

PM-CMCX5 Series Common Mode Choke

PM-CMCX5 series is part of the **CM Guard Series** of Common Mode Chokes (CMC). The CM Guard Series implements integrated magnetics technology for exceptional electrical performance. Multiple applications benefit from the CM Guard Series due to the versatility in performance and mounting options.

- Multiple options for common mode and differential mode noise attenuation.
- Wide temperature range (-60°C to +155°C).
- Strong winding to winding insulation.
- Low capacitive coupling to core.
- Excellent mechanical stability.
- **Snap-In** Technology to secure parts to PCBs.

Figure 1: SCHEMATIC

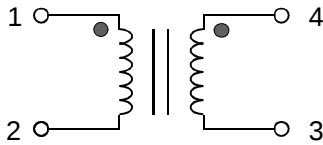


Figure 2: REFERENCE DRAWING

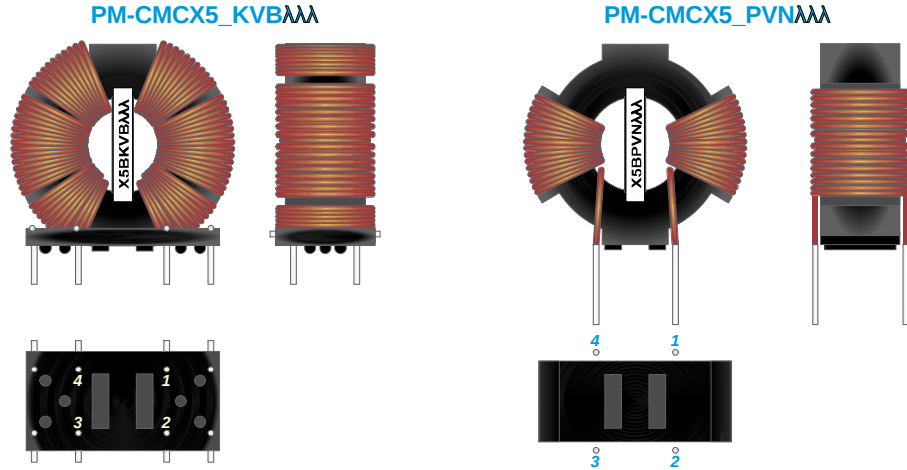


Table 1: PART NUMBER LIST.

PART NUMBER	L_{MIN} (mH)	LL (μH) A	LL (μH) B	I_{DC} (A)	DCR_{MAX} (mΩ)	SRF (MHZ)
PM-CMCX5_K_501	0.5	4.5	8.5	21	8.8	1.20
PM-CMCX5_K_701	0.7	7.0	13	19	10	0.95
PM-CMCX5_K_102	1.0	9.0	17	17	12	0.85
PM-CMCX5_K_302	3.0	25	45	12	21	0.40
PM-CMCX5_K_502	5.0	40	76	10	31	0.30
PM-CMCX5_K_702	7.0	60	110	9.2	38	0.25
PM-CMCX5_K_103	10	87	160	7.5	52	0.20
PM-CMCX5_K_303	30	240	450	4.3	167	0.10
PM-CMCX5_P_501	0.5	5.0	9.0	19	9.0	1.00
PM-CMCX5_P_701	0.7	8.0	14	17	10	0.80
PM-CMCX5_P_102	1.0	11	20	15	13	0.75
PM-CMCX5_P_302	3.0	32	56	11	26	0.40
PM-CMCX5_P_502	5.0	50	86	9.5	32	0.30
PM-CMCX5_P_702	7.0	70	125	7.5	48	0.25
PM-CMCX5_P_103	10	97	170	6.5	66	0.20
PM-CMCX5_P_303	30	300	520	4.0	180	0.10

NOTES:

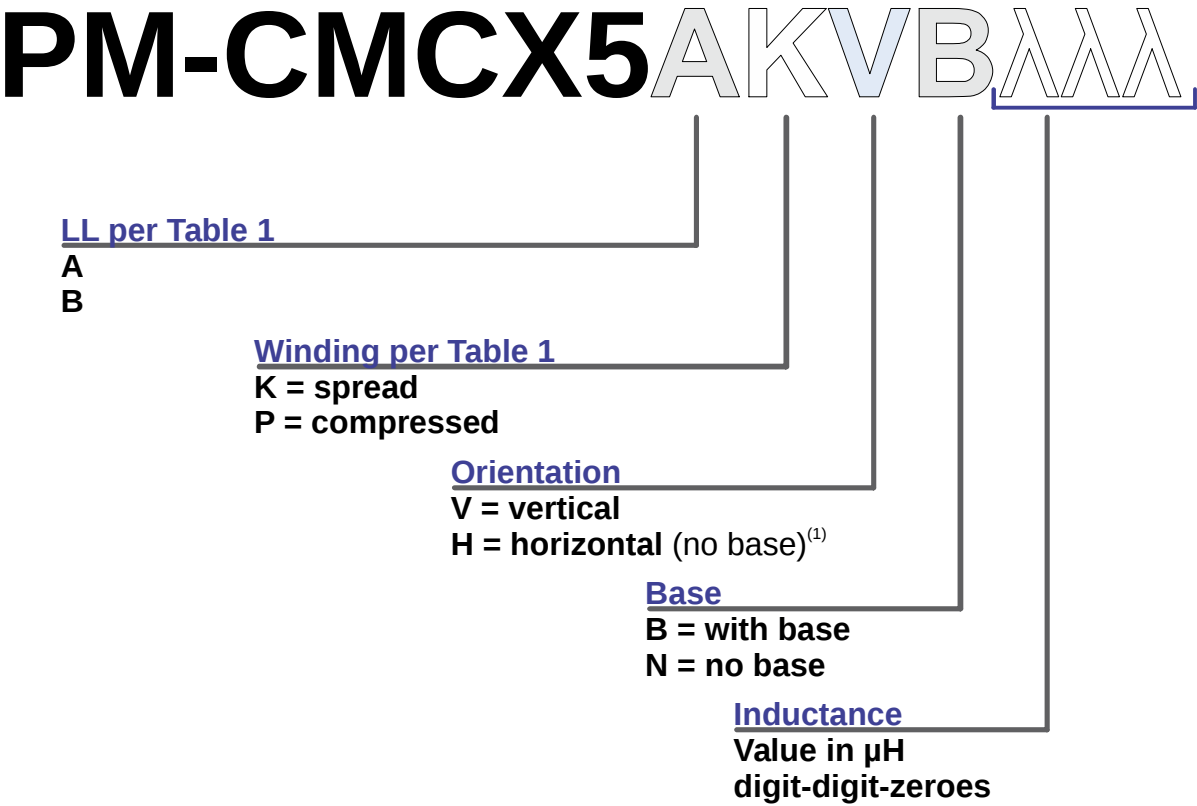
- 1) SRF is TYP.
- 2) I_{DC} is the TYP current that causes a temperature rise of 70°C.
- 3) Thermal resistance $R_{TH} \approx 11^\circ\text{C/W}$ (PM-CMCX5_K) and $R_{TH} \approx 12^\circ\text{C/W}$ (PM-CMCX5_P).
- 4) Operating temperature -60°C to +155°C.
- 5) All units comply with EU RoHS Directive requirements.
- 6) All units comply with REACH Regulation requirements.
- 7) All materials per Premier Magnetics UL file #E177139 Insulation System Class F.

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Table 2: ELECTRICAL SPECIFICATIONS 25°C

