(dB)	-3	-3	-3
S/N Ratio	(dB)	> 60	> 60	> 60

DIMENSION



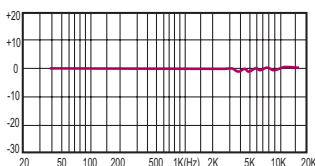
all dimensions are in mm

CF5822



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

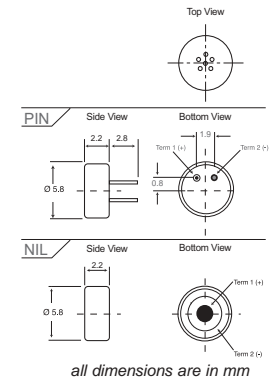
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		CF5822CD383D	CF5822CD443D
Sensitivity	(dB)	-38 ± 3	-44 ± 3
Directivity		OMNI	OMNI
Power Supply Vs	(V)	2	2
Resistance Loading RL	(Ω)	2.2K	2.2K
Max. Current	(mA)	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000
Max. Operation Voltage	(V)	10	10
Sensitivity Reduction within 1.5 V	(dB)	-3	-3
S/N Ratio	(dB)	> 60	> 60

DIMENSION



all dimensions are in mm

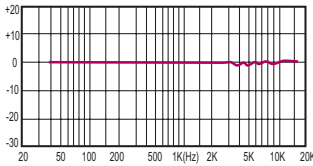
Condenser Microphones

C6012



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

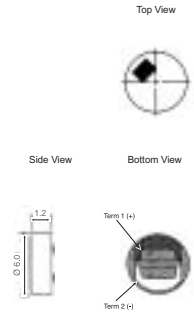
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6012CD423	
Sensitivity	(dB)	-42 ± 3
Directivity		OMNI
Power Supply Vs	(V)	2
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION



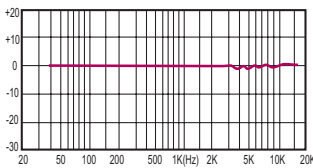
all dimensions are in mm

CF6016



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

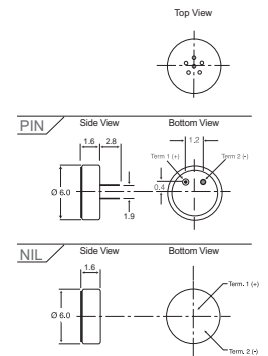
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	CF6016CD443	
Sensitivity	(dB)	-44 ± 3
Directivity		OMNI
Power Supply Vs	(V)	2
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION



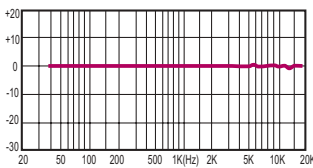
all dimensions are in mm

C6022



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

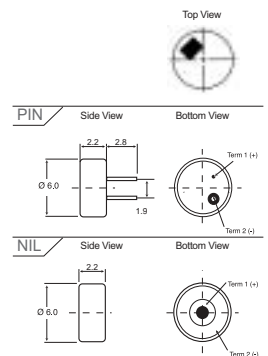
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6022CD443D	C6022CD463D	
Sensitivity	(dB)	-44 ± 3	-46 ± 3
Directivity		OMNI	OMNI
Power Supply Vs	(V)	2	2
Resistance Loading RL	(Ω)	2.2K	2.2K
Max. Current	(mA)	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000
Max. Operation Voltage	(V)	10	10
Sensitivity Reduction within 1.5 V	(dB)	-3	-3
S/N Ratio	(dB)	> 60	> 60

DIMENSION



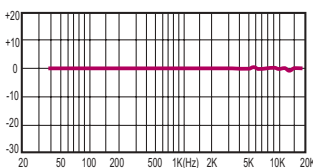
all dimensions are in mm

C6027



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

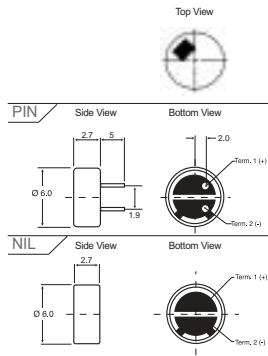
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6027CD383	C6027CD423	C6027CD463	
Sensitivity	(dB)	-38 ± 3	-42 ± 3	-46 ± 3
Directivity		OMNI	OMNI	OMNI
Power Supply Vs	(V)	2	2	2
Resistance Loading RL	(Ω)	2.2K	2.2K	2.2K
Max. Current	(mA)	0.5	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000	50-16000
Max. Operation Voltage	(V)	10	10	10
Sensitivity Reduction within 1.5 V	(dB)	-3	-3	-3
S/N Ratio	(dB)	> 60	> 60	> 60

DIMENSION



all dimensions are in mm

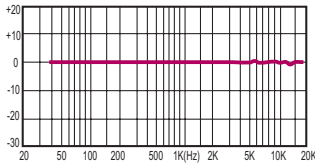
Condenser Microphones

C6030



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

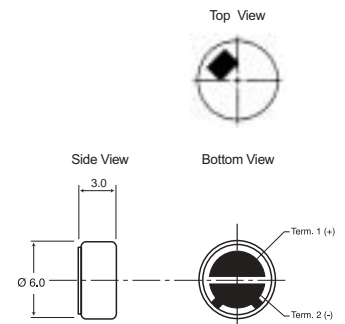
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6030CD423	C6030CD443	C6030CD463
Sensitivity (dB)	-42 ± 3	-44 ± 3	-46 ± 3
Directivity	OMNI	OMNI	OMNI
Power Supply Vs (V)	2	2	2
Resistance Loading RL (Ω)	2.2K	2.2K	2.2K
Max. Current (mA)	0.5	0.5	0.5
Frequency Range (Hz)	50-16000	50-16000	50-16000
Max. Operation Voltage (V)	10	10	10
Sensitivity Reduction within 1.5 V (dB)	-3	-3	-3
S/N Ratio (dB)	> 60	> 60	> 60

