

Cautions and Warnings

Please be noted that this spec is only for reference if you have projects designed with the product number listed in. If you are looking for new project design-in, please find BKPx Series specification/datasheet on Chilisin website. Or you may find our sales contact for more information on old part number at your convenience. Appreciated your attention and understanding.

Note: Please be sure to request approval specifications that provide further details of the products. Kindly note 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 Chilisin approval. Please contact our sales department before ordering.

Multilayer Power Inductors



The MPx Series is a miniature type of multilayer power inductor constructed using low-loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC-DC converter applications in space-limited boards.

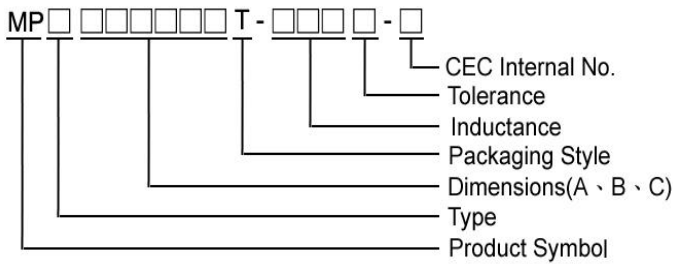
Features

- RoHS, Halogen Free and REACH Compliance
- Small size
- Low profile
- High current
- Magnetically shielded configuration allowing for high density mounting

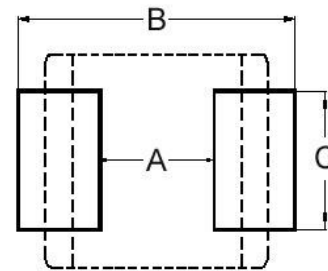
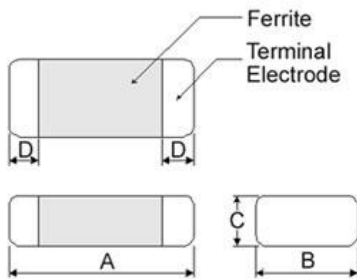
Applications

- DC-DC converters
- Power modules
- Cellular phones
- DSC, PND, DVD
- Wireless card and other electronic devices

Product Identification



- Product Symbol : MPA, MPB, MPE
- Packaging : T : Tape and Reel , B : Bulk
- Tolerance : M = $\pm 20\%$, T = $\pm 30\%$



Dimensions in mm

| TYPE | A | B | C | D |
|--------|----------------|-----------------|----------------|---------------|
| 160805 | 1.6 \pm 0.15 | 0.8 \pm 0.15 | 0.5 \pm 0.05 | 0.3 \pm 0.2 |
| 160806 | 1.6 \pm 0.15 | 0.8 \pm 0.15 | 0.6 \pm 0.15 | 0.3 \pm 0.2 |
| 160808 | 1.6 \pm 0.15 | 0.8 \pm 0.15 | 0.8 \pm 0.15 | 0.3 \pm 0.2 |
| 201205 | 2.0 \pm 0.20 | 1.25 \pm 0.20 | 0.55 Max | 0.5 \pm 0.3 |
| 201210 | 2.0 \pm 0.20 | 1.25 \pm 0.20 | 1.0 Max | 0.5 \pm 0.3 |
| 201610 | 2.0 \pm 0.20 | 1.6 \pm 0.20 | 1.0 Max | 0.5 \pm 0.3 |
| 252010 | 2.5 \pm 0.20 | 2.0 \pm 0.20 | 1.0 Max | 0.6 \pm 0.2 |
| 252012 | 2.5 \pm 0.20 | 2.0 \pm 0.20 | 1.2 Max | 0.6 \pm 0.2 |

Dimensions in mm

| TYPE | A | B | C |
|--------|-----------|-----------|-----------|
| 160805 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| 160806 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| 160808 | 0.7 ~ 0.8 | 1.8 ~ 2.0 | 0.6 ~ 0.8 |
| 201205 | 0.8 ~ 1.2 | 2.3 ~ 2.9 | 1.0 ~ 1.4 |
| 201210 | 0.8 ~ 1.2 | 2.3 ~ 2.9 | 1.0 ~ 1.4 |
| 201610 | 0.8 ~ 1.2 | 2.1 ~ 2.7 | 1.6 ~ 2.0 |
| 252010 | 1.3 ~ 1.9 | 2.7 ~ 3.5 | 2.0 ~ 2.6 |
| 252012 | 1.3 ~ 1.9 | 2.7 ~ 3.5 | 2.0 ~ 2.6 |

