

Power Inductor

AKPx Series - ISO9001 | ISO14001 | IATF16949



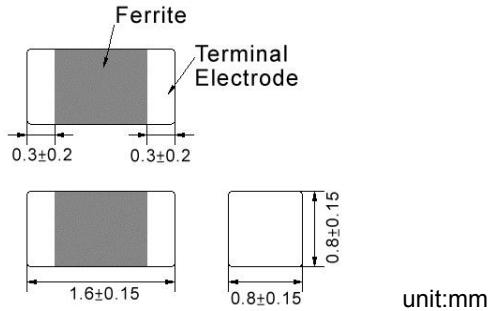
Part Numbering

| A | KPx | 00 | 201610 | 1R0 | M | 00 |
|-------|-------------|--------------|----------------------|-----------------|-----------|---------------|
| Grade | Series Name | Control Code | Dimensions Code (mm) | Inductance (uH) | Tolerance | Internal Code |
| | KPB | | 1608DZ 1.6x0.8x0.8 | R47 0.47 | T ±30% | A2 |
| | KPE | | 201210 2.0x1.25x1.0 | 1R0 1.0 | M ±20% | A6 |
| | | | 201610 2.0x1.6x1.0 | | | |
| | | | 252010 2.5x2.0x1.0 | | | |

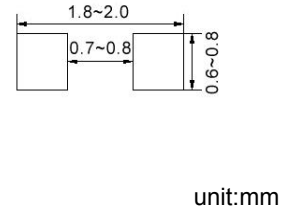
This specification applies to Multilayer Chip Inductors for Automotive Electronics based on AEC-Q200 except for Power train and Safety.

AKPB001608DZ Type

Dimensions



Recommended Land Pattern



Electrical Characteristics

| Part No. | Inductance (uH) | Test Freq. | RDC (Ω)±30% | Isat (mA)Max. | I _{rms} (mA)Max. | | Tolerance (±%) |
|--------------------|--------------------|------------|----------------|------------------|---------------------------|---------------------|-------------------|
| | | | | | 85°C ^{*1} | 125°C ^{*1} | |
| AKPB001608DZR47□A2 | 0.47 | 3MHz,200mV | 0.15 | 400 | 1100 | 800 | 20,30 |
| AKPB001608DZ1R0□A2 | 1.0 | 3MHz,200mV | 0.20 | 200 | 950 | 700 | 20,30 |
| AKPB001608DZ2R2□A2 | 2.2 | 3MHz,200mV | 0.30 | 150 | 750 | 550 | 20,30 |

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

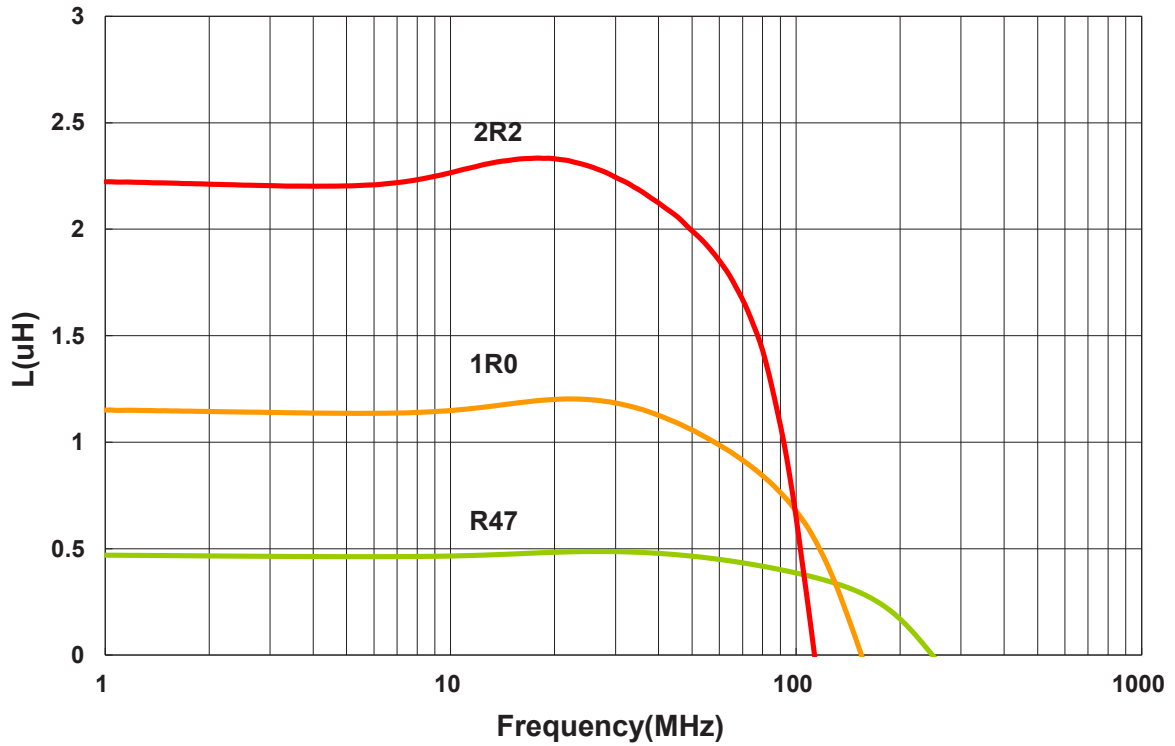
1. Operating temperature range - 55°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I_{rms} for When applied current to the Products, temperature rise caused by self-generated heat shall be limited to 40 °C max
4. As for the Rated current marked with *1, Rated Current is depending on the operating temperature
5. Measure Equipment :

