



Low Current Ferrite Chip Beads

Steward's surface mount ferrite chips provide compact, cost effective EMI filtering for densely packed PCB designs. The small footprint enables placement very close to troublesome high frequency devices. Our proprietary SMT construction yields rugged components with superior impedance vs. frequency characteristics.

Features:

- Small footprint • Excellent retention under Bias • Rugged, monolithic construction • Superior impedance vs. frequency characteristics
- Economical • Broad range of sizes (from 0402 up to 1812) • Broad range of impedance values and current ratings

Application:

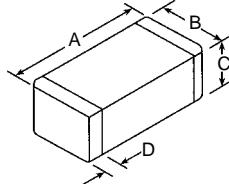
- Filtering of power input pins and devices using high speed clocks • Filtering of low frequency input/output signals of shielded enclosures
- High frequency filtering of medium speed clocks and video signals • Preventing oscillations in high frequency amplifiers
- Data bus filtration • Discrete component filtration in power supplies

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

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 | | | | | |
|-----------------------|----------------|--------------------|----------------------|----------------|-----------------------------|
| LI | 0402 | E | 300 | R | - 00 |
| PRODUCT SERIES CODE | PART SIZE CODE | RATED CURRENT CODE | IMPEDANCE VALUE CODE | PACKAGING CODE | ADDITIONAL PART DESCRIPTION |

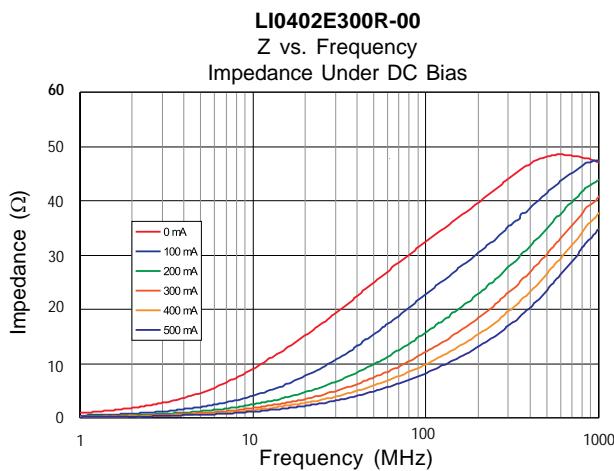
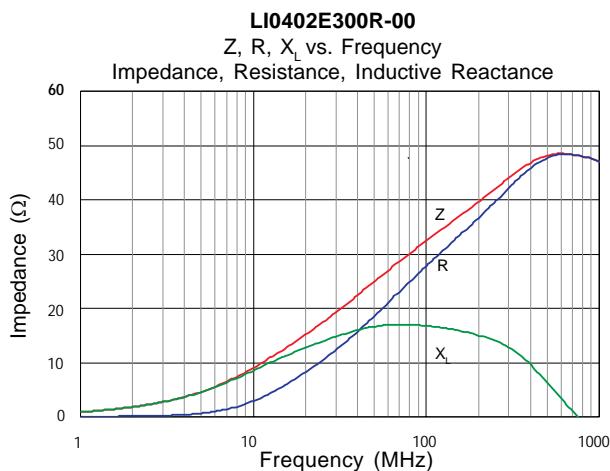


