

FEATURES

- SHIELDED POWER INDUCTOR
- MOLDED METAL COMPOSITE CONSTRUCTION
- HIGH SATURATION CURRENT CHARACTERISTICS (~ 75A)
- HIGH EFFICIENCY (2X IMPROVEMENT OVER FERRITE CORE INDUCTORS)
- LOW PROFILE (1.8mm ~ 5.8mm)

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details



CHARACTERISTICS (42B ~ 74B)

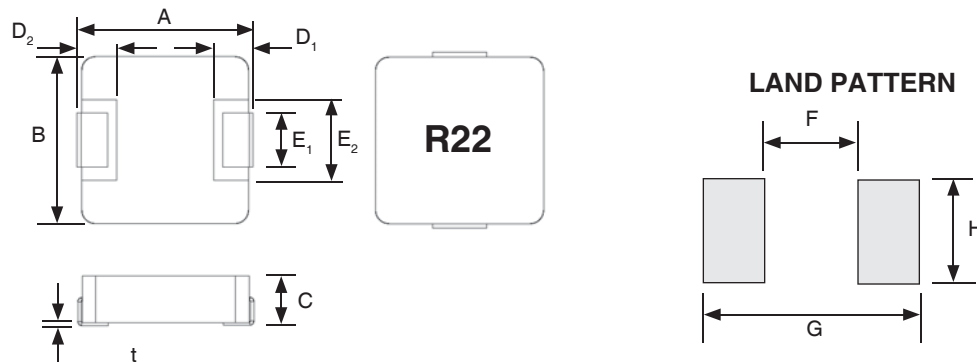
| Case Code | 42B | 52B | 53B | 72B | 73B | 74B |
|--|---------------------------|-----------|------------|-----------|-----------|----------|
| Inductance Range (μH) | 0.1 ~ 3.3 | 0.56 ~ 10 | 0.68 ~ 4.7 | 0.1 ~ 6.8 | 0.1 ~ 6.8 | 0.1 ~ 10 |
| Ambient Operating Temperature Range | -55°C ~ +85°C | | | | | |
| Maximum Component Temperature (Ambient + Self-Heating) | +125°C | | | | | |
| Temperature Rise at Irms | +40°C | | | | | |
| Inductance Change at Isat | -30% | | | | | |
| Inductance Tolerance | ±20% | | | | | |
| Resistance to Solder Heat | 260°C ±5°C for 10 seconds | | | | | |

CHARACTERISTICS (75B ~ 146B)

| Case Code | 75B | 101B | 103B | 104B | 105B | 146B |
|--|---------------------------|------------|-----------|-----------|-----------|----------|
| Inductance Range (μH) | 0.36 ~ 10 | 0.68 ~ 1.0 | 0.12 ~ 10 | 0.15 ~ 68 | 1.0 ~ 6.8 | 18 ~ 100 |
| Ambient Operating Temperature Range | -55°C ~ +85°C | | | | | |
| Maximum Component Temperature (Ambient + Self-Heating) | +125°C | | | | | |
| Temperature Rise at Irms | +40°C | | | | | |
| Inductance Change at Isat | -30% | | | | | |
| Inductance Tolerance | ±20% | | | | | |
| Resistance to Solder Heat | 260°C ±5°C for 10 seconds | | | | | |

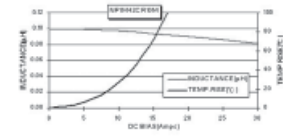
DIMENSIONS (mm)

