



**SPEAKER**

**multicomponent**  
EXCELLENCE IN COMPONENTS



**NINGBO EAST ELECTRONICS LIMITED**

# *Our Mission*

Attention to detail   Aiming for perfection

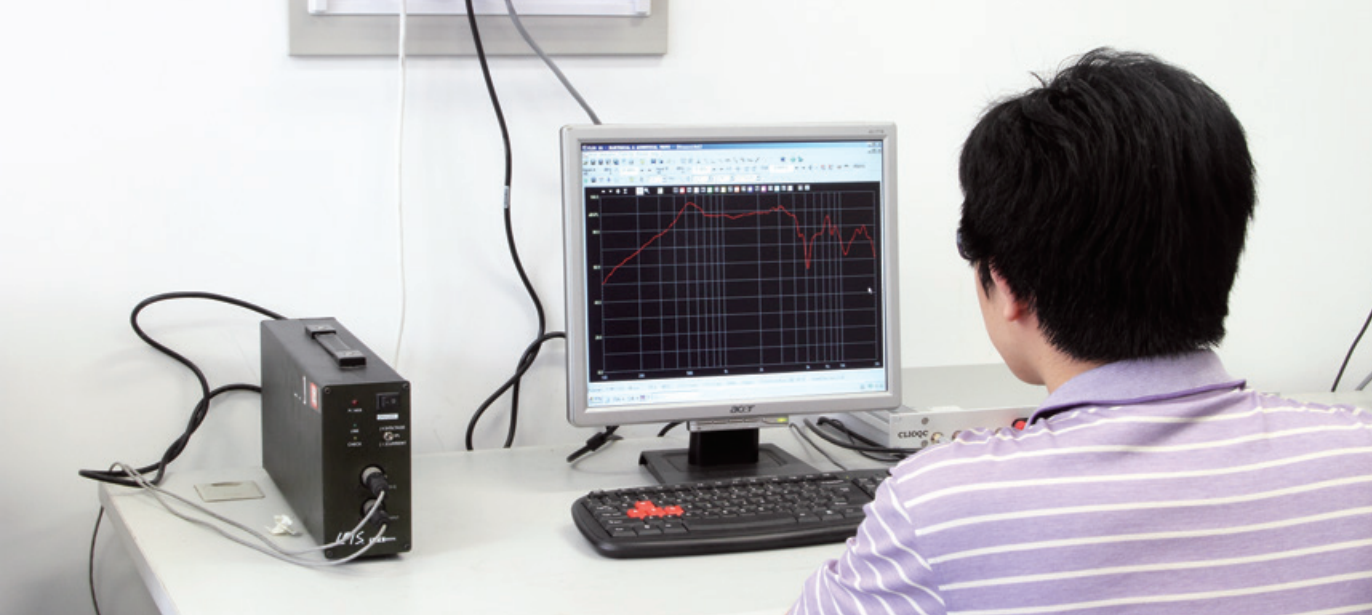
## *About Us*

Ningbo East Electronics Ltd. was established as one of the earliest sino-foreign joint venture enterprises in China in 1980, and has begun to produce piezo buzzers and transducers since 1987. With 28 years development, manufacturing and service experience in acoustic industry, we become one of the biggest professional manufacturing for piezo buzzer and siren in China. Ningbo East's facility occupies 36000 square meters, and the annual sales approach 60~80 million sets. The parts' high quality and reliability are guaranteed under the strict execution of our certificated quality systems and also through the continuous improvements.

Over 85% of the East's products are exported to the worldwide market and we have built up long-term relationships with over 300 clients, including many famous brands such as UTC, Bayer, Abbott, Vodafone, Whirlpool, Honeywell, Gentex, Nestlab, Hager, and Eaton etc.







## Speaker Research & Development

Ningbo East engineering team has worked on product research and development, including applications of new material and technology. We develop new models based on customer requests as well as the market trend. It usually takes 30-45 days to develop a new design and we release 15-25 new models every year.

## Speaker Production Line

The speaker assembly lines come with monthly capacity of one million units. We have developed our own automatic, semi-automatic equipments to further improve our production capability and quality control level.



## Speaker Line Quality Control

ISO 9001:2008/ ISO 14001:2004 process control systems and employee training system enable us to provide reliable and consistent quality products. We regularly schedule training programs for key process workers, Q.C. and R&D staff to further enhance the employee's qualification.

We are fully equipped with specialized manufacturing and testing equipments to support speaker's quality control. The experienced Q.C.s and inspection staff conducting the process control programs to ensure the quality.







