


# Electric Power Steering (EPS) Common Mode Choke



## HA19 Series

### Features:

- Operating temperature range -40°C to +125°C
- Rated current up to 44 amps
- Ambient temperature, maximum +85°C
- Temperature rise, maximum 40°C
- Reduces line conducted interference
- Low loss ferrite core
- Proven performance in maintaining transmission signal integrity
- Excellent performance in rugged environments
- RoHS compliant
- AEC-Q200 certified

 All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)



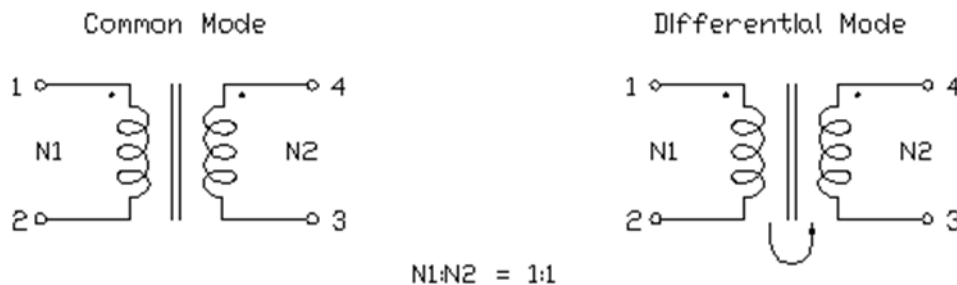
### Description:

The HA19 common mode choke is designed specifically for noise suppression applications found in the growth and expansion of new generation vehicles such as electric vehicles (EVs) and plug-in hybrid vehicles (PHVs). The HA19 series offer high efficiency and excellent current handling in a rugged construction. It is mechanically robust and features low DC resistance and low temperature rise performance. HA19 is ideal for high efficiency electric power steering EMI applications where size and AEC-Q200 certification is critical.

### Applications:

- Ideal for high frequency EPS noise suppression applications
- Transportation
  - Electric Power Steering
  - Electronic Control Units
  - Engine Control
  - Transmission Control
- Industrial
  - Switch Mode Power Supply
  - DC/DC Converters

### Schematic



#### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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# EPS Common Mode Choke

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### Specifications @ 25°C

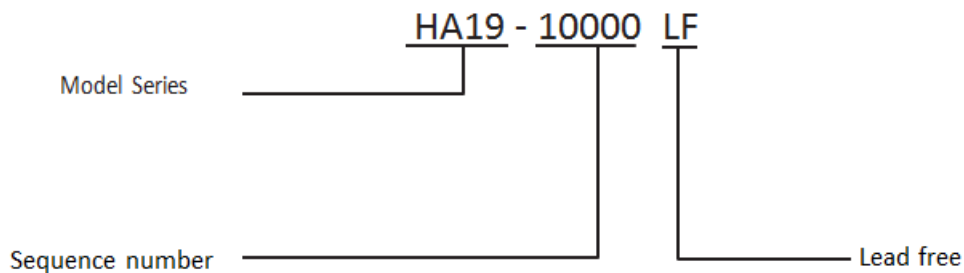
Part Number	Inductance (1-2 or 4-3) $\mu$ H Min.	Rated Current Amps Typ.	DC Resistance (1-2 or 4-3) m $\Omega$ Max.	Leakage Inductance ( $\mu$ H) Min.	Figure
HA19-10000LF	75.0	26.5	1.70	0.90	1
HA19-20000LF	75.0	28.0	1.30	0.90	1
HA19-30000LF	11.0	44.0	1.00	0.07	2
HA19-40000LF	84.6	28.5	1.40	0.65	3

- Notes:
- (1) Inductance and leakage inductance are measured at 10kHz, 0.1Vrms.
  - (2) Rated current is the approximate DC current at which DT is 40°C. Part temperature should be verified in the end application. The part temperature (ambient plus temperature rise) should not exceed 125°C under worst case operating conditions.
  - (3) Leakage inductance is measured at pin-1-2 with N2 (pin 4-3) winding shorted.

