

FEATURES

- Winding type realizes small size and low profile.
- Excellent solderability .
- Prevention of common mode noise at high frequency.
- Operating Temperature: -40℃~+85℃ .
- RoHS, Halogen Free and REACH Compliance.



APPLICATIONS

- USB2.0 of PC, peripheral equipment's, small digital AV equipment's, etc.
- LVDS lines of Note PC, LCD ,Audio lines.

PART NUMBERING

| | | | | | | | | |
|-------|-------------|---------------------|---|-------------------|---------------------|-------|-----------|-------------|
| AP | CW | 2012 | - | 900 | P | 2 | T | □□ |
| ① | ② | ③ | | ④ | ⑤ | ⑥ | ⑦ | ⑧ |
| Grade | Series Name | External Dimensions | | Nominal Impedance | Impedance Tolerance | Lines | Packaging | Design Code |

| ① Grade | |
|---------|------------|
| AP | Grade Code |

| ② Series Name | |
|---------------|-------------------------------------|
| CW | Winding Type Common Mode Choke Coil |

| ③ External Dimensions | |
|-----------------------|-------------|
| | 2012 [0805] |
| | 3216 [1206] |
| | 3225 [1210] |
| | 4532[1812] |

| ⑥ Number of Lines | |
|-------------------|---|
| | 2 |

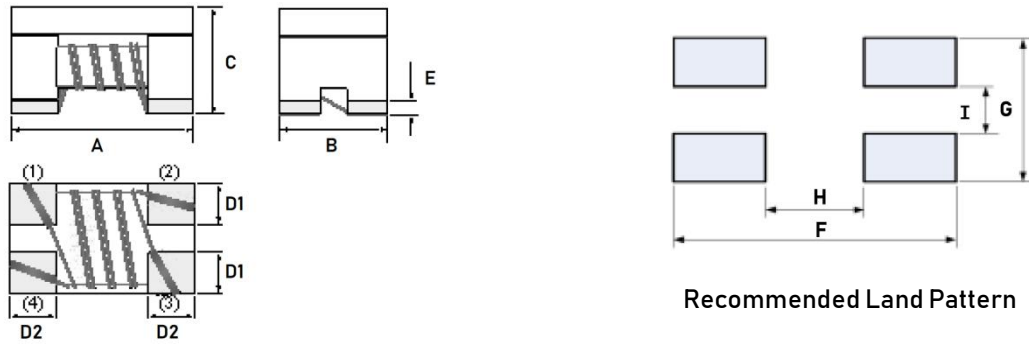
| ④ Nominal Impedance | |
|---------------------|--------------------------------|
| Code (example) | Nominal Impedance [Ω] |
| 900 | 90 |
| 121 | 120 |
| 102 | 1000 |

| ⑦ Packaging | |
|-------------|-------------|
| T | Tape & Reel |

| ⑤ Impedance Tolerance | |
|-----------------------|---------------------|
| Code (example) | Impedance Tolerance |
| P | ±25% |
| N | ±30% |

| ⑧ Design Code | |
|---------------|---------------------------|
| □□ | Standard product is blank |

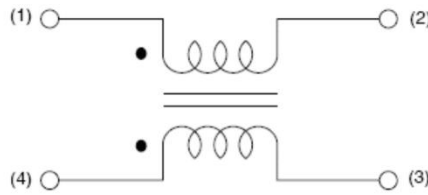
DIMENSIONS & RECOMMENDED LAND PATTERN



Unit: mm

| Series | Dimensions | | | | | | Recommended Land Pattern | | | |
|----------|------------|---------|---------|---------|---------|---------|--------------------------|--------|--------|--------|
| | A | B | C | E | D1 Typ. | D2 Typ. | F Typ. | G Typ. | I Typ. | H Typ. |
| APCW2012 | 2.0±0.2 | 1.2±0.2 | 1.2±0.2 | 0.2±0.1 | 0.55 | 0.46 | 2.6 | 1.25 | 0.4 | 0.8 |
| APCW3216 | 3.2±0.2 | 1.6±0.2 | 1.9±0.2 | 0.2±0.1 | 0.7 | 0.6 | 3.5 | 1.6 | 0.4 | 1.9 |
| APCW3225 | 3.2±0.2 | 2.5±0.2 | 2.1±0.2 | 0.2±0.1 | 0.8 | 0.9 | 4 | 2.5 | 0.9 | 2.2 |
| APCW4532 | 4.5±0.2 | 3.2±0.2 | 2.8±0.2 | 0.2±0.1 | 1 | 1.2 | 5.10 | 3.6 | 1.05 | 3.4 |

EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS

● APCW2012 Series

| Part Number | Impedance | Rated Voltage | Test Freq. | Heat Rating Current Max. | DC Resistance Max. | Insulation Resistance Min. |
|-----------------|-----------|---------------|------------|--------------------------|--------------------|----------------------------|
| Units | Ω | Volts | MHz | mA | Ω | MΩ |
| Symbol | Z | VDC | Freq. | I _{rms} | DCR | IR |
| APCW2012-500P2T | 50 | 50 | 100 | 400 | 0.25 | 10 |
| APCW2012-670P2T | 67 | 50 | 100 | 400 | 0.25 | 10 |
| APCW2012-900P2T | 90 | 50 | 100 | 330 | 0.35 | 10 |
| APCW2012-121P2T | 120 | 50 | 100 | 370 | 0.3 | 10 |
| APCW2012-181P2T | 180 | 50 | 100 | 330 | 0.35 | 10 |
| APCW2012-221P2T | 220 | 50 | 100 | 300 | 0.4 | 10 |
| APCW2012-261P2T | 260 | 50 | 100 | 300 | 0.4 | 10 |
| APCW2012-361P2T | 360 | 50 | 100 | 280 | 0.55 | 10 |
| APCW2012-601P2T | 600 | 50 | 100 | 220 | 0.6 | 10 |
| APCW2012-801P2T | 800 | 50 | 100 | 300 | 0.88 | 10 |
| APCW2012-901P2T | 900 | 50 | 100 | 150 | 0.9 | 10 |
| APCW2012-102P2T | 1000 | 50 | 100 | 150 | 1.3 | 10 |

ELECTRICAL CHARACTERISTICS

● APCW3216 Series

| Part Number | Impedance | Rated Voltage | Test Freq. | Heat Rating Current Max. | DC Resistance Max. | Insulation Resistance Min. |
|-----------------|-----------|---------------|------------|--------------------------|--------------------|----------------------------|
| Units | Ω | Volts | MHz | mA | Ω | M Ω |
| Symbol | Z | VDC | Freq. | Irms | DCR | IR |
| APCW3216-900P2T | 90 | 50 | 100 | 370 | 0.3 | 10 |
| APCW3216-121P2T | 120 | 50 | 100 | 350 | 0.3 | 10 |
| APCW3216-161P2T | 160 | 50 | 100 | 340 | 0.4 | 10 |
| APCW3216-221P2T | 220 | 50 | 100 | 300 | 0.45 | 10 |
| APCW3216-261P2T | 260 | 50 | 100 | 310 | 0.5 | 10 |
| APCW3216-361P2T | 360 | 50 | 100 | 300 | 0.6 | 10 |
| APCW3216-601P2T | 600 | 50 | 100 | 260 | 0.8 | 10 |
| APCW3216-801P2T | 800 | 50 | 100 | 240 | 0.9 | 10 |
| APCW3216-102P2T | 1000 | 50 | 100 | 230 | 1 | 10 |
| APCW3216-142P2T | 1400 | 50 | 100 | 220 | 1 | 10 |
| APCW3216-202P2T | 2000 | 50 | 100 | 200 | 1.2 | 10 |
| APCW3216-222P2T | 2200 | 50 | 100 | 200 | 1.2 | 10 |

● APCW3225 Series

| Part Number | Impedance | Rated Voltage | Test Freq. | Heat Rating Current Max. | DC Resistance Max. | Insulation Resistance Min. |
|-----------------|-----------|---------------|------------|--------------------------|--------------------|----------------------------|
| Units | Ω | Volts | MHz | mA | Ω | M Ω |
| Symbol | Z | VDC | Freq. | Irms | DCR | IR |
| APCW3225-800P2T | 80 | 50 | 100 | 640 | 0.12 | 10 |
| APCW3225-161P2T | 160 | 50 | 100 | 480 | 0.15 | 10 |
| APCW3225-271P2T | 270 | 50 | 100 | 450 | 0.25 | 10 |
| APCW3225-501P2T | 500 | 50 | 100 | 1000 | 0.3 | 10 |
| APCW3225-601P2T | 600 | 50 | 100 | 1000 | 0.2 | 10 |
| APCW3225-801P2T | 800 | 50 | 100 | 350 | 0.35 | 10 |
| APCW3225-102P2T | 1000 | 50 | 100 | 480 | 0.35 | 10 |