## SMD Speaker

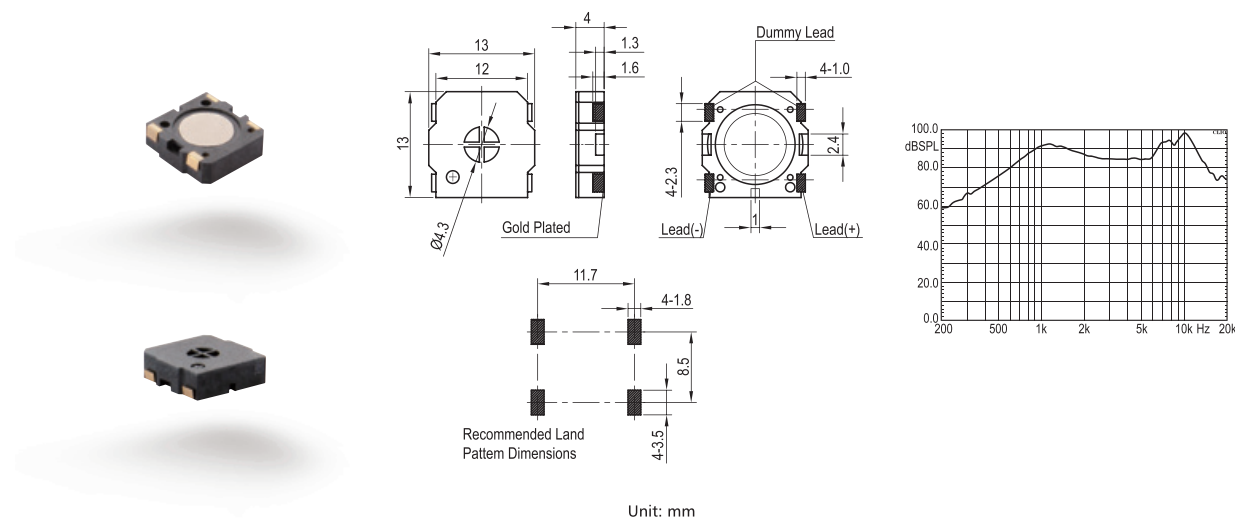
### Technical Characteristics:

1. Reflow soldering (260°C)
2. Small size with higher sensitivity, wide range of frequency response
3. SMD products packed with reel which is easy for automatic assembly
4. Support the customers to design/produce more compact products

### Application:

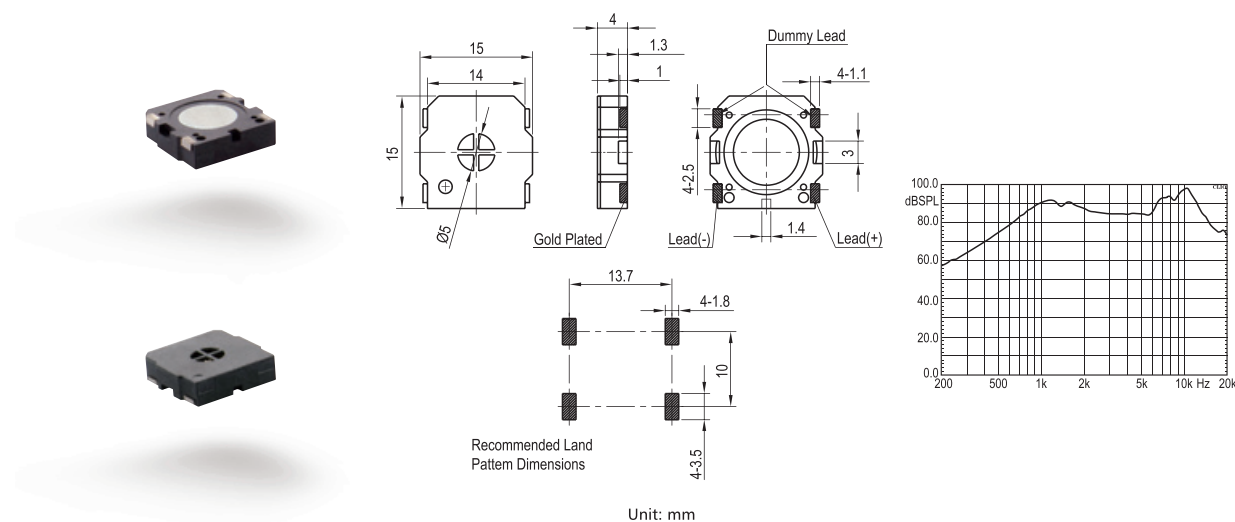
1. Medical and auto industry field
2. Smart home application
3. Portable device

#### Part Number: SES-13S04-8N0.7R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SES-13S04-8N0.7R	13*13*4(mm)	8Ω±15%	0.7 W	1 W	87dB±3	900Hz±20%	F0-20k	1.1g

#### Part Number: SES-15S04-8N0.5R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SES-15S04-8N0.5R	15*15*4(mm)	8Ω±15%	0.5 W	0.8 W	87dB±3	850Hz±20%	F0-20k	1.5 g

## Small Speaker



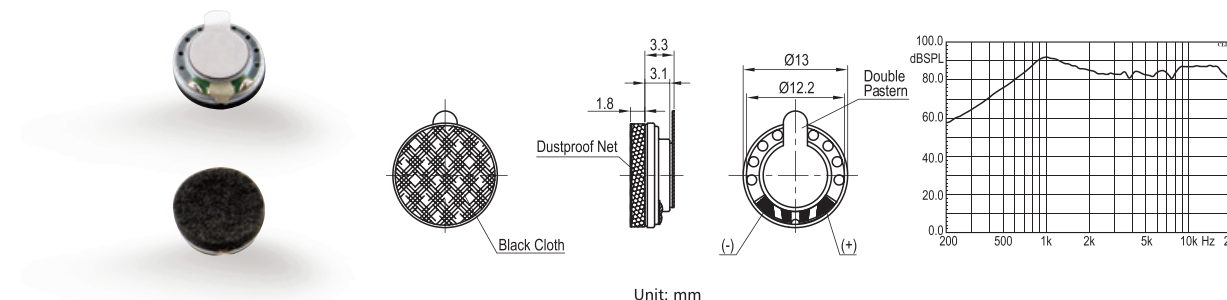
### Technical Characteristics:

1. Magnetic leakage free design
2. Smaller size with higher sensitivity, wide range of frequency response
3. Support the customers to design/produce more compact products