SMD Multilayer Power Inductors – MP Series

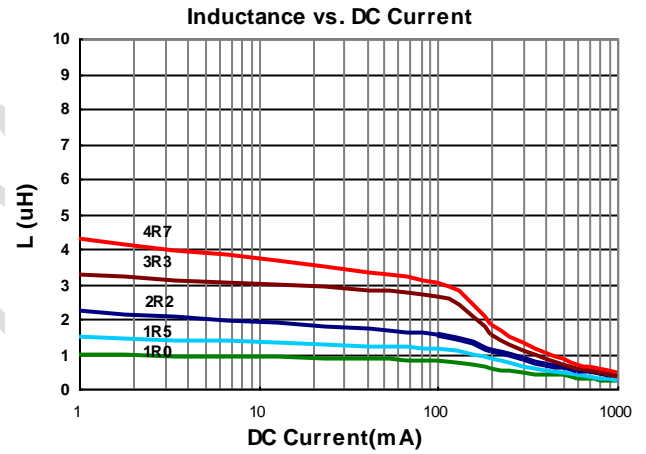
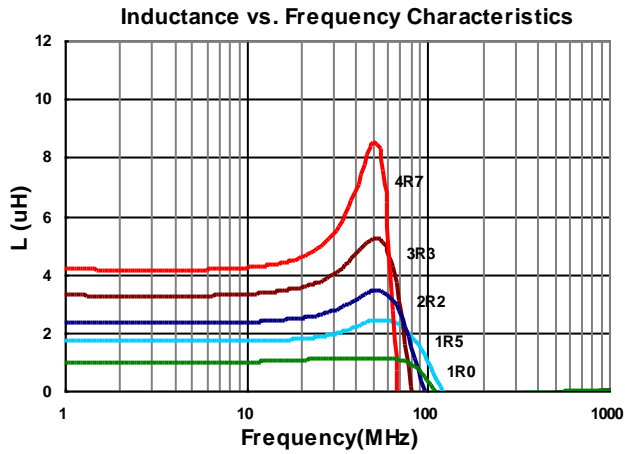
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Rated current (mA) Max |
|-------------------|-----------------|----------------|----------------------|--------------|------------------------|
| MPA201210T-1R0□-N | 1.0 | 20, 30 | 1 | 0.18 | 1100 |
| MPA201210T-1R5□-N | 1.5 | 20, 30 | 1 | 0.19 | 1000 |
| MPA201210T-2R2□-N | 2.2 | 20, 30 | 1 | 0.22 | 900 |
| MPA201210T-3R3□-N | 3.3 | 20, 30 | 1 | 0.25 | 700 |
| MPA201210T-4R7□-N | 4.7 | 20, 30 | 1 | 0.35 | 600 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rated Current for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 1MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



SMD Multilayer Power Inductors – MP Series

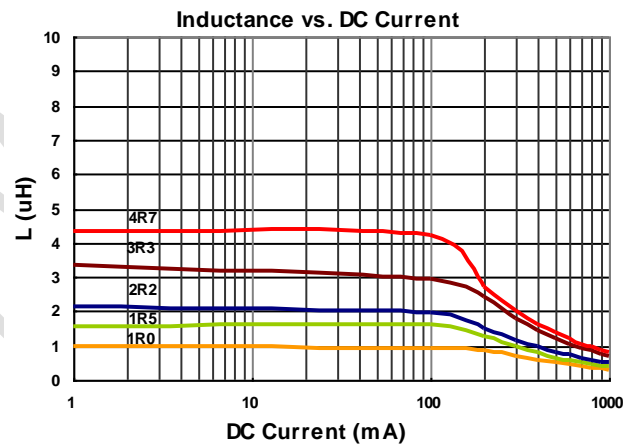
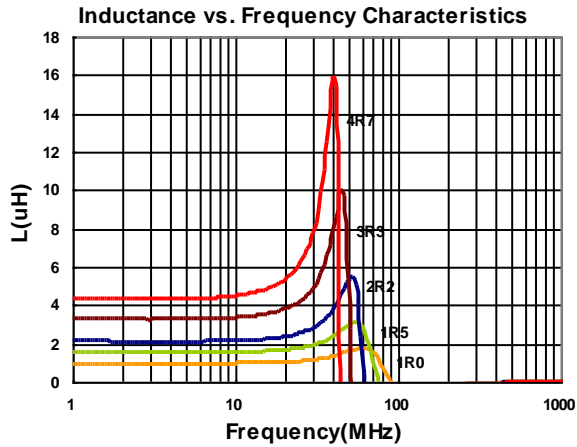
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Rated current (mA) Max |
|-------------------|-----------------|----------------|----------------------|--------------|------------------------|
| MPA252010T-1R0□-N | 1.0 | 20, 30 | 1 | 0.11 | 1200 |
| MPA252010T-1R5□-N | 1.5 | 20, 30 | 1 | 0.13 | 1100 |
| MPA252010T-2R2□-N | 2.2 | 20, 30 | 1 | 0.15 | 1000 |
| MPA252010T-3R3□-N | 3.3 | 20, 30 | 1 | 0.18 | 1000 |
| MPA252010T-4R7□-N | 4.7 | 20, 30 | 1 | 0.25 | 900 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rated Current for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 1MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