● APCW4532 Series

| Part Number | Impedance | Rated Voltage | Test Freq. | Heat Rating Current Max. | DC Resistance Max. | Insulation Resistance Min. |
|-----------------|-----------|---------------|------------|--------------------------|--------------------|----------------------------|
| Units | Ω | Volts | MHz | mA | Ω | M Ω |
| Symbol | Z | VDC | Freq. | Irms | DCR | IR |
| APCW4532-800P2T | 80 | 50 | 100 | 3000 | 0.05 | 10 |
| APCW4532-900P2T | 90 | 50 | 100 | 3000 | 0.09 | 10 |
| APCW4532-121P2T | 120 | 50 | 100 | 3000 | 0.1 | 10 |
| APCW4532-201P2T | 200 | 50 | 100 | 1500 | 0.1 | 10 |
| APCW4532-221P2T | 220 | 50 | 100 | 1300 | 0.1 | 10 |
| APCW4532-331P2T | 330 | 50 | 100 | 1100 | 0.11 | 10 |
| APCW4532-601P2T | 600 | 50 | 100 | 1000 | 0.12 | 10 |
| APCW4532-701P2T | 700 | 50 | 100 | 1500 | 0.12 | 10 |
| APCW4532-801P2T | 800 | 50 | 100 | 900 | 0.16 | 10 |

ELECTRICAL CHARACTERISTICS

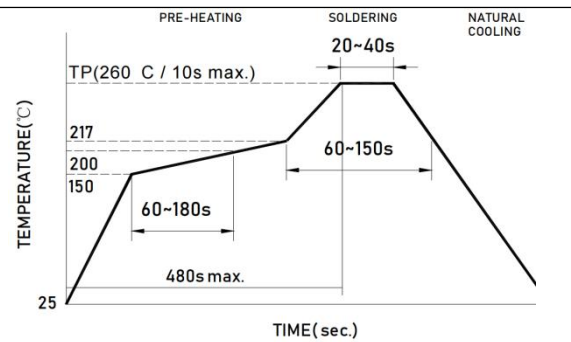
● APCW4532 Series

| Part Number | Impedance | Rated Voltage | Test Freq. | Heat Rating Current Max. | DC Resistance Max. | Insulation Resistance Min. |
|-----------------|-----------|---------------|------------|--------------------------|--------------------|----------------------------|
| Units | Ω | Volts | MHz | mA | Ω | M Ω |
| Symbol | Z | VDC | Freq. | I _{rms} | DCR | IR |
| APCW4532-901P2T | 900 | 50 | 100 | 1000 | 0.17 | 10 |
| APCW4532-102P2T | 1000 | 50 | 100 | 800 | 0.18 | 10 |
| APCW4532-142P2T | 1400 | 50 | 100 | 700 | 0.2 | 10 |

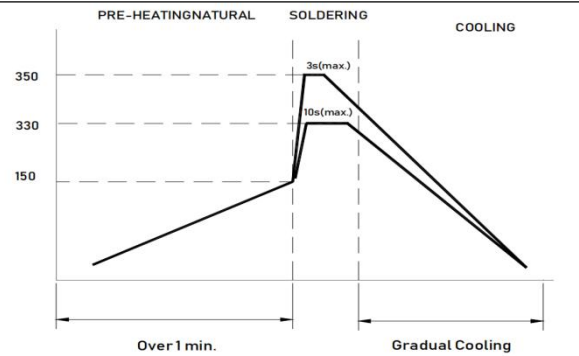
● Rating DC current: Temperature rise(ΔT) is 40 °C approximately at I_{rms}.

SOLDERING CONDITIONS

- Preheat circuit and products to 150 °C
- 260 °C tip temperature (max)
- Reflow times: no more than 2 times
- Solder paste thickness: the best 0.08mm is, but max is 0.1mm