DIMENSION

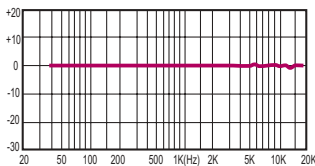


C6035



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

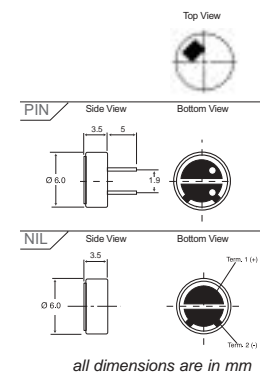
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6035CD423	C6035CD443	C6035CD463
Sensitivity (dB)	-42 ± 3	-44 ± 3	-46 ± 3
Directivity	OMNI	OMNI	OMNI
Power Supply Vs (V)	2	2	2
Resistance Loading RL (Ω)	2.2K	2.2K	2.2K
Max. Current (mA)	0.5	0.5	0.5
Frequency Range (Hz)	50-16000	50-16000	50-16000
Max. Operation Voltage (V)	10	10	10
Sensitivity Reduction within 1.5 V (dB)	-3	-3	-3
S/N Ratio (dB)	> 60	> 60	> 60

DIMENSION

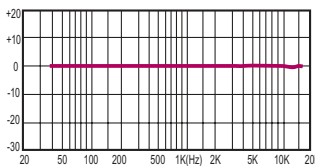


C6052



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

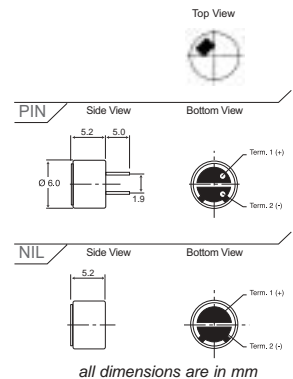
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C6052CD383	C6052CD423	C6052CD463
Sensitivity (dB)	-38 ± 3	-42 ± 3	-46 ± 3
Directivity	OMNI	OMNI	OMNI
Power Supply Vs (V)	2	2	2
Resistance Loading RL (Ω)	2.2K	2.2K	2.2K
Max. Current (mA)	0.5	0.5	0.5
Frequency Range (Hz)	50-16000	50-16000	50-16000
Max. Operation Voltage (V)	10	10	10
Sensitivity Reduction within 1.5 V (dB)	-3	-3	-3
S/N Ratio (dB)	> 60	> 60	> 60

DIMENSION

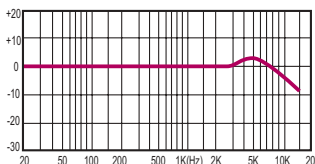


C8052



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

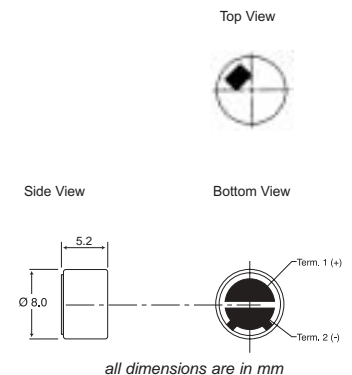
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C8052BD423	C8052BD463
Sensitivity (dB)	-42 ± 3	-46 ± 3
Directivity	OMNI	OMNI
Power Supply Vs (V)	1.5	1.5
Resistance Loading RL (Ω)	2.2K	2.2K
Max. Current (mA)	0.5	0.5
Frequency Range (Hz)	50-16000	50-16000
Max. Operation Voltage (V)	10	10
Sensitivity Reduction within 1.5 V (dB)	-3	-3
S/N Ratio (dB)	> 60	> 60

DIMENSION



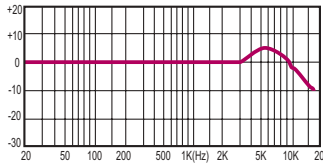
Condenser Microphones

C9465



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

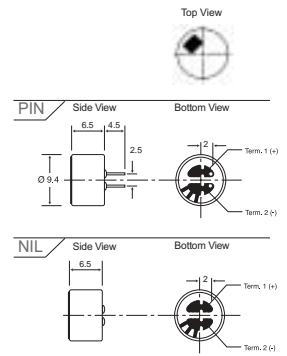
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C9465HB452	
Sensitivity	(dB)	-42 ± 2
Directivity		OMNI
Power Supply Vs	(V)	4.5
Resistance Loading RL	(Ω)	1K
Max. Current	(mA)	0.8
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 3 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

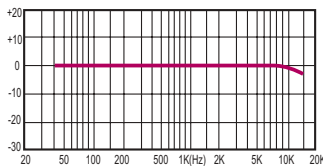


C9745



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

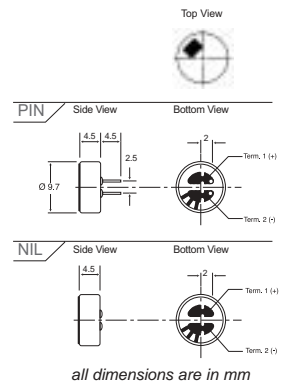
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C9745BE403	C9745BE423	C9745BE443	C9745DD403	C9745DD423	C9745DD443	C9745DD463
Sensitivity	(dB)	-40 ± 3	-42 ± 3	-44 ± 3	-40 ± 3	-42 ± 3	-44 ± 3
Directivity		OMNI	OMNI	OMNI	OMNI	OMNI	OMNI
Power Supply Vs	(V)	1.5	1.5	1.5	2.5	2.5	2.5
Resistance Loading RL	(Ω)	3K	3K	3K	2.2K	2.2K	2.2K
Max. Current	(mA)	0.5	0.5	0.5	0.5	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000	50-16000	50-16000	50-16000	50-16000
Max. Operation Voltage	(V)	10	10	10	10	10	10
Sensitivity Reduction within 1.1 V	(dB)	-3	-3	-3			
Sensitivity Reduction within 2 V	(dB)				-3	-3	-3
S/N Ratio	(dB)	> 60	> 60	> 60	> 60	> 60	> 60