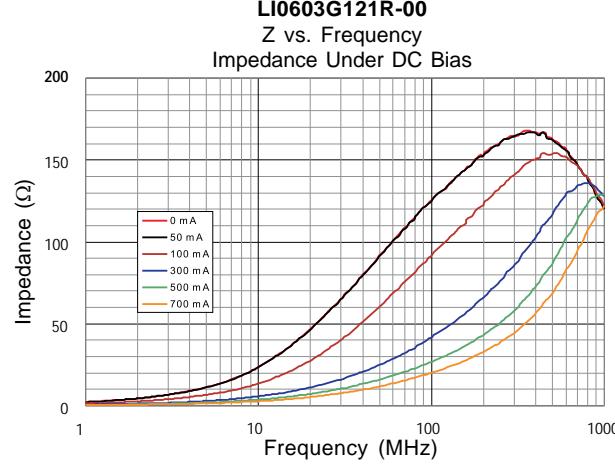
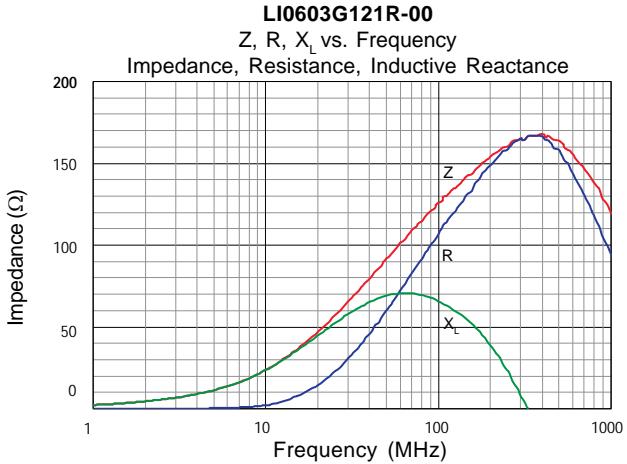
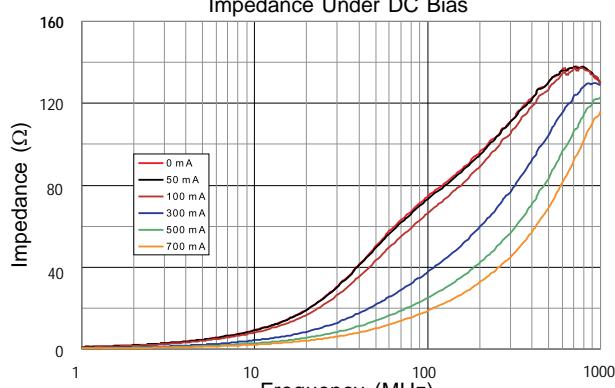
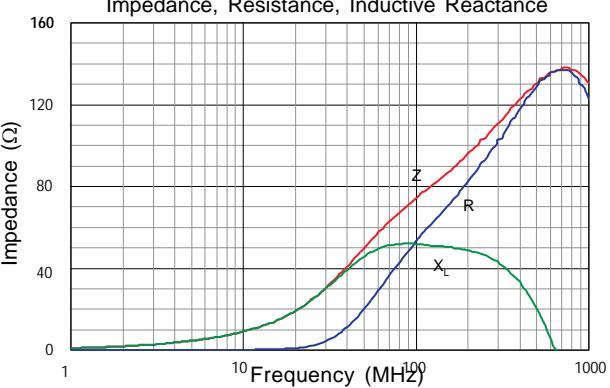
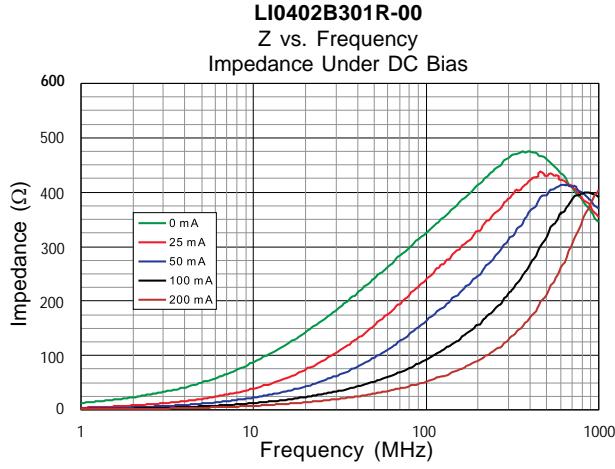
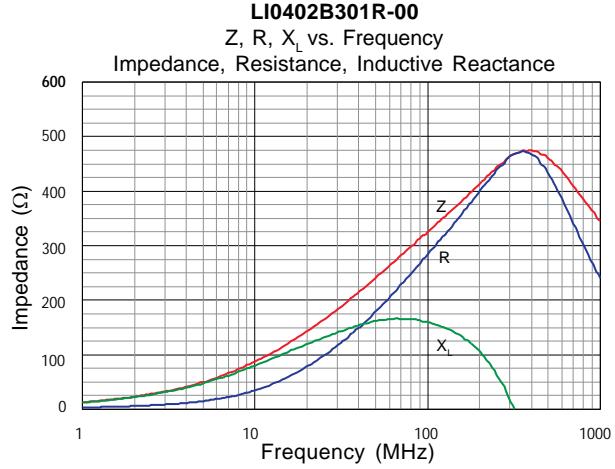
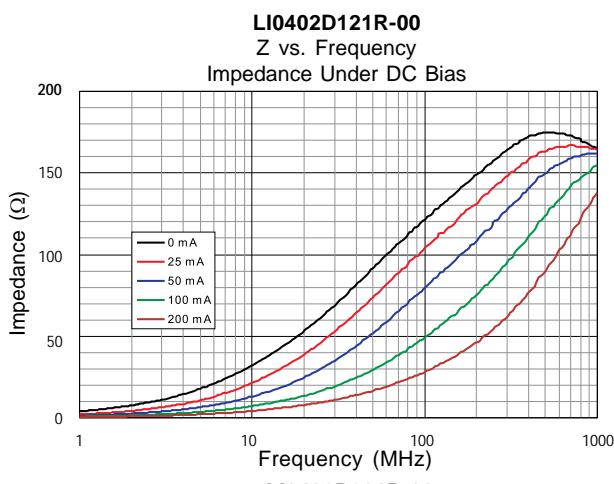
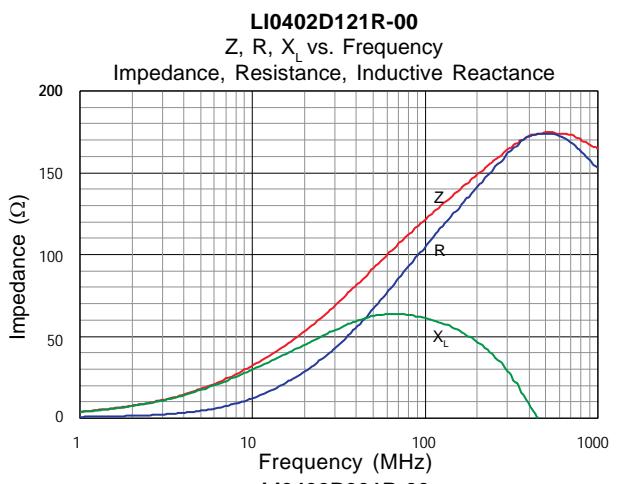
Ambient Operating Temperature Range: -55°C to +125°C