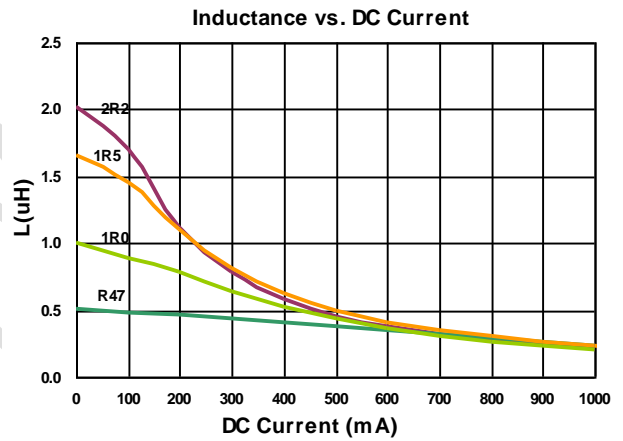
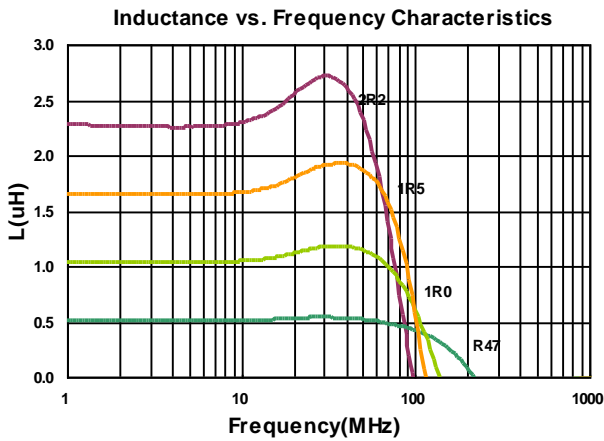
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB160805T-R47□-NA6 | 0.47 | 20, 30 | 3 | 0.15 | 420 | 1200 |
| MPB160805T-1R0□-NA6 | 1.0 | 20, 30 | 3 | 0.20 | 180 | 1200 |
| MPB160805T-1R5□-NA6 | 1.5 | 20, 30 | 3 | 0.22 | 130 | 1000 |
| MPB160805T-2R2□-NA6 | 2.2 | 20, 30 | 3 | 0.24 | 100 | 1000 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



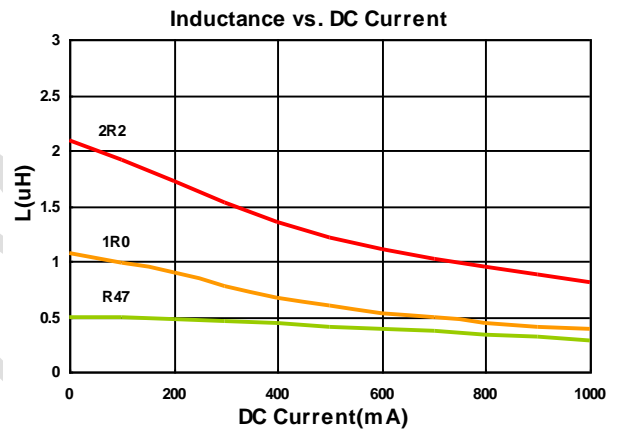
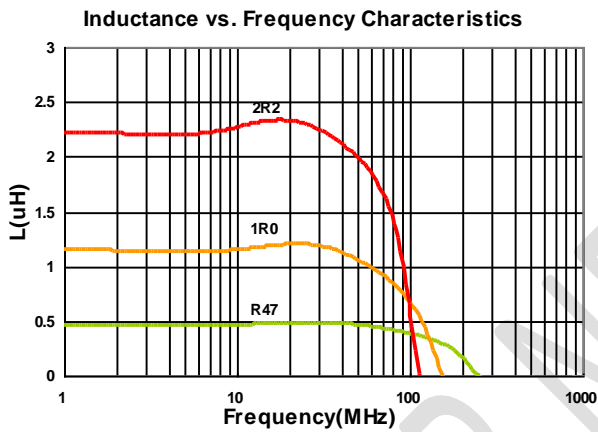
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB160808T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.15 | 400 | 1100 |
| MPB160808T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.20 | 200 | 950 |
| MPB160808T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.30 | 150 | 750 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



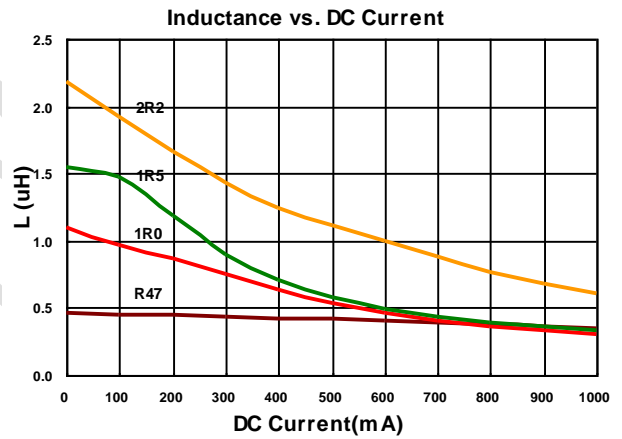
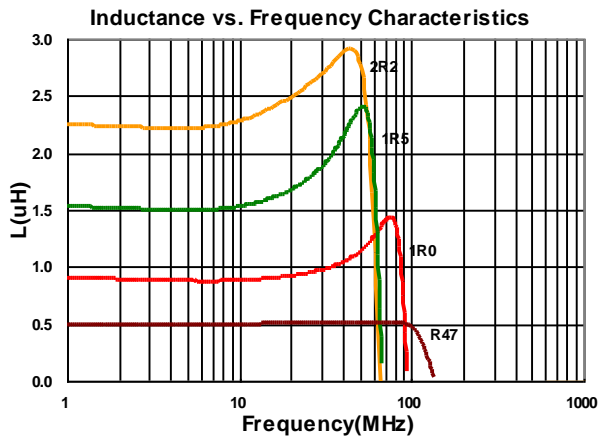
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB201205T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.11 | 900 | 1200 |
| MPB201205T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.16 | 300 | 900 |
| MPB201205T-1R5□-NA2 | 1.5 | 20, 30 | 3 | 0.18 | 250 | 800 |
| MPB201205T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.29 | 200 | 600 |
| MPB201205T-4R7□-NA2 | 4.7 | 20, 30 | 3 | 0.50 | 100 | 700 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