### Application:

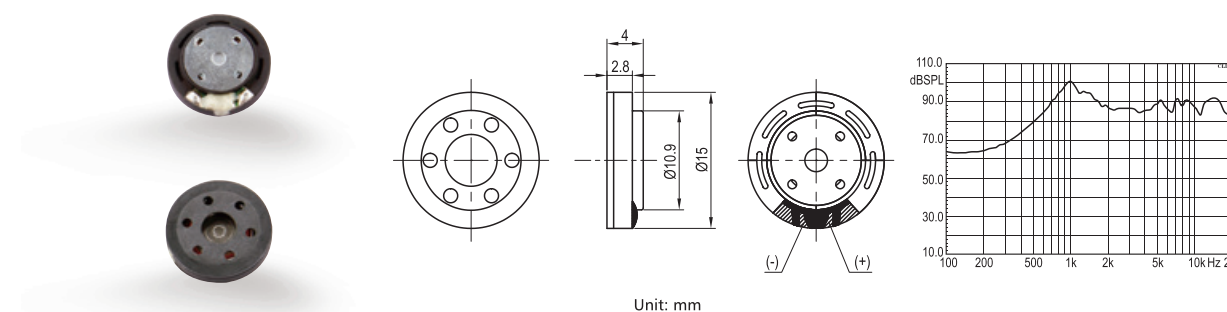
1. Laptop, medical device, telecommunication equipments, portable scanner
2. Alarm and monitoring system

#### Part Number: SEM-13R3.1-8N0.2R



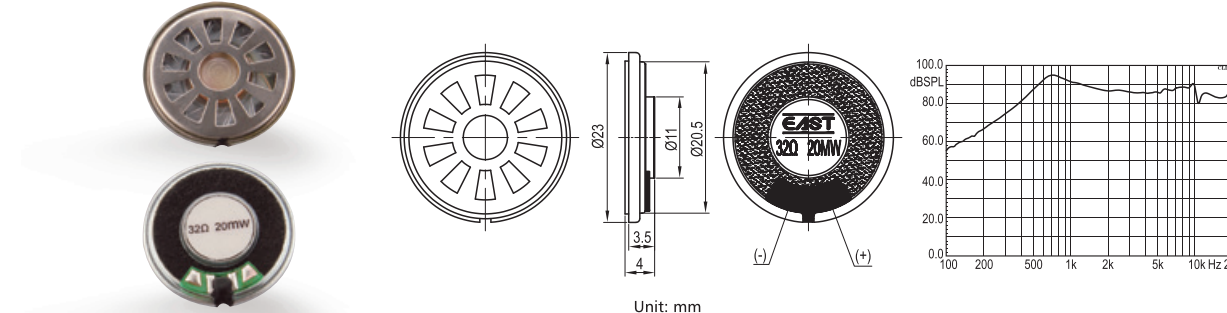
Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-13R3.1-8N0.2R	13*5.1(mm)	8Ω±15%	0.2 W	0.5 W	90dB±3	1000Hz±20%	F0-20k	0.8 g

#### Part Number: SEM-15R4.0-8N1R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-15R4.0-8N1R	15*4(mm)	8Ω±15%	1 W	1.2 W	94dB±3	800Hz±20%	F0-20k	1.5 g

#### Part Number: SEM-23R4.0-32N0.02R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-23R4.0-32N0.02R	23*4(mm)	32Ω±15%	0.02 W	0.05 W	92dB±3	600Hz±20%	F0-20k	3.1 g



## Medical Application Speaker

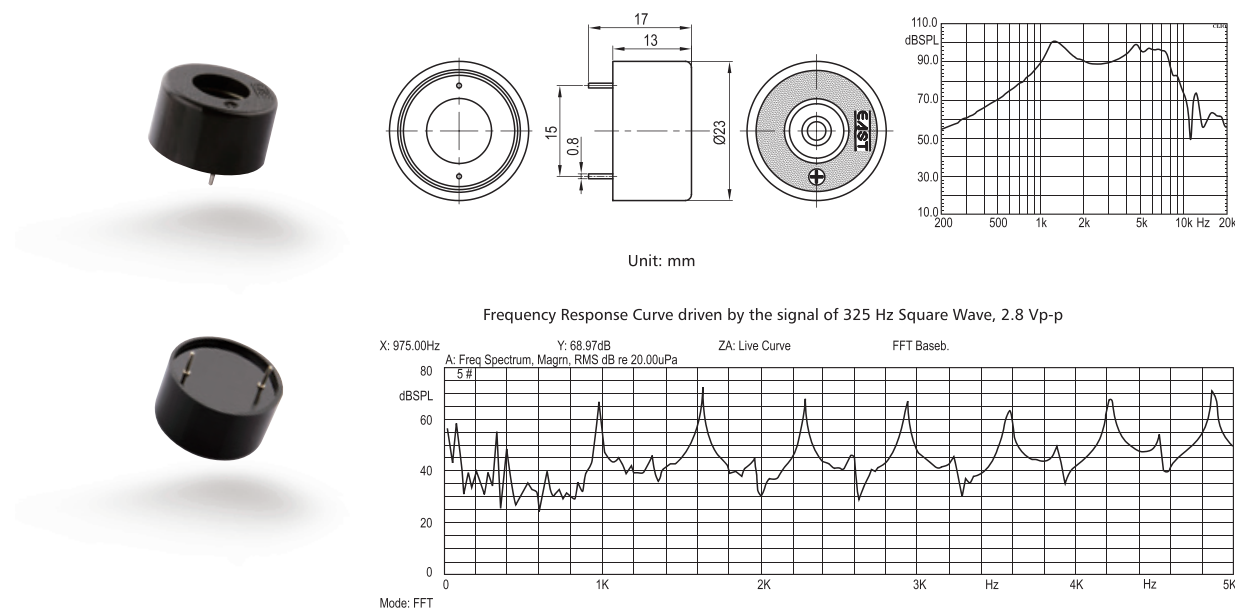
### Technical Characteristics:

