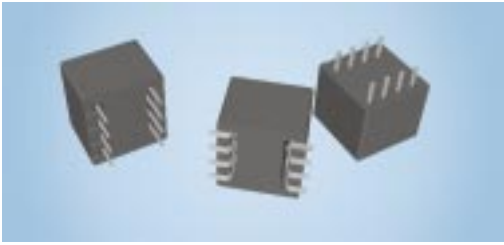


# 4 Line Ferrite Common Mode Power Chokes



**Steward's** multi-line ferrite common mode power / data filter products provide the most economical EMI filtering available for common mode noise. They provide EMI suppression for groups of conductors such as power traces, and for high speed input/output circuitry (including network and storage subsystems). They exhibit high frequency impedance essentially independent of DC bias current.

Protected by one or more of the following US Patents: 5,455,552 and 5,568,111

## Features:

- High current carrying capability (10 amps continuous operation)
- Can be used as multi-turn device to multiply impedance
- With two turns, up to 800 ohms impedance at 300 MHz.
- Available in both thru-hole (B) and surface mount (R) versions
- The most economical common mode filter available for filtering groups of signals
- Parts available in broad band and high frequency materials

## Applications:

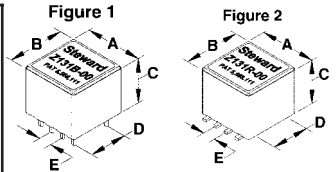
- Filtering DC power on PC boards, especially in applications of greater than 3.0 amperes
- Filtering common mode EMI on high speed differential lines such as network and SCSI subsystems
- Cost sensitive designs
- Applications where low DCR is needed.

## Part & Test Specifications:

- Maximum current ratings ( I MAX ) 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:**
- HP4396A (100KHz - 1.8 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

PART NUMBERING SYSTEM					
CM	4545	X	800	B	- 00
PRODUCT SERIES CODE	PART SIZE CODE	RATED CURRENT CODE	IMPEDANCE VALUE CODE	PACKAGING CODE	ADDITIONAL DESCRIPTION