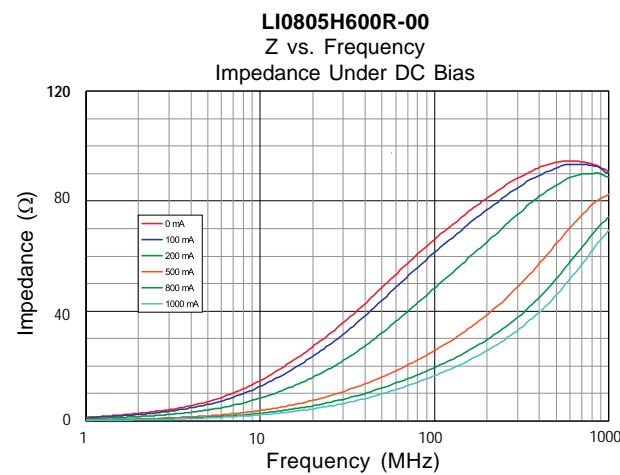
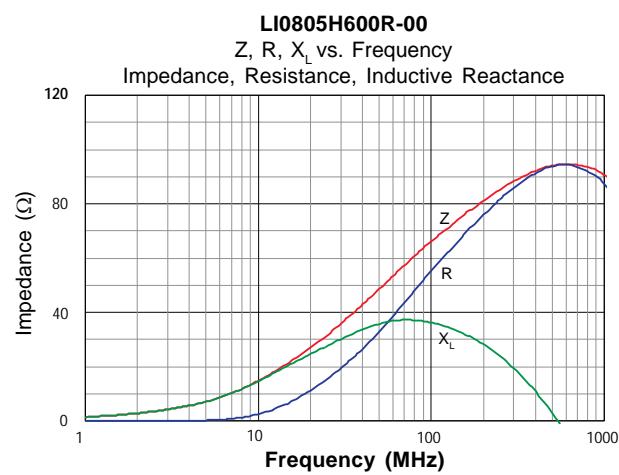
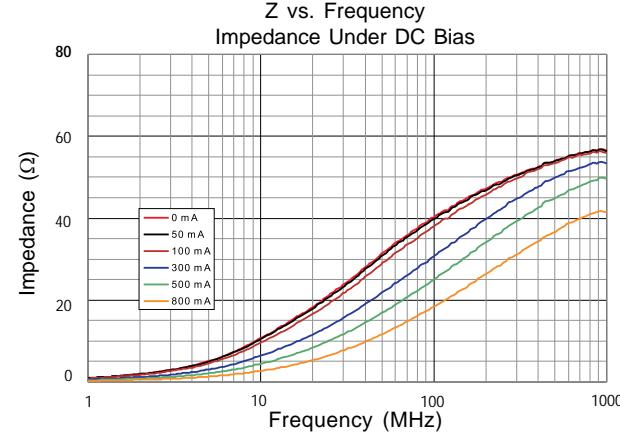
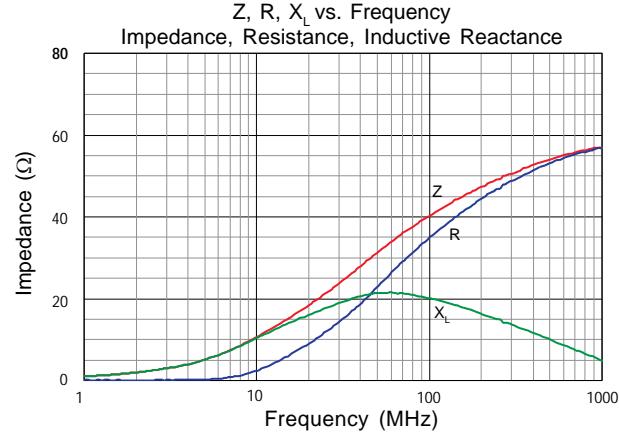
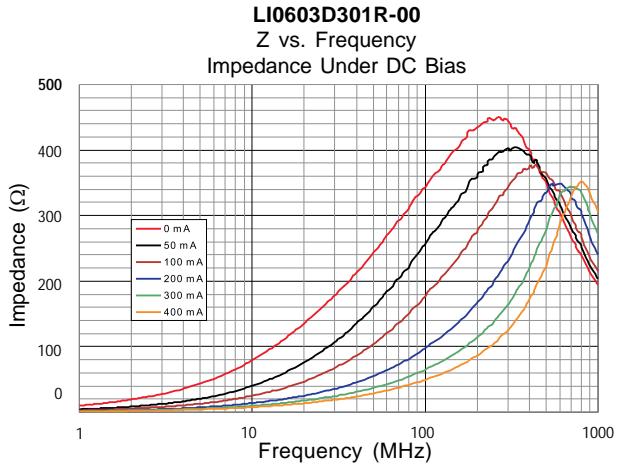
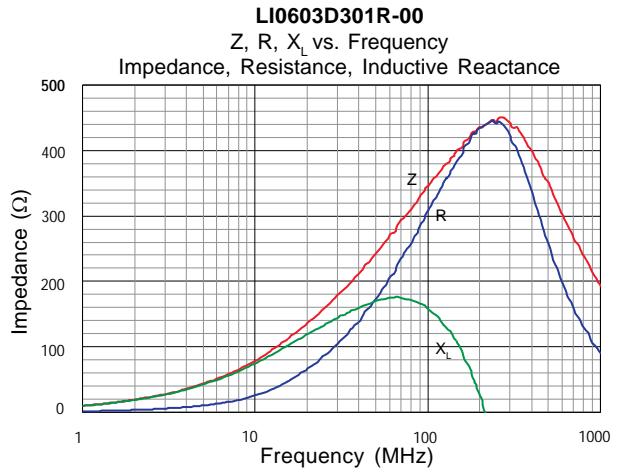
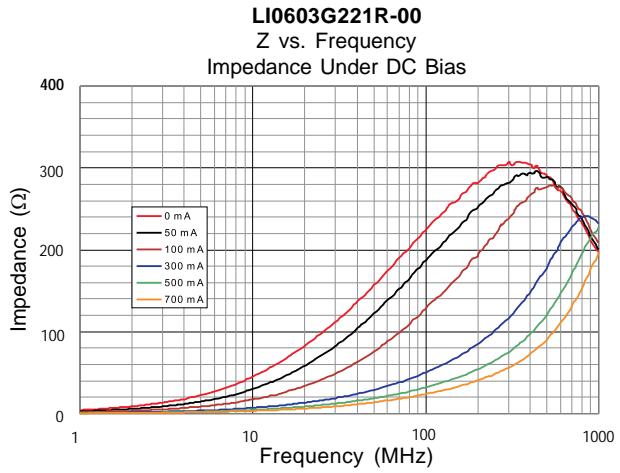
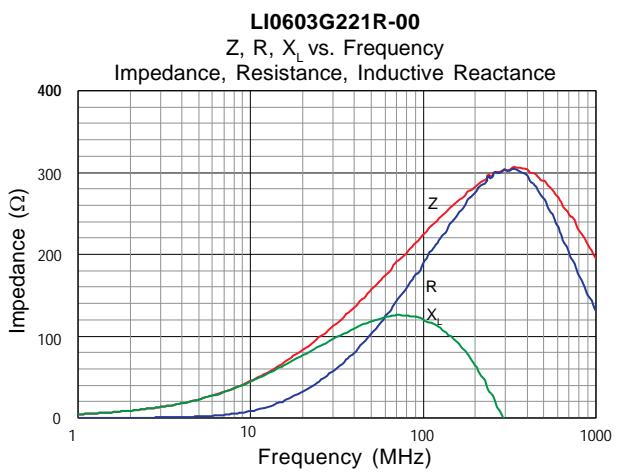
| PART NUMBER | A mm (inches) | B mm (inches) | C mm (inches) | D mm (inches) | IMPEDANCE (Z) TYPICAL OHMS @ | | | DCR MAX OHMS | RATED I MAX (continuous) mA |
|------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|--------|------|--------------|-----------------------------|
| | | | | | 100MHz | 500MHz | 1GHz | | |
| LI0402E300R-00 | 1.01 ± 0.18 (0.040 ± 0.007) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.30 MAX (0.012 MAX) | 30 | 65 | 68 | 0.300 | 500 |
| * LI0402E600R-00 | 1.01 ± 0.18 (0.040 ± 0.007) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.30 MAX (0.012 MAX) | 60 | 90 | 93 | 0.300 | 500 |
| LI0402D121R-00 | 1.01 ± 0.18 (0.040 ± 0.007) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.30 MAX (0.012 MAX) | 120 | 175 | 164 | 0.400 | 400 |
| LI0402B301R-00 | 1.01 ± 0.18 (0.040 ± 0.007) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.50 ± 0.20 (0.020 ± 0.008) | 0.30 MAX (0.012 MAX) | 300 | 454 | 351 | 0.800 | 200 |
| LI0603G800R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 80 | 120 | 107 | 0.200 | 700 |
| LI0603G121R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 120 | 156 | 113 | 0.200 | 700 |
| * LI0603E151R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 150 | 205 | 160 | 0.250 | 500 |
| LI0603G221R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 220 | 279 | 168 | 0.300 | 700 |
| LI0603D301R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 300 | 286 | 165 | 0.350 | 400 |
| LI0805H400R-00 | 2.00 ± 0.20 (0.079 ± 0.008) | 1.25 ± 0.20 (0.049 ± 0.008) | 0.90 ± 0.20 (0.035 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 40 | 60 | 63 | 0.150 | 800 |
| LI0805H600R-00 | 2.00 ± 0.20 (0.079 ± 0.008) | 1.25 ± 0.20 (0.049 ± 0.008) | 0.90 ± 0.20 (0.035 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 60 | 78 | 75 | 0.150 | 800 |
| * LI0805H750R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 75 | 115 | 115 | 0.150 | 800 |
| LI0805H800R-00 | 1.60 ± 0.15 (0.063 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.80 ± 0.15 (0.031 ± 0.006) | 0.36 ± 0.15 (0.014 ± 0.006) | 80 | 115 | 100 | 0.2 | 700 |