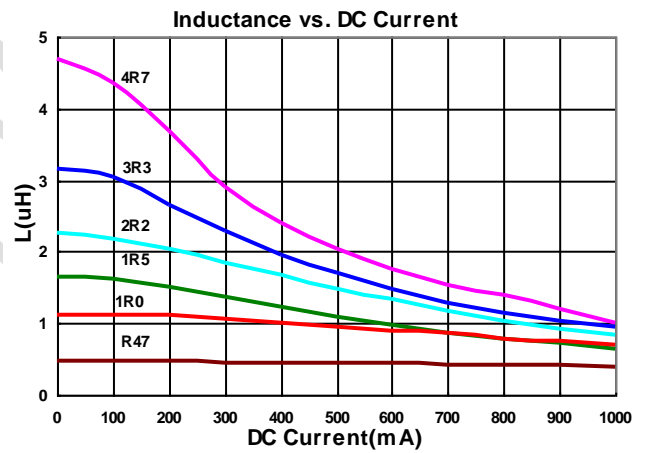
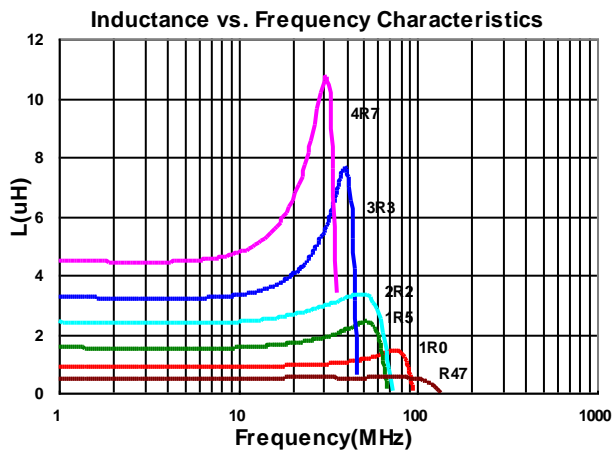
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB201210T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.09 | 1100 | 1300 |
| MPB201210T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.12 | 650 | 1200 |
| MPB201210T-1R5□-NA2 | 1.5 | 20, 30 | 3 | 0.15 | 450 | 1100 |
| MPB201210T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.19 | 400 | 1100 |
| MPB201210T-3R3□-NA2 | 3.3 | 20, 30 | 3 | 0.24 | 300 | 800 |
| MPB201210T-4R7□-NA2 | 4.7 | 20, 30 | 3 | 0.26 | 200 | 700 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 3MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



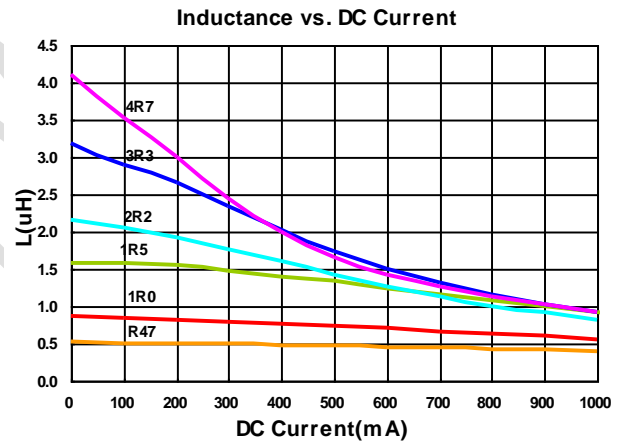
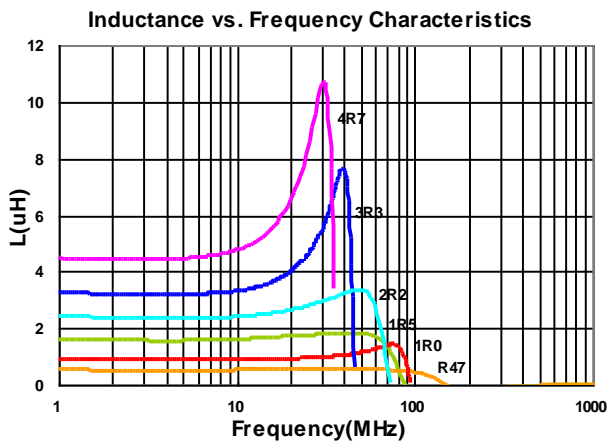
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB201610T-R47□-NA6 | 0.47 | 20, 30 | 3 | 0.06 | 1200 | 1600 |
| MPB201610T-1R0□-NA6 | 1.0 | 20, 30 | 3 | 0.085 | 850 | 1300 |
| MPB201610T-1R5□-NA6 | 1.5 | 20, 30 | 3 | 0.11 | 600 | 1200 |
| MPB201610T-2R2□-NA6 | 2.2 | 20, 30 | 3 | 0.11 | 400 | 1200 |
| MPB201610T-3R3□-NA6 | 3.3 | 20, 30 | 3 | 0.12 | 350 | 850 |
| MPB201610T-4R7□-NA6 | 4.7 | 20, 30 | 3 | 0.14 | 200 | 1100 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20%, T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 3MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