L : Agilent HP4287A+16197A
RDC : HP 4338B, or equivalent

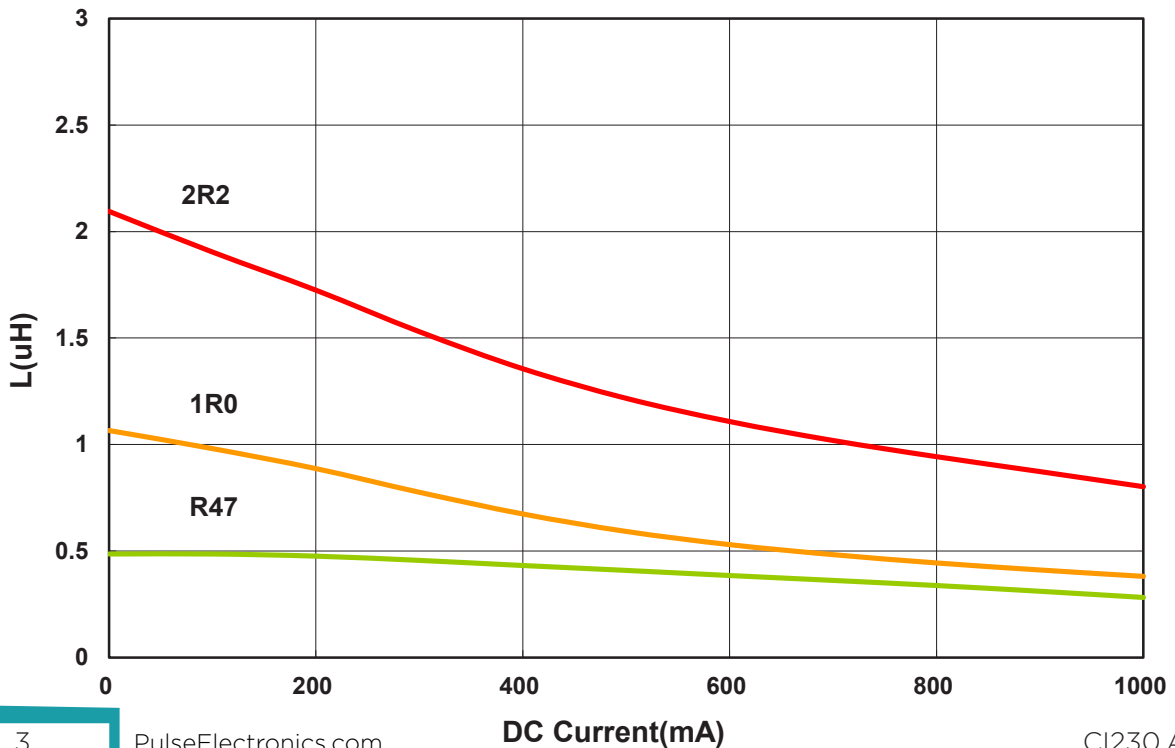
AKPB001608DZ Type

Characteristics Graph

Inductance vs. Frequency Characteristics

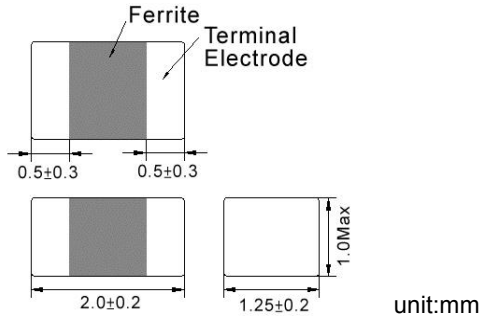


Inductance vs. DC Current

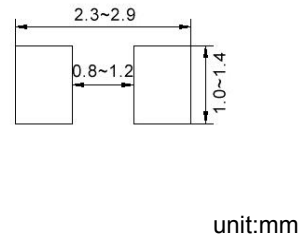


AKPB00201210 Type

Dimensions



Recommended Land Pattern



Electrical Characteristics

| Part No. | Inductance (uH) | Test Freq. | RDC (Ω)±30% | Isat (mA)Max. | I _{rms} (mA)Max. | | Tolerance (±%) |
|--------------------|--------------------|------------|----------------|------------------|---------------------------|---------------------|-------------------|
| | | | | | 85°C ^{*1} | 125°C ^{*1} | |
| AKPB00201210R47□A2 | 0.47 | 3MHz,200mV | 0.09 | 1100 | 1300 | 950 | 20,30 |
| AKPB002012101R0□A2 | 1.0 | 3MHz,200mV | 0.12 | 650 | 1200 | 900 | 20,30 |
| AKPB002012101R5□A2 | 1.5 | 3MHz,200mV | 0.15 | 450 | 1100 | 800 | 20,30 |
| AKPB002012102R2□A2 | 2.2 | 3MHz,200mV | 0.19 | 400 | 1100 | 800 | 20,30 |
| AKPB002012103R3□A2 | 3.3 | 3MHz,200mV | 0.24 | 300 | 800 | 600 | 20,30 |
| AKPB002012104R7□A2 | 4.7 | 3MHz,200mV | 0.26 | 200 | 700 | 500 | 20,30 |