| PART NUMBER | A mm (inches) | B mm (inches) | C mm (inches) | D mm (inches) | IMPEDANCE (Z) TYPICAL OHMS @ | | | DCR MAX OHMS | RATED I MAX (continuous) mA |
|------------------|------------------------------|------------------------------|------------------------------|-----------------------------|------------------------------|--------|------|--------------|-----------------------------|
| | | | | | 100MHz | 500MHz | 1GHz | | |
| LI0805H121R-00 | 2.00 ± 0.20 (0.079 ± 0.008) | 1.25 ± 0.20 (0.049 ± 0.008) | 0.90 ± 0.20 (0.035 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 120 | 167 | 129 | 0.150 | 800 |
| LI0805H151R-00 | 2.00 ± 0.20 (0.079 ± 0.008) | 1.25 ± 0.20 (0.049 ± 0.008) | 0.90 ± 0.20 (0.035 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 150 | 207 | 138 | 0.150 | 800 |
| LI0805G301R-00 | 2.00 ± 0.20 (0.079 ± 0.008) | 1.25 ± 0.20 (0.049 ± 0.008) | 0.90 ± 0.20 (0.035 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 300 | 248 | 146 | 0.200 | 700 |
| * LI1206E260R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 26 | 43 | 50 | 0.200 | 700 |
| * LI1206E520R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 52 | 800 | 93 | 0.150 | 800 |
| LI1206H900R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 90 | 142 | 156 | 0.150 | 800 |
| LI1206H121R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 120 | 144 | 135 | 0.150 | 800 |
| LI1206H151R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 150 | 173 | 123 | 0.150 | 800 |
| LI1206G301R-00 | 3.20 ± 0.20 (0.126 ± 0.008) | 1.60 ± 0.20 (0.063 ± 0.008) | 1.10 ± 0.20 (0.043 ± 0.008) | 0.51 ± 0.25 (0.020 ± 0.010) | 300 | 138 | 88 | 0.200 | 700 |
| LI1806E800R-00 | 4.50 ± 0.254 (0.177 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 0.51 ± 0.25 (0.020 ± 0.010) | 80 | 117 | 124 | 0.300 | 500 |
| LI1806E101R-00 | 4.50 ± 0.254 (0.177 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 0.51 ± 0.25 (0.020 ± 0.010) | 100 | 131 | 130 | 0.300 | 500 |
| LI1806C151R-00 | 4.50 ± 0.254 (0.177 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 1.60 ± 0.254 (0.063 ± 0.010) | 0.51 ± 0.25 (0.020 ± 0.010) | 150 | 219 | 227 | 0.500 | 300 |
| LI1812D121R-00 | 4.50 ± 0.254 (0.177 ± 0.010) | 3.20 ± 0.254 (0.126 ± 0.010) | 1.40 ± 0.254 (0.055 ± 0.010) | 0.46 ± 0.20 (0.018 ± 0.008) | 120 | 203 | 195 | 0.400 | 400 |

* See Steward web site at www.steward.com for the most recent performance curves.