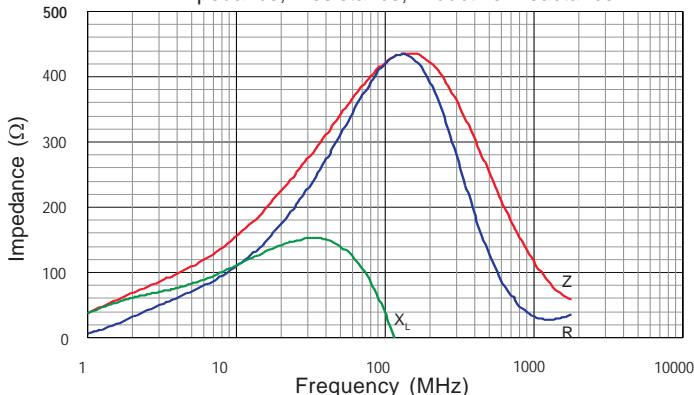


Ambient Operating Temperature Range: -55° C to +125° C

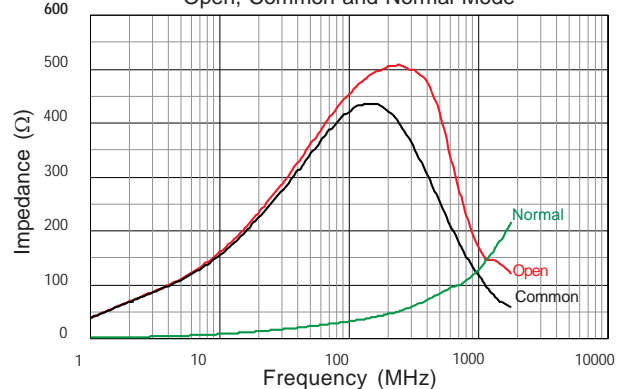
PART NUMBER	Fig #	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	E mm (inches)	IMPEDANCE (Z) TYPICAL OHMS @			DCR MAX OHMS	RATED I MAX (continuous) mA
							100MHz	500MHz	1GHz		
CM4545Z131B-00	1	11.38 ± 0.25 (0.448 ± 0.010)	11.38 ± 0.25 (0.448 ± 0.010)	9.32 ± 0.25 (0.367 ± 0.010)	7.62 ± 0.10 (0.300 ± 0.004)	2.54 ± 0.10 (0.100 ± 0.004)	130	270	230	0.003	10,000
CM4545Z131R-00	2	11.38 ± 0.25 (0.448 ± 0.010)	11.38 ± 0.25 (0.448 ± 0.010)	9.32 ± 0.25 (0.367 ± 0.010)	7.62 ± 0.10 (0.300 ± 0.004)	2.54 ± 0.25 (0.100 ± 0.010)	130	270	230	0.003	10,000
* CM4545X800B-00	1	11.38 ± 0.25 (0.448 ± 0.010)	11.38 ± 0.25 (0.448 ± 0.010)	9.32 ± 0.25 (0.367 ± 0.010)	7.62 ± 0.10 (0.300 ± 0.004)	2.54 ± 0.10 (0.100 ± 0.004)	80	270	210	0.003	10,000
* CM4545X800R-00	2	11.38 ± 0.25 (0.448 ± 0.010)	11.38 ± 0.25 (0.448 ± 0.010)	9.32 ± 0.25 (0.367 ± 0.010)	7.62 ± 0.10 (0.300 ± 0.004)	2.54 ± 0.25 (0.100 ± 0.010)	80	270	210	0.003	10,000

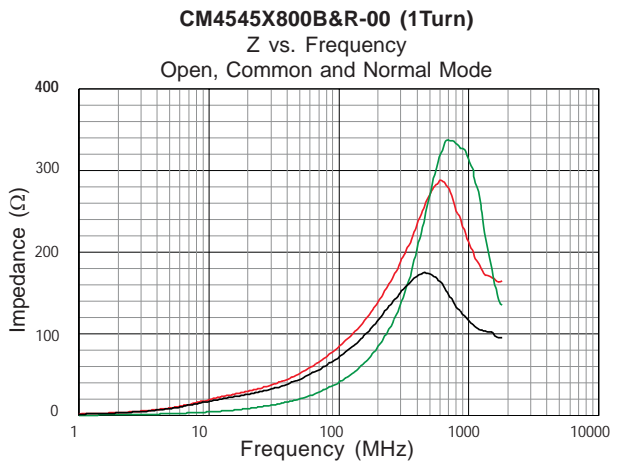
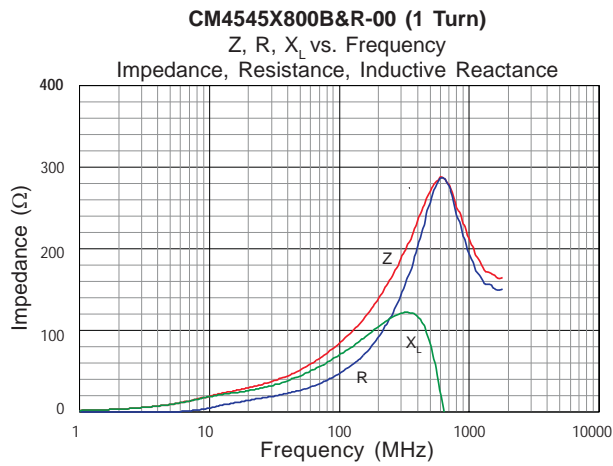
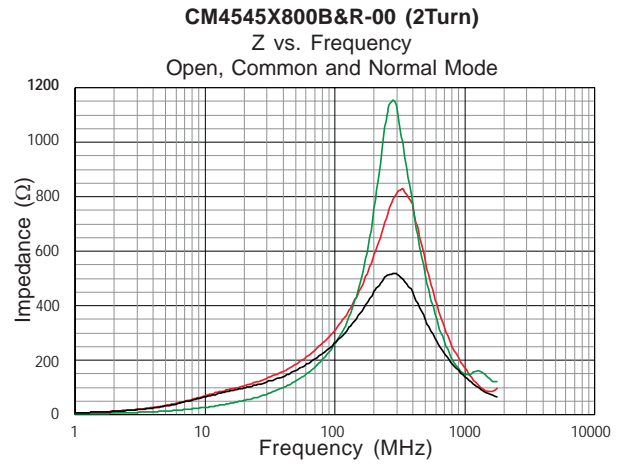
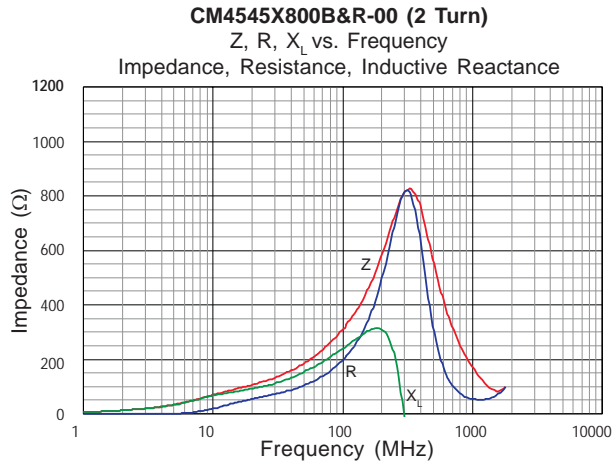
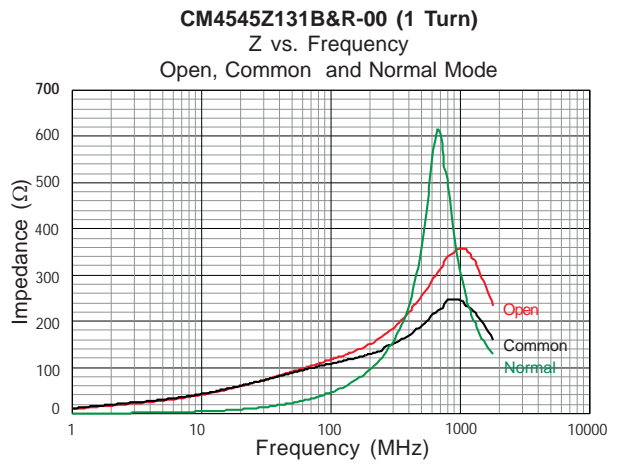
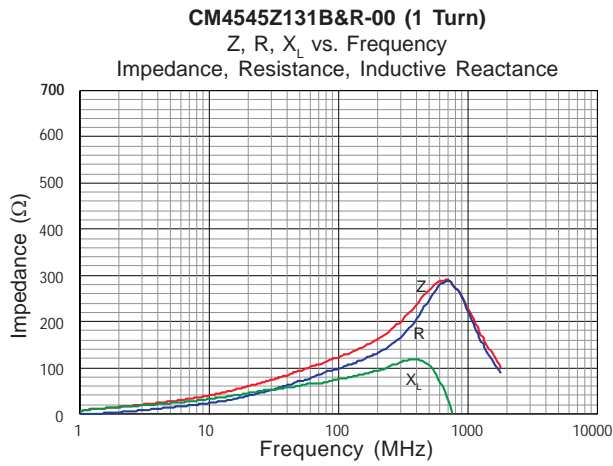
\* High Frequency Material

