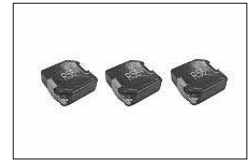


FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT (UP TO 75 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- LOW PROFILE (3.0, 3.5, 4.0 & 5mm MAXIMUM HEIGHT)
- TAPED AND REELED FOR AUTOMATIC INSERTION
- FOR USE IN DC/DC CONVERTERS

**RoHS
Compliant**
includes all homogeneous materials

*See Part Number System for Details



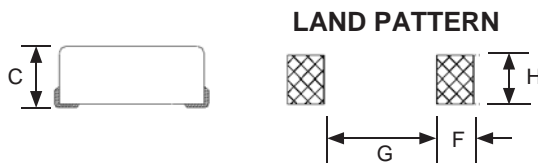
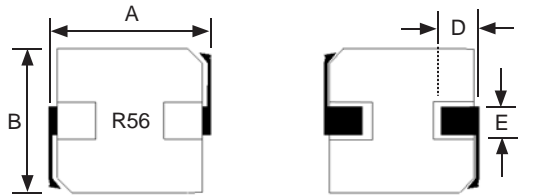
CHARACTERISTICS

| | |
|--|---------------------|
| Case Size | NPIS_P |
| Inductance Range | 0.1 ~ 10 μ H |
| Ambient Operating Temperature Range | -55°C ~ +125°C |
| Maximum Component Temperature (Ambient + Self-Heating) | +155°C |
| Temperature Rise at Irms | +40°C max. |
| Inductance Change at Isat | -20% typical |
| Inductance Tolerance | 20% (M) |
| Resistance to Solder Heat | 260°C for 5 seconds |

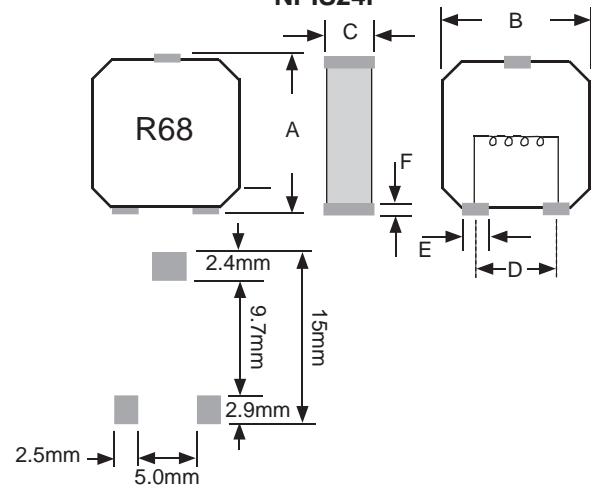
DIMENSIONS (mm)

| Series | A | B | C | D | E | F | G | H |
|---------|-----------|-----------|----------|---------------|---------------|---------------|-----|-----|
| NPIS60P | 7.8 max. | 7.0 max. | 2.4 max. | 1.6 \pm 0.5 | 2.1 \pm 0.5 | 2.5 | 3.7 | 3.5 |
| NPIS63P | 7.8 max. | 7.0 max. | 3.2 max. | 1.6 \pm 0.5 | 2.1 \pm 0.5 | 2.5 | 3.7 | 3.5 |
| NPIS14P | 11.8 max. | 10.5 max. | 4.2 max. | 2.2 \pm 0.5 | 2.9 \pm 0.5 | 3.5 | 5.4 | 4.5 |
| NPIS23P | 13.9 max. | 13.5 max. | 3.8 max. | 2.5 \pm 0.5 | 3.0 \pm 0.5 | 3.35 | 7.1 | 4.5 |
| NPIS25P | 13.9 max. | 13.5 max. | 5.2 max. | 2.5 \pm 0.5 | 3.0 \pm 0.5 | 3.35 | 7.1 | 4.5 |
| NPIS24P | 13.9 max. | 13.9 max. | 5.4 max. | 7.6 \pm 0.3 | 2.0 \pm 0.3 | 2.2 \pm 0.3 | - | - |