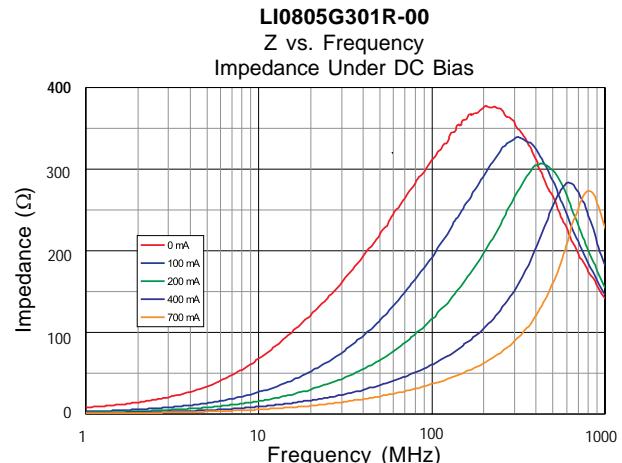
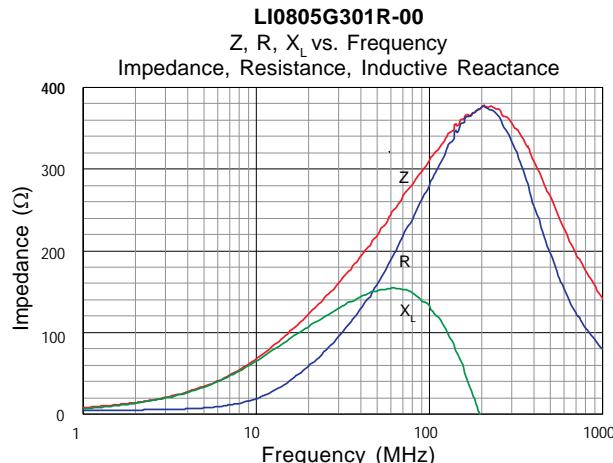
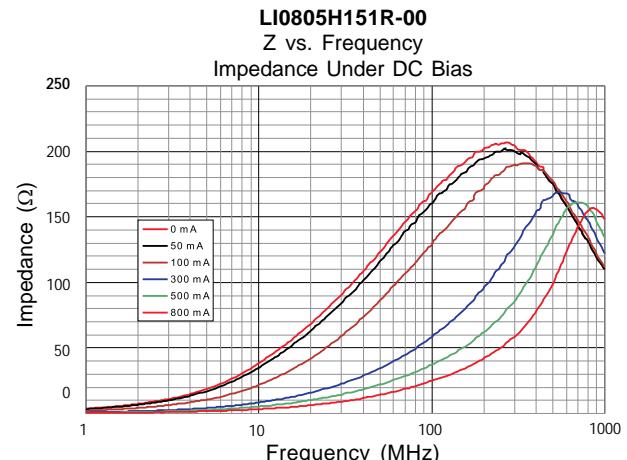
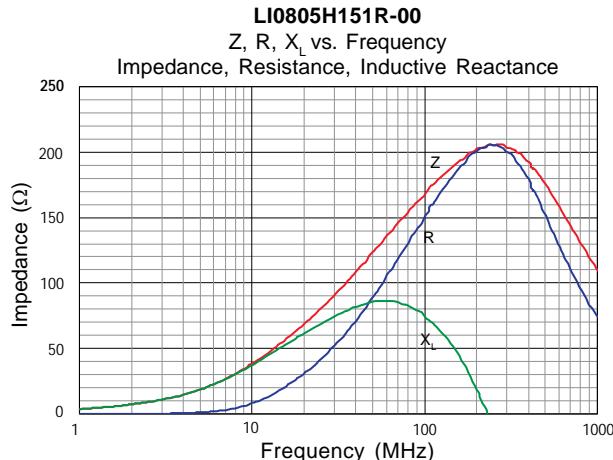
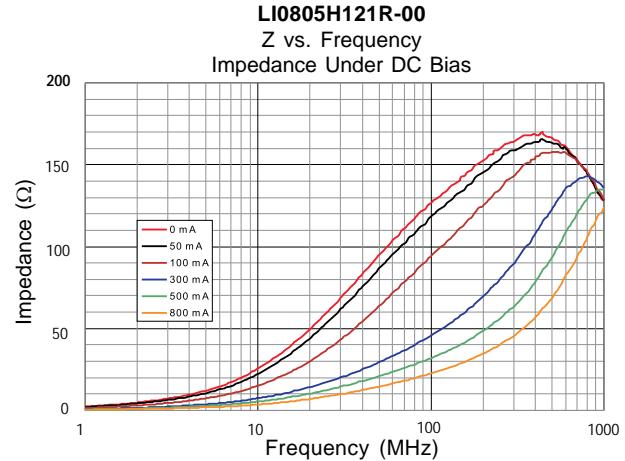
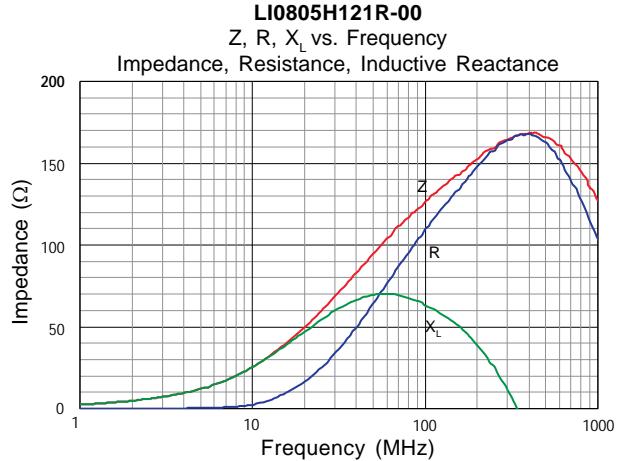
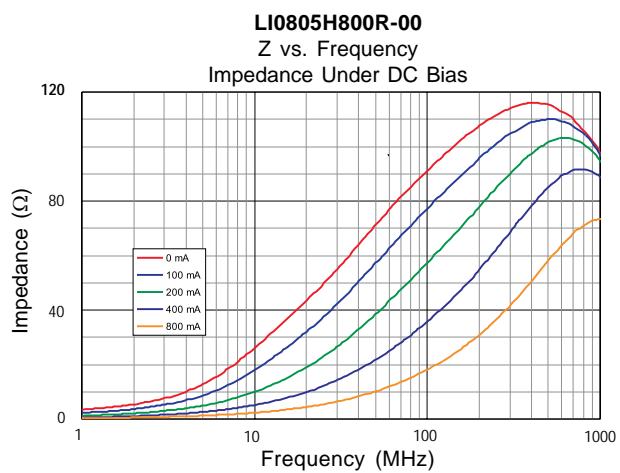
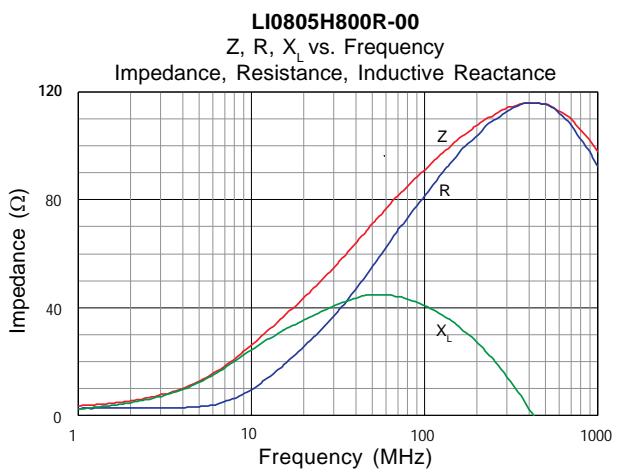