SMD Multilayer Power Inductors – MP Series

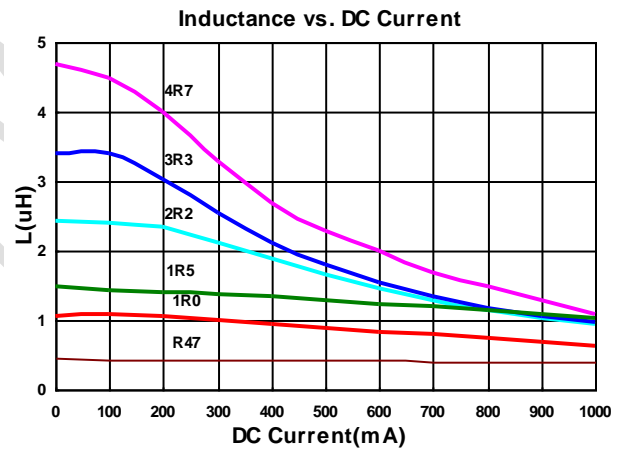
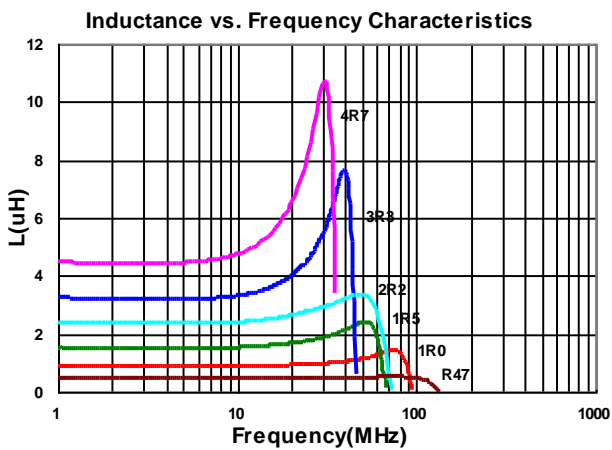
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB252010T-R47□-NA6 | 0.47 | 20, 30 | 3 | 0.04 | 1500 | 1800 |
| MPB252010T-1R0□-NA6 | 1.0 | 20, 30 | 3 | 0.055 | 900 | 1600 |
| MPB252010T-1R5□-NA2 | 1.5 | 20, 30 | 3 | 0.07±30% | 800 | 1400 |
| MPB252010T-2R2□-NA6 | 2.2 | 20, 30 | 3 | 0.08 | 500 | 1300 |
| MPB252010T-3R3□-NA6 | 3.3 | 20, 30 | 3 | 0.10 | 400 | 1200 |
| MPB252010T-4R7□-NA6 | 4.7 | 20, 30 | 3 | 0.11 | 300 | 1100 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 3MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



SMD Multilayer Power Inductors – MP Series

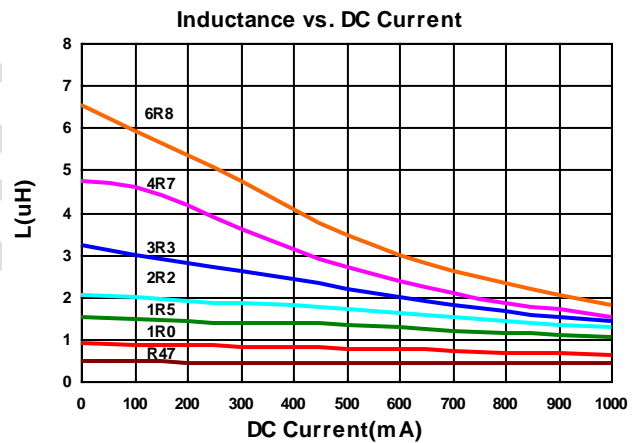
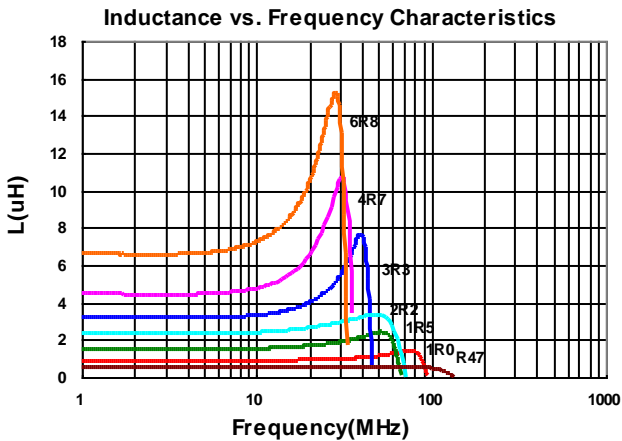
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±30% | Isat (mA) Max | Irms (mA) Max |
|---------------------|-----------------|----------------|----------------------|--------------|---------------|---------------|
| MPB252012T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.04 | 1500 | 1800 |
| MPB252012T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.05 | 950 | 1600 |
| MPB252012T-1R5□-NA2 | 1.5 | 20, 30 | 3 | 0.07 | 900 | 1400 |
| MPB252012T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.10 | 700 | 1200 |
| MPB252012T-3R3□-NA2 | 3.3 | 20, 30 | 3 | 0.12 | 500 | 1100 |
| MPB252012T-4R7□-NA2 | 4.7 | 20, 30 | 3 | 0.14 | 350 | 1000 |
| MPB252012T-6R8□-NA2 | 6.8 | 20, 30 | 3 | 0.16 | 250 | 900 |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 3MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



