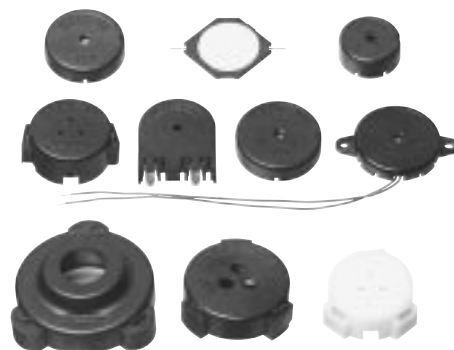


Piezoelectric Sounders

Type: **EFBR**□/□**A**□/□**B**□

Piezoelectric Sounders consisting of piezoelectric diaphragms enclosed in a housing, is designed to obtain an efficient acoustic effect and convenient mounting.

The units are suitable for mounting on P.C. board.



■ Features

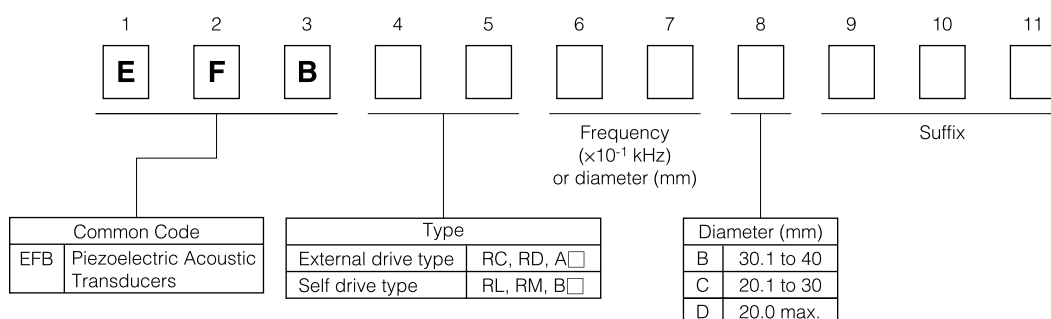
- Low power consumption
- Long life and no-noise
- No magnetic field is generated
- Thin in thickness and space saving
- High sound pressure level
- Covering wide frequency range

■ Recommended Applications

- Home electric equipment
- OA equipment, calculator, camera
- Alarm (Gas leakage detector, smoke detector)
- Telephone ringer

■ Precautions for Safety (See Page 252)

