

**Electret Condenser Microphone Cartridge**

Consists of a high voltage internal electret membrane, metal electrode and a Field Effect Transistor (FET). Doesn't need a high-voltage bias from the outside like ordinary condenser microphones.

**Features:** Highly efficient electrical specification, pressure type operating principle, low impedance (2.2kΩ), omnidirectional back directivity, and a high degree of reliability under adverse shock, vibration and environmental tests.

**Applications:** Telephone and telephone answering devices, tape recorders, intercoms, computer modems, completed microphones for recording, testing and monitoring, hearing aids, sonic controlled toys and sensors, and others. All buzzers and microphones are non-washable.

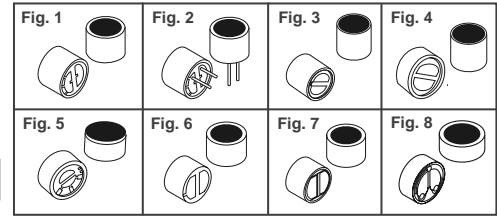
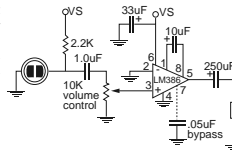


Fig.	Type	Physical Size (mm)	Sensitivity (0dB = 1V/Pa)	Frequency Range (Hz)	Operating Voltage Max./Std.	Current Consumption Max.	Sensitivity Reduction	S/N Ratio	Digi-Key Part No.	Price Each 1 10 100	Panasonic Part No.
7	Omnidirectional	ø6.0 X 2.2	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9955-ND†	5.02 4.46 3.60	WM-64C
7	Omnidirectional	ø6.0 X 2.2	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9958-ND†	5.02 4.46 3.60	WM-64K
4	Omnidirectional	ø6.0 X 2.7	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9933-ND	4.47 3.97 3.21	WM-62A
7	Omnidirectional	ø6.0 X 2.7	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9926-ND†	4.34 3.85 3.12	WM-62C
6	Omnidirectional	ø6.0 X 3.4	-35dB ±4dB	20-20k	10V/2V	0.5mA	within -3dB @ 1.5V	>62dB	P9925-ND	3.20 2.84 2.29	WM-61A
3	Omnidirectional	ø6.0 X 5.0	-42dB ±3dB	20-20k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9959-ND	2.64 2.35 1.90	WM-60AY
2	Omnidirectional	ø9.7 X 4.5	-44dB ±2dB	20-16k	10V/1.5V	0.3mA	within -3dB @ 1.1V	>60dB	P9970-ND	1.06 .95 .77	WM-52BM
2	Omnidirectional	ø9.7 X 4.5	-44dB ±3dB	20-16k	10V/2.5V	0.6mA	within -3dB @ 2V	>60dB	P9949-ND	.84 .75 .61	WM-54BT
1	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9956-ND	1.48 1.31 1.06	WM-034CY
2	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9931-ND	1.64 1.46 1.18	WM-034BY
2	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9962-ND*	2.77 2.46 1.99	WM-034CY195M
3	Unidirectional	ø6.0 X 5.0	-50dB ±4dB	100-12k	10V/2V	0.5mA	within -3dB @ 1.5V	>55dB	P9964-ND	4.00 3.55 2.87	WM-65A103
5	Unidirectional	ø9.7 X 5.0	-47dB ±4dB	100-16k	10V/1.5V	0.5mA	within -3dB @ 1V	>60dB	P9961-ND	3.55 3.15 2.55	WM-55A103
5	Unidirectional	ø9.7 X 5.0	-50dB ±4dB	100-16k	10V/1.5V	0.5mA	within -3dB @ 1V	>58dB	P9963-ND	2.97 2.64 2.13	WM-56A103
8	Noise Cancelling	ø6.0 X 2.2	-51dB ±4dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9973-ND	4.11 3.65 2.95	WM-67D103
8	Noise Cancelling	ø6.0 X 2.7	-45dB ±4dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9968-ND†	4.34 3.85 3.12	WM-66CD103
4	Noise Cancelling	ø6.0 X 2.7	-51dB ±4.5dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9896-ND	3.77 3.35 2.71	WM-66D103
5	Noise Cancelling	ø9.7 X 5.0	-54dB ±4dB	100-10k	10V/1.5V	0.5mA	within -3dB @ 1V	>58dB	P9897-ND	3.42 3.04 2.46	WM-55D103

\* Has 18mm long leads. † With built-in cap.

**Microphone Holders**

Fig.	Digi-Key Part No.	Price Each 1 10 100 500	Panasonic Part No.	Use With Panasonic Part No.
1	P9950-ND	.59 .50 .39 .28	M3CA0208A4	WM-52BM, WM-54BT, WM-55A103, WM-55D103, WM-56A103
2	P9952-ND	.59 .50 .39 .28	M3CA0207A4	WM-52BM, WM-54BT, WM-55A103, WM-55D103, WM-56A103
3	P9974-ND	.59 .50 .39 .28	YPM-CH022AA4	WM-034 Series
4	P9953-ND	.59 .50 .39 .28	M3CA0082A4	WM-034 Series
5	P9969-ND	.51 .44 .34 .24	YPMCH008	WM-034 Series
6	P9899-ND	.59 .50 .39 .28	YPM-CH009AA4	WM-034 Series
7	P9898-ND	.59 .50 .39 .28	YPM-CH021AA4	WM-063T, WM60AT, WM60AY, WM65A103

**HORN INDUSTRIAL Electret Condenser Microphone**

Electret condenser microphones consist of a high voltage internal electret membrane, a metal electrode, and a field effect transistor (FET). Horn Industrial microphones are manufactured in a quality controlled facility in China. All microphones are produced with Japanese made FETs to ensure high quality and reliability. This along with 100% testing ensure a zero defect rate. Horn's commitment to quality has earned them approval from a famous global manufacturer of mobile phones. Horn's ECMs utilize a highly efficient, low impedance design, available in omnidirectional, unidirectional, and noise canceling versions. Typical applications are telephone and telephone answering equipment, tape recorders, intercoms, hearing aids, and sonically controlled games and toys. All microphones are non-washable.