SMD Multilayer Power Inductors – MP Series

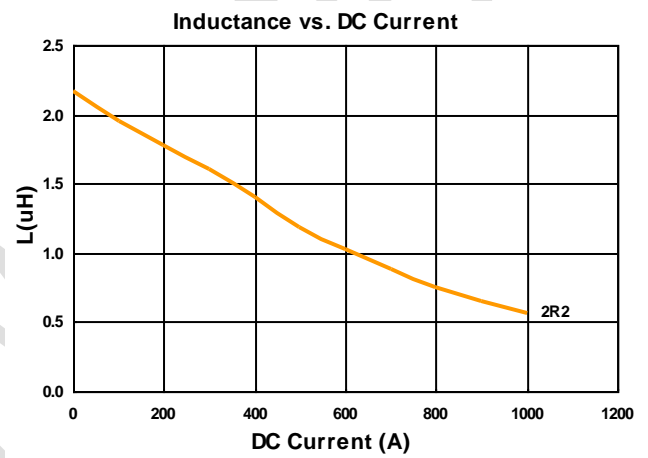
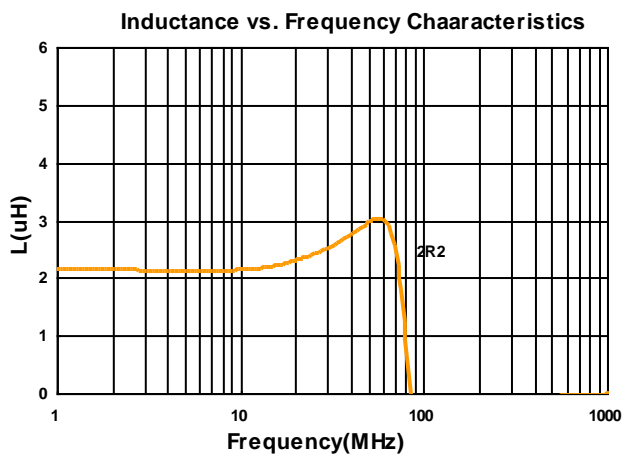
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat(mA) Max(Typ.) | Irms(mA) Max(Typ.) |
|---------------------|-----------------|----------------|----------------------|--------------|--------------------|--------------------|
| MPE160806T-2R2□-NA6 | 2.2 | 20, 30 | 3 | 0.38 | 250(300) | 650(750) |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



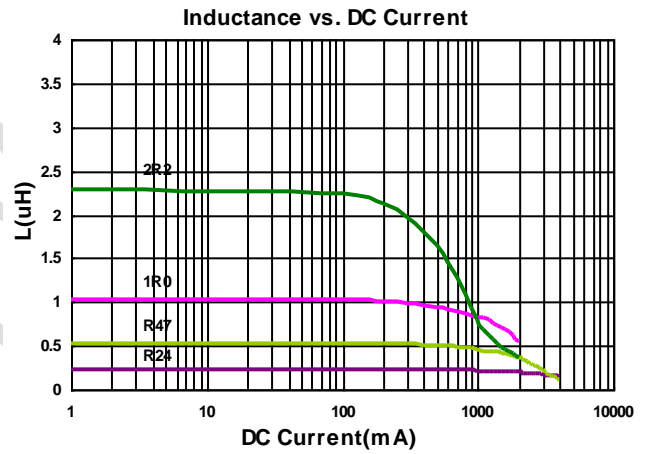
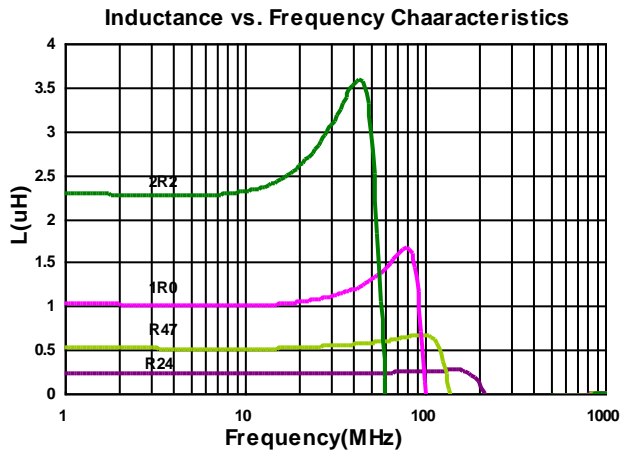
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat(mA) Max(Typ.) | Irms(mA) Max(Typ.) |
|---------------------|-----------------|----------------|----------------------|--------------|--------------------|--------------------|
| MPE201210T-R24□-NA2 | 0.24 | 20, 30 | 3 | 0.03 | 2700(3300) | 2400(3200) |
| MPE201210T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.06 | 1600(2000) | 2200(3000) |
| MPE201210T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.10 | 1400(1700) | 1800(2100) |
| MPE201210T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.125 | 500(800) | 1600(1900) |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