■ Explanation of Part Numbers



①2-terminal, External Drive Type

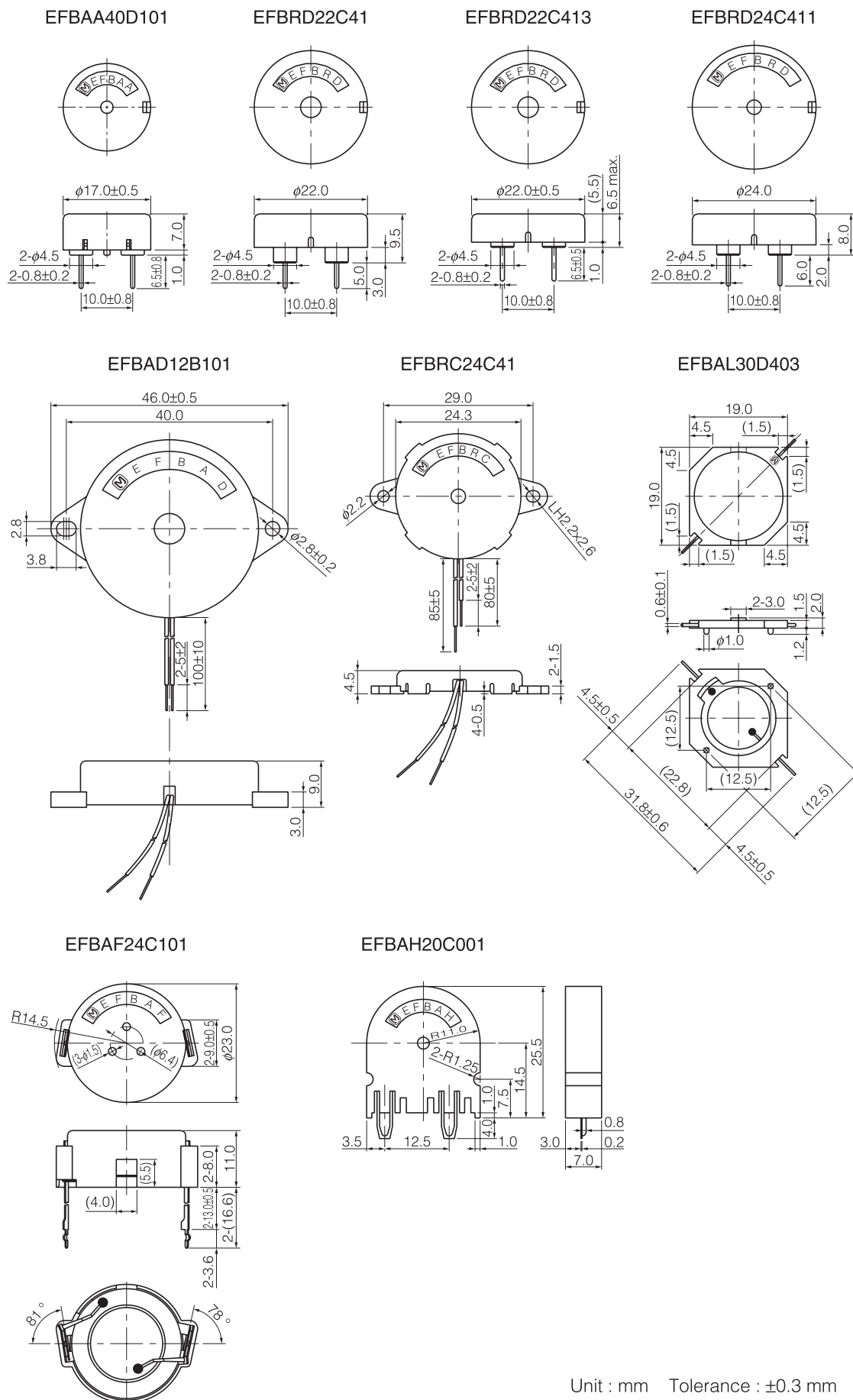
■ Ratings and Characteristics

Part No.	Sound Pressure Level (Measuring conditions)	Capacitance (pF) (Reference)	Maximum Input Voltage
EFBAA40D101	80 dB min. (15 Vp-p, 4 kHz Square wave, 10 cm)	(8300)	25 Vp-p
EFBRD22C41	85 dB min. (15 Vp-p, 4 kHz Square wave, 10 cm)	(15000)	30 Vp-p
EFBRD22C413	75 dB min. (10 Vp-p, 4 kHz Square wave, 10 cm)	(15000)	
EFBRD24C411	85 dB min. (15 Vp-p, 4 kHz Square wave, 10 cm)	(10000)	
EFBAD12B101	80 dB min. (10 Vp-p, 1 kHz Square wave, 10 cm)	(40000)	
EFBRC24C41	75 dB min. (3 Vp-p, 4 kHz Square wave, 10 cm)	(12000)	
EFBAF24C101	88 dB min. (15 Vp-p, 2.5 kHz Square wave, 10 cm)	(24000)	
EFBAH20C001	80 dB min. (10 Vp-p, 2 kHz Square wave, 10 cm)	(21000)	25 Vp-p
EFBAL30D403	73 dB min. (15 Vp-p, 3 kHz Square wave, 5 cm)	(13000)	

- Operating Temperature Range : -10 to 60 °C
- Storage Temperature Range : -20 to 70 °C

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

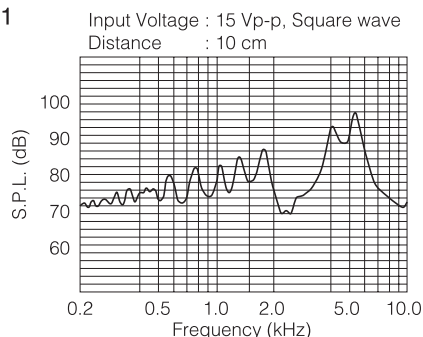
■ Dimensions in mm (not to scale)



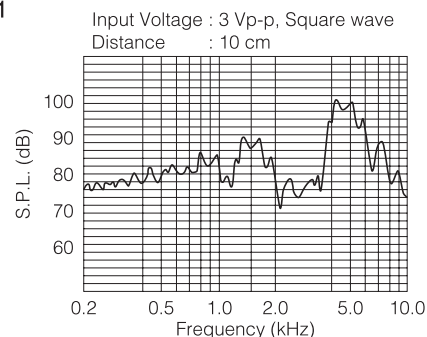
Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