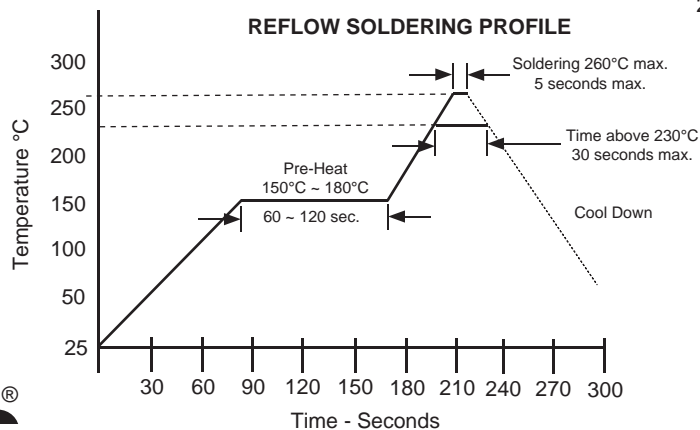
NPIS60P, 63P, 14P, 23P & 25P



NPIS24P



REFLOW SOLDERING PROFILE



| Part Number | STANDARD VALUES - CASE SIZE 60 (7.8 X 7.0 X 2.4mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS60PR10MTRF | 0.1 | 1.7 | 30 | 50 | 100KHz |
| NPIS60PR22MTRF | 0.22 | 3.2 | 21 | 34 | |
| NPIS60PR33MTRF | 0.33 | 4.1 | 18 | 22 | |
| NPIS60PR47MTRF | 0.47 | 6.5 | 13.5 | 21 | |
| NPIS60PR68MTRF | 0.68 | 9.4 | 11 | 18 | |
| NPIS60PR82MTRF | 0.82 | 11.8 | 10 | 17 | |
| NPIS60P1R0MTRF | 1.0 | 14.2 | 9 | 16 | |
| NPIS60P1R5MTRF | 1.5 | 21.2 | 7.5 | 15 | |
| NPIS60P2R2MTRF | 2.2 | 34 | 6.5 | 14 | |
| NPIS60P3R3MTRF | 3.3 | 51.2 | 5 | 13 | |
| NPIS60P4R7MTRF | 4.7 | 63 | 4.5 | 10 | |
| NPIS60P6R8MTRF | 6.8 | 95 | 3.5 | 9.0 | |
| NPIS60P8R2MTRF | 8.2 | 106 | 3 | 8 | |
| NPIS60P100MTRF | 10 | 129 | 2.5 | 7 | |

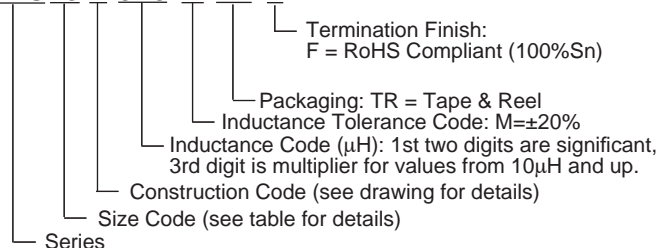
Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.

| Part Number | STANDARD VALUES - CASE SIZE 63 (7.8 X 7.0 X 3.2mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS63PR10MTRF | 0.1 | 1.7 | 32.5 | 42 | 100KHz |
| NPIS63PR15MTRF | 0.15 | 2.5 | 26 | 38 | |
| NPIS63PR20MTRF | 0.20 | 3.0 | 24 | 36 | |
| NPIS63PR22MTRF | 0.22 | 2.8 | 23 | 36 | |
| NPIS63PR33MTRF | 0.33 | 3.9 | 20 | 30 | |
| NPIS63PR47MTRF | 0.47 | 4.2 | 17.5 | 26 | |
| NPIS63PR68MTRF | 0.68 | 5.5 | 15.5 | 23 | |
| NPIS63PR82MTRF | 0.82 | 8.0 | 13 | 20 | |
| NPIS63P1R0MTRF | 1.0 | 10 | 11 | 16 | |
| NPIS63P1R5MTRF | 1.5 | 15 | 9 | 14 | |
| NPIS63P2R2MTRF | 2.2 | 20 | 8 | 12 | |
| NPIS63P3R3MTRF | 3.3 | 30 | 6 | 10 | |
| NPIS63P4R7MTRF | 4.7 | 40 | 5.5 | 6.5 | |
| NPIS63P6R8MTRF | 6.8 | 60 | 4.5 | 6.0 | |
| NPIS63P8R2MTRF | 8.2 | 68 | 4.0 | 5.5 | |
| NPIS63P100MTRF | 10 | 105 | 3.0 | 4.5 | |

Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.