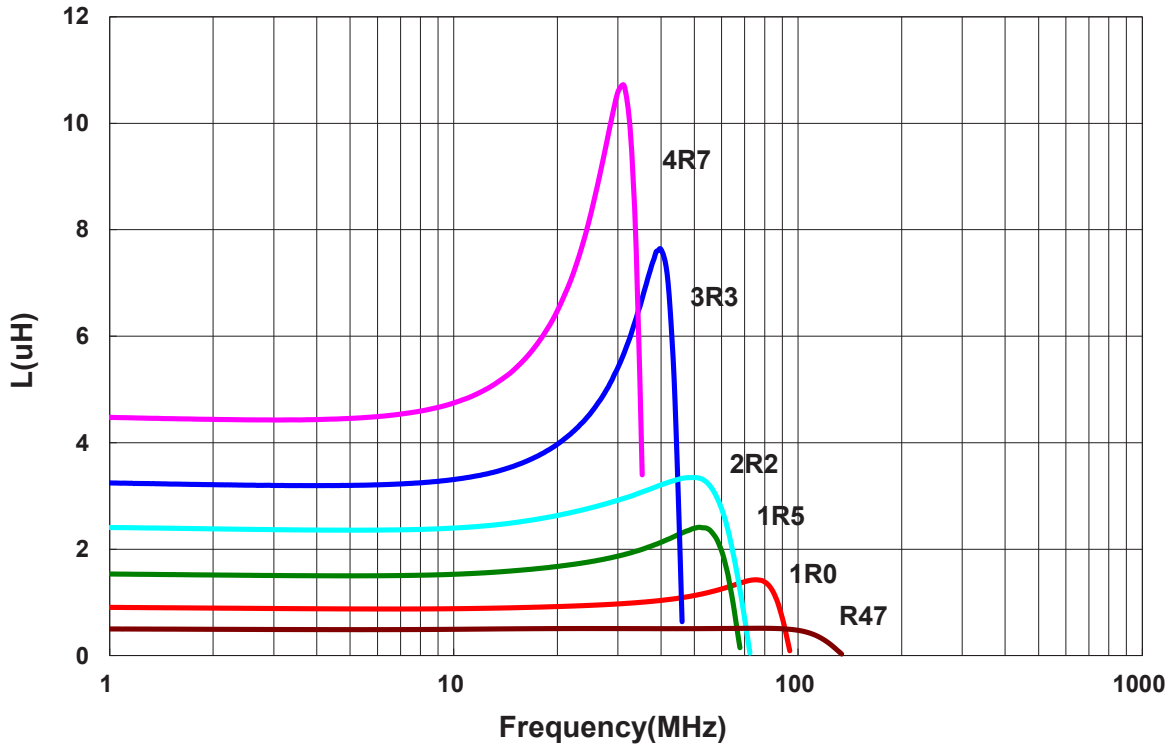
Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%

1. Operating temperature range - 55°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I_{rms} for When applied current to the Products, temperature rise caused by self-generated heat shall be limited to 40 °C max
4. As for the Rated current marked with *1, Rated Current is depending on the operating temperature
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L : Agilent HP4287A+16197A
RDC : HP 4338B, or equivalent