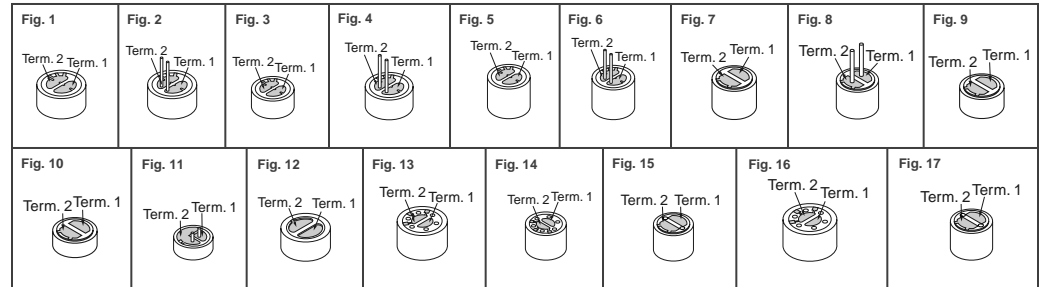


Fig.	Type	Physical Size (mm)	Sensitivity (0dB = 1V/Pa)	Frequency Range (Hz)	Operating Voltage Std.	Current Consumption Max.	Sensitivity Reduction	S/N Ratio	Digi-Key Part No.	Price Each 1 10 100	Horn Part No.
1	Omnidirectional	ø9.7 x 6.5	-42dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1001-ND	.86 .65 .43	EM9765-422
2	Omnidirectional	ø9.7 x 6.5	-42dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1002-ND	.94 .71 .47	EM9765P-422
3	Omnidirectional	ø9.7 x 4.5	-44dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1006-ND	.97 .73 .49	EM9745-442
4	Omnidirectional	ø9.7 x 4.5	-44dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1007-ND	1.05 .79 .53	EM9745P-442
5	Omnidirectional	ø9.4 x 6.5	-44dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1008-ND	1.02 .77 .51	EM9465-442
6	Omnidirectional	ø9.4 x 6.5	-44dB ±2dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1009-ND	1.09 .82 .55	EM9465P-442
7	Omnidirectional	ø6.0 x 5.0	-42dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1011-ND	1.09 .82 .55	EM6050-423
7	Omnidirectional	ø6.0 x 5.0	-44dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1012-ND	1.09 .82 .55	EM6050-443
8	Omnidirectional	ø6.0 x 5.0	-42dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1013-ND	1.17 .88 .59	EM6050P-423
8	Omnidirectional	ø6.0 x 5.0	-44dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1014-ND	1.17 .88 .59	EM6050P-443
9	Omnidirectional	ø6.0 x 3.5	-38dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1017-ND	2.65 1.99 1.33	EM6035-383
9	Omnidirectional	ø6.0 x 3.5	-40dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1018-ND	2.65 1.99 1.33	EM6035-403
10	Omnidirectional	ø6.0 x 2.7	-42dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1019-ND	2.65 1.99 1.33	EM6027-423
11	Omnidirectional	ø6.0 x 2.7	-42dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1020-ND	2.96 2.22 1.48	EM6027PA-423
12	Omnidirectional	ø4.5 x 3.0	-44dB ±3dB	20-20k	4.5V	0.5mA	within -3dB @ 1.5V	>60dB	359-1021-ND	3.12 2.34 1.56	EM4530-443
13	Unidirectional	ø9.7 x 5.2	-47dB ±4dB	20-20k	1.5V	0.5mA	within -3dB @ 1V	>58dB	359-1003-ND	2.96 2.22 1.48	EM9752U-474
13	Unidirectional	ø9.7 x 5.2	-51dB ±4dB	20-20k	1.5V	0.5mA	within -3dB @ 1V	>58dB	359-1004-ND	2.96 2.22 1.48	EM9752U-514
14	Unidirectional	ø8.0 x 5.0	-51dB ±4dB	20-20k	1.5V	0.5mA	within -3dB @ 1V	>60dB	359-1010-ND	2.96 2.22 1.48	EM8050U-514
15	Unidirectional	ø6.0 x 5.0	-51dB ±4dB	20-20k	2.0V	0.5mA	within -3dB @ 1.5V	>58dB	359-1016-ND	2.81 2.11 1.41	EM6050U-514
16	Noise Cancelling	ø9.7 x 5.2	-51dB ±4dB	20-20k	1.5V	0.5mA	within -3dB @ 1V	>60dB	359-1005-ND	2.88 2.17 1.45	EM9752N-514
17	Noise Cancelling	ø6.0 x 5.0	-51dB ±4dB	20-20k	2.0V	0.5mA	within -3dB @ 1.5V	>58dB	359-1015-ND	2.81 2.11 1.41	EM6050N-514

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