

Panasonic

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.

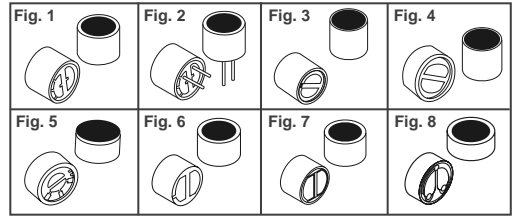
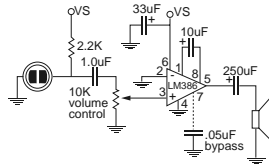


Fig.	Type	Physical Size (mm)	Sensitivity (0dB = 1V/Pa)	Frequency Range (Hz)	Operating Voltage Max./Std.	Current Consumption Max.	Sensitivity Reduction	S/N Ratio	Digi-Key Part No.	1	10	100	Panasonic Part No.
7	Omnidirectional	ø6.0 X 2.2	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9955-ND†	4.23	37.51	303.17	WM-64C
7	Omnidirectional	ø6.0 X 2.2	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9958-ND†	4.23	37.51	303.17	WM-64K
4	Omnidirectional	ø6.0 X 2.7	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9933-ND	3.80	33.66	272.10	WM-62A
7	Omnidirectional	ø6.0 X 2.7	-45dB ±4dB	20-16k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9926-ND†	3.66	32.41	261.99	WM-62CC
6	Omnidirectional	ø6.0 X 3.4	-35dB ±4dB	20-20k	10V/2V	0.5mA	within -3dB @ 1.5V	>62dB	P9925-ND	2.69	23.86	192.88	WM-61A
3	Omnidirectional	ø6.0 X 5.0	-42dB ±3dB	20-20k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9959-ND	2.24	19.88	160.72	WM-60AY
3	Omnidirectional	ø6.0 X 5.0	-44dB ±3dB	20-20k	10V/2V	0.5mA	within -3dB @ 1.5V	>58dB	P9967-ND	2.24	19.88	160.72	WM-60AT
2	Omnidirectional	ø9.7 X 4.5	-44dB ±2dB	20-16k	10V/1.5V	0.3mA	within -3dB @ 1.1V	>60dB	P9970-ND	.90	8.00	64.66	WM-52BM
2	Omnidirectional	ø9.7 X 4.5	-44dB ±3dB	20-16k	10V/2.5V	0.6mA	within -3dB @ 2V	>60dB	P9949-ND	.71	6.32	51.11	WM-54BT
1	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9956-ND	1.25	11.12	89.92	WM-034CY
2	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9931-ND	1.40	12.39	100.16	WM-034BY
2	Omnidirectional	ø9.7 X 6.7	-42dB ±3dB	20-16k	10V/4.5V	0.8mA	within -3dB @ 3V	>60dB	P9962-ND*	2.35	20.88	168.74	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	35.44	286.43	WM-65A103
5	Unidirectional	ø9.7 X 5.0	-47dB ±4dB	100-16k	10V/1.5V	0.5mA	within -3dB @ 1V	>60dB	P9961-ND	3.01	26.71	215.87	WM-55A103
5	Unidirectional	ø9.7 X 5.0	-50dB ±4dB	100-16k	10V/1.5V	0.5mA	within -3dB @ 1V	>58dB	P9963-ND	2.52	22.35	180.65	WM-56A103
8	Noise Canceling	ø6.0 X 2.2	-51dB ±4dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9973-ND	3.46	30.69	248.02	WM-67D103
8	Noise Canceling	ø6.0 X 2.7	-45dB ±4dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9968-ND†	3.66	32.41	261.99	WM-66DC103
4	Noise Canceling	ø6.0 X 2.7	-51dB ±4.5dB	100-10k	10V/2V	0.5mA	within -3dB @ 1.5V	>50dB	P9896-ND	3.20	28.41	229.94	WM-66D103
5	Noise Canceling	ø9.7 X 5.0	-54dB ±4dB	100-10k	10V/1.5V	0.5mA	within -3dB @ 1V	>58dB	P9897-ND	3.11	27.58	222.95	WM-55D103

