

## FEATURES

- Various high power inductors are superior to be high saturation.
- Suitable for surface mounting equipment .
- Takes up less PCB real estate and save more power.
- Operating Temperature: -40°C~+125°C .
- Magnetic-resin shielded construction reduces buzz noise to ultra-low levels.
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference .
- Packing:Tape Carrier Package.



## APPLICATIONS

- Smart phone, smart TV, set top box, notebook.
- Car navigation systems, telecomm basestations.
- RoHS, Halogen Free and REACH Compliance.
- VR, AR.
- LED lighting.

## PART NUMBERING



| ① Grade |            |
|---------|------------|
| A       | Grade Code |

| ② Series Name |                           |
|---------------|---------------------------|
| NRL           | Wire Wound Power Inductor |

| ③ Dimensions Code |                        |
|-------------------|------------------------|
| Code              | Dimensions (L×W×H)[mm] |
| 201610            | 2.0×1.6×1.0            |
| 252010            | 2.5×2.0×1.0            |
| 252012            | 2.5×2.0×1.2            |

| ⑥ Design Code |                           |
|---------------|---------------------------|
| □ □           | Standard product is blank |

| ④ Nominal inductance |                         |
|----------------------|-------------------------|
| Code (example)       | Nominal inductance [μH] |
| 4R7                  | 4.7                     |
| 100                  | 10                      |

| ⑤ Inductance tolerance |                      |
|------------------------|----------------------|
| Code (example)         | Inductance tolerance |
| M                      | ±20%                 |
| N                      | ±30%                 |

Dimensions & Recommended Land Pattern



Recommended Land Pattern

Unit: mm

| Series    | Dimensions |         |           |        |        |        | Recommended Land Pattern |        |        |
|-----------|------------|---------|-----------|--------|--------|--------|--------------------------|--------|--------|
|           | A          | B       | C         | D Typ. | E Typ. | F Typ. | a Typ.                   | b Typ. | c Typ. |
| ANR201610 | 2.0±0.3    | 1.6±0.3 | 1.05 Max. | 1.2    | 0.6    | 0.8    | 0.6                      | 0.8    | 1.6    |
| ANR252010 | 2.5±0.3    | 2.0±0.3 | 1.0 Max.  | 2      | 0.75   | 0.95   | 0.8                      | 0.9    | 2.1    |
| ANR252012 | 2.5±0.3    | 2.0±0.3 | 1.2 Max.  | 2      | 0.75   | 0.95   | 0.8                      | 0.9    | 2.1    |

Electrical Characteristics

● ANRL201610 Series

| Part Number     | Inductance | Inductance Tolerance | Heat Rating Current |                  | Saturation Current |      | DC Resistance |
|-----------------|------------|----------------------|---------------------|------------------|--------------------|------|---------------|
|                 | @100kHz,1V |                      | Max.                | Typ.             | Max.               | Typ. | Max.          |
| Units           | μH         | M=±20%<br>N=±30%     | A                   |                  | A                  |      | Ω             |
| Symbol          | L          |                      | I <sub>rms</sub>    | I <sub>sat</sub> |                    |      | DCR           |
| ANRL201610-R22□ | 0.22       | M/N                  | 2.80                | 3.10             | 3.70               | 4.10 | 0.040         |
| ANRL201610-R24□ | 0.24       | M/N                  | 2.80                | 3.10             | 3.70               | 4.10 | 0.040         |
| ANRL201610-R33□ | 0.33       | M/N                  | 2.40                | 2.90             | 3.00               | 3.70 | 0.048         |
| ANRL201610-R47□ | 0.47       | M/N                  | 2.30                | 2.60             | 2.30               | 2.85 | 0.060         |
| ANRL201610-R68□ | 0.68       | M/N                  | 2.00                | 2.20             | 1.95               | 2.45 | 0.076         |
| ANRL201610-1R0□ | 1          | M/N                  | 1.45                | 1.60             | 1.65               | 1.85 | 0.114         |
| ANRL201610-1R5□ | 1.5        | M/N                  | 1.10                | 1.20             | 1.35               | 1.65 | 0.174         |
| ANRL201610-2R2M | 2.2        | M                    | 1.05                | 1.15             | 1.20               | 1.45 | 0.265         |
| ANRL201610-3R3M | 3.3        | M                    | 0.85                | 0.95             | 1.00               | 1.20 | 0.345         |
| ANRL201610-4R7M | 4.7        | M                    | 0.70                | 0.80             | 0.75               | 0.90 | 0.480         |
| ANRL201610-6R8M | 6.8        | M                    | 0.55                | 0.60             | 0.70               | 0.85 | 0.800         |
| ANRL201610-8R2M | 8.2        | M                    | 0.53                | 0.60             | 0.68               | 0.78 | 0.940         |
| ANRL201610-100M | 10         | M                    | 0.50                | 0.60             | 0.65               | 0.70 | 1.000         |