PART NUMBER SYSTEM

NPIS 23 P 5R6 M TR F



| Part Number | STANDARD VALUES - CASE SIZE 14 (11.8 X 10.5 X 4.2mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS14PR36MTRF | 0.36 | 1.4 | 28 | 40 | 100KHz |
| NPIS14PR47MTRF | 0.47 | 1.6 | 26 | 38 | |
| NPIS14PR56MTRF | 0.56 | 1.9 | 25 | 36 | |
| NPIS14PR68MTRF | 0.68 | 2.4 | 23 | 32 | |
| NPIS14PR75MTRF | 0.75 | 2.2 | 22 | 31 | |
| NPIS14PR82MTRF | 0.82 | 2.6 | 21.5 | 30 | |
| NPIS14P1R0MTRF | 1.0 | 3.5 | 20 | 28 | |
| NPIS14P1R5MTRF | 1.5 | 7.5 | 12 | 20 | |
| NPIS14P2R2MTRF | 2.2 | 8.6 | 11.5 | 16.5 | |
| NPIS14P3R3MTRF | 3.3 | 10 | 10 | 14 | |
| NPIS14P4R7MTRF | 4.7 | 13.5 | 8 | 13 | |
| NPIS14P5R6MTRF | 5.6 | 16 | 7 | 12 | |
| NPIS14P6R8MTRF | 6.8 | 20 | 6.5 | 11 | |
| NPIS14P8R2MTRF | 8.2 | 32.5 | 5 | 8 | |

Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.

| Part Number | STANDARD VALUES - CASE SIZE 23 (13.9 X 13.5 X 3.8mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS23PR10MTRF | 0.1 | 0.96 | 43 | 56 | 100KHz |
| NPIS23PR15MTRF | 0.15 | 1.2 | 41 | 52 | |
| NPIS23PR22MTRF | 0.22 | 1.3 | 38.5 | 52 | |
| NPIS23PR33MTRF | 0.33 | 1.5 | 37 | 50 | |
| NPIS23PR47MTRF | 0.47 | 2 | 32 | 44 | |
| NPIS23PR60MTRF | 0.60 | 2.5 | 30 | 42 | |
| NPIS23PR68MTRF | 0.68 | 2.5 | 30 | 40 | |
| NPIS23PR82MTRF | 0.82 | 3 | 25 | 38 | |
| NPIS23P1R0MTRF | 1.0 | 3.5 | 24 | 36 | |
| NPIS23P1R5MTRF | 1.5 | 5.5 | 20 | 28 | |
| NPIS23P1R8MTRF | 1.8 | 7 | 17 | 24 | |
| NPIS23P2R2MTRF | 2.2 | 8 | 16 | 20 | |
| NPIS23P3R3MTRF | 3.3 | 12 | 14 | 18 | |
| NPIS23P4R7MTRF | 4.7 | 15 | 12 | 16 | |
| NPIS23P5R6MTRF | 5.6 | 18 | 10 | 14 | |
| NPIS23P6R8MTRF | 6.8 | 20 | 9 | 13 | |
| NPIS23P8R2MTRF | 8.2 | 28 | 8.5 | 12 | |

Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.

| Part Number | STANDARD VALUES - CASE SIZE 25 (13.9 X 13.5 X 5.2mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS25PR36MTRF | 0.36 | 1.1 | 41 | 75 | 100KHz |
| NPIS25PR47MTRF | 0.47 | 1.3 | 38 | 65 | |
| NPIS25PR50MTRF | 0.50 | 1.5 | 36 | 55 | |
| NPIS25PR56MTRF | 0.56 | 1.5 | 36 | 55 | |
| NPIS25PR68MTRF | 0.68 | 1.7 | 34 | 54 | |
| NPIS25P1R0MTRF | 1.0 | 2.5 | 29 | 50 | |
| NPIS25P1R5MTRF | 1.5 | 4.1 | 23 | 48 | |
| NPIS25P2R2MTRF | 2.2 | 5.5 | 20 | 32 | |
| NPIS25P4R7MTRF | 4.7 | 15 | 12 | 27 | |
| NPIS25P8R2MTRF | 8.2 | 28 | 8.5 | 12 | |
| NPIS25P100MTRF | 10 | 34 | 7.0 | 9.5 | |

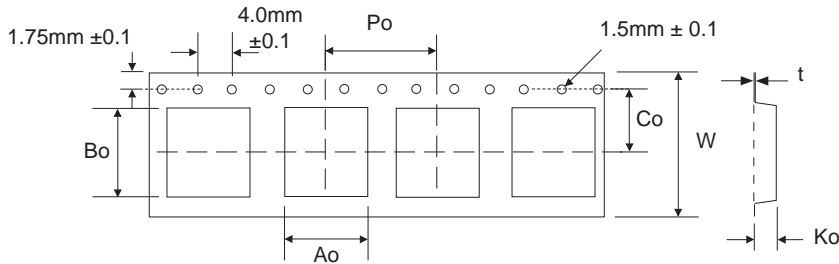
Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.



