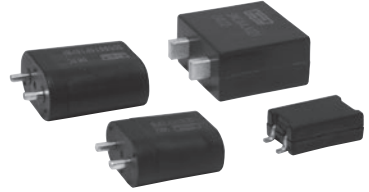


Automotive grade models **SM** Series / **SM** Series



◆ MAJOR USES

- Normal mode choke coils for noise/ripple control
- Choke coils for DC-DC converters
- Output choke coils for Switching Mode Power Supply

◆ FEATURES

- Feedthrough core with a single-turn lead wire for remarkably small D.C. resistance (0.3 mΩ*)
- Minimum device thickness of 6.8 mm with high D.C. rated current (100 A*)
- Use of a Fe-base amorphous core for excellent operation stability at high temperatures
- Automotive grade SM series models are now available (* The minimum and maximum values, respectively, within all our product series)
- Significantly improved safety and reliability because layer short circuits will not occur and because the leakage magnetic flux is extremely small
- Preparation of both SMD and SIP types

◆ GENERAL SPECIFICATION

Upgrade!

Items	Automotive grade SM series models	SM Series
Operating temperature range*1	-40 to 150°C	-40 to 130°C
Storage temperature range	-40 to 150°C	-40 to 130°C
Operating humidity range	20 to 95%RH	
Storage humidity range	20 to 80%RH	
Operating frequency range*2	20kHz to 500kHz	
Insulating Type (Housing case)	Type F (155°C)	Type B (130°C)
Incombustibility (Housing case)	UL94V-0	

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

*2 Recommended range. When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

Automotive grade models **SM** Series

Upgrade!

◆ COIL STANDARD SPECIFICATIONS

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

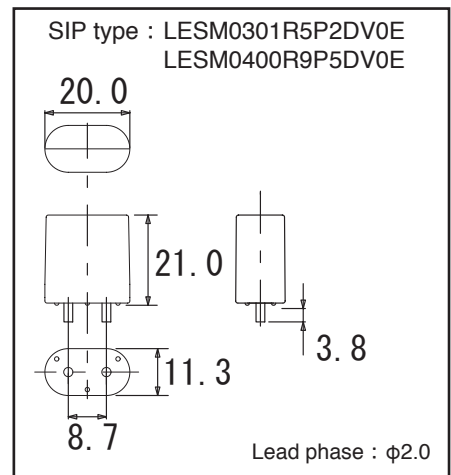
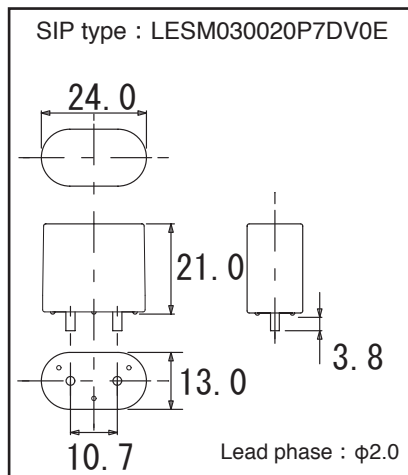
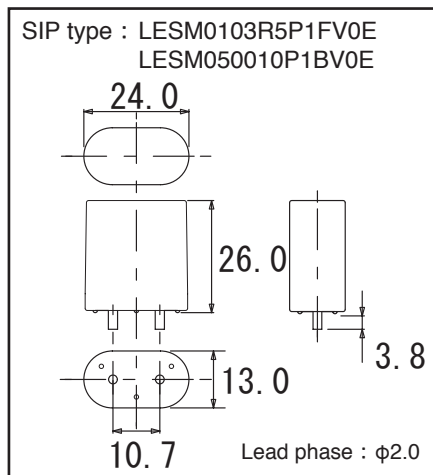
* The inductance at current 0[A] indicates the reference value.

* Before using Automotive grade models, contact our sales representatives for information about operating conditions, etc.

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.

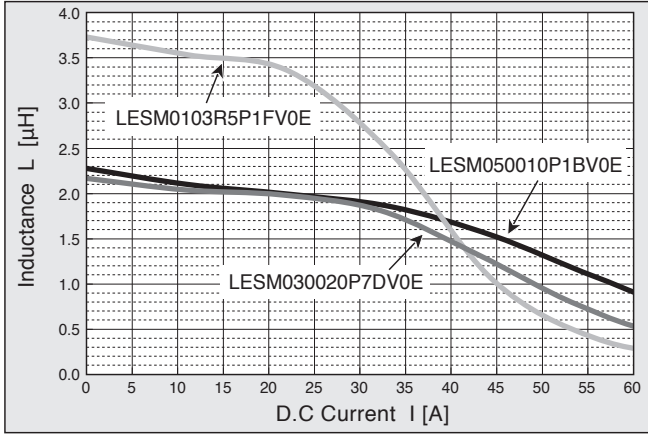
* Automotive grade models can be used in systems that run on a normal power supply.