1. Compact size with higher sensitivity, wide range of frequency response
2. Good voice quality, especially in medium-high frequency range
3. Capable of meeting medical spec. IEC60601-1-18

### Application:

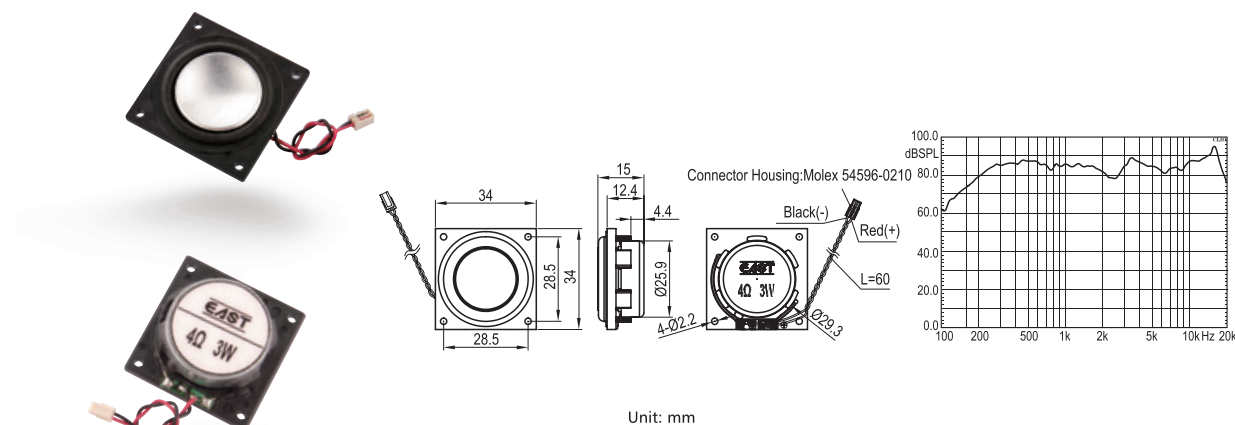
1. Medical device
2. Audio and monitoring/control equipment

#### • Part Number: SEM-23R13-8N0.25R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-23R13-8N0.25R	23*13(mm)	8Ω±15%	0.25 W	0.5 W	88dB±3	1200Hz±20%	F0-10k	4.5g

#### • Part Number: SED-34S15-4N3RC

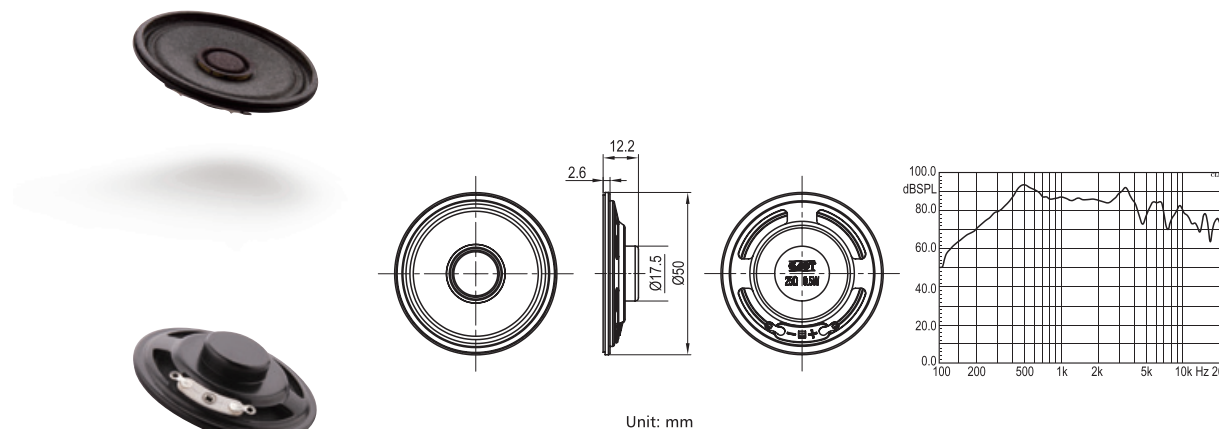


Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-34S15-4N3RC	34*34*15(mm)	4Ω±15%	3 W	5 W	82dB±3	300Hz±20%	F0-20k	28g