| Series | A | B | C | D ₁ | D ₂ | E ₁ | E ₂ | t | F | G | H |
|------------------------------|---|-----------|-----------|----------------|----------------|----------------|----------------|-----------|-----|------|-----|
| NPIM42B | 4.15 ± 0.35 | 4.0 ± 0.3 | 1.8 ± 0.2 | 0.8 ± 0.3 | 1.0 ± 0.1 | 1.5 ± 0.3 | 2.2 ± 0.2 | 0 ~ +0.15 | 2.2 | 5.2 | 2.5 |
| NPIM52B | 5.40 ± 0.35 | 5.2 ± 0.2 | 1.6 ± 0.2 | 1.0 ± 0.3 | 1.5 ± 0.1 | 2.0 ± 0.3 | 2.5 ± 0.2 | 0 ~ +0.15 | 2.2 | 6.0 | 2.5 |
| NPIM53B | 4.85 ± 0.35 | 4.7 ± 0.2 | 2.8 ± 0.2 | 1.0 ± 0.3 | 1.5 ± 0.1 | 1.5 ± 0.3 | 2.2 ± 0.2 | 0 ~ +0.15 | 3.0 | 7.0 | 2.5 |
| NPIM72B | 7.05 ± 0.35 | 6.6 ± 0.2 | 1.6 ± 0.2 | 1.6 ± 0.2 | 2.0 ± 0.1 | 3.0 ± 0.3 | 3.6 ± 0.2 | 0 ~ +0.15 | 3.7 | 8.4 | 3.5 |
| NPIM73B | 6.95 ± 0.35 | 6.6 ± 0.2 | 2.2 ± 0.2 | 1.6 ± 0.3 | 2.0 ± 0.1 | 3.0 ± 0.3 | 3.6 ± 0.2 | 0 ~ +0.15 | 3.7 | 8.4 | 3.5 |
| NPIM74B | 6.95 ± 0.35 | 6.6 ± 0.2 | 2.8 ± 0.2 | 1.6 ± 0.3 | 2.0 ± 0.1 | 3.0 ± 0.3 | 3.6 ± 0.2 | 0 ~ +0.15 | 3.7 | 8.4 | 3.5 |
| NPIM75B | 7.05 ± 0.35 | 6.6 ± 0.2 | 4.8 ± 0.2 | 1.6 ± 0.3 | 2.0 ± 0.1 | 3.0 ± 0.3 | 3.6 ± 0.2 | 0 ~ +0.15 | 3.7 | 8.4 | 3.5 |
| NPIM101B | 10.85 ± 0.35 | 10 ± 0.3 | 1.3 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |
| NPIM103B thru NPIM146B | See Individual Case Sizes Tables for These Case Sizes | | | | | | | | | | |



| Part Number | STANDARD VALUES - CASE SIZE 42B (4.15 X 4.0 X 1.8mm) | | | | Test Frequency |
|----------------|---|--------------------|------------------------|------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current Irms (Amps) | DC Current Isat (Amps) | |
| NPIM42BR10MTRF | 0.1 | 4.0 | 12 | 22 | 100KHz |
| NPIM42BR22MTRF | 0.22 | 6.6 | 9.0 | 12.5 | |
| NPIM42BR47MTRF | 0.47 | 14 | 7.0 | 9.5 | |
| NPIM42BR56MTRF | 0.56 | 16 | 6.5 | 10 | |
| NPIM42B1R0MTRF | 1.0 | 27 | 4.5 | 7.0 | |
| NPIM42B1R2MTRF | 1.2 | 27 | 4.5 | 7.0 | |
| NPIM42B1R5MTRF | 1.5 | 46 | 4.0 | 6.0 | |
| NPIM42B2R2MTRF | 2.2 | 58 | 3.0 | 5.0 | |
| NPIM42B3R3MTRF | 3.3 | 87 | 2.5 | 4.0 | |

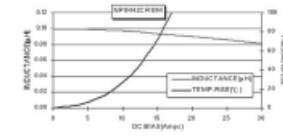
Maximum +40°C temperature rise at Irms. Typical -30% inductance change at Isat.



Contact NIC for NPIM42B Performance Curves

| Part Number | STANDARD VALUES - CASE SIZE 52B (5.4 X 5.2 X 1.6mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------|------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current Irms (Amps) | DC Current Isat (Amps) | |
| NPIM52BR56MTRF | 0.56 | 10 | 9.5 | 15 | 100KHz |
| NPIM52B1R0MTRF | 1 | 17 | 8.0 | 9.0 | |
| NPIM52B1R2MTRF | 1.2 | 20 | 7.5 | 8.0 | |
| NPIM52B2R2MTRF | 2.2 | 35 | 5.0 | 6.5 | |
| NPIM52B3R3MTRF | 3.3 | 58 | 4.5 | 5.0 | |
| NPIM52B4R7MTRF | 4.7 | 85 | 3.5 | 4.0 | |
| NPIM52B6R8MTRF | 6.8 | 120 | 2.8 | 3.4 | |
| NPIM52B100MTRF | 10 | 155 | 2.5 | 3.0 | |

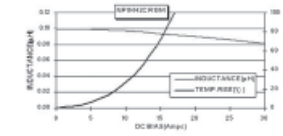
Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.



