

Low Profile, Surface Mount Common Mode Chokes

Steward's monolithic surface mount common mode chokes are designed for power and data line EMI filtering where high current, small size or high frequency performance is required. This family of compact ferrite parts provides EMI suppression on conductors such as PC board traces (tracks) and high speed input/output circuitry (including network and storage subsystems). Protected by one or more of the following US patents: 5,455,552 and 5,568,111

Features:

- Monolithic • Compact • High current carrying capability (up to 10 amps continuous) • Excellent ultra-high frequency performance
- Very low DCR to minimize signal distortion • Smaller, lighter and less susceptible to vibration than old-style wire-wound chokes

Applications:

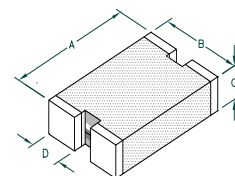
- Filtering DC power on PC boards, especially in applications of greater than 3.0 amps • Filtering common mode EMI on high speed data lines • PCMCIA products • Filtering for Bellcore Telecom applications • Filtering on USB power lines • Disk drives

Test Specifications:

• Maximum current ratings are determined by testing to a maximum temperature rise of 40°C with continuous operating current. • Board level components are rated up to a maximum of 75 volts • Part performance is shown with curves for Common, Open and Normal Mode Impedances measured along two conductors. **Common Mode** Impedance is the impedance of EMI noise conducted in the same direction along two conductors. **Open Circuit** Impedance is the impedance measured across a single leg of the common mode choke. **Normal Mode** Impedance is the total impedance to the differential circuit (both out and back).

Tested with: • Agilent E4991A (1MHz - 3.0 GHz) or HP8753 (to 6 GHz) Network/Spectrum Analyzer • HP43961A Impedance Test Kit • HP16192A Test Fixture or Inter-Continental Microwave custom fixtures • HP16200A DC Bias Adapter • Philips PM2811 DC Power Supply • Ambient Temperature 23.5°C ± 2° • Bandwidth 3 kHz • Sweep Time 423 ms • Impedance is rated at ± 25% @100MHz

Steward PART NUMBERING SYSTEM					
CM	3322	P	400	R	- 00
PRODUCT SERIES CODE	PART SIZE CODE	RATED CURRENT CODE	IMPEDANCE VALUE CODE	PACKAGING CODE	ADDITIONAL DESCRIPTION

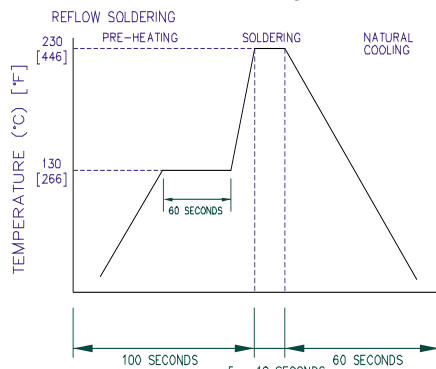


Ambient Operating Temperature Range: -55°C to + 125°C

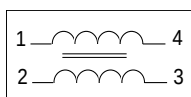
See Curves on Back

PART NUMBER	Fig #	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	IMPEDANCE (Z) TYPICAL OHMS @			Peak Impedance Frequency	DCR MAX (Ω)	RATED I MAX continuous (mA)
						100MHz	500MHz	1GHz			
CM3322P400R-00	1	8.50 ± 0.25 (0.335 ± 0.010)	5.60 ± 0.25 (0.220 ± 0.010)	2.10 ± 0.25 (0.083 ± 0.010)	2.24 ± 0.08 (0.084 ± 0.003)	40	120	180	@ 2 GHz	0.030	4,000
CM3322X630R-00	1	8.50 ± 0.25 (0.335 ± 0.010)	5.60 ± 0.25 (0.220 ± 0.010)	2.84 ± 0.25 (0.112 ± 0.010)	2.24 ± 0.23 (0.088 ± 0.009)	63	110	140	@ 2 GHz	0.008	10,000
CM1922X330R-00	2	4.70 ± 0.25 (0.185 ± 0.010)	5.60 ± 0.25 (0.220 ± 0.010)	2.85 ± 0.25 (0.112 ± 0.010)	2.24 ± 0.23 (0.088 ± 0.009)	33	58	78	@ 2 GHz	0.008	10,000