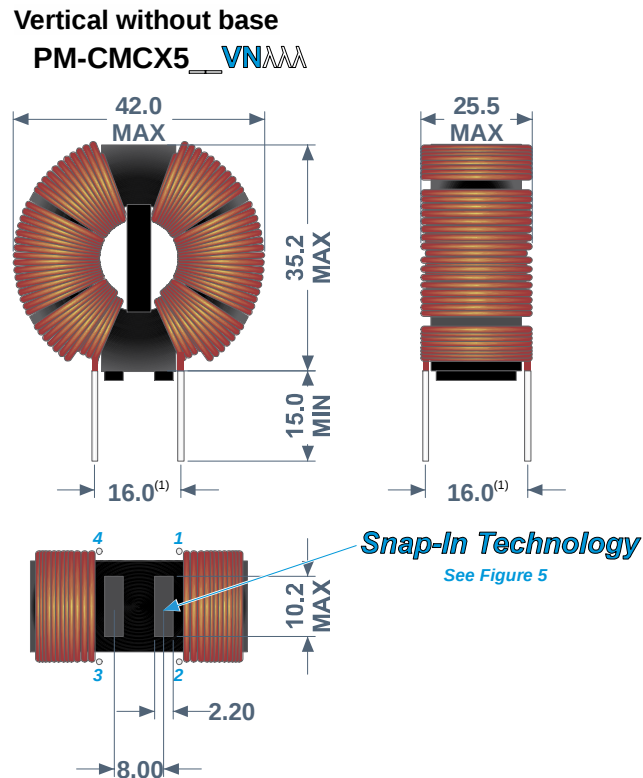
PARAMETERS	TEST CONDITION	MIN	TYP	MAX	UNIT
INDUCTANCE	(1-2); 100mV _{RMS} , 10kHz	Table 1	-	-	mH
LEAKAGE INDUCTANCE	(1-2); 100mV _{RMS} , 10kHz, short 3,4.	-	Table 1	-	μH
DC RESISTANCE	(1-2); (4-3)	-	-	Table 1	mΩ
TURN RATIO	(1-2):(4-3); 100mV _{RMS} , 10kHz	-	1:1	-	±5%
HIPOT	1 to 4; 2.0mA MAX, ramp 1s,dwell 1s.	5000	-	-	V _{RMS}
WEIGHT		-	56	70	g

Figure 3: PART NUMBER



- NOTES:
- 1) If Horizontal orientation is chosen, there is no base available. Part number must be PM-CMCX5__HN.

Figure 4: MECHANICAL SPECIFICATIONS (mm)



Horizontal without base
PM-CMCX5_HN

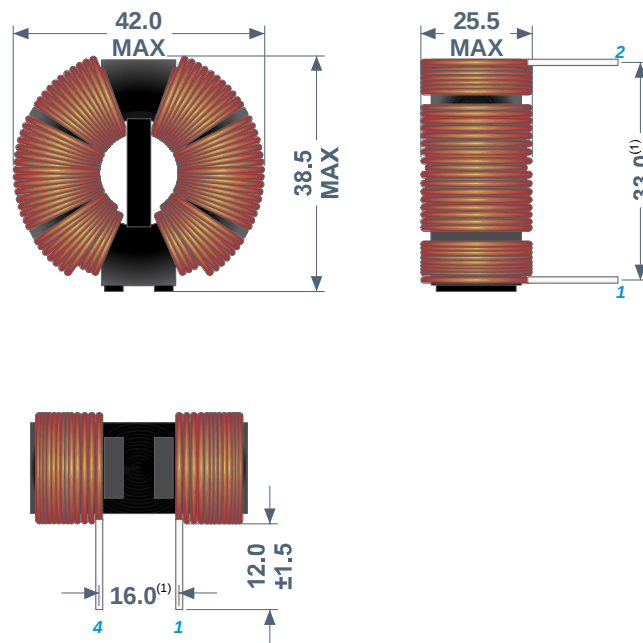
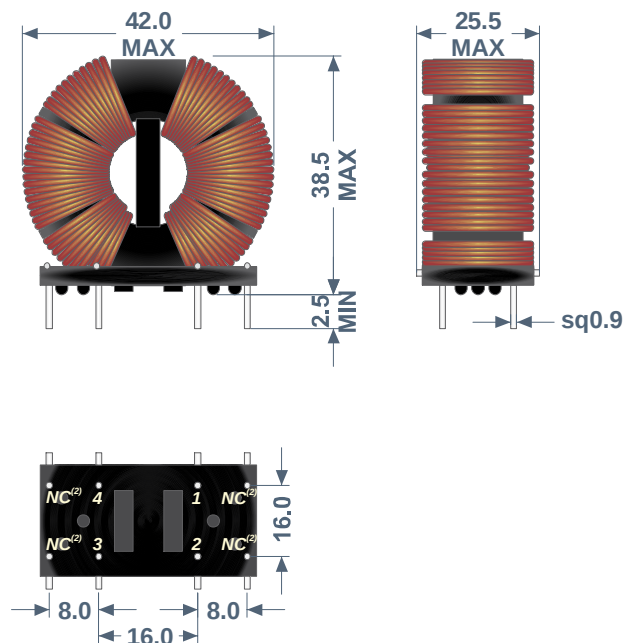