Contact NIC for NPIM52B Performance Curves

| Part Number | STANDARD VALUES - CASE SIZE 53B (4.85 X 4.7 X 2.8mm) | | | | Test Frequency |
|----------------|--|--------------------|------------------------|------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current Irms (Amps) | DC Current Isat (Amps) | |
| NPIM53BR68MTRF | 0.68 | 12 | 8.5 | 14 | 100KHz |
| NPIM53B1R0MTRF | 1.0 | 14 | 7 | 11 | |
| NPIM53B1R2MTRF | 1.2 | 16 | 6.5 | 11 | |
| NPIM53B1R5MTRF | 1.5 | 20 | 6.0 | 10 | |
| NPIM53B2R2MTRF | 2.2 | 35 | 5.5 | 9.0 | |
| NPIM53B3R3MTRF | 3.3 | 38 | 5.0 | 7.0 | |
| NPIM53B4R7MTRF | 4.7 | 60 | 6.0 | 5.0 | |

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat

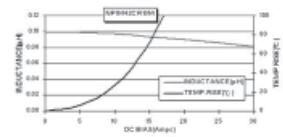


Contact NIC for NPIM53B Performance Curves

| Part Number | STANDARD VALUES - CASE SIZE 72B (7.05 X 6.6 X 1.6mm) | | | | Test Frequency |
|-----------------|--|--------------------|------------------------|------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current Irms (Amps) | DC Current Isat (Amps) | |
| NPIM72BR10MTRF | 0.1 | 2.5 | 18 | 45 | 100KHz |
| NPIM72BR33MTRF* | 0.33 | 6.8 | 12 | 22 | |
| NPIM72BR47MTRF | 0.47 | 8.4 | 11 | 18 | |
| NPIM72BR68MTRF | 0.68 | 12.7 | 9.0 | 17 | |
| NPIM72B1R0MTRF | 1.0 | 17 | 7.0 | 14 | |
| NPIM72B2R0MTRF | 2.0 | 32 | 6.0 | 13 | |
| NPIM72B2R2MTRF | 2.2 | 35 | 6.0 | 13 | |
| NPIM72B3R3MTRF | 3.3 | 60 | 3.5 | 10 | |
| NPIM72B4R7MTRF | 4.7 | 70 | 3.5 | 5.0 | |
| NPIM72B6R8MTRF | 6.8 | 110 | 2.8 | 3.5 | |

Maximum +40°C temperature rise at Irms. Typical -30% inductance change at Isat.

*Minimum order quantity may apply for this value. Contact NIC for details.



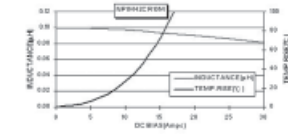
Contact NIC for NPIM72B Performance Curves



| Part Number | STANDARD VALUES - CASE SIZE 73B (6.95 X 6.6 X 2.2mm) | | | | Test Frequency |
|-----------------|---|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIM73BR10MTRF* | 0.1 | 1.7 | 30 | 70 | 100KHz |
| NPIM73BR20MTRF* | 0.20 | 2.8 | 25 | 50 | |
| NPIM73BR22MTRF | 0.22 | 3.2 | 21 | 34 | |
| NPIM73BR33MTRF* | 0.33 | 4.1 | 18 | 24.5 | |
| NPIM73BR47MTRF | 0.47 | 5.1 | 15 | 22 | |
| NPIM73BR56MTRF* | 0.56 | 6.5 | 13 | 17 | |
| NPIM73BR81MTRF | 0.81 | 9.5 | 11 | 14 | |
| NPIM73B1R0MTRF | 1.0 | 13.5 | 9.0 | 16 | |
| NPIM73B1R5MTRF* | 1.5 | 20 | 9.0 | 15 | |
| NPIM73B2R2MTRF | 2.2 | 28 | 7.0 | 14 | |
| NPIM73B3R3MTRF | 3.3 | 39 | 5.5 | 13 | |
| NPIM73B4R7MTRF | 4.7 | 50 | 5.0 | 10 | |
| NPIM73B5R6MTRF* | 5.6 | 60 | 5.0 | 6.5 | |
| NPIM73B6R8MTRF | 6.8 | 70 | 4.0 | 6.0 | |

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

*Minimum order quantity may apply for this value. Contact NIC for details.

