



# Low Profile Surface Mount Common Mode Chokes

Laird Technologies' monolithic 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 and high speed input/output circuitry (including network and storage subsystems).

## Features:

- Monolithic • Compact • High current carrying capability (up to 10 amps continuous) • Excellent high frequency performance • Very low DCR to minimize circuit resistance • Smaller, lighter and less susceptible to vibration than wire-wound chokes • Lead Free • Stable Impedance Under Load

## Applications:

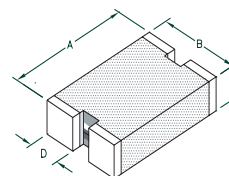
- Filtering DC power on PC boards, especially in applications of greater than 3.0 amps • Filtering common mode EMI on high speed data lines • PCMCIA products • Filtering for Bellcore Telecom applications • Filtering on USB power lines • Disk drives

## 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. **Common Mode** Impedance is the impedance of EMI noise conducted in the same direction along two conductors. **Open Mode** 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).

## PART NUMBERING SYSTEM EXAMPLE

<b>CM</b>	<b>3322</b>	<b>P</b>	<b>400</b>	<b>R</b>	<b>-10</b>
Product Series Code	Part Size Code	Rated Continuous Current Code	Impedance Value Code	Packaging Code	Additional Description

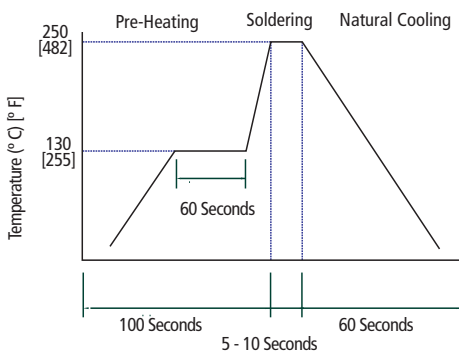


Ambient Operating Temperature Range: -40°C to + 125°C

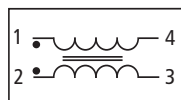
See Data Curves on Back

PART NUMBER	Fig #	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	IMPEDANCE (Z) OHMS @			Typical Peak Impedance (Ω)	Peak Impedance Frequency (MHz)	DCR MAX (Ohms)	RATED I MAX (continuous) mA
						Nominal 100 MHz	Typical 500 MHz	Typical 1 GHz				
CM3322P400R-10	1	8.50 (0.335)	5.60 (0.220)	2.10 (0.083)	2.24 (0.088)	40	121	185	251	1931	0.030	4000
CM3322U610R-10	1	8.50 (0.335)	5.60 (0.220)	2.10 (0.083)	2.24 (0.088)	61	123	170	191	1581	0.015	7000
CM3322X630R-10	1	8.50 (0.335)	5.60 (0.220)	2.85 (0.112)	2.24 (0.088)	63	114	152	165	1459	0.008	10000
CM1922X330R-10	2	4.70 (0.185)	5.60 (0.220)	2.85 (0.112)	2.24 (0.088)	33	64	86	93	1783	0.003	10000

## Recommended Lead Free Soldering Conditions



## Equivalent Circuit



## Land Patterns

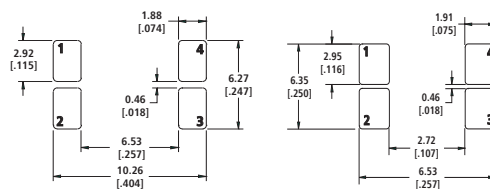


Figure #1  
CM3322

Figure #2  
CM1922



# Common Mode Bead Impedance