## Medical Application Speaker

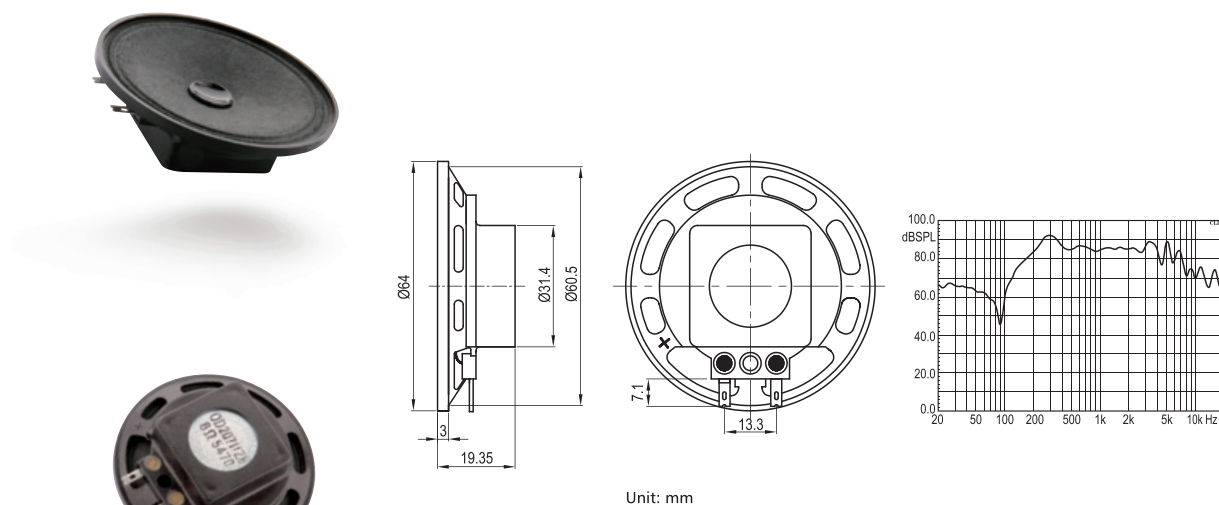


#### • Part Number: SED-50R12-25N0.5R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.5Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-50R12-25N0.5R	50*12.2(mm)	25Ω±15%	0.5 W	0.8 W	86dB±3	480Hz±20%	F0-4k	15.5g

#### • Part Number: SED-64R19-8N1R



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-64R19-8N1R	64*19.35(mm)	8Ω±15%	1 W	2 W	91dB±3	340Hz±20%	F0-3.5k	48g



## Security & Safety Application Speaker

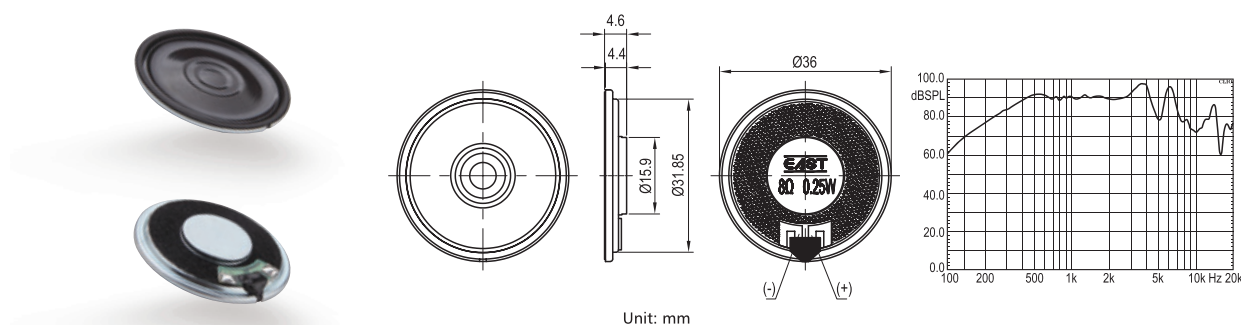
### Technical Characteristics:

1. Compact size with higher sensitivity, wide range of frequency response
2. High sensitivity at required alert frequency range

### Application:

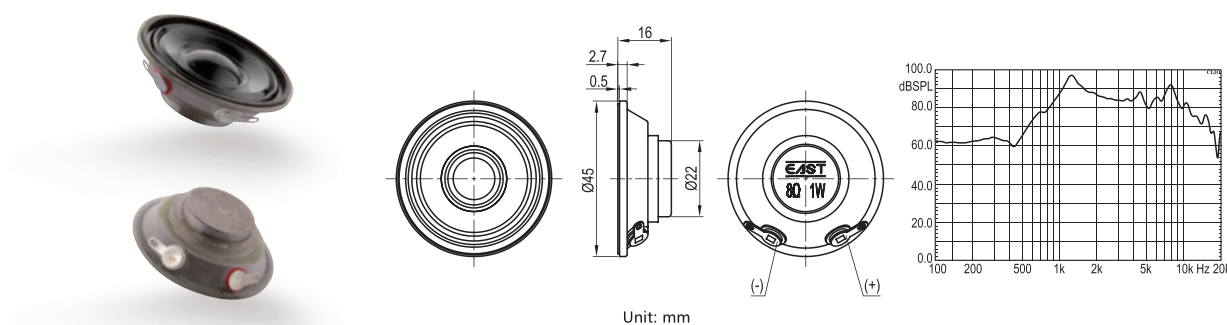
1. Security & safety alarm
2. Alarm and monitoring system

#### • Part Number: SEM-36R4.6-8N0.25R



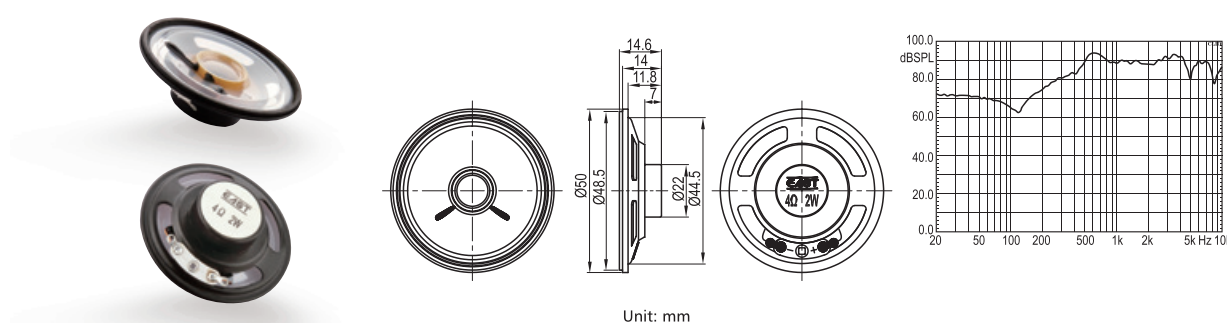
Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-36R4.6-8N0.25R	36*4.6(mm)	8Ω±15%	0.25 W	0.5 W	89dB±3	500Hz±20%	F0-4.5k	9.5g