◆ STANDARD DIMENSION DIAGRAM (mm)

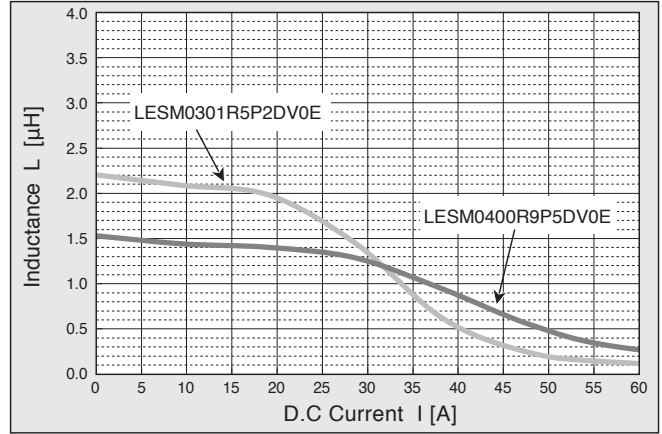


Automotive grade models **SM** Series Upgrade!

◆D.C. BIAS CHARACTERISTICS (1)



◆D.C. BIAS CHARACTERISTICS (2)



SM Series

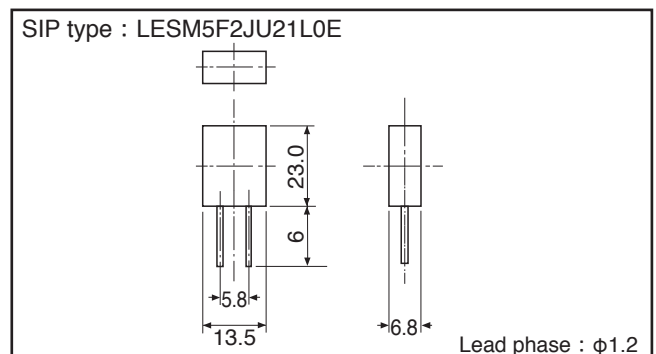
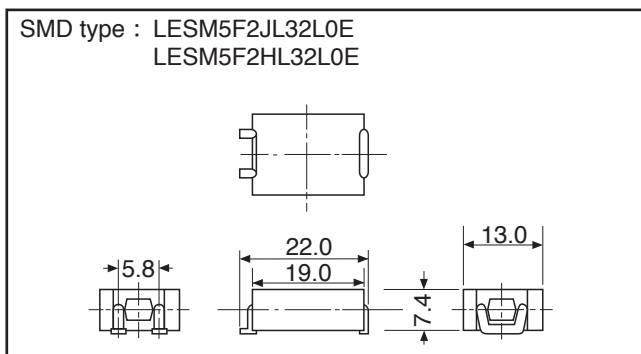
◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance*		D.C.R. mΩ (max)	Mounting Direction	Outside Dimensions		
		0[A] μH	Rating μH			φ mm	w mm	h mm
LESM5F2JU21L0E (SM5F2JU21PBF)	10	4.8	2.6	1.0	Vertical	13.5	6.8	23.0
LESM5F2JL32L0E (SM5F2JL32PBF)	10	4.8	2.6	1.0	Horizontal	22.0	13.0	7.4
LESM5F2HL32L0E (SM5F2HL32PBF)	20	1.2	0.9	1.0	Horizontal	22.0	13.0	7.4
LESMCA4HU21L0E (SMCA4HU21PBF)	30	3.5	2.2	0.3	Vertical	27.7	14.0	25.9
LESMBA2HU21L0E (SMBA2HU21ZPBF)	35	1.2	0.9	0.3	Vertical	18.9	13.9	26.5
LESMCA4JU21L0E (SMCA4JU21PBF)	70	1.6	0.9	0.2	Vertical	27.7	14.0	25.9