DIMENSION

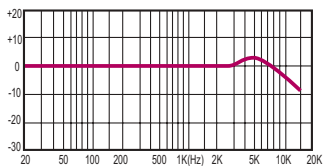


C9752



Color: Silver
Housing: Aluminum
Terminal: NIL

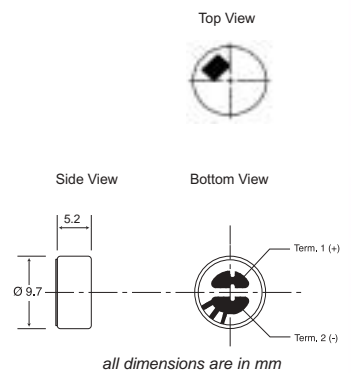
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C9752DD422	
Sensitivity	(dB)	-42 ± 2
Directivity		OMNI
Power Supply Vs	(V)	2.5
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 3 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

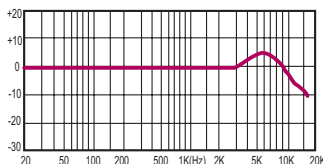


CF9745



Color: Silver
Housing: Aluminum
Terminal: PIN

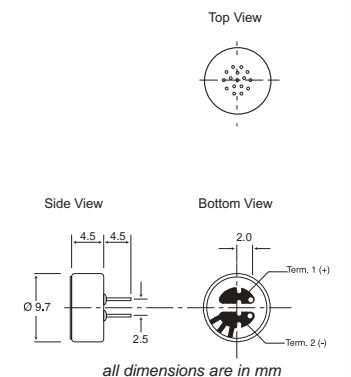
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	CF9745BE403	CF9745BE423	CF9745BE443	CF9745DD403	CF9745DD423	CF9745DD443	CF9745DD463
Sensitivity	(dB)	-40 ± 3	-42 ± 3	-44 ± 3	-40 ± 3	-42 ± 3	-44 ± 3
Directivity		OMNI	OMNI	OMNI	OMNI	OMNI	OMNI
Power Supply Vs	(V)	1.5	1.5	1.5	2.5	2.5	2.5
Resistance Loading RL	(Ω)	3K	3K	3K	2.2K	2.2K	2.2K
Max. Current	(mA)	0.5	0.5	0.5	0.5	0.5	0.5
Frequency Range	(Hz)	50-16000	50-16000	50-16000	50-16000	50-16000	50-16000
Max. Operation Voltage	(V)	10	10	10	10	10	10
Sensitivity Reduction within 1.1 V	(dB)	-3	-3	-3			
Sensitivity Reduction within 2 V	(dB)				-3	-3	-3
S/N Ratio	(dB)	> 60	> 60	> 60	> 60	> 60	> 60

DIMENSION



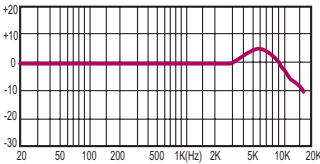
Condenser Microphones

C9767



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

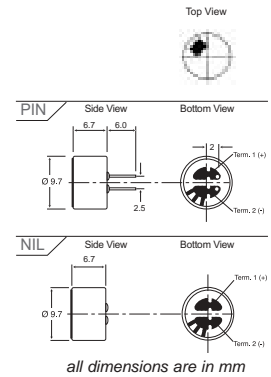
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	C9767BC363	C9767BC383	C9767BC403	C9767BC423	C9767BC443	C9767HD382	C9767HD422	C9767HD462
Sensitivity (dB)	-36 ± 3	-38 ± 3	-40 ± 3	-42 ± 3	-44 ± 3	-38 ± 2	-42 ± 2	-46 ± 2
Directivity	OMNI	OMNI	OMNI	OMNI	OMNI	OMNI	OMNI	OMNI
Power Supply Vs (V)	1.5	1.5	1.5	1.5	1.5	4.5	4.5	4.5
Resistance Loading RL (Ω)	1.5K	1.5K	1.5K	1.5K	1.5K	2.2K	2.2K	2.2K
Max. Current (mA)	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.8
Frequency Range (Hz)	50-16000	50-16000	50-16000	50-16000	50-16000	50-16000	50-16000	50-16000
Max. Operation Voltage (V)	10	10	10	10	10	10	10	10
Sensitivity Reduction within 1.1 V (dB)	-3	-3	-3	-3	-3			
Sensitivity Reduction within 2 V (dB)						-3	-3	-3
S/N Ratio (dB)	> 60	> 60	> 60	> 60	> 60	> 60	> 60	> 60

DIMENSION

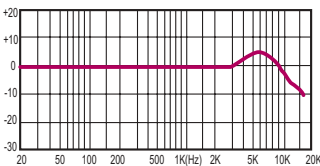


CF1055



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

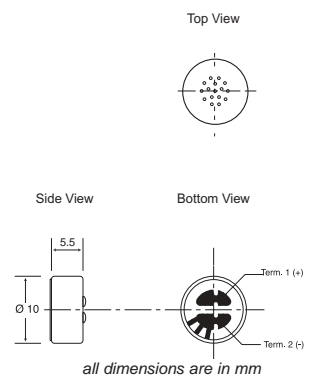
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	CF1055BD383
Sensitivity (dB)	-38 ± 3
Directivity	OMNI
Power Supply Vs (V)	1.5
Resistance Loading RL (Ω)	2.2K
Max. Current (mA)	0.5
Frequency Range (Hz)	50-16000
Max. Operation Voltage (V)	10
Sensitivity Reduction within 1 V (dB)	-3
S/N Ratio (dB)	> 60