#### • Part Number: SED-45R16-8N1R



Model No.	Dimension	Rated Impedance	Power Rating		Min SPL Normal Power Input /3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-45R16-8N1R	45*16(mm)	8Ω±15%	1 W	2 W	85dB	1200Hz±20%	F0-5k	25g

#### • Part Number: SED-50R15-4N2RE

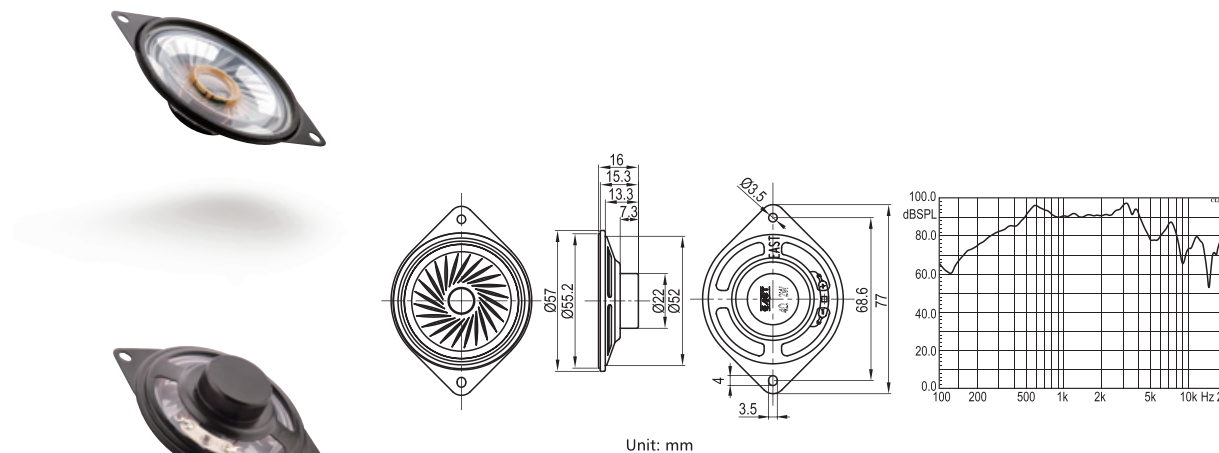


Model No.	Dimension	Rated Impedance	Power Rating		Min SPL Normal Power Input /3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-50R15-4N2RE	50*14.6(mm)	4Ω±15%	2 W	3 W	75dB	520Hz±20%	400Hz-4k	28g

## Security & Safety Application Speaker

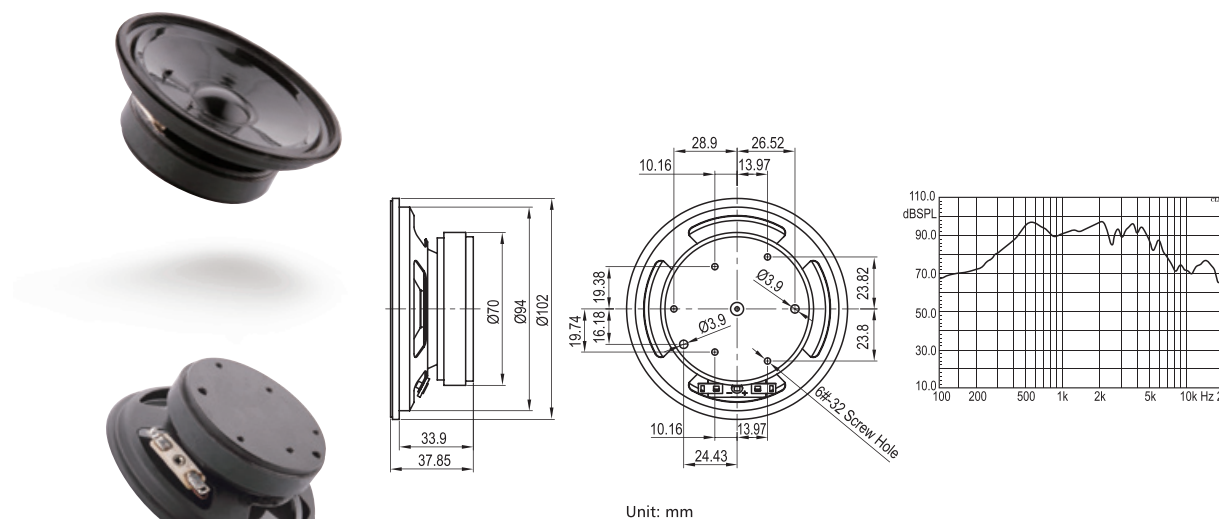


#### • Part Number: SED-57I16-4N2RE-1



Model No.	Dimension	Rated Impedance	Power Rating		Min SPL Normal Power Input /3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-57I16-4N2RE-1	57*16(mm)	4Ω±15%	2 W	3 W	75dB	520Hz±20%	400Hz-4k	31g