## Electrical Characteristics

## ● ANRL252010 Series

| Part Number     | Inductance | Inductance Tolerance | Heat Rating Current |      | Saturation Current |      | DC Resistance |
|-----------------|------------|----------------------|---------------------|------|--------------------|------|---------------|
|                 | @100kHz,1V |                      | Max.                | Typ. | Max.               | Typ. | Max.          |
| Units           | μH         | M=±20%<br>N=±30%     | A                   |      | A                  |      | Ω             |
| Symbol          | L          |                      | Irms                |      | Isat               |      | DCR           |
| ANRL252010-R24□ | 0.24       | M/N                  | 2.75                | 3.00 | 3.60               | 4.40 | 0.034         |
| ANRL252010-R33□ | 0.33       | M/N                  | 2.45                | 2.70 | 3.60               | 4.30 | 0.040         |
| ANRL252010-R47□ | 0.47       | M/N                  | 2.40                | 2.60 | 2.80               | 3.20 | 0.044         |
| ANRL252010-R68□ | 0.68       | M/N                  | 2.10                | 2.35 | 2.75               | 3.10 | 0.062         |
| ANRL252010-1R0□ | 1          | M/N                  | 1.85                | 2.05 | 2.05               | 2.50 | 0.080         |
| ANRL252010-1R5□ | 1.5        | M/N                  | 1.55                | 1.70 | 1.70               | 2.05 | 0.108         |
| ANRL252010-2R2M | 2.2        | M                    | 1.35                | 1.50 | 1.50               | 1.75 | 0.150         |
| ANRL252010-3R3M | 3.3        | M                    | 1.05                | 1.20 | 1.10               | 1.35 | 0.228         |
| ANRL252010-4R7M | 4.7        | M                    | 0.90                | 1.00 | 1.00               | 1.15 | 0.330         |
| ANRL252010-5R6M | 5.6        | M                    | 0.80                | 0.90 | 0.90               | 1.05 | 0.480         |
| ANRL252010-6R8M | 6.8        | M                    | 0.72                | 0.80 | 0.80               | 0.95 | 0.480         |
| ANRL252010-8R2M | 8.2        | M                    | 0.69                | 0.78 | 0.73               | 0.85 | 0.572         |
| ANRL252010-100M | 10         | M                    | 0.65                | 0.75 | 0.65               | 0.75 | 0.600         |
| ANRL252010-120M | 12         | M                    | 0.58                | 0.62 | 0.58               | 0.62 | 0.850         |
| ANRL252010-150M | 15         | M                    | 0.45                | 0.50 | 0.50               | 0.55 | 1.050         |
| ANRL252010-220M | 22         | M                    | 0.32                | 0.38 | 0.40               | 0.45 | 1.344         |