Recommended Soldering Conditions



Equivalent Circuits



Recommended Land Patterns

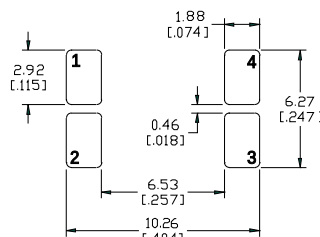


Figure #1

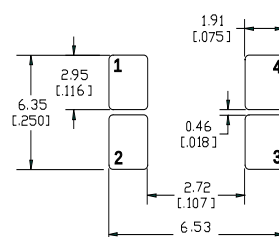
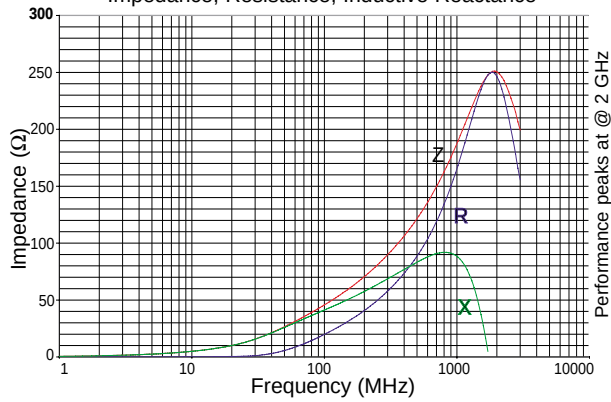


Figure #2

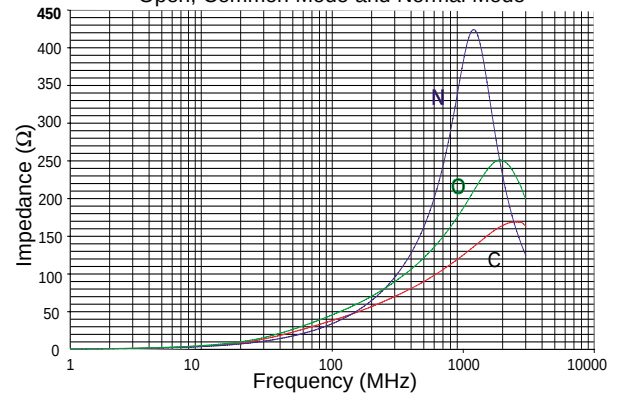
CM3322P400R-00Z, R, X_L vs. Frequency

Impedance, Resistance, Inductive Reactance

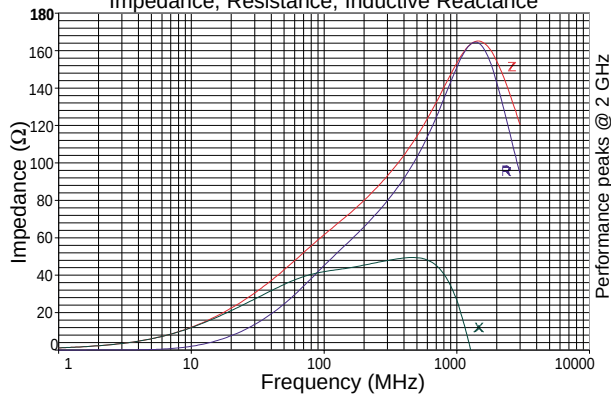
**CM3322P400R-00**

Z vs. Frequency

Open, Common Mode and Normal Mode

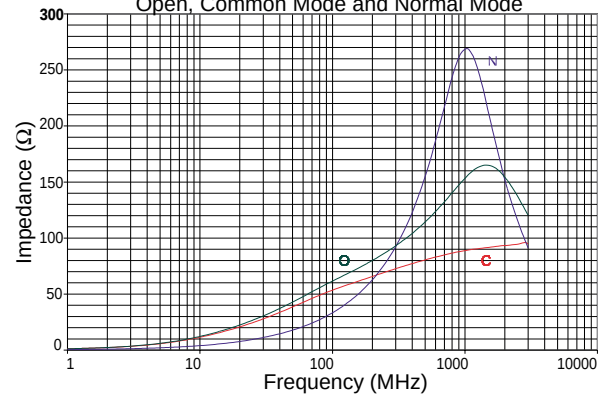
**CM3322X630R-00**Z, R, X_L vs. Frequency

Impedance, Resistance, Inductive Reactance

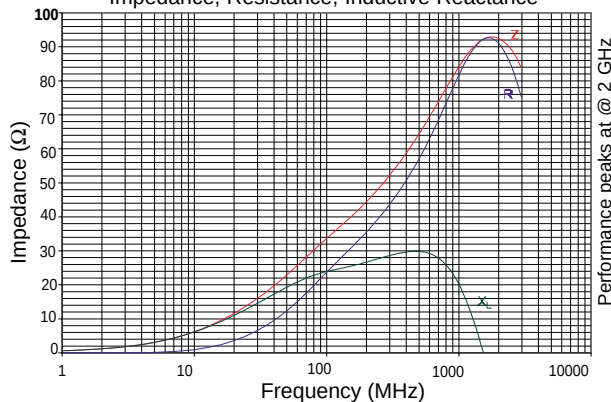
**CM3322X630R-00**

Z vs. Frequency

Open, Common Mode and Normal Mode

**CM1922X330R-00**Z, R, X_L vs. Frequency

Impedance, Resistance, Inductive Reactance

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Z vs. Frequency

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