DIMENSION

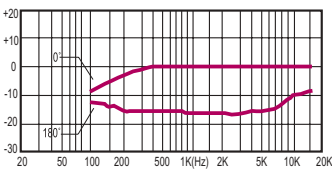


U6030



Color: Silver
Housing: Aluminum
Terminal: PIN/NIL

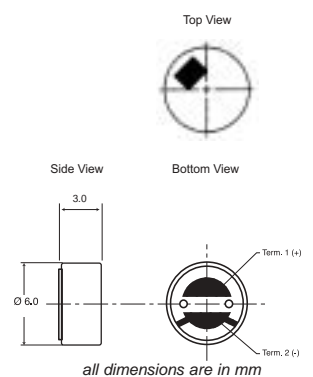
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	U6030CD464
Sensitivity (dB)	-46 ± 4
Directivity	UNI
Power Supply Vs (V)	2
Resistance Loading RL (Ω)	2.2K
Max. Current (mA)	0.5
Frequency Range (Hz)	100-10000
Max. Operation Voltage (V)	10
Sensitivity Reduction within 1.5 V (dB)	-3
S/N Ratio (dB)	> 60

DIMENSION

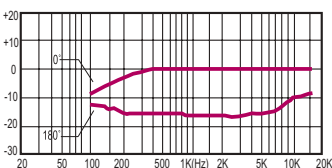


U6035



Color: Silver
Housing: Aluminum
Terminal: NIL

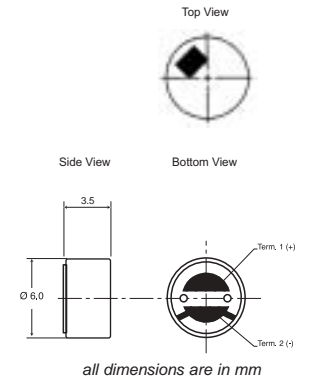
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	U6035CD464
Sensitivity (dB)	-46 ± 4
Directivity	UNI
Power Supply Vs (V)	2
Resistance Loading RL (Ω)	2.2K
Max. Current (mA)	0.5
Frequency Range (Hz)	100-10000
Max. Operation Voltage (V)	10
Sensitivity Reduction within 1.5 V (dB)	-3
S/N Ratio (dB)	> 60

DIMENSION



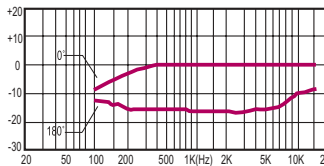
Condenser Microphones

U6052



Color: Silver
Housing: Aluminum
Terminal: NIL

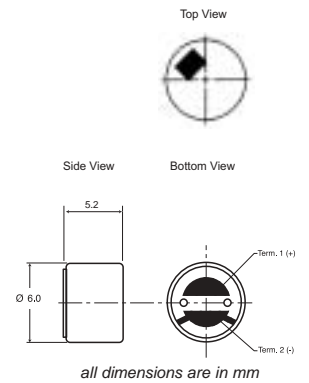
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	U6052CD504
Sensitivity	(dB) -50 ± 4
Directivity	UNI
Power Supply Vs	(V) 2
Resistance Loading RL	(Ω) 2.2K
Max. Current	(mA) 0.5
Frequency Range	(Hz) 100-10000
Max. Operation Voltage	(V) 10
Sensitivity Reduction within 1.5 V	(dB) -3
S/N Ratio	(dB) > 60

DIMENSION

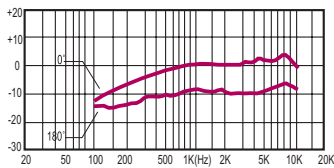


U8052



Color: Silver
Housing: Aluminum
Terminal: NIL

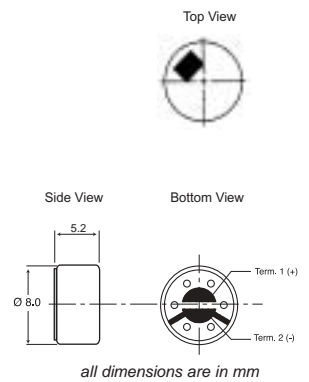
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	U8052CD464
Sensitivity	(dB) -46 ± 4
Directivity	UNI
Power Supply Vs	(V) 2
Resistance Loading RL	(Ω) 2.2K
Max. Current	(mA) 0.5
Frequency Range	(Hz) 100-10000
Max. Operation Voltage	(V) 10
Sensitivity Reduction within 1.5 V	(dB) -3
S/N Ratio	(dB) > 60

DIMENSION

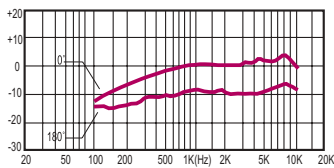


U9752



Color: Silver
Housing: Aluminum
Terminal: NIL

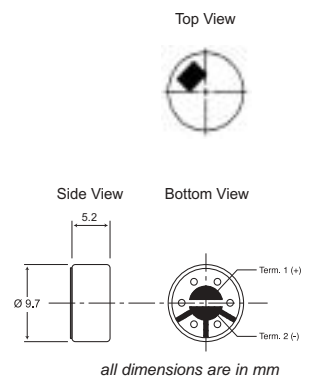
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	U9752BA474
Sensitivity	(dB) -47 ± 4
Directivity	UNI
Power Supply Vs	(V) 1.5
Resistance Loading RL	(Ω) 680
Max. Current	(mA) 0.5
Frequency Range	(Hz) 100-10000
Max. Operation Voltage	(V) 10
Sensitivity Reduction within 1 V	(dB) -3
S/N Ratio	(dB) > 60

DIMENSION

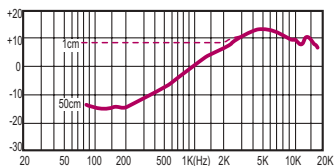


N4530



Color: Silver
Housing: Aluminum
Terminal: NIL

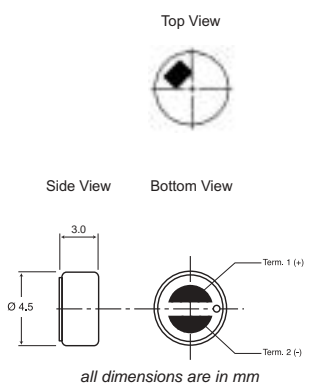
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	N4530CD543
Sensitivity	(dB) -54 ± 3
Directivity	NOISE
Power Supply Vs	(V) 2.0
Resistance Loading RL	(Ω) 2.2K
Max. Current	(mA) 0.5
Frequency Range	(Hz) 100-10000
Max. Operation Voltage	(V) 10
Sensitivity Reduction within 1.5 V	(dB) -3
S/N Ratio	(dB) > 60