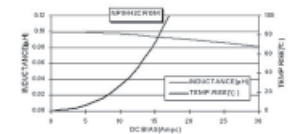


Contact NIC for NPIM73B Performance Curves

| Part Number | STANDARD VALUES - CASE SIZE 74B (6.95 X 6.6 X 2.8mm) | | | | Test Frequency |
|-----------------|---|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIM74BR10MTRF | 0.1 | 1.7 | 32.5 | 60 | 100KHz |
| NPIM74BR15MTRF | 0.15 | 2.5 | 30 | 45 | |
| NPIM74BR20MTRF | 0.20 | 3.0 | 24 | 41 | |
| NPIM74BR22MTRF* | 0.22 | 2.8 | 23 | 40 | |
| NPIM74BR33MTRF | 0.33 | 3.5 | 21 | 25 | |
| NPIM74BR47MTRF | 0.47 | 4.1 | 18 | 20 | |
| NPIM74BR56MTRF* | 0.56 | 4.5 | 16.5 | 18 | |
| NPIM74BR68MTRF | 0.68 | 5 | 16 | 17 | |
| NPIM74B1R0MTRF | 1.0 | 9 | 12 | 15 | |
| NPIM74B1R2MTRF* | 1.2 | 10 | 10 | 14 | |
| NPIM74B1R5MTRF | 1.5 | 12.1 | 10 | 14 | |
| NPIM74B2R2MTRF | 2.2 | 18 | 8.0 | 10 | |
| NPIM74B2R5MTRF* | 2.5 | 20 | 7.0 | 10 | |
| NPIM74B3R3MTRF | 3.3 | 28 | 6.5 | 10 | |
| NPIM74B4R7MTRF | 4.7 | 35 | 5.5 | 6.5 | |
| NPIM74B5R6MTRF | 5.6 | 42 | 5.5 | 6.0 | |
| NPIM74B6R8MTRF | 6.8 | 50 | 4.5 | 6.0 | |
| NPIM74B8R2MTRF | 8.2 | 60 | 4.5 | 6.0 | |
| NPIM74B100MTRF | 10 | 68 | 4.0 | 5.5 | |

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

*Minimum order quantity may apply for this value. Contact NIC for details.



Contact NIC for NPIM74B Performance Curves



| Part Number | STANDARD VALUES - CASE SIZE 75B (7.05 X 6.6 X 4.8mm) | | | | |
|-----------------|---|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | Test Frequency |
| NPIM75BR36MTRF* | 0.36 | 3.5 | 21 | 25 | 100KHz |
| NPIM75BR40MTRF | 0.40 | 3.5 | 20 | 23 | |
| NPIM75BR56MTRF* | 0.56 | 3.6 | 20 | 18 | |
| NPIM75BR68MTRF | 0.68 | 4.2 | 18 | 16 | |
| NPIM75BR82MTRF | 0.82 | 4.9 | 16.5 | 17 | |
| NPIM75B1R0MTRF | 1.0 | 6.5 | 13 | 15 | |
| NPIM75B1R2MTRF | 1.2 | 7.5 | 11 | 13 | |
| NPIM75B1R5MTRF | 1.5 | 7.5 | 11 | 12 | |
| NPIM75B2R2MTRF | 2.2 | 12.5 | 8.0 | 12 | |
| NPIM75B3R3MTRF | 3.3 | 20.9 | 7.0 | 9.0 | |
| NPIM75B4R7MTRF | 4.7 | 25 | 6.5 | 7.0 | |
| NPIM75B8R2MTRF* | 8.2 | 43 | 5.5 | 5.5 | |
| NPIM75B100MTRF* | 10 | 55 | 4.5 | 5.3 | |

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

*Minimum order quantity may apply for this value. Contact NIC for details.

| Part Number | STANDARD VALUES - CASE SIZE 101B (10.85 X 10 X 1.3mm) | | | | |
|------------------|---|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | Test Frequency |
| NPIM101BR68MTRF* | 0.68 | 16 | 7.5 | 16 | 100KHz |
| NPIM101BR82MTRF* | 0.82 | 18 | 6.0 | 14 | |
| NPIM101B1R0MTRF* | 1.0 | 21 | 5.5 | 12 | |

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

*Minimum order quantity may apply for this value. Contact NIC for details.