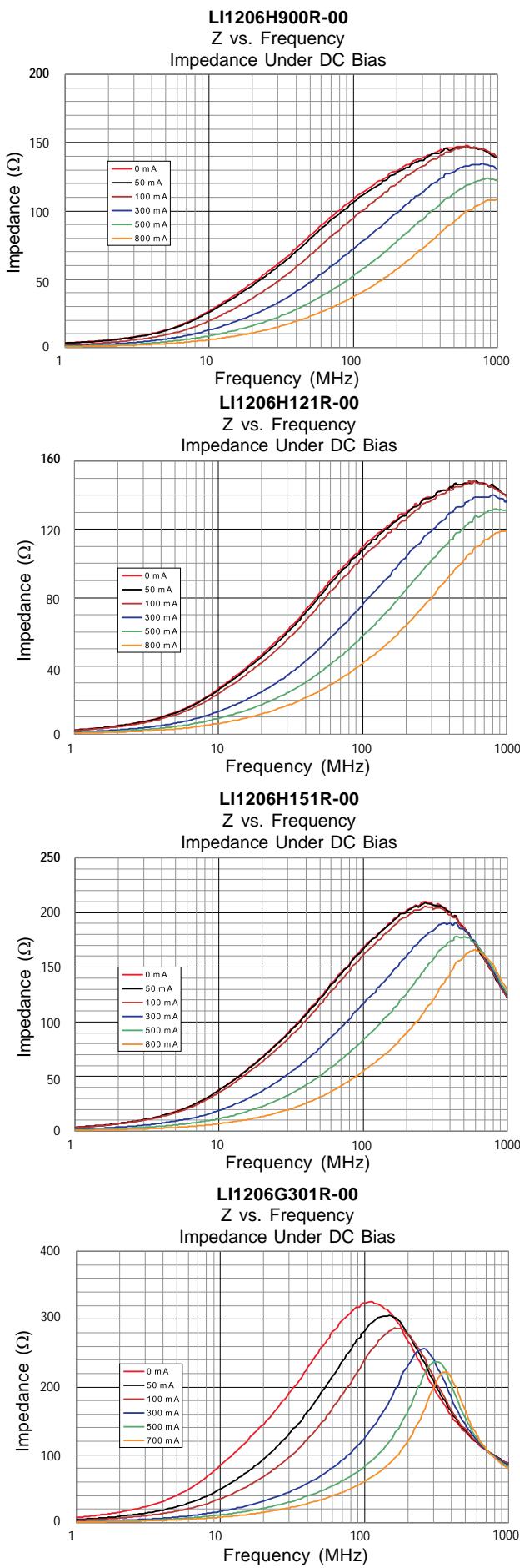
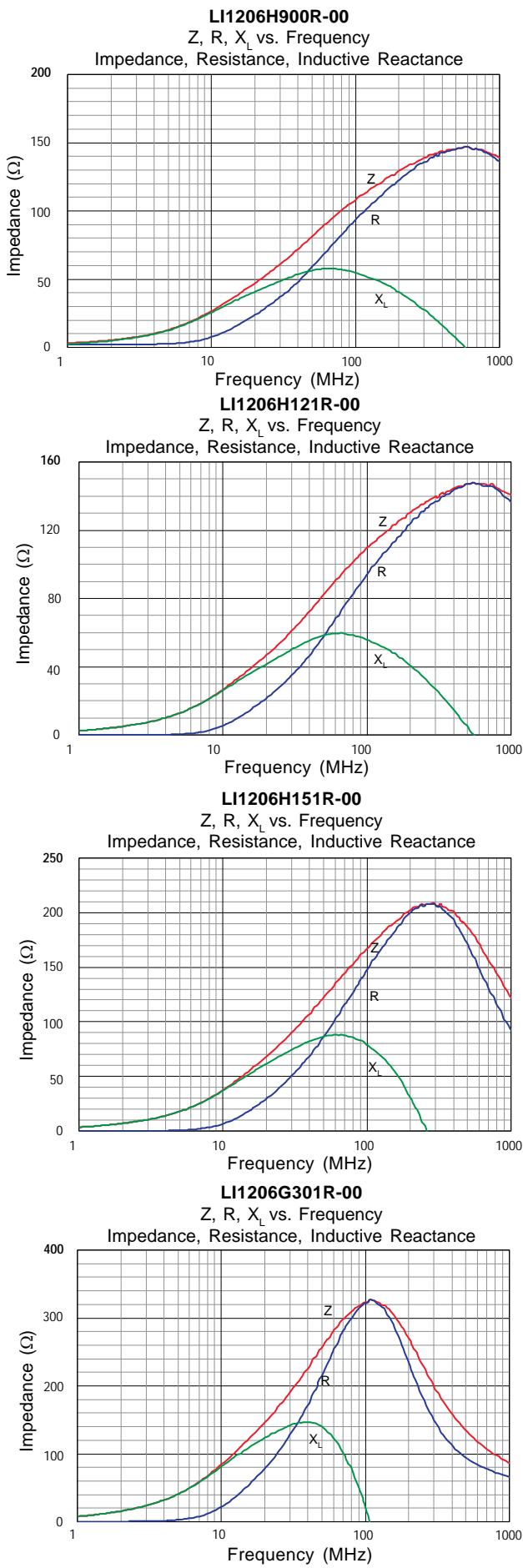