DIMENSION



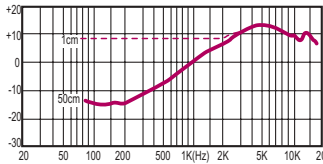
Condenser Microphones

N6027



Color: Silver
Housing: Aluminum
Terminal: NIL

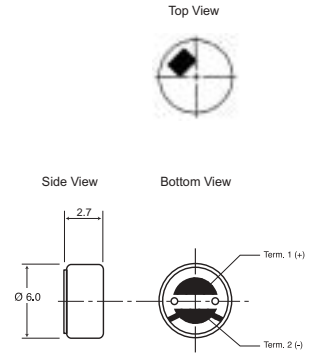
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	N6027CD514	
Sensitivity	(dB)	-51 ± 4
Directivity		NOISE
Power Supply Vs	(V)	2.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

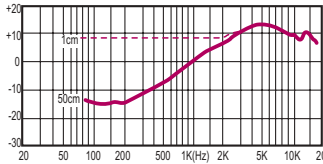


N6035



Color: Silver
Housing: Aluminum
Terminal: NIL

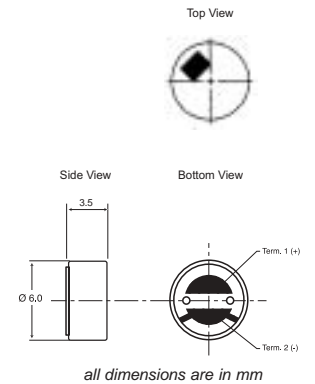
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	N6035CD464	
Sensitivity	(dB)	-46 ± 4
Directivity		NOISE
Power Supply Vs	(V)	2.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

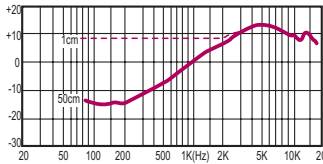


N6052



Color: Silver
Housing: Aluminum
Terminal: NIL

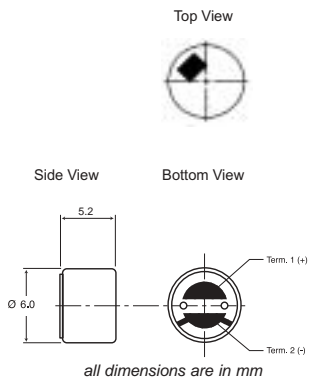
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	N6052BD504	
Sensitivity	(dB)	-50 ± 4
Directivity		NOISE
Power Supply Vs	(V)	1.5
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

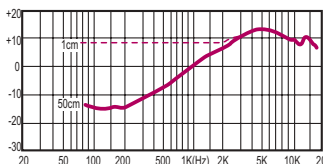


N9752



Color: Silver
Housing: Aluminum
Terminal: NIL

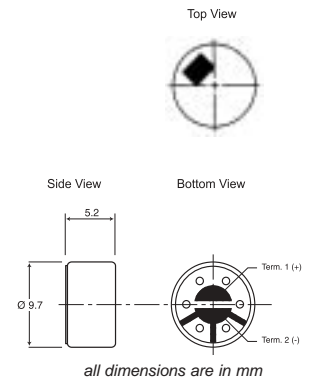
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.	N9752BA544	
Sensitivity	(dB)	-54 ± 4
Directivity		NOISE
Power Supply Vs	(V)	1.5
Resistance Loading RL	(Ω)	680
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100-10000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 1.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION



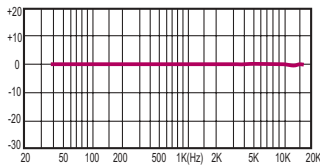
Condenser Microphones

B6022



Color: Silver
Housing: Aluminum
Terminal: NIL

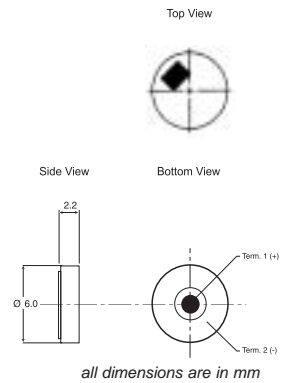
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		B6022ED464
Sensitivity	(dB)	-46 ± 4
Directivity		BACK-OMNI
Power Supply Vs	(V)	3.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 2.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

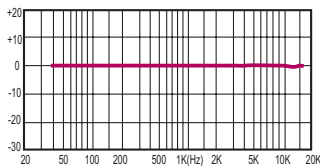


B6027



Color: Silver
Housing: Aluminum
Terminal: NIL

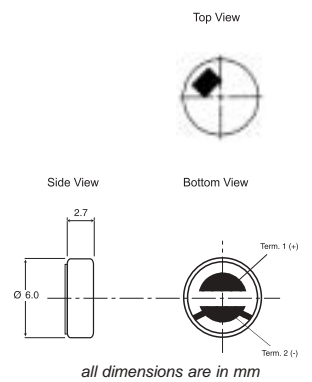
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		B6027ED464
Sensitivity	(dB)	-46 ± 4
Directivity		BACK-OMNI
Power Supply Vs	(V)	3.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 2.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

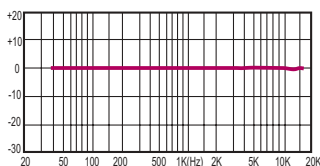


B6035



Color: Silver
Housing: Aluminum
Terminal: NIL

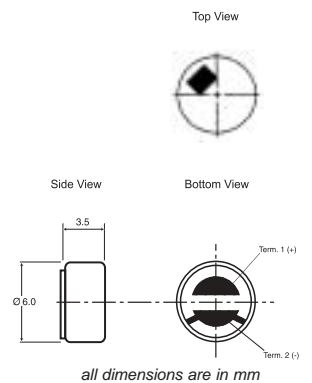
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		B6035ED464
Sensitivity	(dB)	-46 ± 4
Directivity		BACK-OMNI
Power Supply Vs	(V)	3.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 2.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION