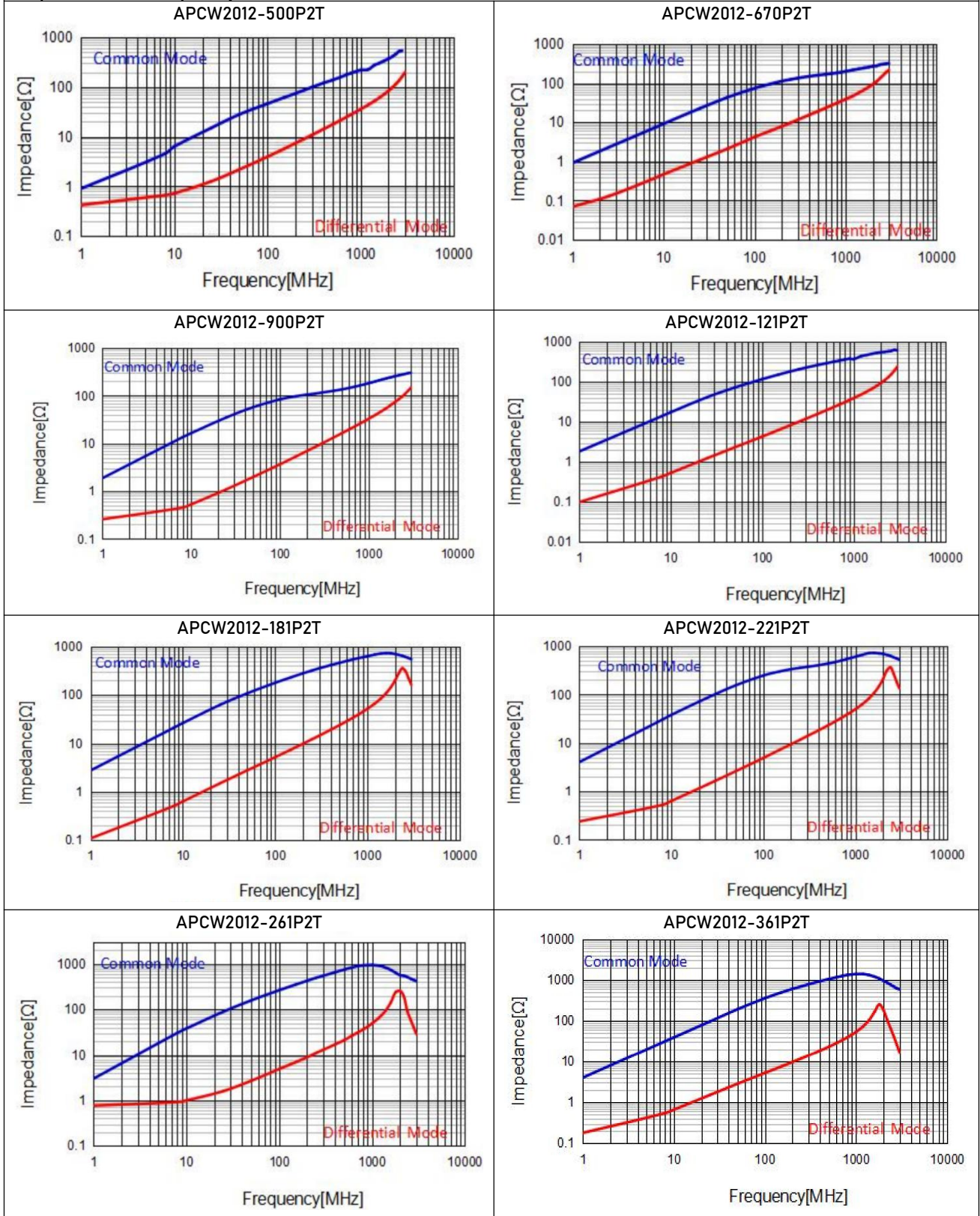


- Use a 20 watt soldering iron with tip diameter of 1.0mm
- Limit soldering time to 3 sec.