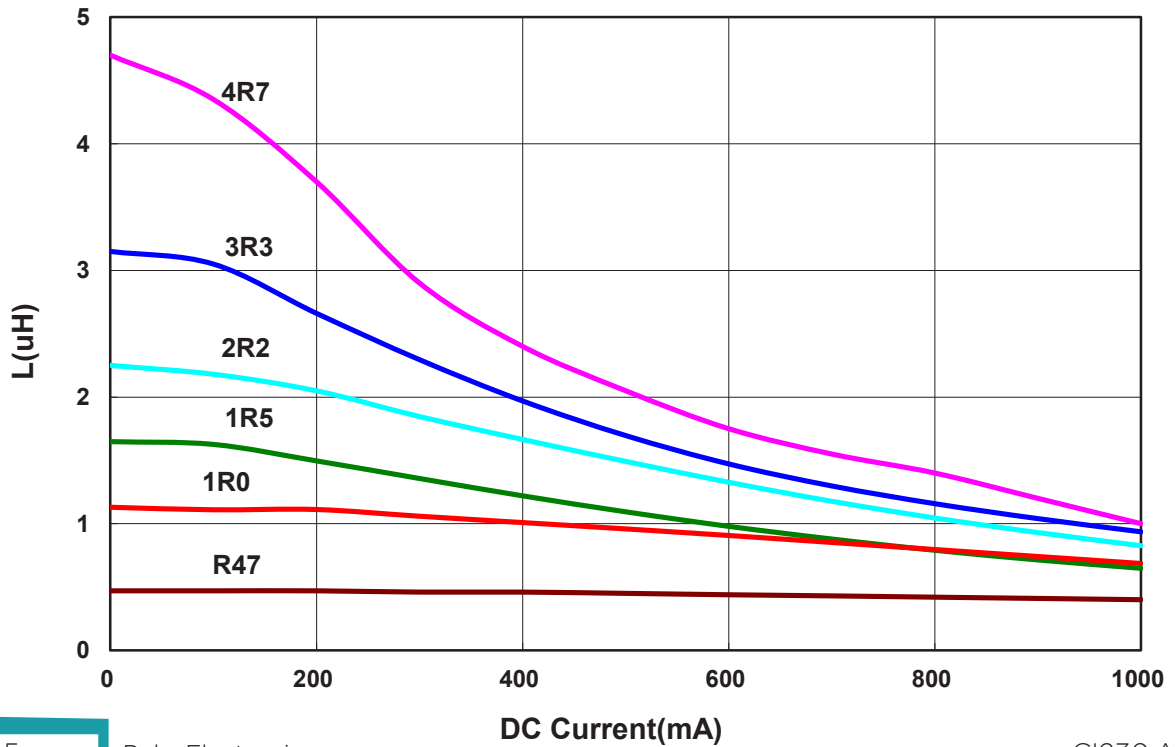
AKPB00201210 Type

Characteristics Graph

Inductance vs. Frequency Characteristics

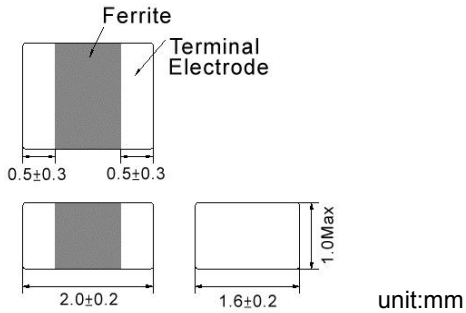


Inductance vs. DC Current

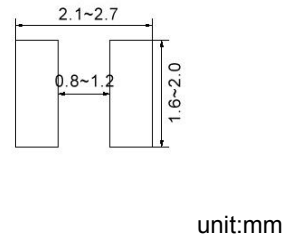


AKPB00201610 Type

■ Dimensions



■ Recommended Land Pattern



■ Electrical Characteristics

| Part No. | Inductance | Test Freq. | RDC | Isat | I _{rms} (mA)Max. | | Tolerance |
|--------------------|------------|------------|------|------|---------------------------|----------|-----------|
| | (uH) | | | | (Ω)±25% | (mA)Max. | |
| AKPB00201610R47□A6 | 0.47 | 3MHz,200mV | 0.06 | 1200 | 1600 | 1200 | 20,30 |
| AKPB002016101R0□A6 | 1.0 | 3MHz,200mV | 0.09 | 850 | 1300 | 950 | 20,30 |
| AKPB002016101R5□A6 | 1.5 | 3MHz,200mV | 0.11 | 600 | 1200 | 900 | 20,30 |
| AKPB002016102R2□A6 | 2.2 | 3MHz,200mV | 0.11 | 400 | 1200 | 900 | 20,30 |
| AKPB002016103R3□A6 | 3.3 | 3MHz,200mV | 0.12 | 350 | 850 | 625 | 20,30 |
| AKPB002016104R7□A6 | 4.7 | 3MHz,200mV | 0.14 | 200 | 1100 | 800 | 20,30 |

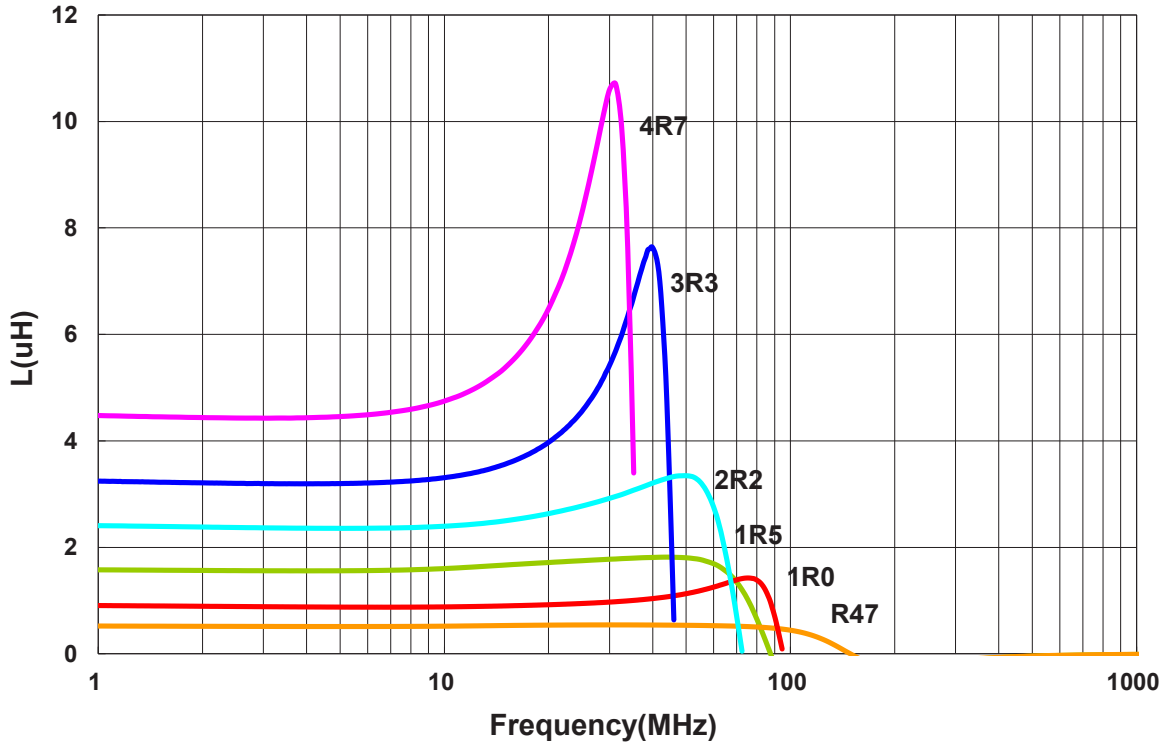
Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%

1. Operating temperature range - 55°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I_{rms} for When applied current to the Products, temperature rise caused by self-generated heat shall be limited to 40 °C max
4. As for the Rated current marked with *1, Rated Current is depending on the operating temperature
5. Measure Equipment :
 - L : Agilent HP4287A+16197A
 - RDC : HP 4338B, or equivalent