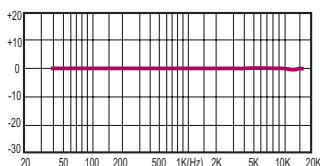


B6052



Color: Silver
Housing: Aluminum
Terminal: NIL

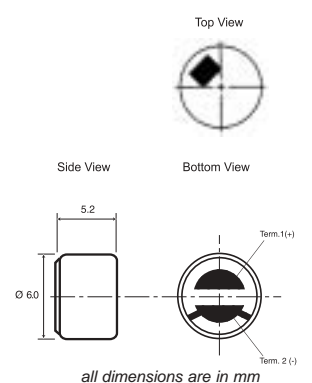
FREQUENCY RESPONSE CURVE



ELECTRICAL SPECIFICATIONS

MODEL NO.		B6052ED464
Sensitivity	(dB)	-46 ± 4
Directivity		BACK-OMNI
Power Supply Vs	(V)	3.0
Resistance Loading RL	(Ω)	2.2K
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50-16000
Max. Operation Voltage	(V)	10
Sensitivity Reduction within 2.5 V	(dB)	-3
S/N Ratio	(dB)	> 60

DIMENSION



Receivers

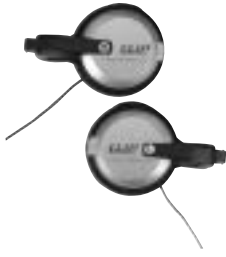
DYNAMIC RECEIVER				Height (mm)	Impedance (Ω)	SPL (dB)	Input Power (mW)	Frame	Terminal
Series	Model No.	Diameter (mm)	Diameter (mm)						
J10A	J10A106032	10.0	2.4	32	106 \pm 3	1mW	ABS	PT	
J13A	J13AJ092032	13.0	2.5	32	92 \pm 3	100	ABS	PD	
J13B	J13BJ092032	13.0	2.5	32	92 \pm 3	100	ABS	PT	
J13E	J13E114032	13.0	2.7	32	114 \pm 3	180	METAL	PD	
J13D	J13D101032	13.0	3.0	32	101 \pm 3	100	METAL	PT	
H13C	H13C104032	13.5	2.7	32	104 \pm 3	100	METAL	PD	
J14BC	J14BC116032	13.5	4.5	32	116 \pm 3	1mW	ABS	PD	
J15B	J15BJ096032	15.0	2.6	32	96 \pm 3	100	METAL	PD	
J15A	J15AJ096032	15.0	2.7	32	96 \pm 3	100	ABS	PD	
J15C	J15CJ095032	15.0	2.7	32	95 \pm 3	100	ABS	PT	
H15F	H15F112032	15.0	3.3	32	112 \pm 3	350	METAL	PD	
J15E	J15EC110032	15.0	4.3	32	110 \pm 3	1mW	METAL	PD	
J20B	J20BJ097032	20.0	2.8	32	97 \pm 3	100	ABS	PD	
J20C	J20CJ092150	20.0	3.3	150	92 \pm 3	100	ABS	PT	
H20F	H20F110150	20.0	3.8	150	110 \pm 3	500	ABS	PD	
J20A	J20A090150	20.0	4.0	150	90 \pm 3	60	ABS	PD	
J23B	J23B093150	23.0	5.0	150	93 \pm 3	60	ABS	L	
J25AJ	J25AJ090150	25.0	4.8	150	90 \pm 3	60	ABS	PD	
H25A	H25AJ090150	25.0	4.8	150	90 \pm 3	60	ABS	PD	
J28E	J28E100150	28.0	3.8	150	100 \pm 3	100	ABS	PD	
J28C	J28C093150	28.0	7.0	150	93 \pm 3	60	ABS	PD	
H28C	H28C093150	28.0	7.0	150	93 \pm 3	60	ABS	PD	
H28D	H28DJ096150	28.0	7.0	150	96 \pm 2	100	ABS	P	
J28A	J28A093150	28.0	7.3	150	93 \pm 3	60	ABS	L	
H28A	H28A093150	28.0	7.3	150	93 \pm 3	60	ABS	L	
J28B	J28B096150	28.0	7.5	150	96 \pm 3	100	ABS	PD	
H29A	H29AJ097150	29.0	5.4	150	97 \pm 3	100	ABS	PD	
J31A	J31A093150	31.0	11.0	150	93 \pm 3	60	ABS	PT	
H31A	H31A093150	31.0	11.0	150	93 \pm 3	60	ABS	PT	
H31B	H31B094130	31.0	11.0	130	94 \pm 3	60	ABS	PD	
J31E	J31EJ096300	31.0	12.3	300	96 \pm 3	100	METAL	PT	
J31F	J31FJ096300	31.0	12.3	300	96 \pm 3	100	METAL	PT	
H31DJ	H31DJ096300	31.0	12.3	300	96 \pm 3	100	METAL	PT	
H31C	H31C094300	31.0	14.0	300	94 \pm 2	60	METAL	PT	
J35A	J35A110300	35.0	17.6	300	110 \pm 3	1mW	ABS	PT	
J38B	J38B097150	38.0	18.8	150	97 \pm 3	60	ABS	PD	
J38A	J38A096150	38.0	21.2	150	96 \pm 3	60	ABS	PT	
H38A	H38A096150	38.0	21.2	150	96 \pm 3	60	ABS	PT	
H45A	H45A113150	45.0	21.0	150	113 \pm 3	1mW	ABS	SPD	

PIEZO RECEIVER				Impedance (Ω)	SPL (dB)	Capacitance	Frame	Terminal
Series	Model No.	Diameter (mm)	Height (mm)					
DB-E1568	156PZ21100	21	2	2500 Max.	106 \pm 3	75 nF \pm 30% at 120Hz	ABS	L
DB-E778	77PR23100	22.2	3.4	1200 Max.	110 \pm 3.5	90 nF \pm 30% at 1KHz	ABS	L
DB-E808	80PR22100	22.2	3.8	2500 Max.	105 \pm 3	45 nF \pm 30% at 1KHz	ABS	P
DB-E828	82PR30100	30.4	5.7	2500 Max.	110 \pm 3	70 nF \pm 30% at 1KHz	ALUMINUM	PD
DB-E818	81PR33100	33.4	4.1	3000 Max.	107 \pm 3	40 nF \pm 30% at 1KHz	ALUMINUM	L