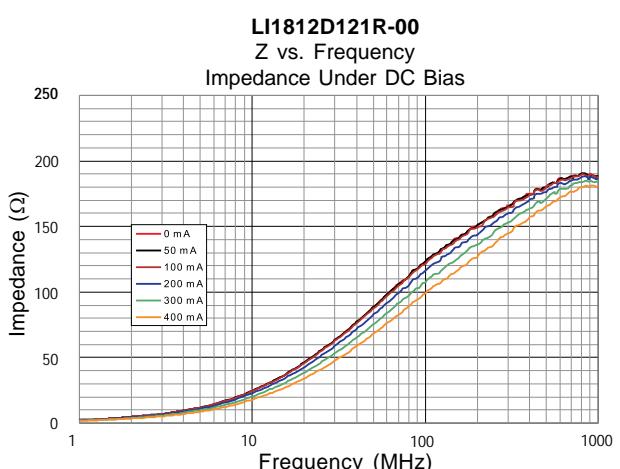
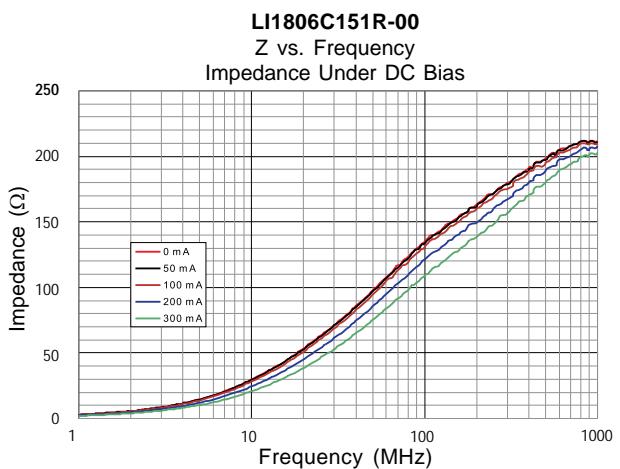
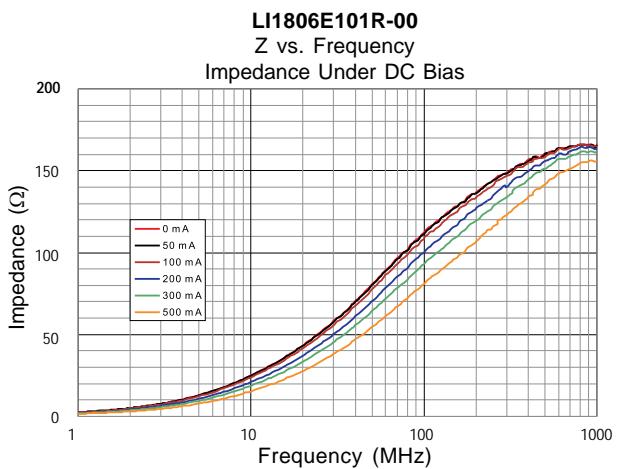
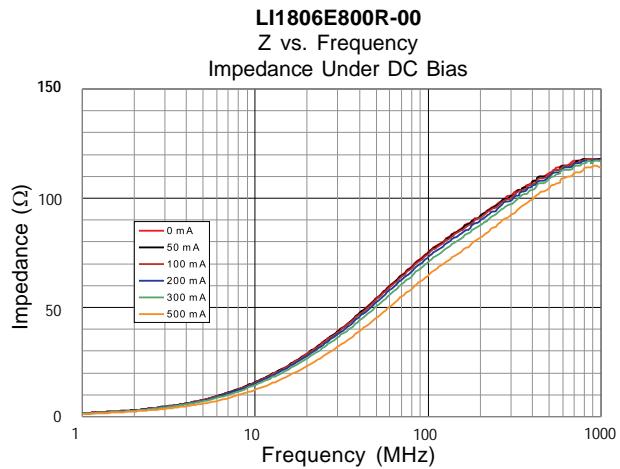
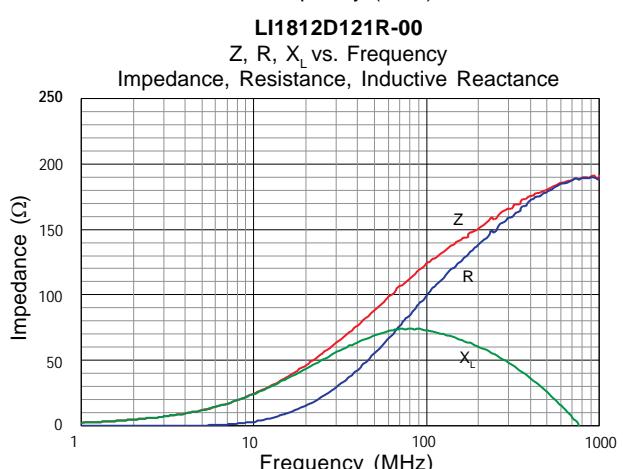
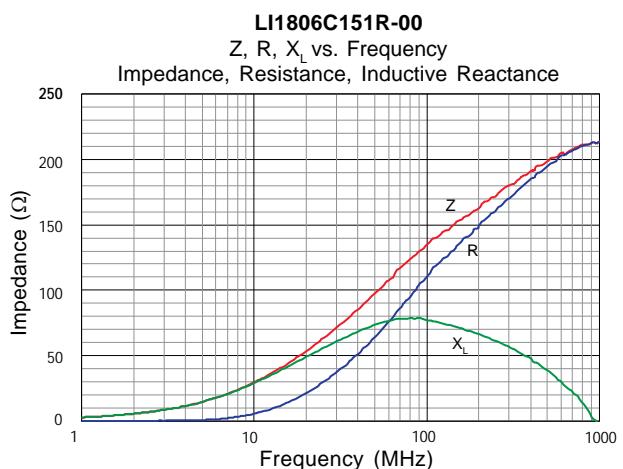
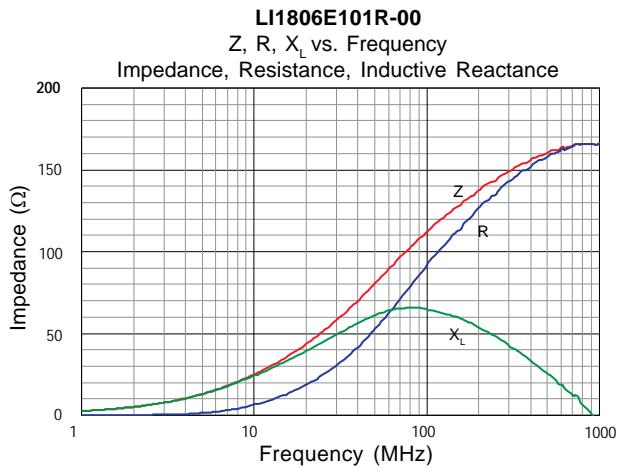
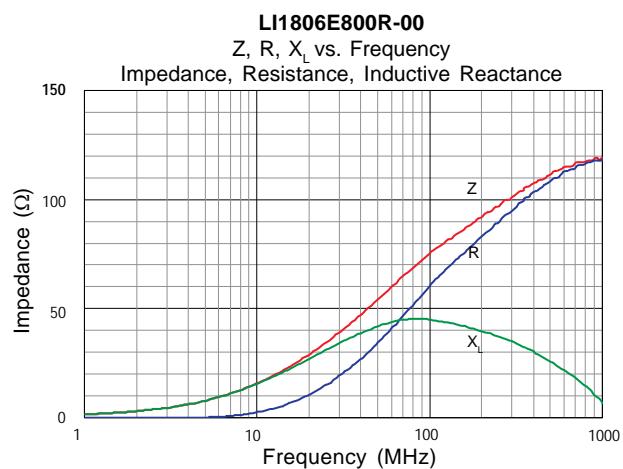
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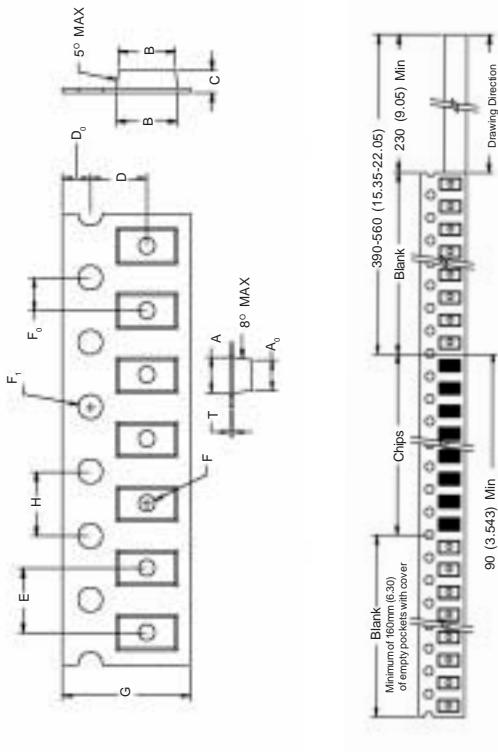