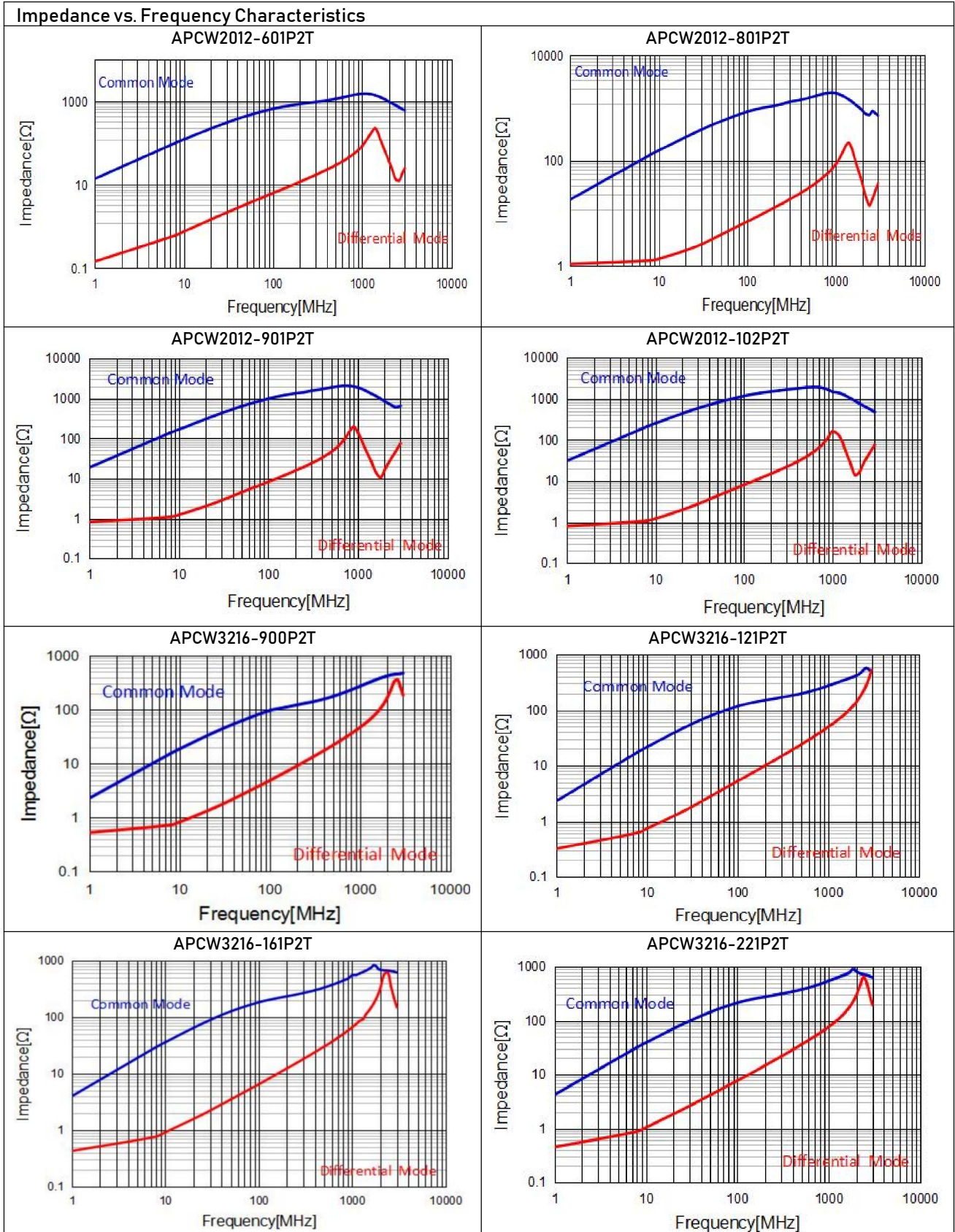


TYPICAL ELECTRICAL CHARACTERISTICS

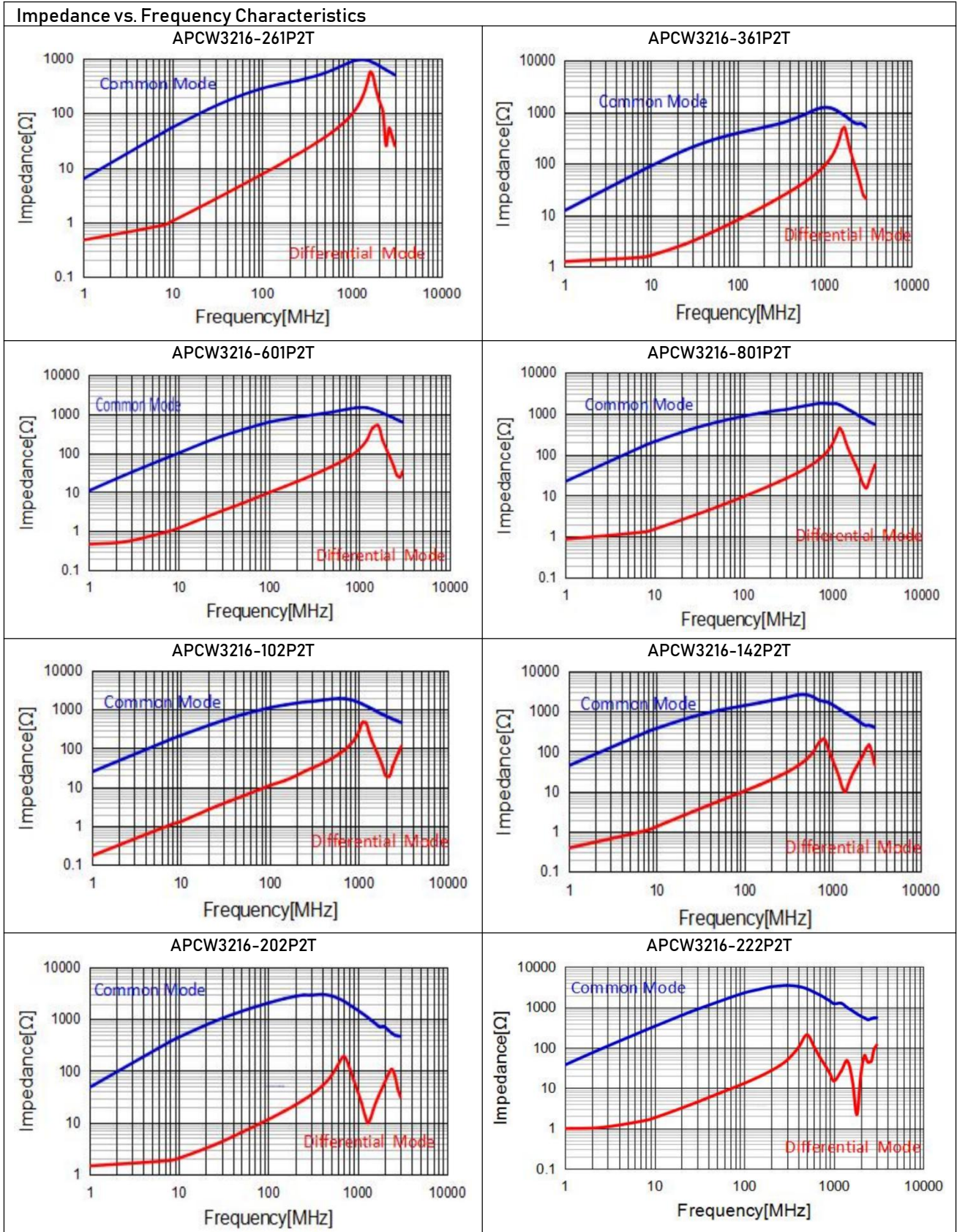
Impedance vs. Frequency Characteristics



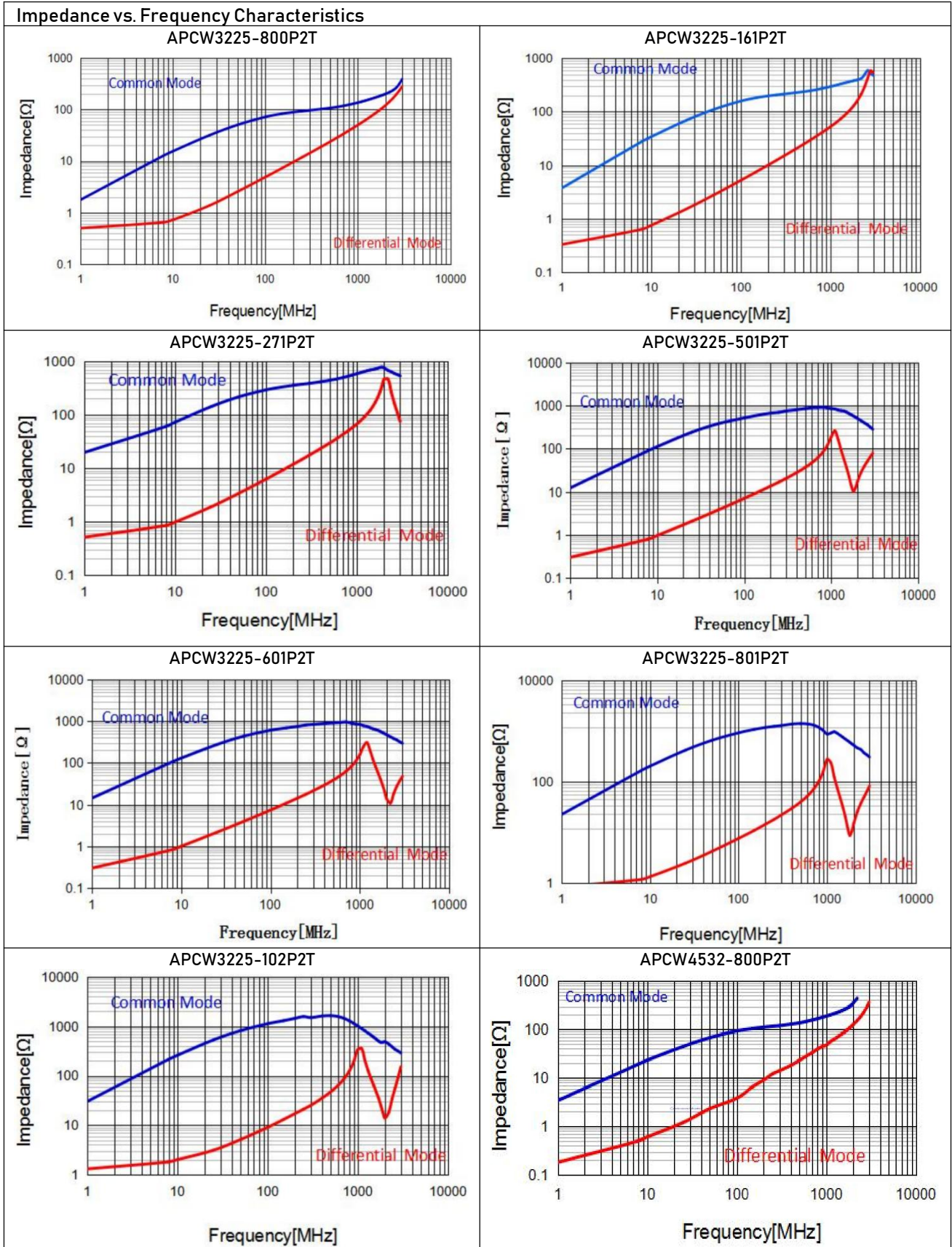
TYPICAL ELECTRICAL CHARACTERISTICS