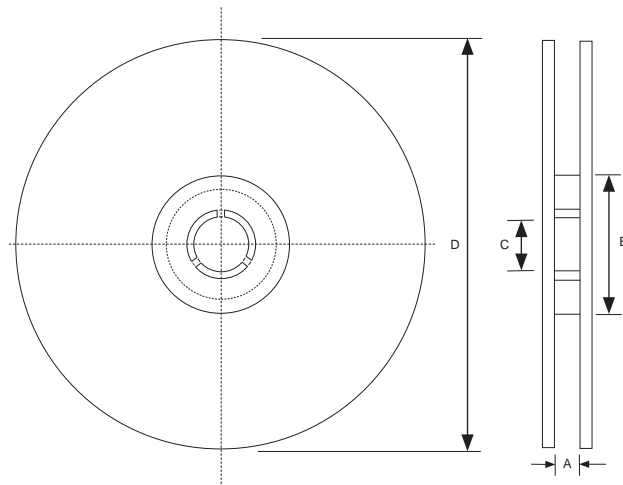
| Part Number | STANDARD VALUES - CASE SIZE 24 (13.9 X 13.9 X 5.4mm) | | | | |
|----------------|--|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | Test Frequency |
| NPIS24PR68MTRF | 0.68 | 1.5 | 29.7 | 38.8 | 100KHz |
| NPIS24P1R0MTRF | 1.0 | 2.0 | 25.7 | 33.6 | |
| NPIS24P1R2MTRF | 1.2 | 2.6 | 23.1 | 26.9 | |
| NPIS24P2R2MTRF | 2.2 | 4.5 | 17.8 | 19.6 | |
| NPIS24P3R3MTRF | 3.3 | 7.0 | 14.4 | 17.5 | |
| NPIS24P4R7MTRF | 4.7 | 8.0 | 12.8 | 14.9 | |

Maximum +40°C temperature rise at I_{rms}. Typical -20% inductance change at I_{sat}.

| Case Size | CARRIER TAPING DIMENSIONS (mm) AND REEL QUANTITY | | | | | | | |
|-----------|--|----------------|----------------|----------------|----------|----------------|-------------|----------|
| | A _o | B _o | K _o | C _o | W | P _o | t | Quantity |
| NPIS60P | 7.0 ± 0.1 | 7.8 ± 0.1 | 2.6 ± 0.1 | 7.5 ± 0.1 | 16 ± 0.3 | 12.0 ± 0.1 | 0.35 ± 0.05 | 1000 |
| NPIS63P | 7.0 ± 0.1 | 7.8 ± 0.1 | 3.3 ± 0.1 | 7.5 ± 0.1 | 16 ± 0.3 | 12.0 ± 0.1 | 0.35 ± 0.05 | 1000 |
| NPIS14P | 10.5 ± 0.1 | 11.8 ± 0.1 | 4.5 ± 0.1 | 11.5 ± 0.1 | 24 ± 0.3 | 16.0 ± 0.1 | 0.35 ± 0.05 | 900 |
| NPIS23P | 13.5 ± 0.1 | 13.9 ± 0.1 | 4.5 ± 0.1 | 11.5 ± 0.1 | 24 ± 0.3 | 16.0 ± 0.1 | 0.35 ± 0.05 | 600 |
| NPIS25P | 13.5 ± 0.1 | 13.9 ± 0.1 | 5.6 ± 0.1 | 11.5 ± 0.1 | 24 ± 0.3 | 16.0 ± 0.1 | 0.35 ± 0.05 | 500 |
| NPIS24P | 13.9 ± 0.1 | 13.9 ± 0.1 | 5.6 ± 0.1 | 11.5 ± 0.1 | 24 ± 0.3 | 16.0 ± 0.1 | 0.40 ± 0.05 | 500 |



| Tape Width | REEL DIMENSIONS (mm) | | | |
|------------|----------------------|-----------|----------|-------|
| | A(mm) | B(mm) | C(mm) | D(mm) |
| 16mm | 16.0 ± 0.5 | 100 ± 2.0 | 13 ± 0.5 | 330 |
| 24mm | 24.5 ± 0.5 | | | |



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