



### ◆ MAJOR USES

- Noise filter for power source and automotive electrical unit

### ◆ FEATURES

- Low D.C. resistance due to the lead wire going through the core
- Use of a Fe-base amorphous core for excellent operational stability at high temperatures
- Automotive grade models
- Significantly improved safety and reliability because layer short circuits will not occur and because the leakage magnetic flux is extremely small

### ◆ GENERAL SPECIFICATION

| Items                                     | SM Series       |
|---|-----------------|
| Operating temperature range* <sup>1</sup> | -40 to 130°C    |
| Storage temperature range                 | -40 to 130°C    |
| Operating humidity range                  | 20 to 95%RH     |
| Storage humidity range                    | 20 to 80%RH     |
| Operating frequency range* <sup>2</sup>   | 20kHz to 500kHz |
| Insulating Type (Housing case)            | Type F (155°C)  |
| Incombustibility (Housing case)           | UL94V-0         |

\*<sup>1</sup> Temperature on the coil surface including the temperature rise in installation. Never use the coil at a temperature exceeding the rated temperature range.

\*<sup>2</sup> Recommended range. When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

### ◆ COIL STANDARD SPECIFICATIONS

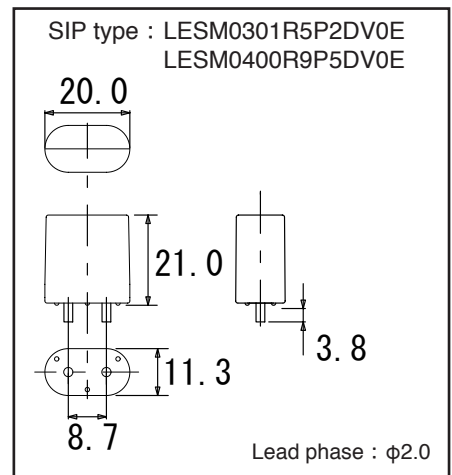
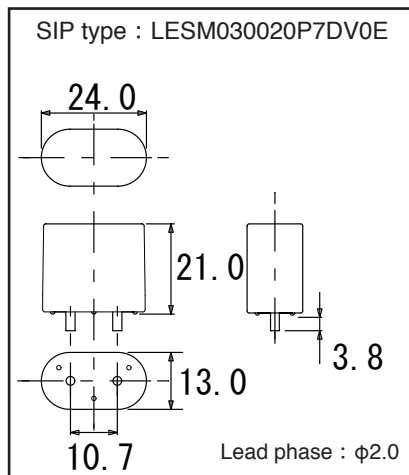
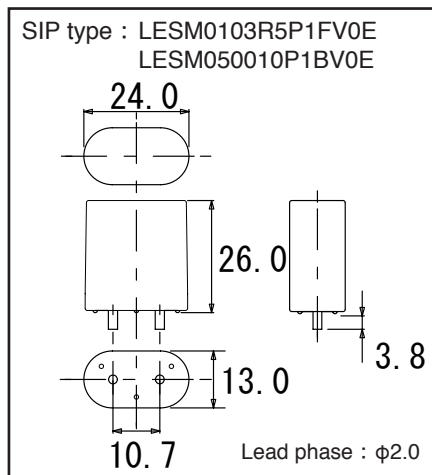
| Coil Part No.<br>(Old Coil Part No.) | Rated Current<br>A | Inductance (20kHz) |              | D.C.R.<br>mΩ<br>(max) | Outside Dimensions |         |         |
|--------------------------------------|--------------------|--------------------|--------------|-----------------------|--------------------|---------|---------|
|                                      |                    | 0[A]<br>μH         | Rating<br>μH |                       | ℓ<br>mm            | w<br>mm | h<br>mm |
| LESM0103R5P1FV0E<br>(SM103R5P1FPBF)  | 10                 | 3.7                | 3.5          | 0.40                  | 24.0               | 13.0    | 26.0    |
| LESM0301R5P2DV0E<br>(SM301R5P2DPBF)  | 30                 | 2.3                | 1.3          | 0.36                  | 20.0               | 11.3    | 21.0    |
| LESM030020P7DV0E<br>(SM30020P7DPBF)  | 30                 | 2.2                | 1.9          | 0.40                  | 24.0               | 13.0    | 21.0    |
| LESM0400R9P5DV0E<br>(SM400R9P5DPBF)  | 40                 | 1.5                | 0.9          | 0.36                  | 20.0               | 11.3    | 21.0    |
| LESM050010P1BV0E<br>(SM50010P1BPBF)  | 50                 | 2.4                | 1.2          | 0.40                  | 24.0               | 13.0    | 26.0    |

\* The inductance at current 0[A] indicates the reference value.