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

Microphone Holders

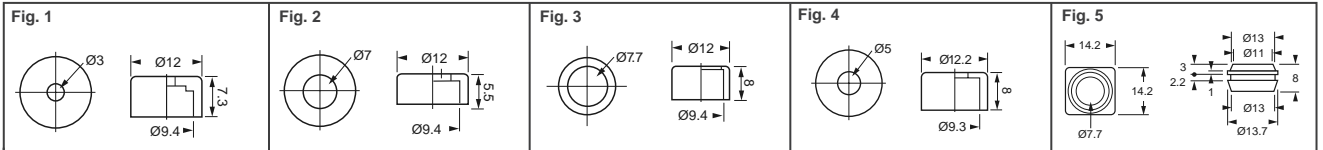


Fig.	Digi-Key Part No.	1	10	100	500	Panasonic Part No.	Use With Panasonic Part No.
1	P9950-ND	.50	4.21	32.90	115.91	M3CA0208A4	WM-52BM, WM-54BT, WM-55A103, WM-55D103, WM-56A103
2	P9952-ND	.50	4.21	32.90	115.91	M3CA0207A4	WM-52BM, WM-54BT, WM-55A103, WM-55D103, WM-56A103
3	P9974-ND	.50	4.21	32.90	115.91	YPM-CH022AA4	WM-034 Series
4	P9953-ND	.50	4.21	32.90	115.91	M3CA0082A4	WM-034 Series
5	P9698-ND	.51	4.32	33.76	118.94	YPMCH008	WM-034 Series
6	P9899-ND	.50	4.21	32.90	115.91	YPM-CH009AA4	WM-034 Series
7	P9898-ND	.50	4.21	32.90	115.91	YPM-CH021AA4	WM-063T, WM60AT, WM60AY, WM65A103

Ultrasonic Ceramic Sensor/Transducer

Ultrasonic Ceramic Sensor consisting of a disc/bimorph type piezoelectric ceramic vibrator that is used as a sensor for transmitting and receiving ultrasonics in the air. Since the ultrasonic sensor has a resonance type vibrator, it is

high in sensitivity and has outstanding sound pressure level. It has wide applications for burglar alarm systems, automatic door openers, flow rate detectors, and remote-control systems in TV, home appliance and toys etc. Sensors are not washable.

Type U Standard Type*
Type S Temperature Stable Type**
Type Q Enclosed Type*



* Temp. Range: -20°C to 60°C
** Temp. Range: -40°C to 100°C



Type	Class	Ctr Freq. 51.0 (KHz)	Sensitivity (dB/V/mbar)	Sensitivity (0dB = 1V/Pa)	Min. Band-Width (KHz)	Sound Pressure Level (dB)	Max. Input Volt. (Vrms)	Dimensions (mm)			Digi-Key Part No.	Pricing				Panasonic Part No.		
								Size Dia.	Ht.	Leads Length		Space	1	10	500		1,000	
Q	Receiver	40.0	-75	-55	1.0	—	—	18.0	12.0	12.5	7.5	P9892-ND	21.63	194.64	1730.18	6488.16	12111.23	EFR-RQB40KS
Q	Transmitter	40.0	—	—	1.0	105	20	18.0	12.0	12.5	7.5	P9893-ND	21.63	194.64	1730.18	6488.16	12111.23	EFR-RTQB40KS
S	Receiver	40.0	-70	-50	4.0	—	—	16.0	12.0	10.0	10.0	P9894-ND	9.20	82.76	735.62	2758.56	5149.31	EFR-RSB40KS
S	Transmitter	40.0	—	—	4.0	105	20	16.0	12.0	10.0	10.0	P9895-ND	9.20	82.76	735.62	2758.56	5149.31	EFR-TSB40KS
U	Transmitter	40.0	—	—	4.0	110	20	16.0	12.0	10.0	10.0	P9851-ND	5.60	50.40	448.00	1680.00	3136.00	EFR-OUB40K22



Fig. 1

Fig. 2

Fig. 3

Ultrasonic Transducers

Fig.	Frequency	Transmit	Transmit Sensitivity (dB vs. 1 µbar)	Receive Sensitivity (dB vs. 1 µbar)	Drive Voltage	Nominal	Beam Angle	Operating	Weight	Digi Key	Pricing	ITC
Fig. 1	40.0 KHz	Receiver	-75	-55	1.0V	18.0 x 12.0 x 12.5 mm	12.5°	10V	21.63g	P9892-ND	21.63, 194.64, 1730.18, 6488.16, 12111.23	EFR-RQB40KS
Fig. 2	40.0 KHz	Transmitter	—	—	105V	18.0 x 12.0 x 12.5 mm	12.5°	10V	21.63g	P9893-ND	21.63, 194.64, 1730.18, 6488.16, 12111.23	EFR-RTQB40KS
Fig. 3	40.0 KHz	Receiver	-70	-50	4.0V	16.0 x 12.0 x 10.0 mm	10.0°	10V	9.20g	P9894-ND	9.20, 82.76, 735.62, 2758.56, 5149.31	EFR-RSB40KS
Fig. 4	40.0 KHz	Transmitter	—	—	105V	16.0 x 12.0 x 10.0 mm	10.0°	10V	9.20g	P9895-ND	9.20, 82.76, 735.62, 2758.56, 5149.31	EFR-TSB40KS
Fig. 5	40.0 KHz	Transmitter	—	—	110V	16.0 x 12.0 x 10.0 mm	10.0°	10V	5.60g	P9851-ND	5.60, 50.40, 448.00, 1680.00, 3136.00	EFR-OUB40K22

All specifications typical at 22°C and subject to change without notice.

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