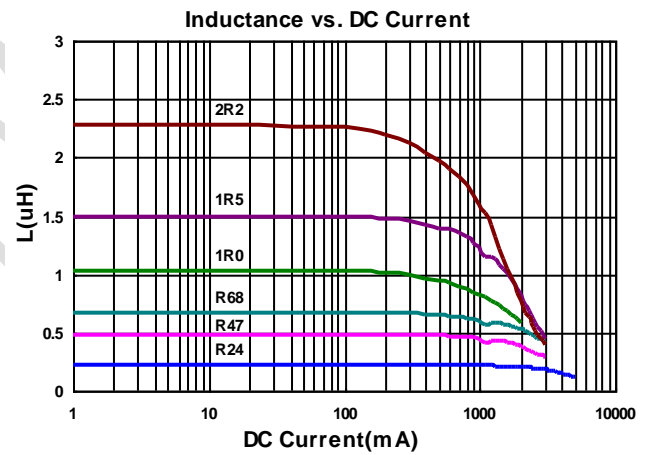
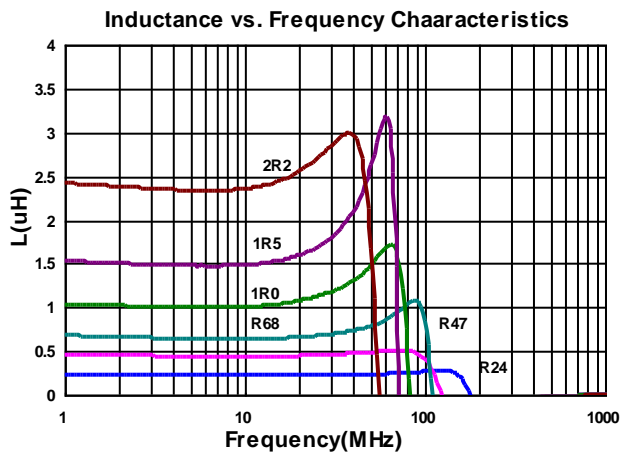
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat(mA) Max(Typ.) | Irms(mA) Max(Typ.) |
|---------------------|-----------------|----------------|----------------------|--------------|--------------------|--------------------|
| MPE201610T-R24□-NA2 | 0.24 | 20, 30 | 3 | 0.023 | 3600(4000) | 3500(4200) |
| MPE201610T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.037 | 2500(2900) | 2600(3100) |
| MPE201610T-R68□-NA2 | 0.68 | 20, 30 | 3 | 0.065 | 2500(2800) | 2400(2800) |
| MPE201610T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.068 | 1500(1900) | 2200(2600) |
| MPE201610T-1R5□-NA2 | 1.5 | 20, 30 | 3 | 0.100 | 1500(1800) | 1600(1900) |
| MPE201610T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.210 | 1000(1300) | 1500(1800) |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 3MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



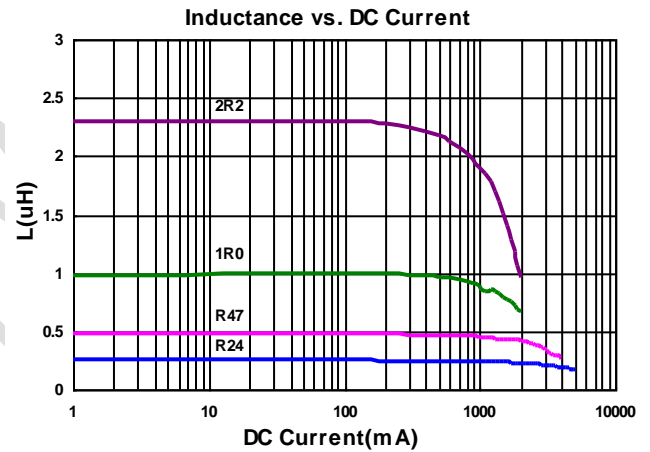
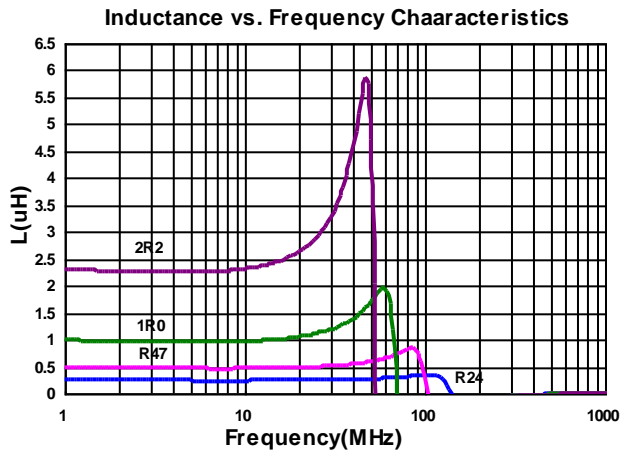
Electrical Characteristics

| Part Number | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | RDC (Ω) ±25% | Isat(mA) Max(Typ.) | Irms(mA) Max(Typ.) |
|---------------------|-----------------|----------------|----------------------|--------------|--------------------|--------------------|
| MPE252010T-R24□-NA2 | 0.24 | 20, 30 | 3 | 0.024 | 4800(5200) | 4100(4900) |
| MPE252010T-R47□-NA2 | 0.47 | 20, 30 | 3 | 0.040 | 3100(3500) | 3000(3600) |
| MPE252010T-1R0□-NA2 | 1.0 | 20, 30 | 3 | 0.050 | 1500(1900) | 2900(3500) |
| MPE252010T-2R2□-NA2 | 2.2 | 20, 30 | 3 | 0.110 | 1400(1700) | 1600(1900) |

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

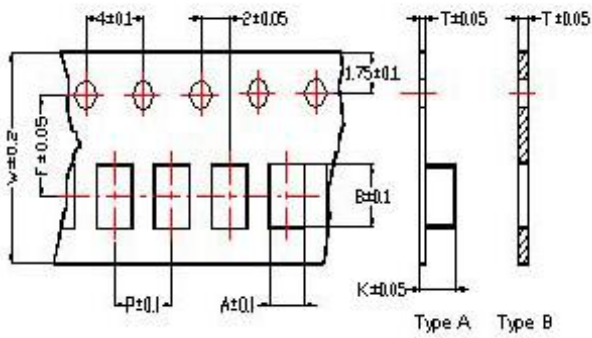
- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
 L : Agilent HP4287A+16197A, 3MHz 200mV
 RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