Table 3: LEAD DIAMETER

PART NUMBER	Lead ø (mm)
PM-CMCX5_K_501	1.50
PM-CMCX5_K_701	1.50
PM-CMCX5_K_102	1.30
PM-CMCX5_K_302	1.20
PM-CMCX5_K_502	1.20
PM-CMCX5_K_702	1.00
PM-CMCX5_K_103	1.00
PM-CMCX5_K_303	0.75
PM-CMCX5_P_501	1.50
PM-CMCX5_P_701	1.50
PM-CMCX5_P_102	1.50
PM-CMCX5_P_302	1.30
PM-CMCX5_P_502	1.20
PM-CMCX5_P_702	1.20
PM-CMCX5_P_103	0.95
PM-CMCX5_P_303	0.75

Vertical with base
PM-CMCX5_VB

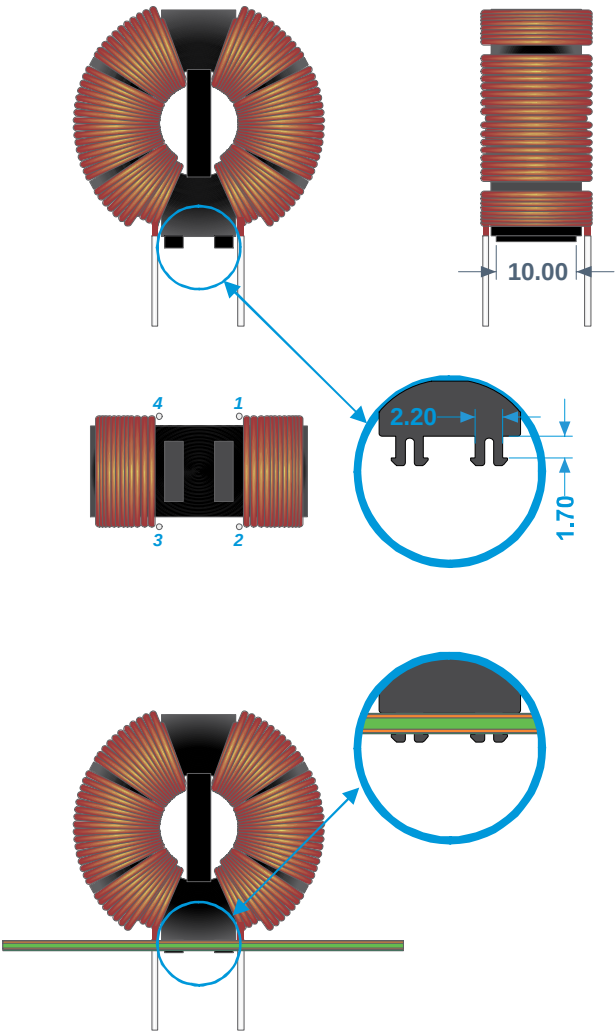


- NOTES:
- 1) Lead spacing is formable.
 - 2) NC means non-connected pins.

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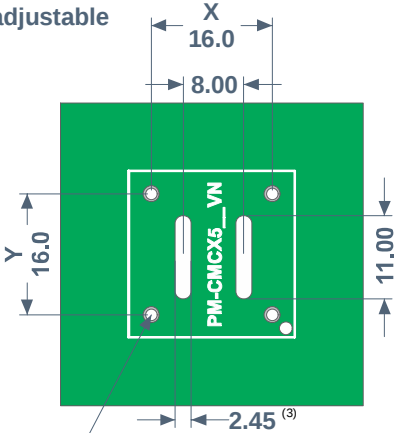
Figure 5: SNAP-IN TECHNOLOGY (mm)

