

2 Line Ferrite Common Mode Power Chokes



Steward's common mode power/data filter products provide the most economical EMI filtering available for common mode noise. They provide EMI suppression for conductors such as power traces (tracks), 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 capability (10 amps continuous operation)
- Up to 170 ohms impedance @100MHz or 300 ohms @1GHz
- Parts available in both thru-hole (B) and surface mount (R) versions
- Parts available in broad band and high frequency materials
- Economical common mode EMI filtering
- Compact size

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

<u>CM</u>	<u>2545</u>	<u>X</u>	<u>111</u>	<u>B</u>	-	<u>00</u>
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		
* CM2545X111B-00	1	6.30 ± 0.25 (0.248 ± 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)	110	260	175	0.003	10,000
* CM2545X111R-00	2	6.30 ± 0.25 (0.248 ± 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)	110	260	175	0.003	10,000
CM2545X171B-00	1	6.30 ± 0.25 (0.248 ± 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)	170	235	320	0.003	10,000
CM2545X171R-00	2	6.30 ± 0.25 (0.248 ± 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)	170	235	320	0.003	10,000

* High Frequency Material

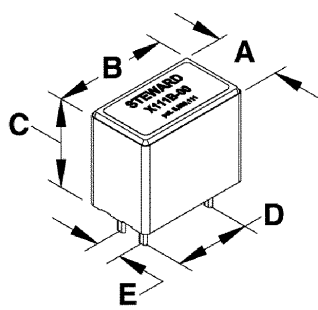


Figure 1

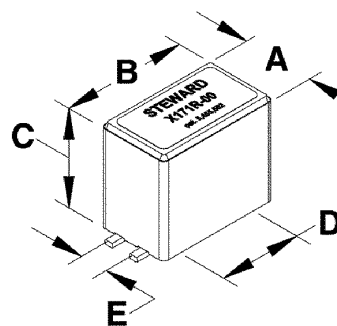
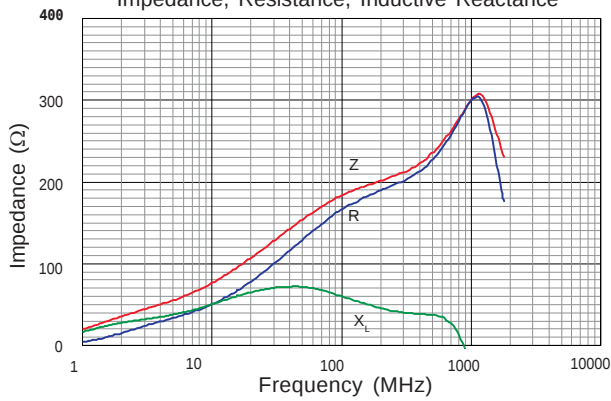


Figure 2

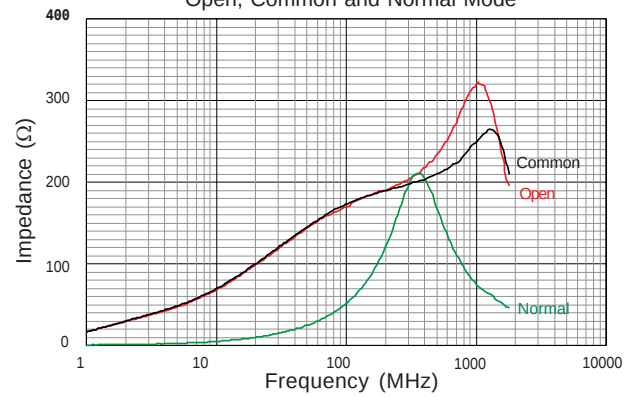
CM2545X171B&R-00Z, R, X_L vs. Frequency

Impedance, Resistance, Inductive Reactance

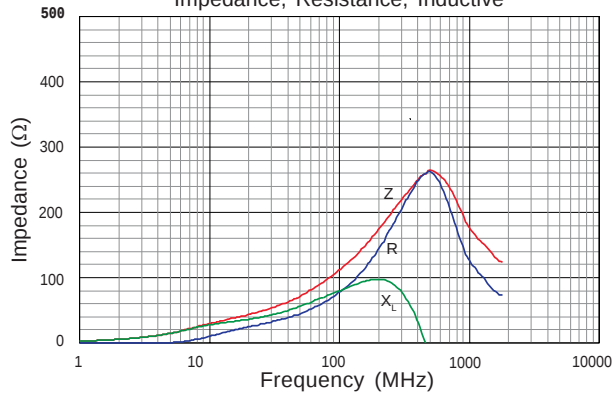
**CM2545X171B&R-00**

Z vs. Frequency

Open, Common and Normal Mode

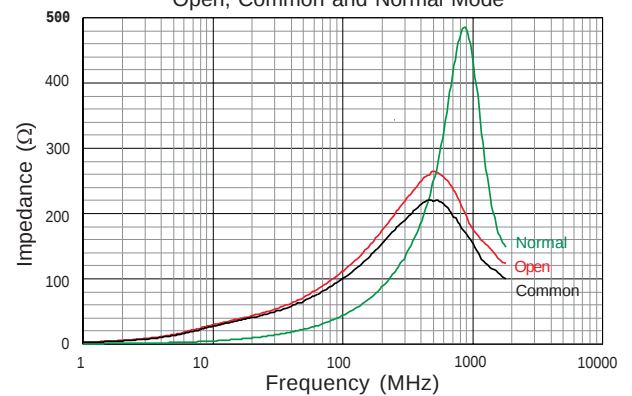
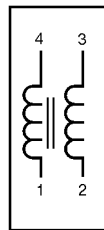
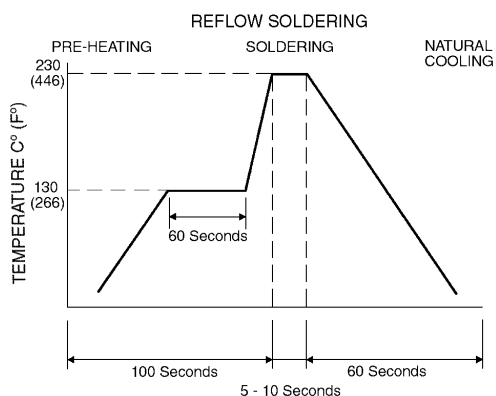
**CM2545X111B&R-00**Z, R, X_L vs. Frequency

Impedance, Resistance, Inductive

**CM2545X111B&R-00**

Z vs. Frequency

Open, Common and Normal Mode

**Equivalent Circuits****Recommended Soldering Conditions**

Wave soldering will require additional pre-heat time.

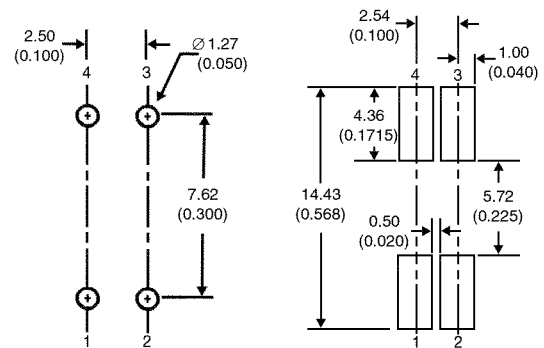
Land Patterns for Reflow Soldering

Figure 1

Figure 2