L - Leadwire, P - Pin, PT - Plate, SPD - Solder Pad

Headsets

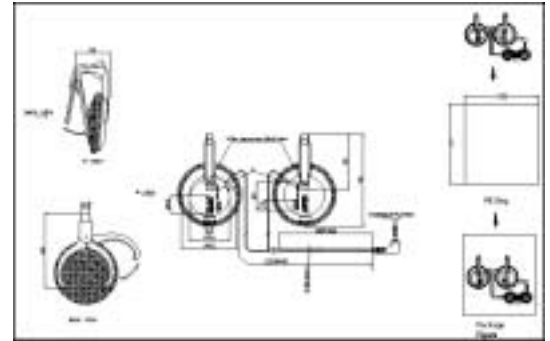
CE-109



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-109
Speaker Dimensions	28mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	110dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	110dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

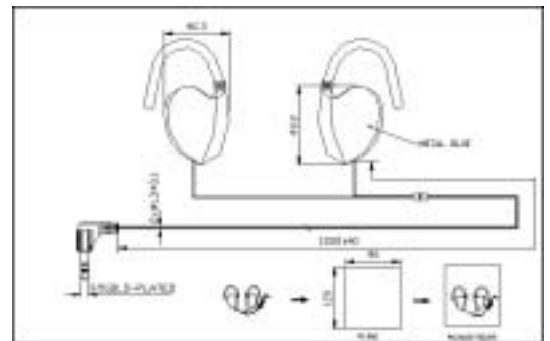
CE-209



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-209
Speaker Dimensions	23mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

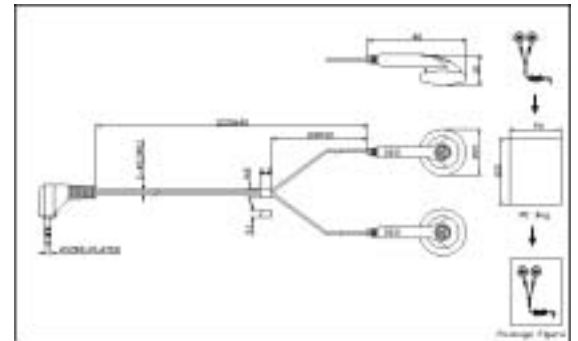
CE-105



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-105
Speaker Dimensions	13mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	10mW
Maximum Input Power	30mW for 1 minute
Sensitivity	95dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	95dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 10mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

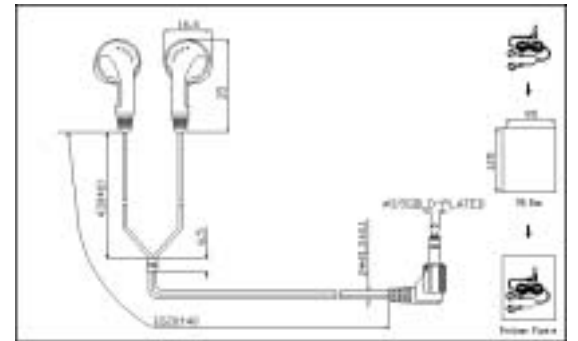
CE-196



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-196
Speaker Dimensions	15mm
Impedance	16 Ohms \pm 15% at 1.0KHz
Rated Input Power	10mW
Maximum Input Power	30mW for 1 minute
Sensitivity	108dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	108dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 10mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

Headsets

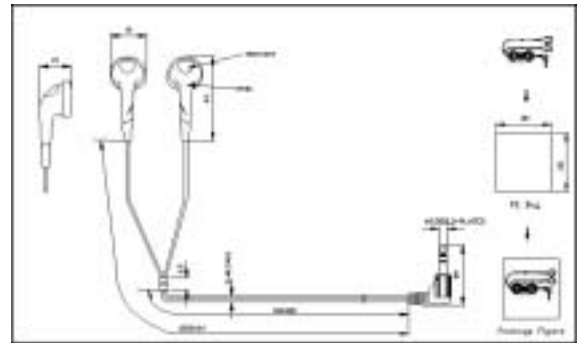
CE-208



ELECTRICAL SPECIFICATIONS

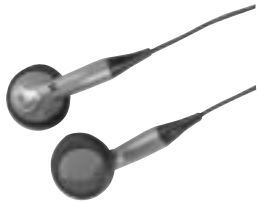
MODEL NO.	CE-208
Speaker Dimensions	15mm
Impedance	16 Ohms \pm 15% at 1.0KHz
Rated Input Power	10mW
Maximum Input Power	30mW for 1 minute
Sensitivity	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 10mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

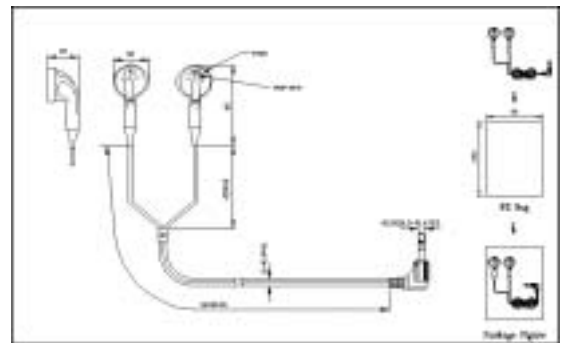
CE-210



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-210
Speaker Dimensions	15mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	10mW
Maximum Input Power	30mW for 1 minute
Sensitivity	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 10mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