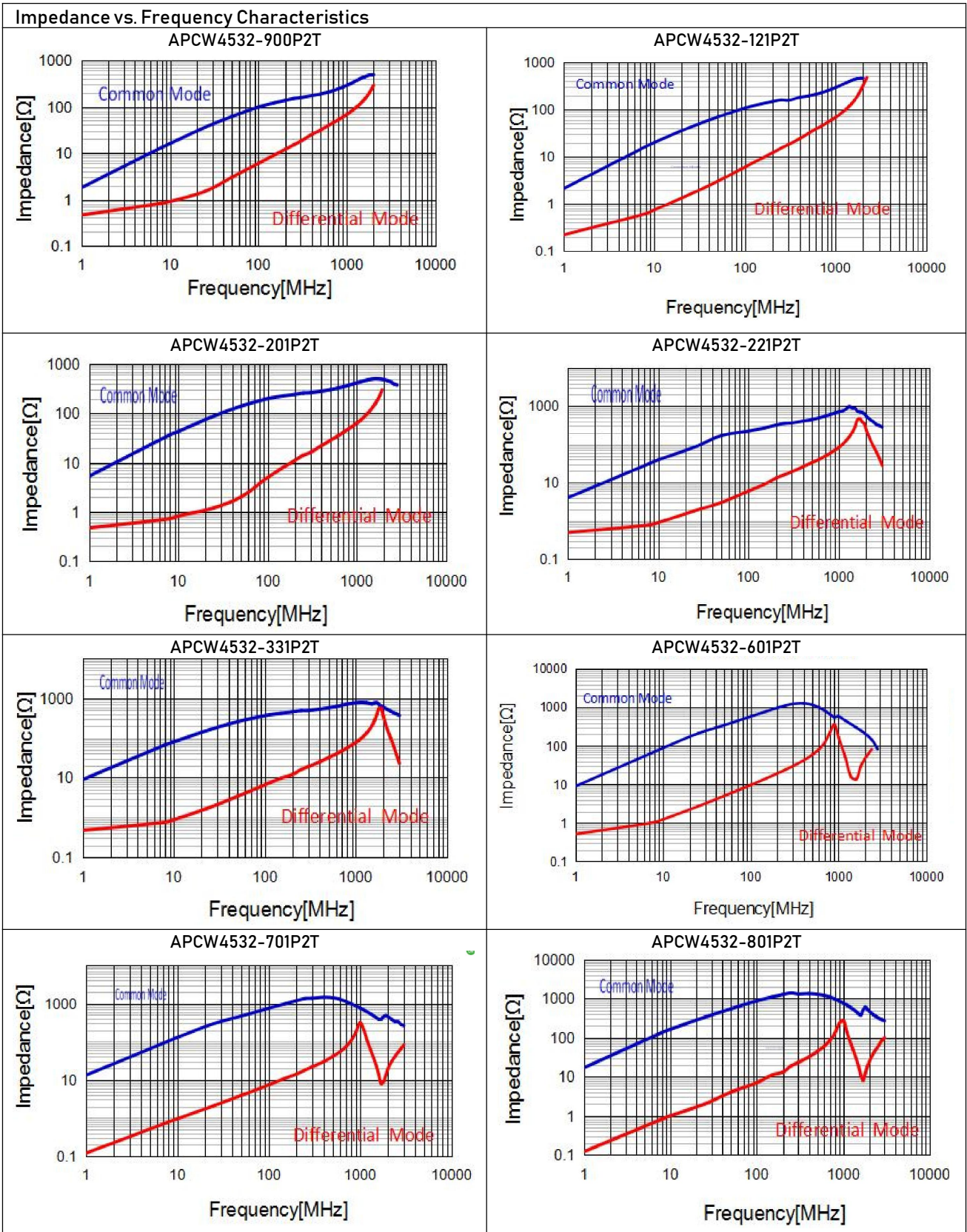
TYPICAL ELECTRICAL CHARACTERISTICS



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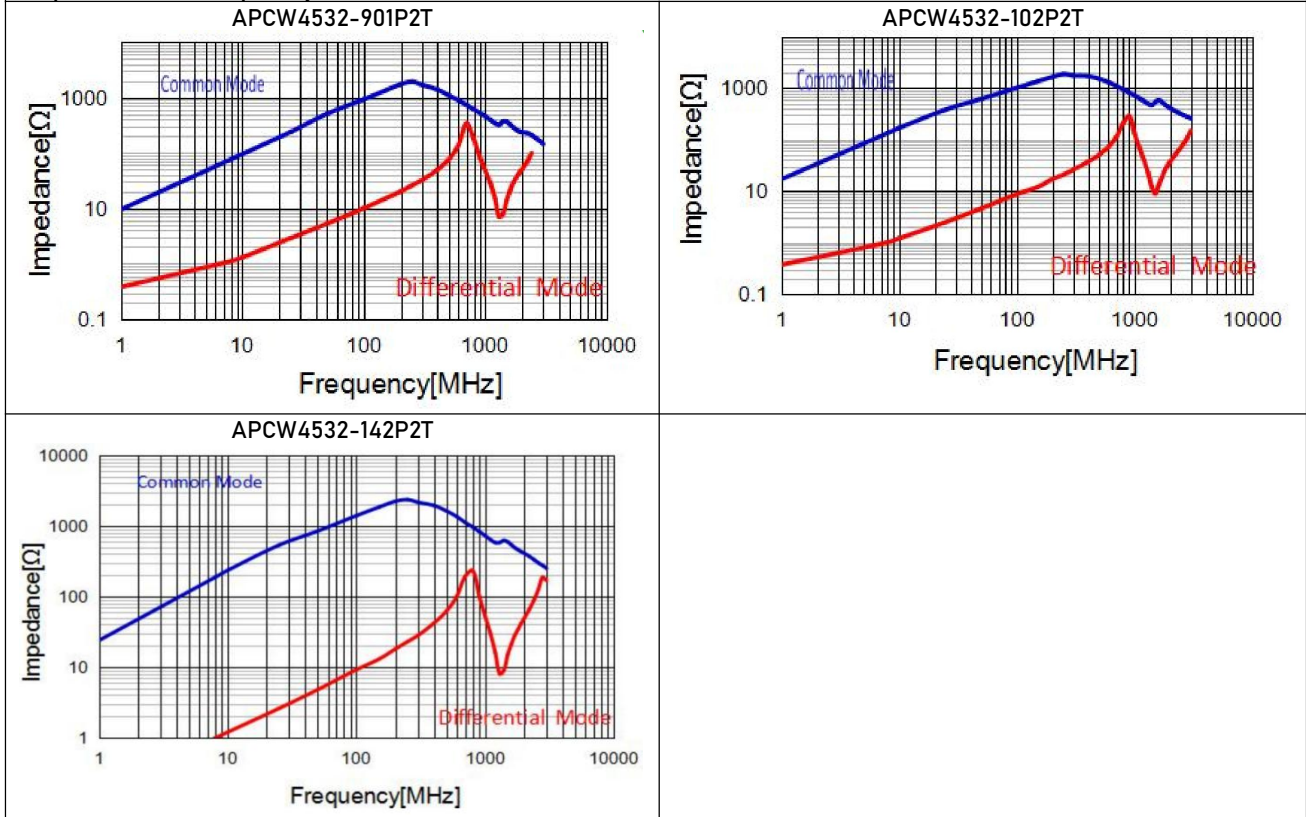


TYPICAL ELECTRICAL CHARACTERISTICS



TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency Characteristics

**Note:**

This series product is not applies in automotive or related products. Otherwise, we will shall not bear than the resulting all the problems of quality and responsibility.

Please be sure to request approval specifications that provide further details of the products. Kindly not that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without APV approval.

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