■ Typical Characteristics

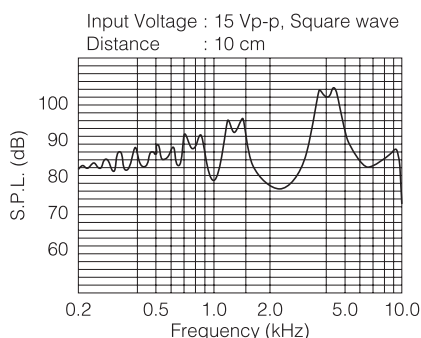
EFBAA40D101



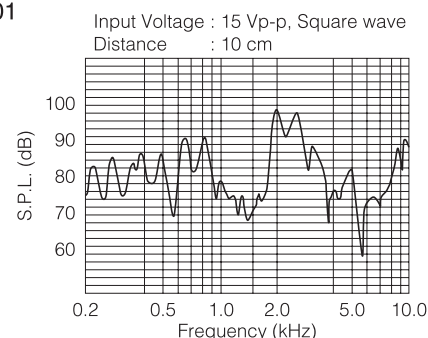
EFBRC24C41



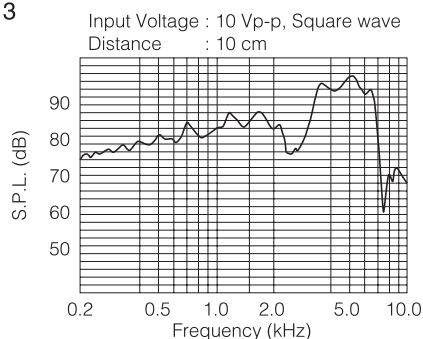
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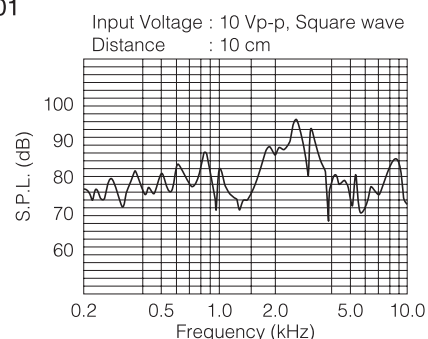
EFBAF24C101



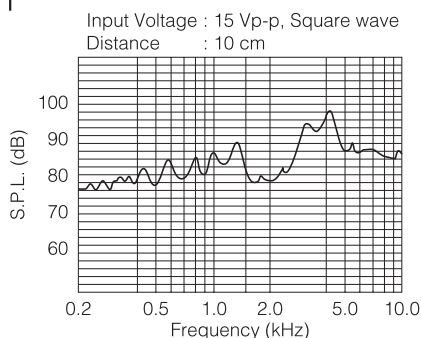
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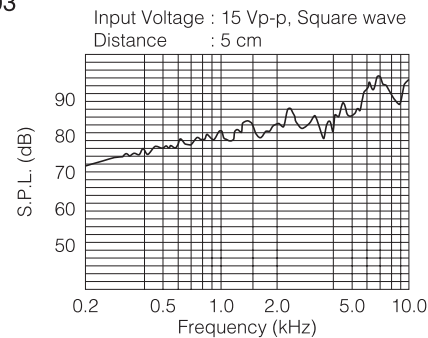
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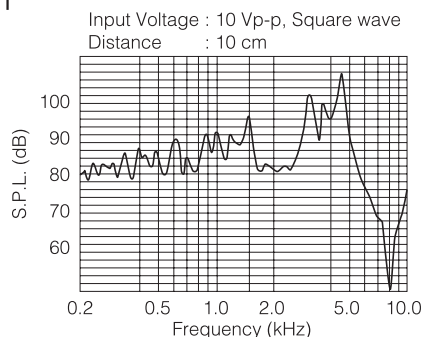
EFBRD24C411