## ● ANRL252012 Series

| Part Number     | Inductance | Inductance Tolerance | Heat Rating Current |      | Saturation Current |      | DC Resistance |
|-----------------|------------|----------------------|---------------------|------|--------------------|------|---------------|
|                 | @100kHz,1V |                      | Max.                | Typ. | Max.               | Typ. | Max.          |
| Units           | μH         | M=±20%<br>N=±30%     | A                   |      | A                  |      | Ω             |
| Symbol          | L          |                      | Irms                |      | Isat               |      | DCR           |
| ANRL252012-R24□ | 0.24       | M/N                  | 4.10                | 4.50 | 4.10               | 4.80 | 0.023         |
| ANRL252012-R33□ | 0.33       | M/N                  | 3.35                | 3.70 | 4.00               | 4.70 | 0.031         |
| ANRL252012-R47□ | 0.47       | M/N                  | 3.00                | 3.30 | 3.80               | 4.50 | 0.036         |
| ANRL252012-R68□ | 0.68       | M/N                  | 2.30                | 2.50 | 3.00               | 3.30 | 0.047         |
| ANRL252012-1R0□ | 1          | M/N                  | 2.30                | 2.60 | 2.25               | 2.50 | 0.060         |
| ANRL252012-1R2□ | 1.2        | M/N                  | 2.00                | 2.20 | 2.20               | 2.50 | 0.078         |
| ANRL252012-1R5□ | 1.5        | M/N                  | 1.80                | 2.00 | 2.00               | 2.35 | 0.090         |
| ANRL252012-1R8□ | 1.8        | M/N                  | 1.75                | 1.90 | 1.95               | 2.20 | 0.108         |
| ANRL252012-2R2M | 2.2        | M                    | 1.75                | 1.90 | 1.75               | 1.90 | 0.108         |
| ANRL252012-2R7M | 2.7        | M                    | 1.40                | 1.50 | 1.30               | 1.60 | 0.156         |
| ANRL252012-3R3M | 3.3        | M                    | 1.40                | 1.50 | 1.20               | 1.35 | 0.156         |
| ANRL252012-4R7M | 4.7        | M                    | 1.10                | 1.20 | 1.10               | 1.20 | 0.228         |
| ANRL252012-5R6M | 5.6        | M                    | 1.00                | 1.15 | 1.00               | 1.10 | 0.330         |
| ANRL252012-6R8M | 6.8        | M                    | 0.95                | 1.05 | 0.90               | 1.10 | 0.360         |
| ANRL252012-8R2M | 8.2        | M                    | 0.80                | 0.90 | 0.80               | 0.92 | 0.522         |
| ANRL252012-100M | 10         | M                    | 0.78                | 0.86 | 0.70               | 0.85 | 0.522         |

## Electrical Characteristics

## ● ANRL252012 Series

| Part Number     | Inductance    | Inductance Tolerance | Heat Rating Current |                  | Saturation Current |      | DC Resistance |
|-----------------|---------------|----------------------|---------------------|------------------|--------------------|------|---------------|
|                 | @100kHz,1V    |                      | Max.                | Typ.             | Max.               | Typ. | Max.          |
| Units           | $\mu\text{H}$ | M=±20%<br>N=±30%     | A                   |                  | A                  |      | $\Omega$      |
| Symbol          | L             |                      | I <sub>rms</sub>    | I <sub>sat</sub> |                    | DCR  |               |
| ANRL252012-150M | 15            | M                    | 0.50                | 0.60             | 0.60               | 0.70 | 1.000         |
| ANRL252012-220M | 22            | M                    | 0.48                | 0.55             | 0.45               | 0.55 | 1.290         |
| ANRL252012-330M | 33            | M                    | 0.35                | 0.40             | 0.35               | 0.40 | 1.840         |
| ANRL252012-470M | 47            | M                    | 0.20                | 0.28             | 0.30               | 0.37 | 2.250         |

△1: All test data is referenced to 20°C ambient;

△2: Rated current: I<sub>sat</sub> or I<sub>rms</sub>, whichever is smaller;

△3: I<sub>rms</sub>: DC current that causes the temperature rise ( $\Delta T=40^\circ\text{C}$ ) from 20°C ambient.

**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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