Snap-In Technology™



Suggested PCB Layout

X and Y are adjustable

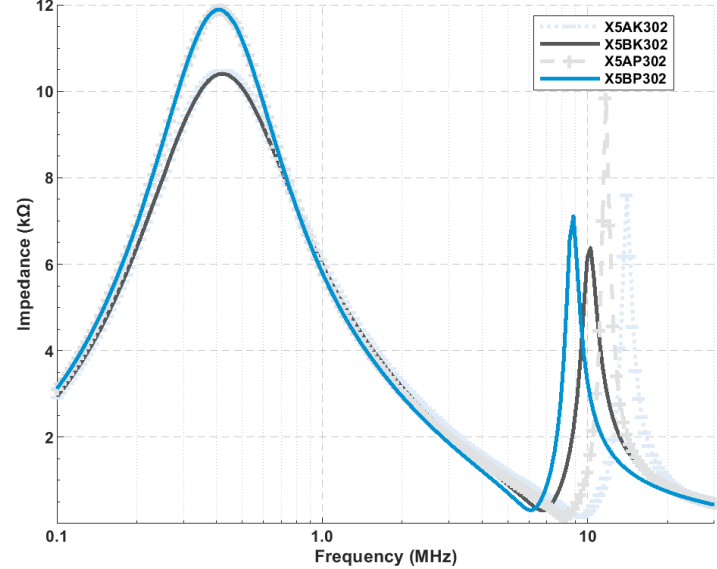


Per Table 2 + 0.8mm

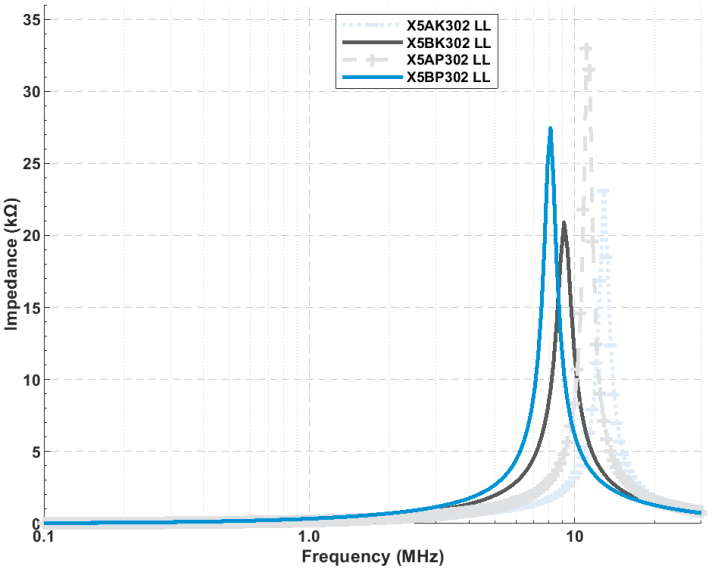
NOTES:

- 1) Suggested layout for reference. Consult with PCB manufacturer and assembly manufacturer as necessary.
- 2) Fits standard PCB thickness 0.062in (1.57mm).
- 3) Work with PCB manufacturer for cutout tolerances.
- 4) Snap-In Technology patent pending.

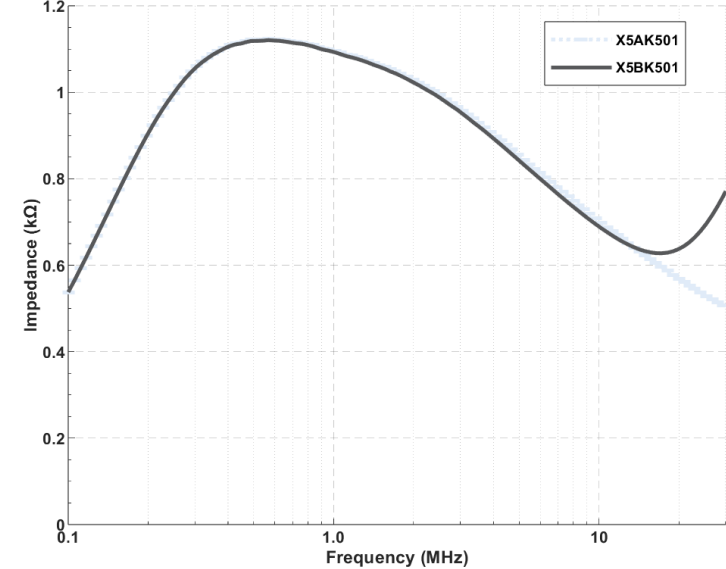
Figure 6: IMPEDANCE vs. FREQUENCY REFERENCE.
 PM-CMCX5_VN302 (CM Impedance)