EFBAL30D403



EFBAD12B101

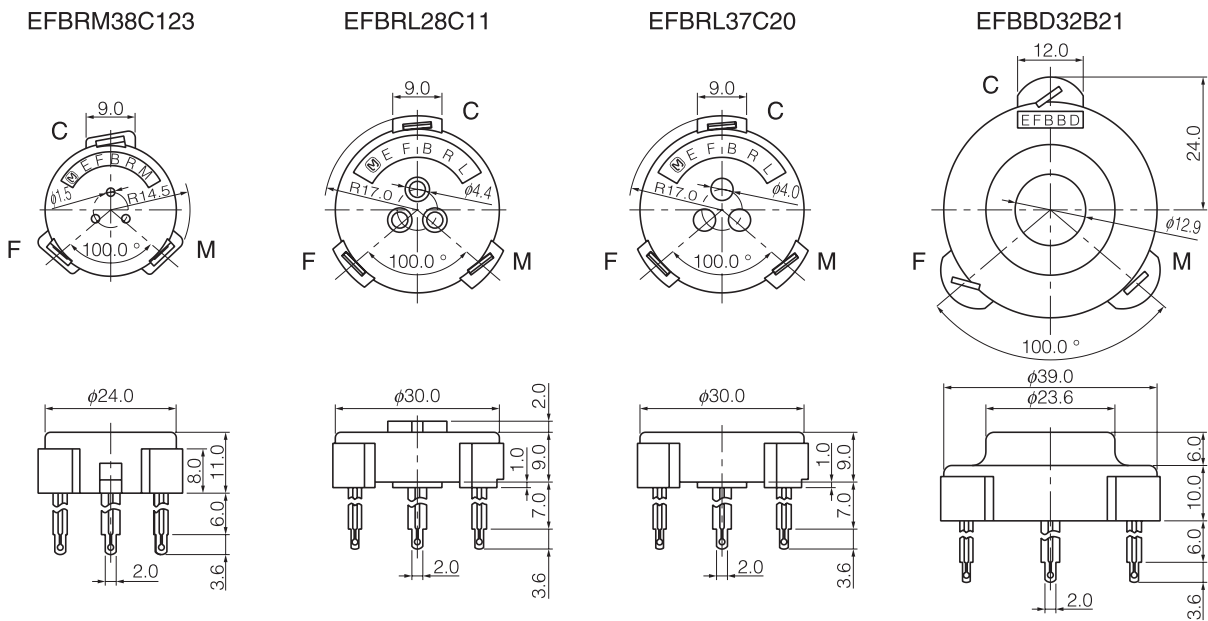


②2-terminal, External Drive Type
■ Ratings and Characteristics

Part No.	Sound Pressure Level (Measuring conditions)	Oscillation Frequency (kHz)	Maximum Input Voltage
EFBRM38C123	90 dB min. (15 VDC, 10 cm)	3.5 ± 0.6	Cf. test circuit diagram below
EFBRL28C11	100 dB min. (12 VDC, 5 cm)	2.8 ± 0.4	
EFBRL37C20	106 dB min. (12 VDC, 5 cm)	3.9 ± 0.5	
EFBBD32B21	106 dB min. (12 VDC, 10 cm)	3.2 ± 0.3	

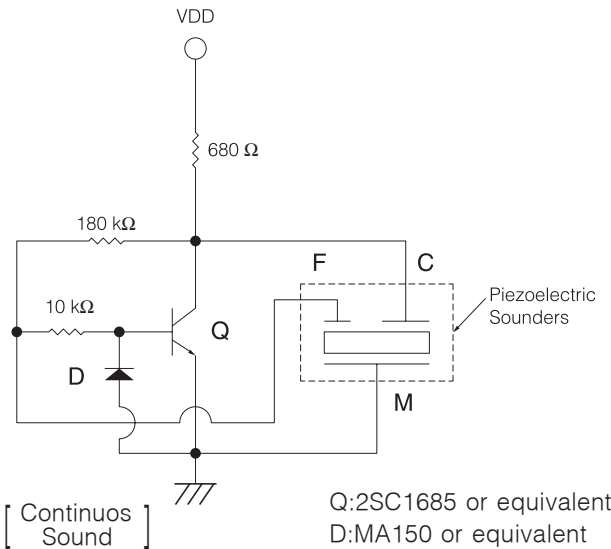
- Operating Temperature Range : -10 to 60 °C
- Storage Temperature Range : -20 to 70 °C
- Maximum Input Voltage : 30 Vp-p (between C and M)

■ Dimensions in mm (not to scale)

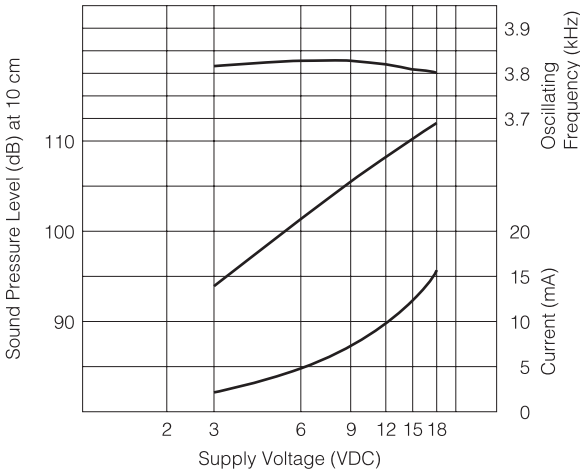


Unit : mm Tolerance : ±0.3 mm

■ Test Circuit



■ Typical Characteristics
EFBRL37C20



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