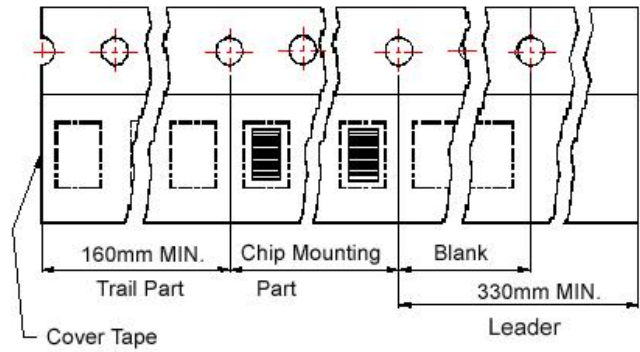
Packaging Specifications

Tape Dimensions

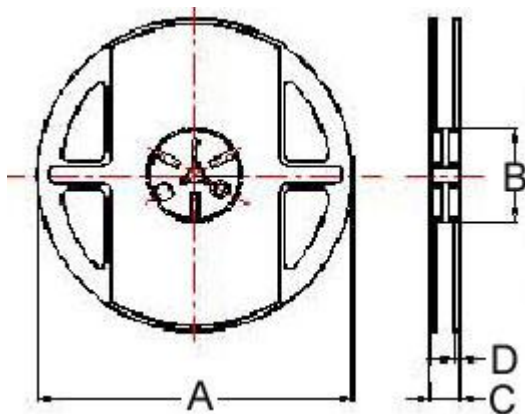


Tape Material

Carrier Tape: Polycarbonate (Tape A)
 Carrier Tape: Paper (Tape B)
 Cover Tape: Polystyrene



Reel Dimensions



Dimensions in mm

| TYPE | Tape Dimensions | | | | | | | | Reel Dimensions | | | | Quantity PCS / REEL |
|--------|-----------------|------|------|-----|-----|-----|------|-----------|-----------------|----|----|-----|------------------------|
| | A | B | T | W | P | F | K | Tape Type | A | B | C | D | |
| 160805 | 1.05 | 1.85 | 0.60 | 8.0 | 2.0 | 3.5 | - | B | 178 | 60 | 12 | 1.5 | 10000 |
| 160806 | 1.05 | 1.85 | 0.75 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 1.5 | 4000 |
| 160808 | 1.05 | 1.85 | 0.95 | 8.0 | 4.0 | 3.5 | - | B | 178 | 60 | 12 | 1.5 | 4000 |
| 201205 | 1.42 | 2.25 | 0.22 | 8.0 | 4.0 | 3.5 | 0.80 | A | 178 | 60 | 12 | 1.5 | 4000 |
| 201210 | 1.45 | 2.25 | 0.22 | 8.0 | 4.0 | 3.5 | 1.04 | A | 178 | 60 | 12 | 1.5 | 3000 |
| 201610 | 1.80 | 2.20 | 0.22 | 8.0 | 4.0 | 3.5 | 1.15 | A | 178 | 60 | 12 | 1.5 | 3000 |
| 252010 | 2.25 | 2.8 | 0.25 | 8.0 | 4.0 | 3.5 | 1.35 | A | 178 | 60 | 12 | 1.5 | 3000 |
| 252012 | 2.25 | 2.8 | 0.25 | 8.0 | 4.0 | 3.5 | 1.35 | A | 178 | 60 | 12 | 1.5 | 3000 |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Fixed Inductors](#) category:

Click to view products by [Chilisin](#) manufacturer:

Other Similar products are found below :

[CR32NP-151KC](#) [CR32NP-180KC](#) [CR32NP-181KC](#) [CR32NP-1R5MC](#) [CR32NP-390KC](#) [CR32NP-3R9MC](#) [CR32NP-680KC](#) [CR32NP-820KC](#) [CR32NP-8R2MC](#) [CR43NP-390KC](#) [CR43NP-560KC](#) [CR43NP-680KC](#) [CR54NP-181KC](#) [CR54NP-470LC](#) [CR54NP-820KC](#) [CR54NP-8R5MC](#) [70F224AI](#) [MGDQ4-00004-P](#) [MHL1ECTTP18NJ](#) [MHQ1005P10NJ](#) [MHQ1005P1N0S](#) [MHQ1005P2N4S](#) [MHQ1005P3N6S](#) [MHQ1005P5N1S](#) [MHQ1005P8N2J](#) [PE-51506NL](#) [PE-53601NL](#) [PE-53602NL](#) [PE-53630NL](#) [PE-53824SNLT](#) [PE-92100NL](#) [PG0434.801NLT](#) [PG0936.113NLT](#) [9220-20](#) [9310-16](#) [PM06-2N7](#) [PM06-39NJ](#) [A01TK](#) [1206CS-471XJ](#) [HC2LP-R47-R](#) [HC2-R47-R](#) [HC3-2R2-R](#) [HCF1305-3R3-R](#) [1206CS-151XG](#) [RCH664NP-140L](#) [RCH664NP-4R7M](#) [RCH8011NP-221L](#) [RCP1317NP-332L](#) [RCP1317NP-391L](#) [RCR1010NP-470M](#)