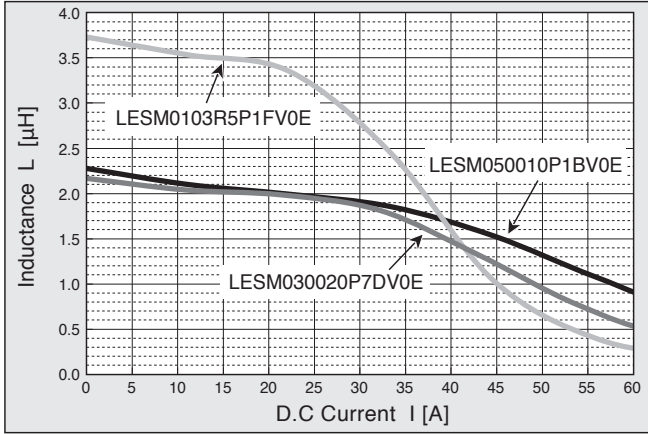
\* When using the product for automobiles, check with our representative about the usage conditions and other details before using the product.

Note that the rated current refers to the current that flows under the rated inductance condition. Be sure to use the product below the maximum operating temperature.

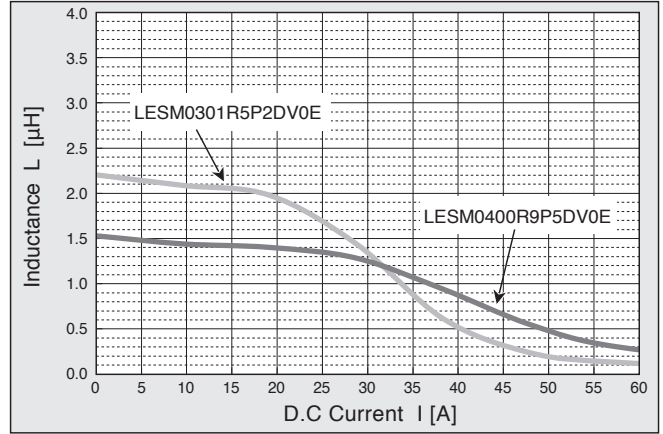
### ◆ STANDARD DIMENSION DIAGRAM (mm)



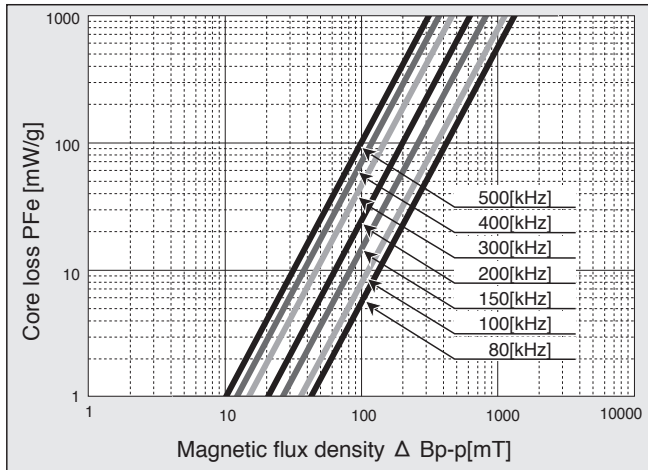
◆ D.C. BIAS CHARACTERISTICS (1)



◆ D.C. BIAS CHARACTERISTICS (2)



◆ CORE LOSS CHARACTERISTICS



◆ FREQUENCY - INDUCTANCE CHARACTERISTICS