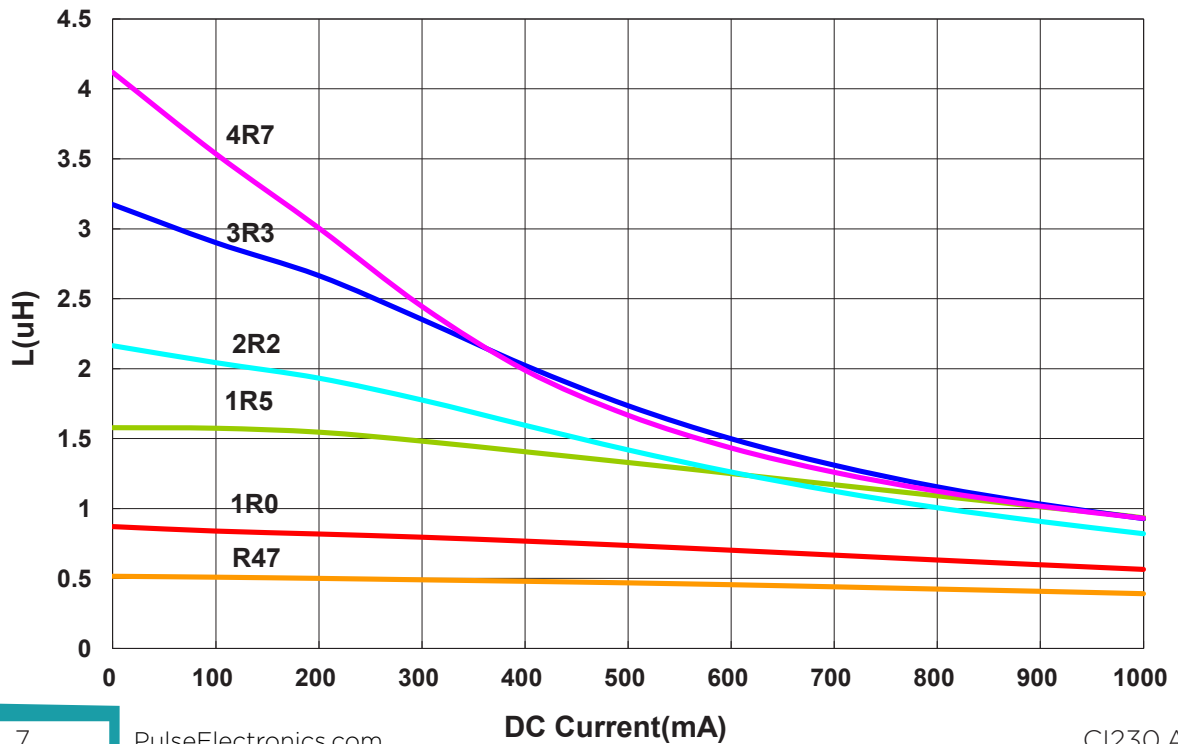
AKPB00201610 Type

Characteristics Graph

Inductance vs. Frequency Characteristics

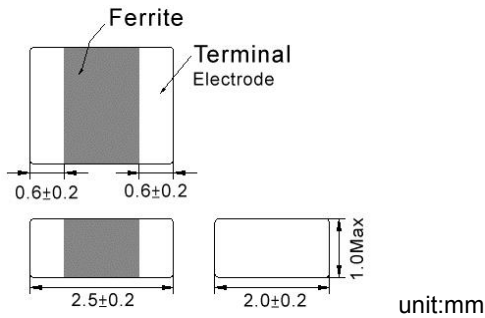


Inductance vs. DC Current

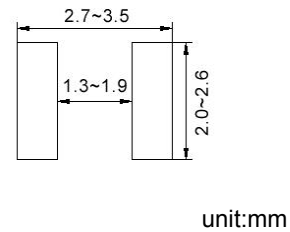


AKPB00252010 Type

■ Dimensions



■ Recommended Land Pattern



■ Electrical Characteristics

| Part No. | Inductance (uH) | Test Freq. | RDC (Ω)±25% | Isat (mA)Max. | I _{rms} (mA)Max. | | Tolerance (±%) |
|--------------------|--------------------|------------|----------------|------------------|---------------------------|---------------------|-------------------|
| | | | | | 85°C ^{*1} | 125°C ^{*1} | |
| AKPB00252010R47□A6 | 0.47 | 3MHz,200mV | 0.040 | 1500 | 1800 | 1300 | 20,30 |
| AKPB002520101R0□A6 | 1.0 | 3MHz,200mV | 0.055 | 900 | 1600 | 1200 | 20,30 |
| AKPB002520102R2□A6 | 2.2 | 3MHz,200mV | 0.080 | 500 | 1300 | 950 | 20,30 |
| AKPB002520103R3□A6 | 3.3 | 3MHz,200mV | 0.100 | 400 | 1200 | 900 | 20,30 |
| AKPB002520104R7□A6 | 4.7 | 3MHz,200mV | 0.110 | 300 | 1100 | 800 | 20,30 |