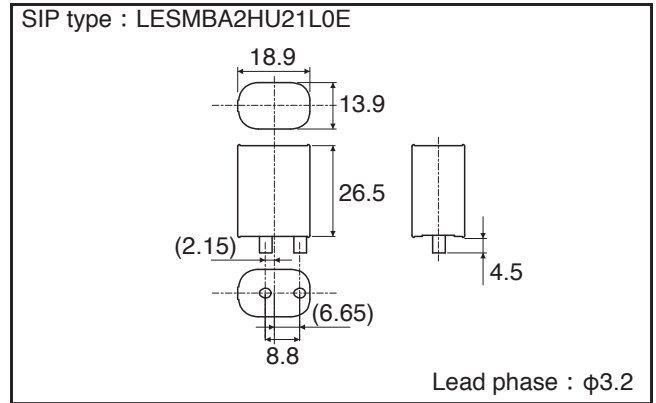
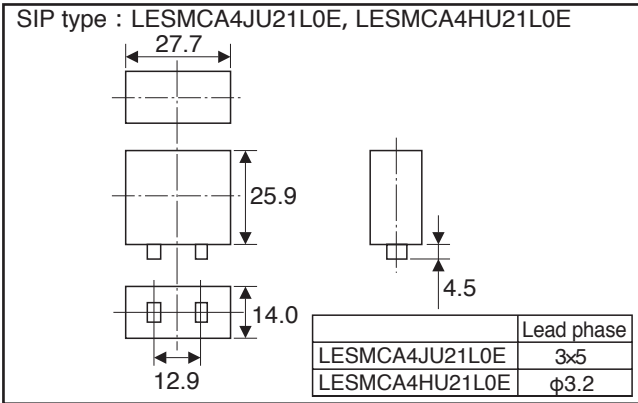
*The inductance at current 0[A] indicates the reference value.

*Inductance measurement condition: 200kHz for LESMCA4HU21L0E and LESMBA2HU21L0E, 100kHz for other models

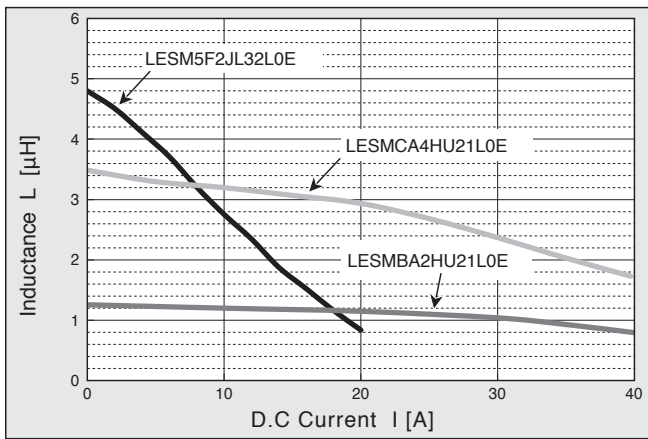
◆STANDARD DIMENSION DIAGRAM (mm)



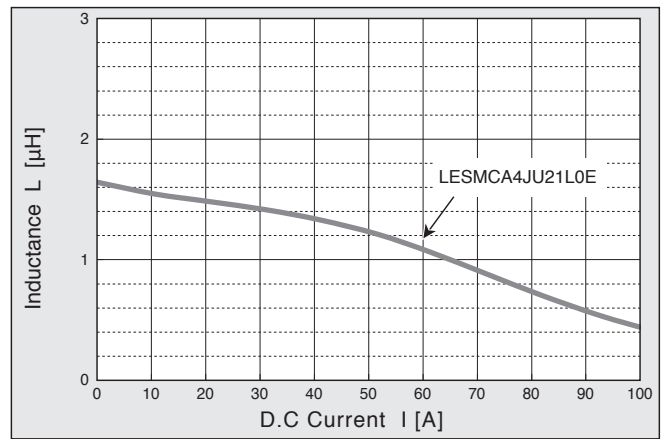
Lead phase : φ1.2



◆D.C. BIAS CHARACTERISTICS (3)

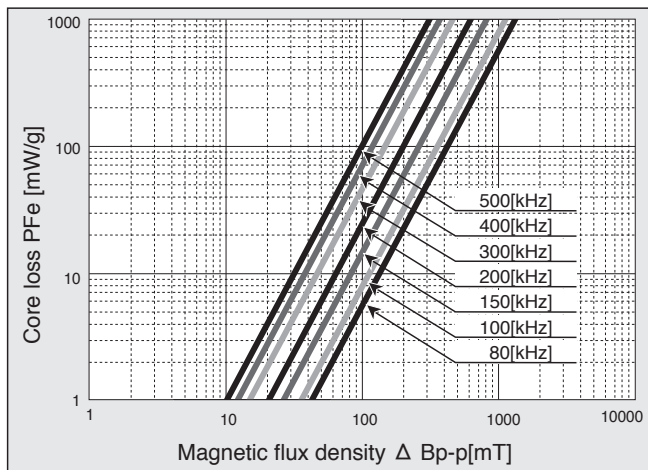


◆D.C. BIAS CHARACTERISTICS (4)



Automotive grade models **SM** ^{Upgrade!} Series / **SM** Series

◆CORE LOSS CHARACTERISTICS



◆FREQUENCY - INDUCTANCE CHARACTERISTICS