#### • Part Number: SED-100R38-8F4R



Model No.	Dimension	Rated Impedance	Power Rating		Min SPL Normal Power Input /3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-100R38-8F4R	102*37.85(mm)	8Ω±15%	4 W	8 W	85dB	520Hz±20%	400Hz-4k	380g





## Automotive Application Speaker

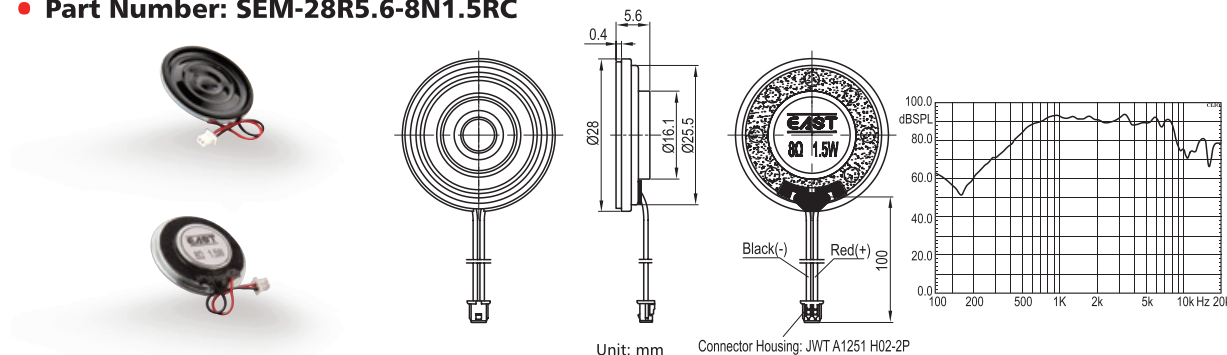
### Technical Characteristics:

1. Meet the automotive temperature standard (-40°C to +85°C)
2. High sensitivity in the range of operating frequency

### Application:

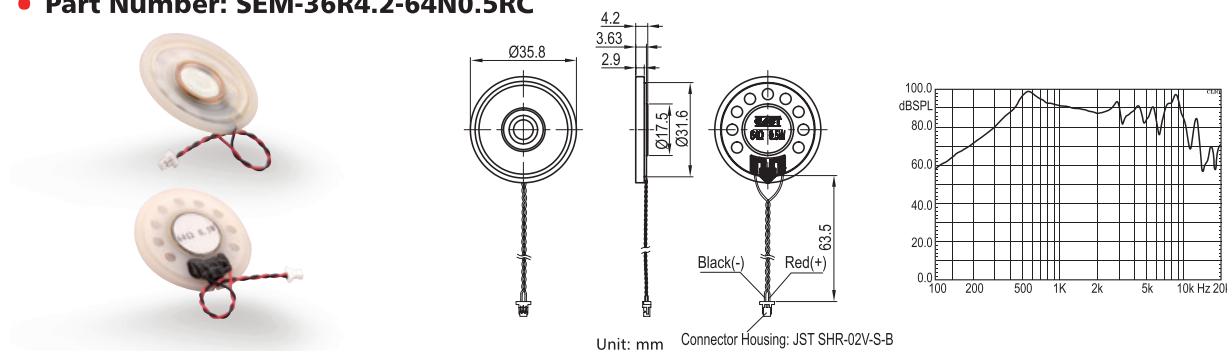
1. Vehicle instrument panel
2. Passive safety product

#### Part Number: SEM-28R5.6-8N1.5RC



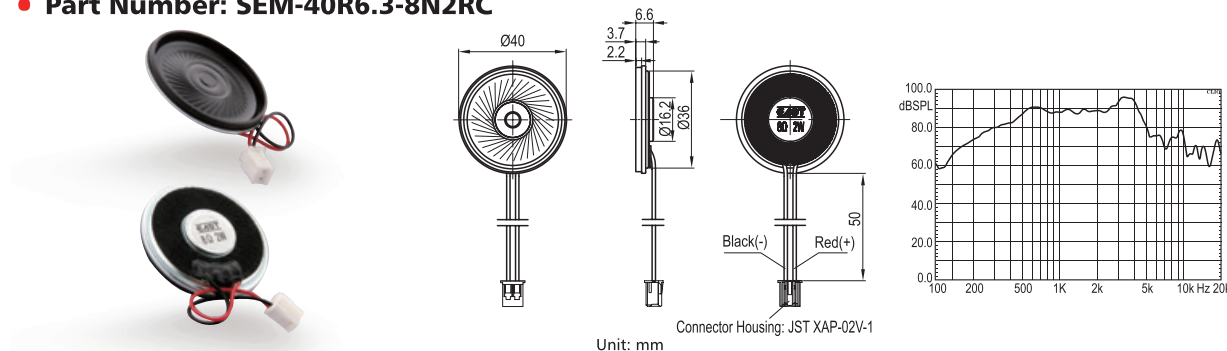
Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-28R5.6-8N1.5RC	28*5.6(mm)	8Ω±15%	1.5 W	2 W	92dB±3	700Hz±20%	F0-10k	9g

#### Part Number: SEM-36R4.2-64N0.5RC



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-36R4.2-64N0.5RC	35.8*4.2(mm)	64Ω±15%	0.5 W	1 W	90dB±3	520Hz±20%	F0-4.5k	6.5g

#### Part Number: SEM-40R6.3-8N2RC



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /1Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-40R6.3-8N2RC	40*6.6(mm)	8Ω±15%	2 W	2.5 W	88dB±3	500Hz±20%	F0-4k	12g