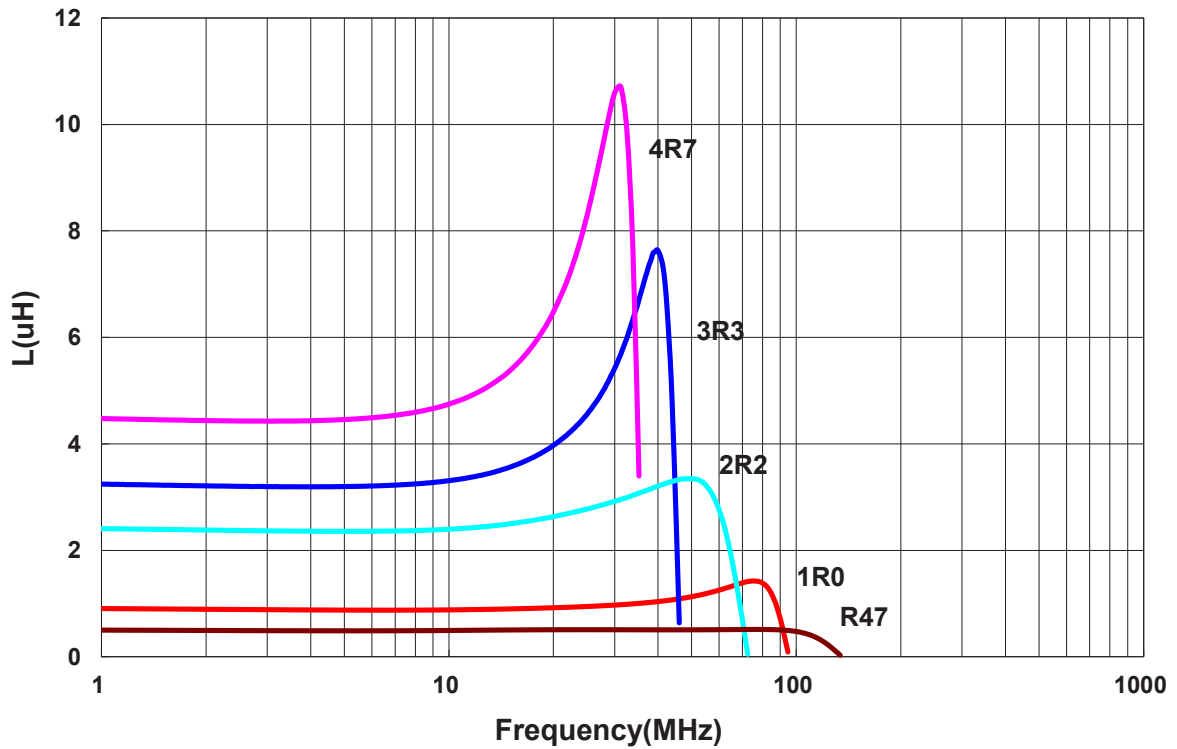
Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%

1. Operating temperature range - 55°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I_{rms} for When applied current to the Products, temperature rise caused by self-generated heat shall be limited to 40 °C max
4. As for the Rated current marked with *1, Rated Current is depending on the operating temperature
5. Measure Equipment :
L : Agilent HP4287A+16197A
RDC : HP 4338B, or equivalent