Tape & Reel Specifications

| P/N | A | A _o | B | B _o | C | D | D _o | E | F | F _o | G | H | T | Reel Size | |
|--------|------|--------------------------------|-----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--|--|----------------------------------|----------------------------------|-----|
| DA1206 | 2.21 | 1.88 ± 0.10 (0.087) | 3.76 (0.148) | 3.56 ± 0.10 (0.140 ± 0.004) | 1.40 ± 0.10 (0.055 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.063 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.002 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 13" |
| LI0402 | 1.20 | 1.60 ± 0.10 (0.063 ± 0.004) | 1.80 (0.071) | 1.15 ± 0.10 (0.045 ± 0.004) | 0.85 ± 0.10 (0.033 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.002 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 7" |
| LI0603 | 2.21 | 1.88 ± 0.10 (0.087) | 3.76 (0.148) | 3.56 ± 0.10 (0.140 ± 0.004) | 1.91 ± 0.10 (0.075 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.002 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 7" |
| LI0805 | 1.85 | 1.55 ± 0.10 (0.073) | 2.49 (0.098) | 2.31 ± 0.10 (0.091 ± 0.004) | 1.30 ± 0.10 (0.051 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.002 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 7" |
| LI1206 | 2.21 | 1.88 ± 0.10 (0.087) | 3.76 (0.148) | 3.56 ± 0.10 (0.140 ± 0.004) | 1.91 ± 0.10 (0.075 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.002 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 7" |
| LI1210 | 3.33 | 2.90 ± 0.10 (0.131) | 3.87 (0.153) | 3.61 ± 0.10 (0.142 ± 0.004) | 1.52 ± 0.10 (0.060 ± 0.004) | 3.50 ± 0.05 (0.138 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.00 ± 0.25 (0.039 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 8.00 + 0.30 / -0.10 (0.315 + 0.012 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.25 ± 0.013 (0.010 ± 0.0005) | 7" |
| LI1806 | 2.46 | 1.98 ± 0.10 (0.097) | 5.23 (0.157) | 4.88 ± 0.10 (0.206) | 1.98 ± 0.10 (0.078 ± 0.004) | 5.50 ± 0.05 (0.217 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 1.50 ± 0.25 (0.059 ± 0.010) | 2.00 ± 0.05 (0.079 ± 0.002) | 1.50 ± 0.10 (0.059 ± 0.004) | 12.00 + 0.30 / -0.10 (0.472 + 0.012 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.29 ± 0.013 (0.011 ± 0.0005) | 7" |
| LI1812 | 3.99 | 3.51 ± 0.10 (0.138 ± 0.004) | 5.08 (0.200) | 4.78 ± 0.10 (0.188 ± 0.004) | 1.73 ± 0.10 (0.068 ± 0.004) | 5.50 ± 0.05 (0.217 ± 0.002) | 1.75 ± 0.10 (0.069 ± 0.004) | 8.00 ± 0.10 (0.315 ± 0.004) | 2.00 ± 0.05 (0.079 ± 0.010) | 1.50 ± 0.10 (0.059 ± 0.004) | 12.00 + 0.30 / -0.10 (0.472 + 0.012 / -0.004) | 4.00 ± 0.10 (0.157 ± 0.004) | 0.29 ± 0.013 (0.011 ± 0.0005) | 13" | |



| Reel Specifications | |
|---------------------|--|
| A | 330.0 / 178.0 ± 2.0 (13.00 / 7.00 ± 0.78) |
| B | 95.0 ± 1.0 (3.74 ± 0.39) |
| C | 13.0 ± 0.5 (0.51 ± 0.020) |
| D | 21.0 ± 0.8 (0.82 ± 0.031) |
| E | 2.0 ± 0.5 (0.08 ± 0.020) |
| W | 8.0 ± 1.0 (0.32 ± 0.039) |
| T | 1.0 (0.039) |