## Home Appliance Speaker



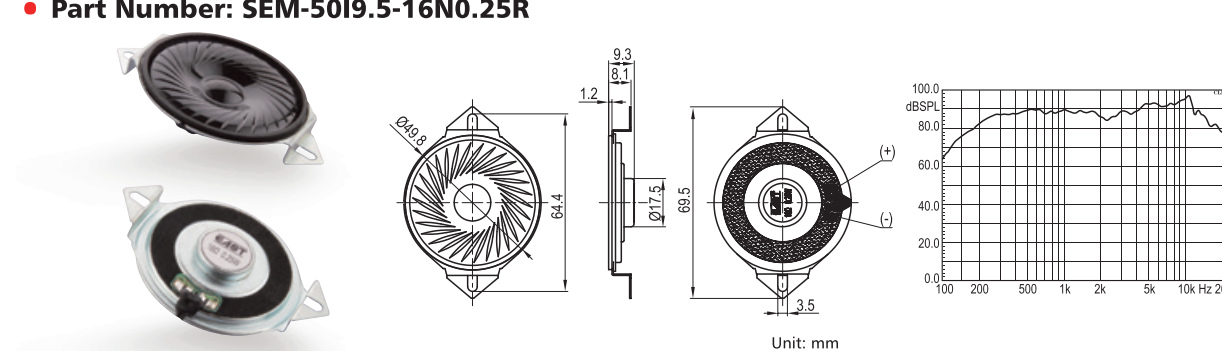
### Technical Characteristics:

1. Wide frequency-response curve
2. Good voice quality, especially in medium frequency range

### Application:

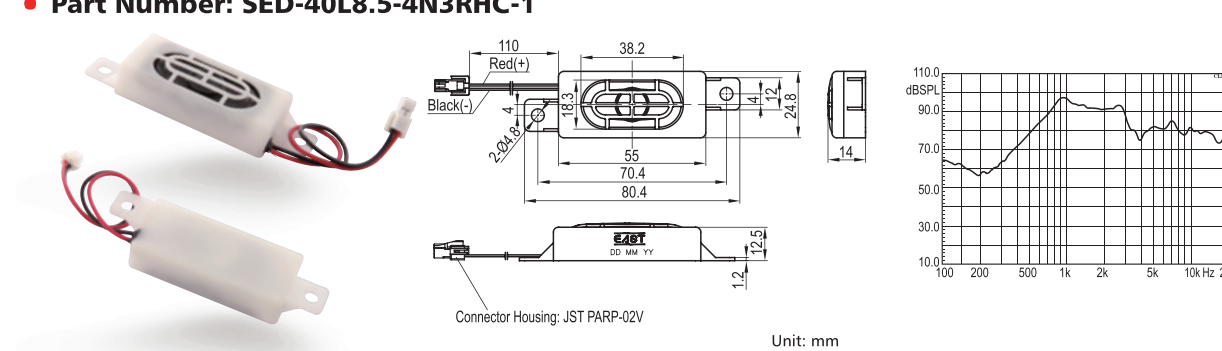
1. Washer, dryer
2. Door monitoring system

#### Part Number: SEM-50I9.5-16N0.25R



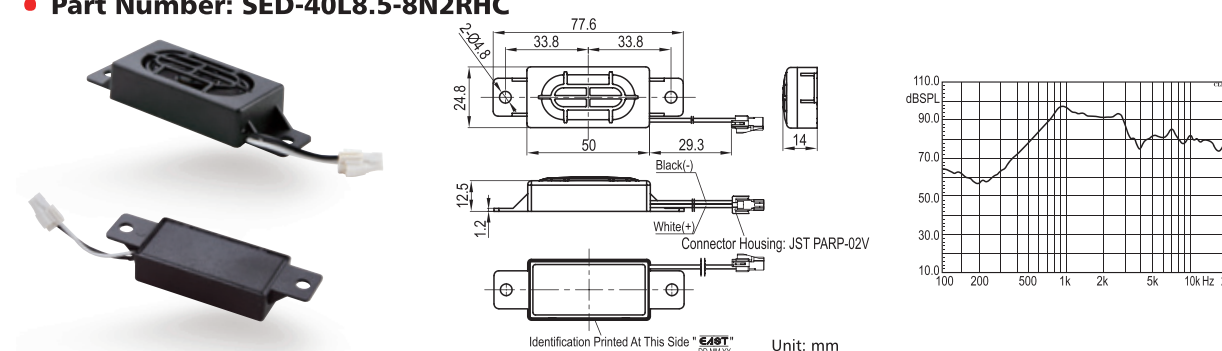
Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.5Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SEM-50I9.5-16N0.25R	49.8*9.3(mm)	16Ω±15%	0.25 W	0.5 W	86dB±3	280Hz±20%	F0-20k	13g

#### Part Number: SED-40L8.5-4N3RHC-1



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-40L8.5-4N3RHC-1	55*24.8*14(mm)	4Ω±15%	3 W	4 W	90dB±3	800Hz±20%	F0-20k	16g

#### Part Number: SED-40L8.5-8N2RHC



Model No.	Dimension	Rated Impedance	Power Rating		SPL Normal Power Input /0.3Meter	Resonant Frequency(F0)	Frequency Range SPL-10dB (Hz)	Weight
			Normal	Max				
SED-40L8.5-8N2RHC	50*24.8*14(mm)	8Ω±15%	2 W	2.5 W	90dB±3	800Hz±20%	F0-20k	14g