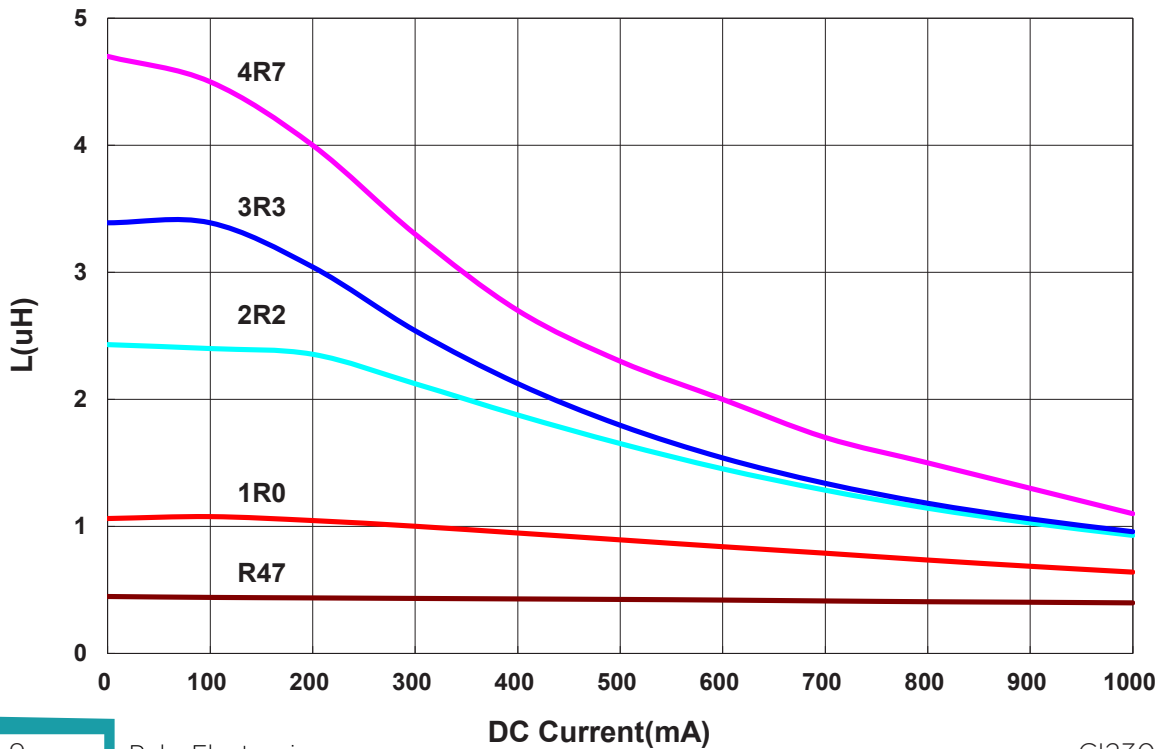
AKPB00252010 Type

Characteristics Graph

Inductance vs. Frequency Characteristics

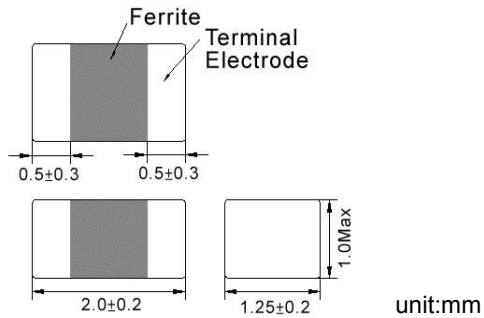


Inductance vs. DC Current

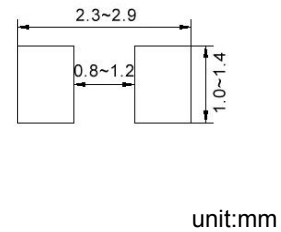


AKPE00201210 Type

■ Dimensions



■ Recommended Land Pattern



■ Electrical Characteristics

| Part No. | Inductance | Test Freq. | RDC | Isat(mA) | I _{rms} (mA)Max. | | Tolerance |
|--------------------|------------|------------|-------|----------|---------------------------|---------------------|-----------|
| | (uH) | | | Max. | 85°C ^{*1} | 125°C ^{*1} | |
| AKPE002012101R0□A2 | 1.0 | 3MHz,200mV | 0.100 | 1400 | 1800 | 1300 | 20,30 |
| AKPE002012102R2□A2 | 2.2 | 3MHz,200mV | 0.125 | 500 | 1600 | 1200 | 20,30 |

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

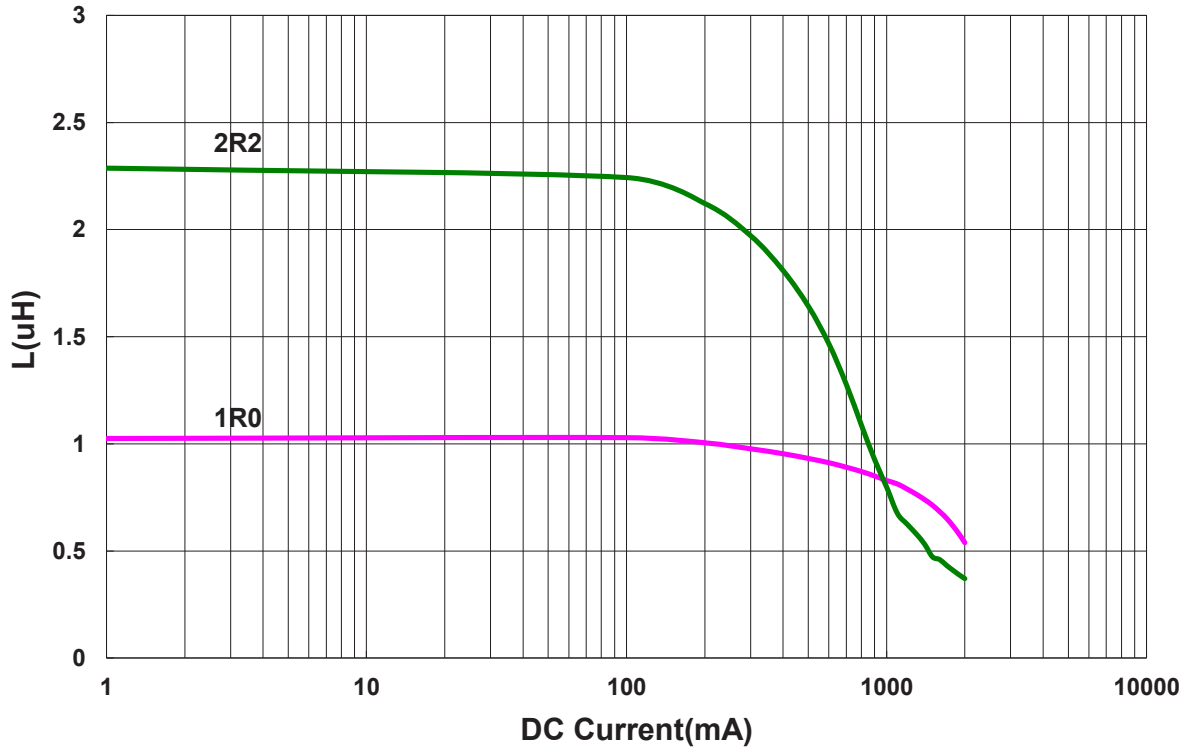
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3. I_{rms} for When applied current to the Products, temperature rise caused by self-generated heat shall be limited to 40 °C max
4. As for the Rated current marked with *1, Rated Current is depending on the operating temperature
5. Measure Equipment :

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 RDC : HP 4338B, or equivalent