PM-CMCX5_VN302 LL (DM Impedance)



PM-CMCX5_K501



PM-CMCX5_P303

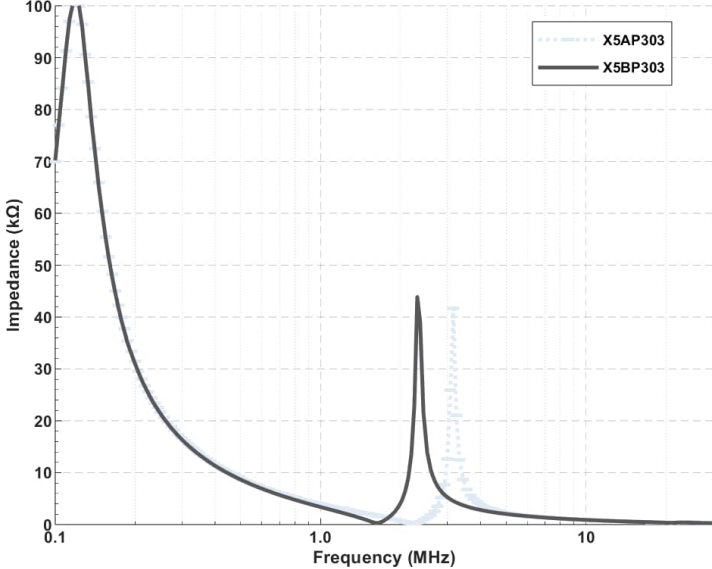


Figure 7: IMPEDANCE vs. TEMPERATURE REFERENCE.

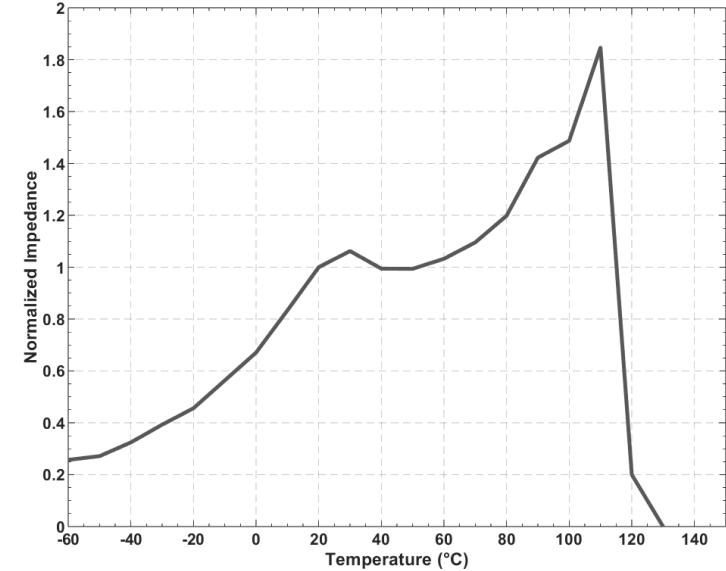
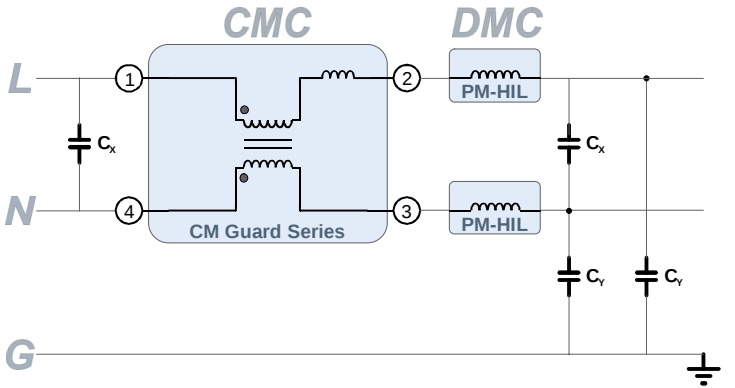


Figure 8: APPLICATION/ INPUT FILTER



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Specifications subject to change without notice.