### Packaging

Part Number	One shipping carton
HA19-10000LF HA19-20000LF HA19-40000LF	400pcs
HA19-30000LF	280pcs

### Ordering Information



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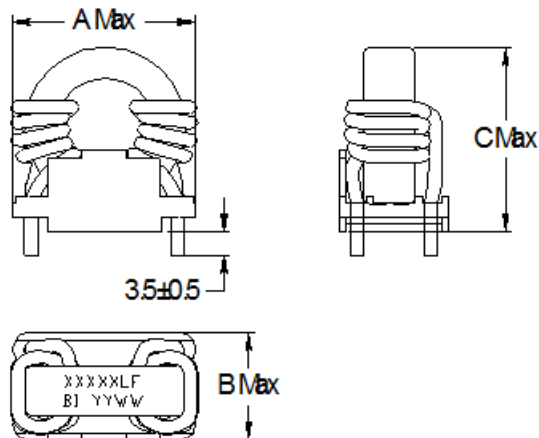
# EPS Common Mode Choke

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### Outline Dimensions (mm)

Figure 1



Recommended PCB layout

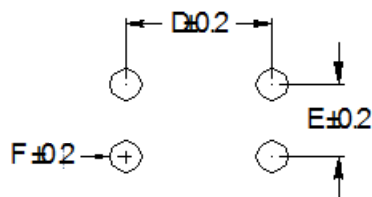
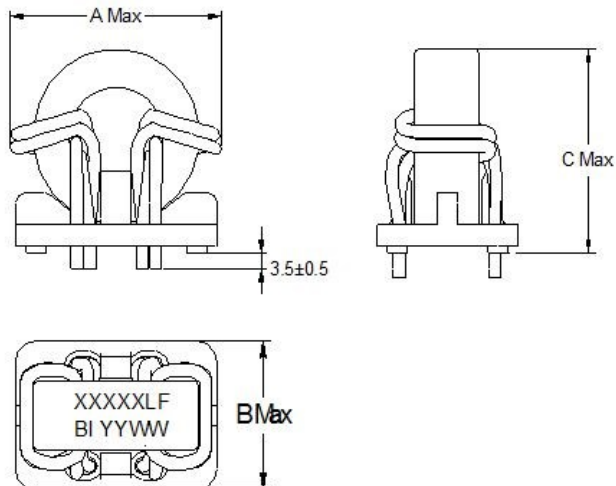
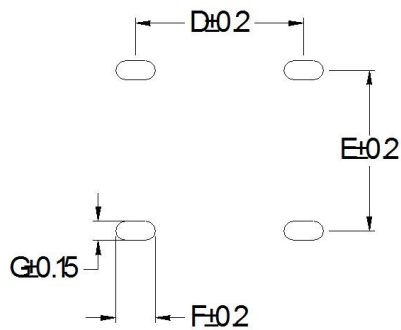


Figure 2



Recommended PCB layout

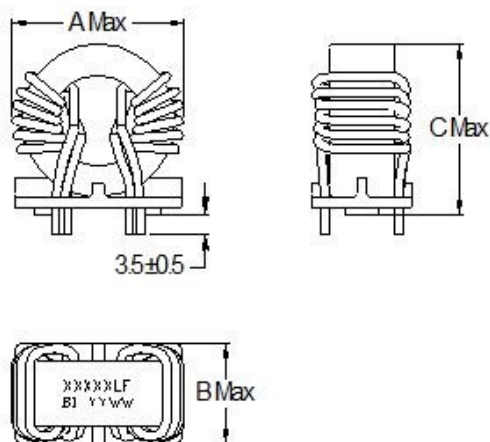


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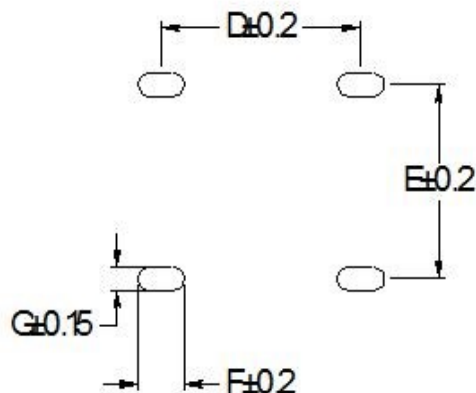
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### Outline Dimensions (mm)

