

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

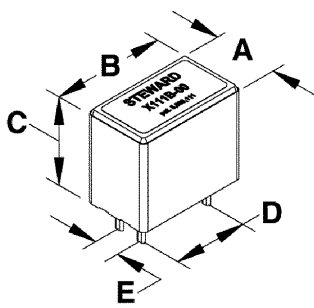


Figure 1

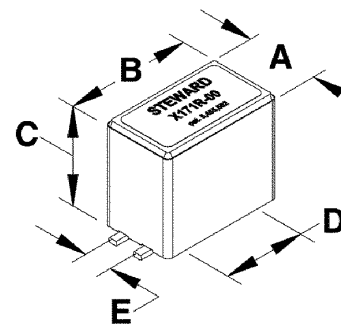
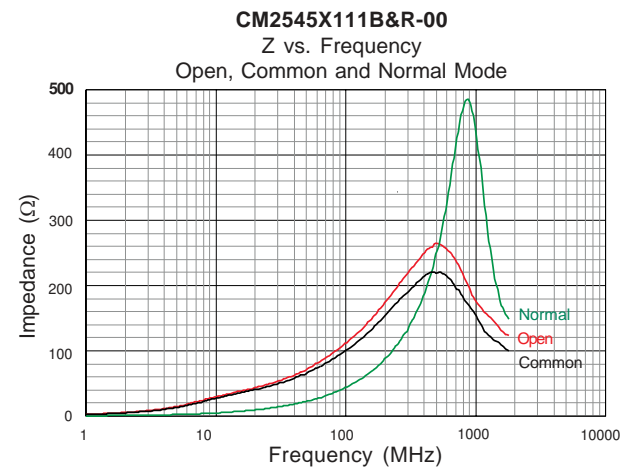
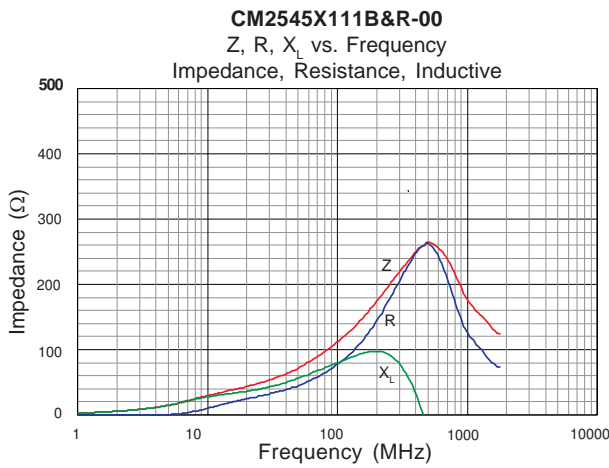
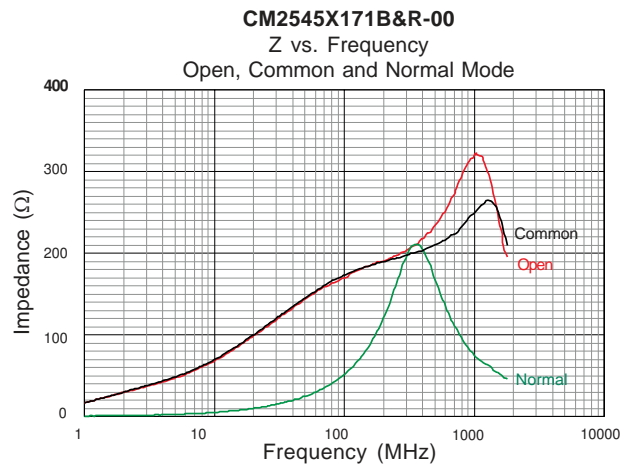
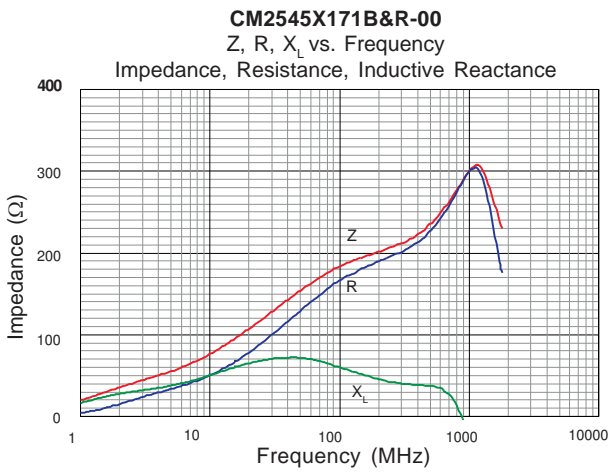
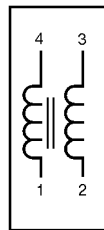


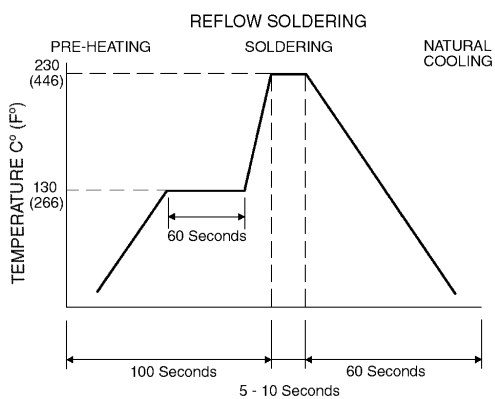
Figure 2



Equivalent Circuits



Recommended Soldering Conditions



Wave soldering will require additional pre-heat time.

Land Patterns for Reflow Soldering

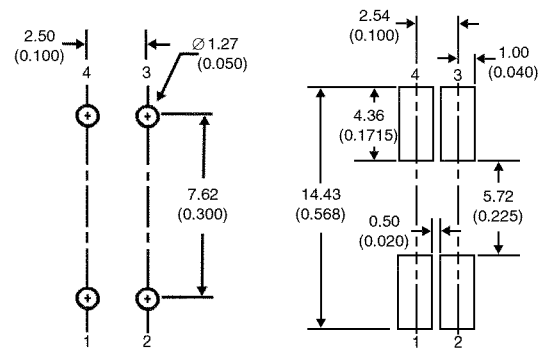


Figure 1

Figure 2