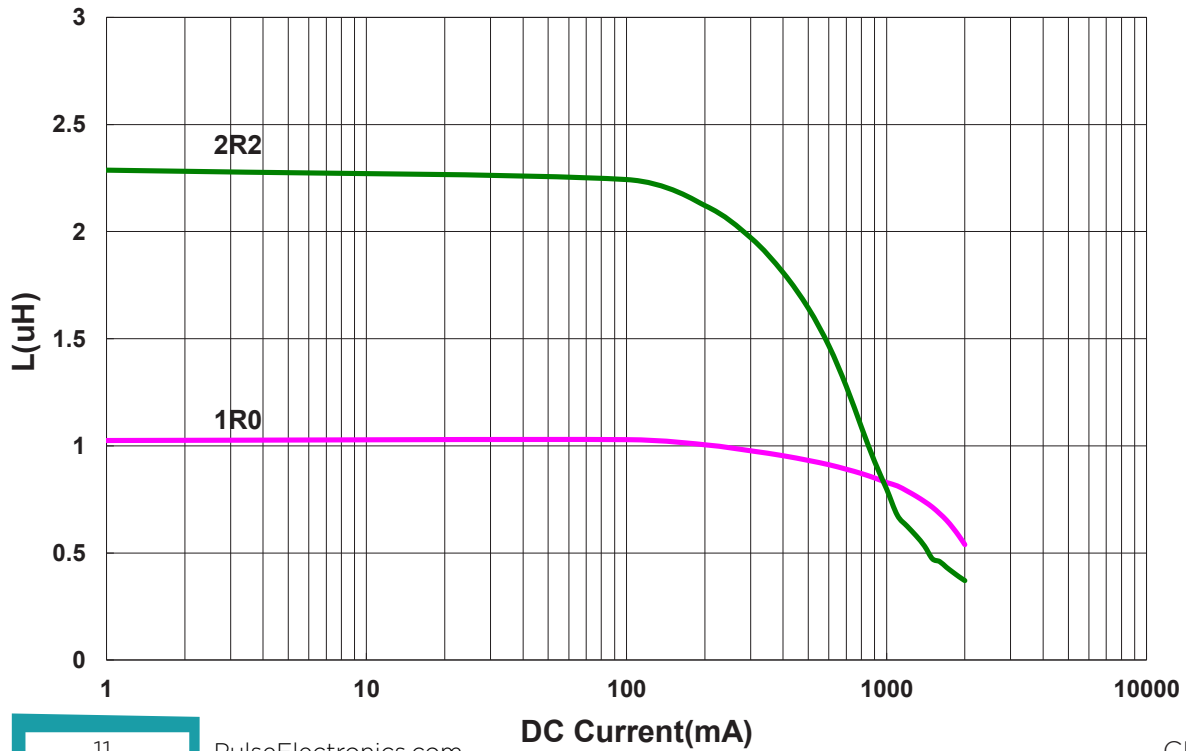
AKPE00201210 Type

■ Characteristics Graph

Inductance vs. DC Current

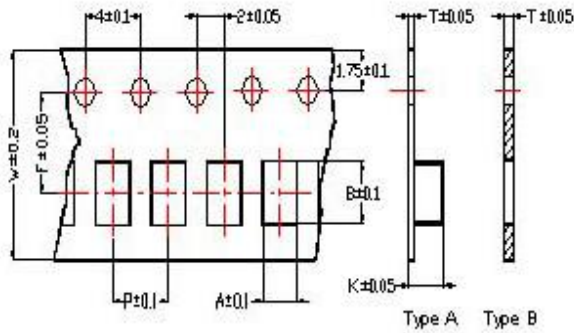


Inductance vs. DC Current



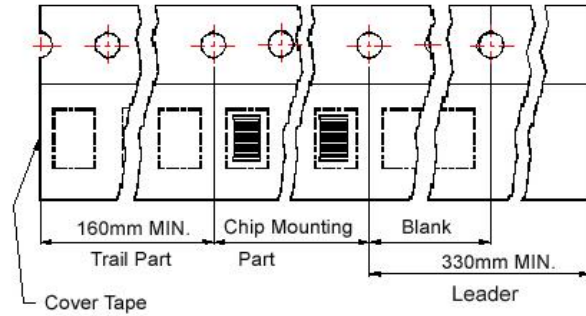
■ Packaging

Tape Dimensions

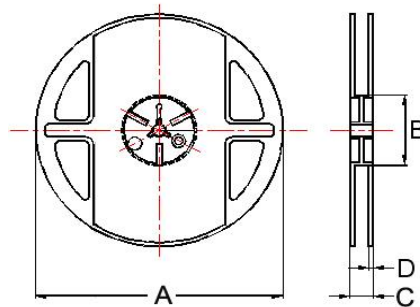


Tape Material

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



Reel Dimensions



Dimensions in mm

| TYPE | Tape Dimensions | | | | | | | | Reel Dimensions | | | | Quantity |
|--------------|-----------------|------|------|---|---|-----|------|------|-----------------|----|----|-----|------------|
| | A | B | T | W | P | F | K | Tape | A | B | C | D | PCS / Reel |
| AKPx001608DZ | 1.05 | 1.85 | 0.95 | 8 | 4 | 3.5 | - | B | 178 | 60 | 12 | 1.5 | 4000 |
| AKPx00201210 | 1.45 | 2.25 | 0.22 | 8 | 4 | 3.5 | 1.04 | A | 178 | 60 | 12 | 1.5 | 3000 |
| AKPx00201610 | 1.8 | 2.2 | 0.22 | 8 | 4 | 3.5 | 1.15 | A | 178 | 60 | 12 | 1.5 | 3000 |
| AKPx00252010 | 2.25 | 2.8 | 0.25 | 8 | 4 | 3.5 | 1.35 | A | 178 | 60 | 12 | 1.5 | 3000 |

For More Information:

Americas - prodinfo_power_americas@yageo.com | Europe - prodinfo_power_emea@yageo.com | Asia - prodinfo_power_asia@yageo.com

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