Figure 3



Recommended PCB Layout



Part Number	Figure	A	B	C	D	E	F	G
HA19-10000LF	1	29.4	15.5	26.4	20.3	10.2	2.0	-
HA19-20000LF	1	29.4	15.5	26.4	20.3	10.2	2.2	-
HA19-30000LF	2	23.0	13.0	20.5	6.5	9.5	2.6	1.35
HA19-40000LF	3	27.0	15.5	25.0	11.0	11.0	2.8	1.45

General Note

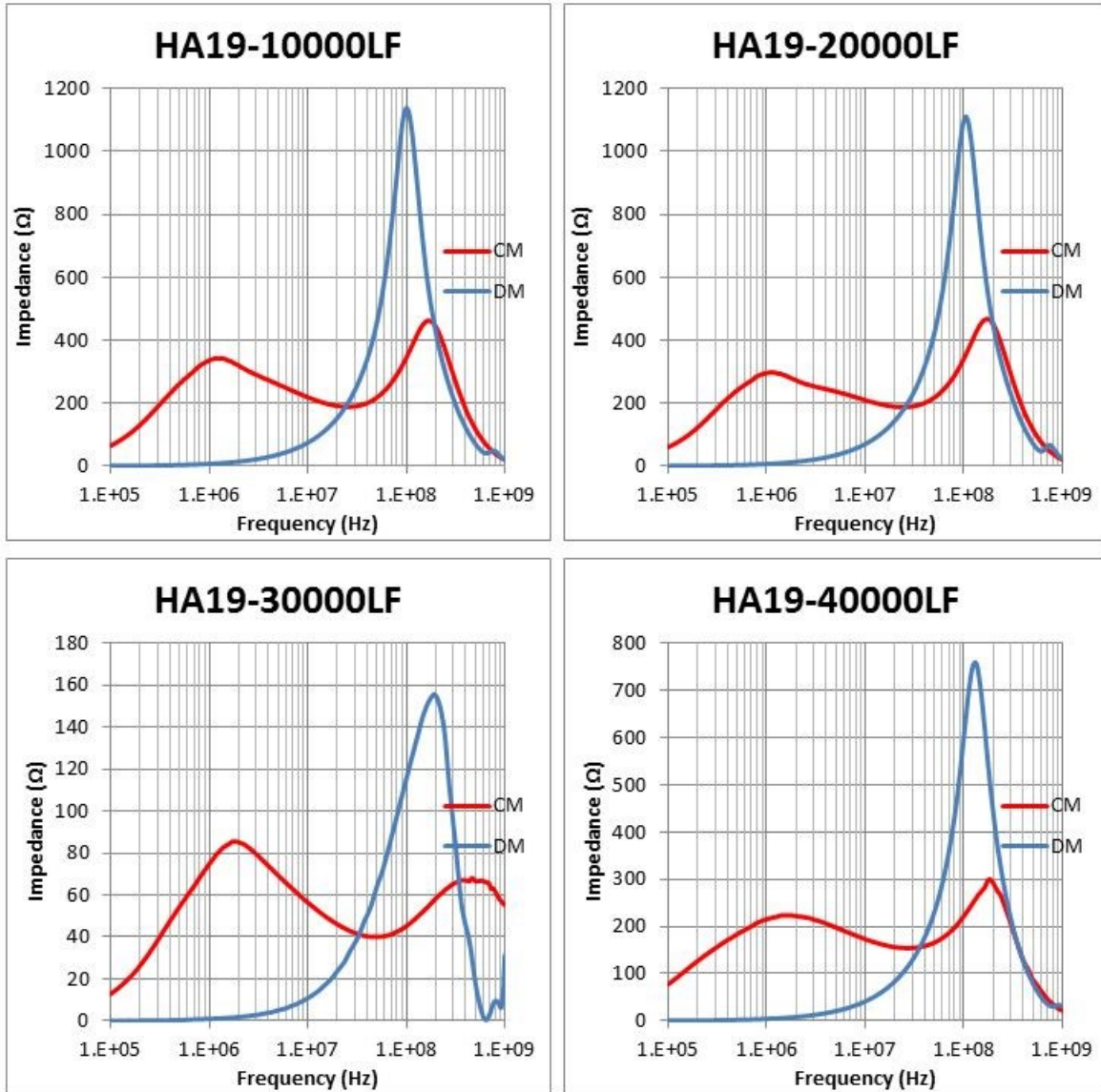
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### Impedance



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