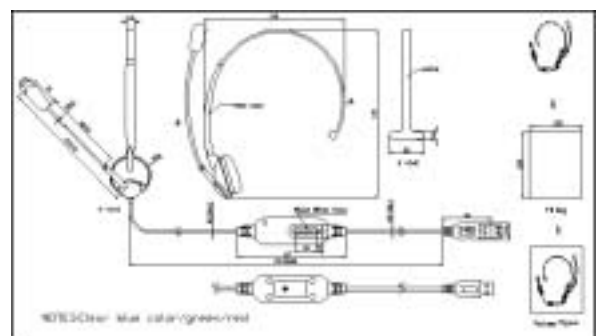
CE-1015U



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-1015U
Speaker Dimensions	28mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: SPK-L RING: SPK-R SLEEVE: GND

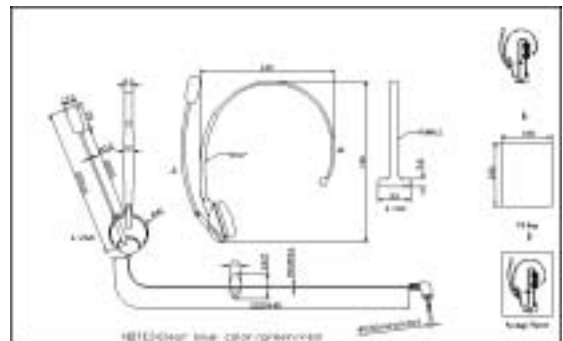
CE-1015



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-1015
Speaker Dimensions	28mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	112dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	112dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

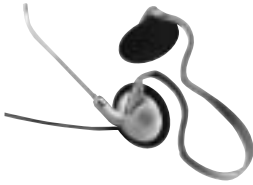
DIMENSION



TIP: MIC RING: SPK SLEEVE: GND

Headsets

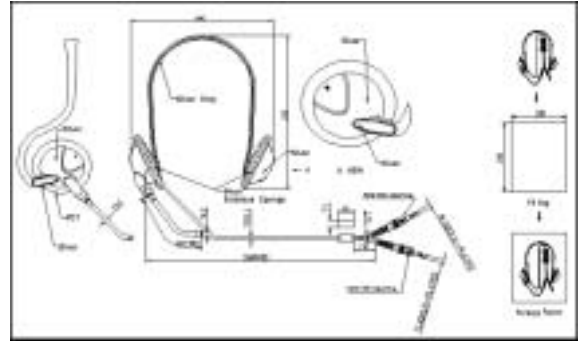
CE-1009



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-1009
Speaker Dimensions	27mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	105dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



PM3 701C Color Plug — TIP: MIC RING: MIC SLEEVE: GND
 PM3 577C Color Plug — TIP: SPK-L RING: SPK-R SLEEVE: GND

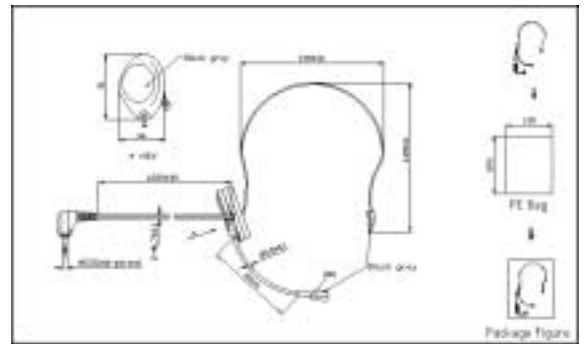
CE-336



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-336
Speaker Dimensions	23mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	20mW
Maximum Input Power	100mW for 1 minute
Sensitivity	110dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	110dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 20mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION



TIP: MIC RING: SPK SLEEVE: GND

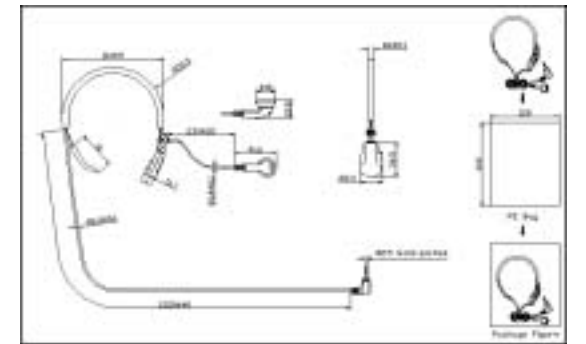
CE-705



ELECTRICAL SPECIFICATIONS

MODEL NO.	CE-705
Speaker Dimensions	15mm
Impedance	32 Ohms \pm 15% at 1.0KHz
Rated Input Power	10mW
Maximum Input Power	30mW for 1 minute
Sensitivity	100dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, at 1.0KHz)
Sound Pressure Level	100dB \pm 4dB (input signal 1mW with SUNLIGHT, Model-1600, from 600 to 1.2KHz Avg.)
Operation Test	Must be Normal, Program Source 10mW
Distortion	5% Maximum, Rated input at 1KHz

DIMENSION

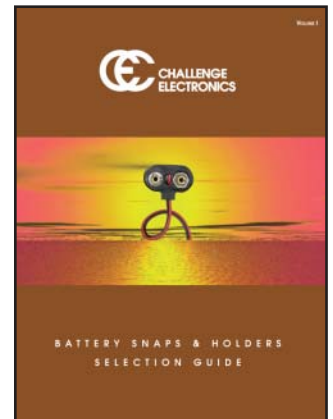
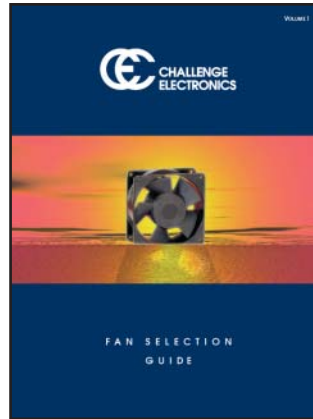
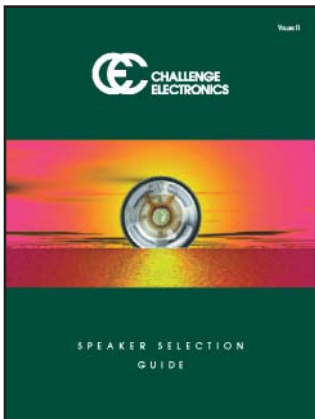


TIP: SPK-L RING: SPK-R SLEEVE: GND

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