**CM4545Z131B&R-00 (2 Turn)**  
Z, R, X<sub>L</sub> vs. Frequency  
Impedance, Resistance, Inductive Reactance

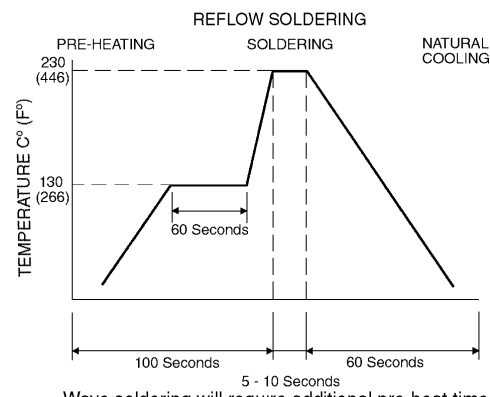


**CM4545Z131B&R-00 (2 Turn)**  
Z vs. Frequency  
Open, Common and Normal Mode



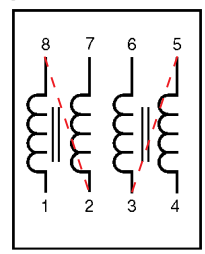


**Recommended Soldering Conditions**



Wave soldering will require additional pre-heat time.

**One Turn / Two Turn Equivalent Circuits**



**Land patterns for Reflow soldering**