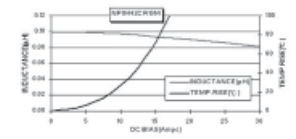
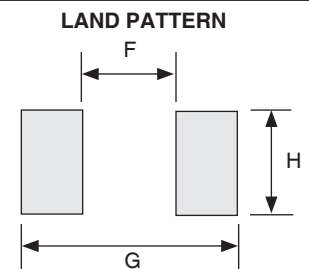
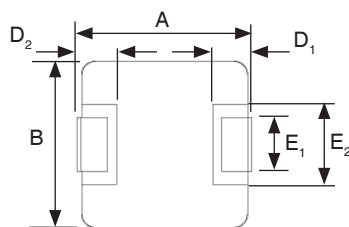
| Part Number | STANDARD VALUES - CASE SIZE 103B | | | | |
|------------------|----------------------------------|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | Test Frequency |
| NPIM103BR12MTRF* | 0.12 | 0.8 | 30 | 75 | 100KHz |
| NPIM103BR36MTRF | 0.36 | 1.6 | 23 | 28 | |
| NPIM103BR47MTRF | 0.47 | 2.5 | 23 | 26 | |
| NPIM103BR56MTRF | 0.56 | 3 | 22 | 24 | |
| NPIM103BR68MTRF | 0.68 | 3.4 | 21 | 23 | |
| NPIM103B1R0MTRF | 1.0 | 6 | 13 | 18 | |
| NPIM103M1R5MTRF | 1.5 | 7.5 | 13 | 20 | |
| NPIM103B2R2MTRF | 2.2 | 9 | 13 | 16 | |
| NPIM103B3R3MTRF | 3.3 | 16 | 9.0 | 14 | |
| NPIM103B4R7MTRF | 4.7 | 22.5 | 7.0 | 13 | |
| NPIM103B8R2MTRF | 8.2 | 45 | 5.0 | 8.5 | |
| NPIM103B100MTRF | 10 | 55 | 5.0 | 7.5 | |

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

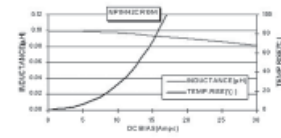
*Minimum order quantity may apply for this value. Contact NIC for details.

NPIM103B CASE AND LAND PATTERN DIMENSIONS

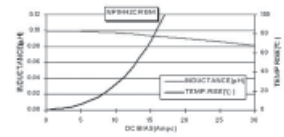
| Series | Value | A | B | C | D ₁ | D ₂ | E ₁ | E ₂ | t | F | G | H |
|----------|-----------|--------------|------------|-----------|----------------|----------------|----------------|----------------|-----------|-----|------|-----|
| NPIM103B | R12 ~ 1R0 | 11.15 ± 0.35 | 10.0 ± 0.3 | 2.8 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |
| | 1R5 ~ 100 | 10.85 ± 0.35 | 10.0 ± 0.3 | 2.8 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |



Contact NIC for NPIM75B Performance Curves



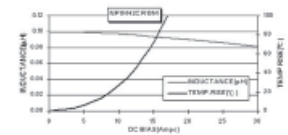
Contact NIC for NPIM101B Performance Curves



Contact NIC for NPIM103B Performance Curves



| Part Number | STANDARD VALUES - CASE SIZE 104B | | | | Test Frequency |
|------------------|----------------------------------|--------------------|------------------------|------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current Irms (Amps) | DC Current Isat (Amps) | |
| NPIM104BR15MTRF | 0.15 | 0.65 | 40 | 75 | 10KHz |
| NPIM104BR22MTRF | 0.22 | 1.0 | 35 | 60 | |
| NPIM104BR36MTRF | 0.36 | 1.2 | 30 | 50 | |
| NPIM104BR39MTRF* | 0.39 | 1.2 | 31 | 45 | |
| NPIM104BR45MTRF | 0.45 | 1.3 | 25 | 27 | |
| NPIM104BR47MTRF* | 0.47 | 1.68 | 30 | 40 | |
| NPIM104BR56MTRF | 0.56 | 1.8 | 25 | 33 | |
| NPIM104BR68MTRF | 0.68 | 2.4 | 23 | 30 | |
| NPIM104B1R0MTRF | 1.0 | 3.3 | 18 | 28 | |
| NPIM104B1R5MTRF | 1.5 | 4.2 | 16 | 32 | |
| NPIM104B1R8MTRF | 1.8 | 5 | 15 | 15 | |
| NPIM104B2R0MTRF | 2.0 | 5.8 | 14 | 14 | |
| NPIM104B2R2MTRF | 2.2 | 7.0 | 12 | 18 | |
| NPIM104B3R3MTRF | 3.3 | 11.8 | 10 | 16 | |
| NPIM104B4R7MTRF | 4.7 | 20 | 8.5 | 15 | |
| NPIM104B5R6MTRF | 5.6 | 23 | 8.0 | 14 | |
| NPIM104B6R8MTRF | 6.8 | 25 | 7.0 | 9.0 | |
| NPIM104B8R2MTRF* | 8.2 | 27 | 6.0 | 9.0 | |
| NPIM104B100MTRF | 10 | 30 | 7.5 | 8.5 | |
| NPIM104B150MTRF* | 15 | 45 | 6.3 | 7.0 | |
| NPIM104B220MTRF | 22 | 66 | 5.0 | 5.5 | |
| NPIM104B330MTRF* | 33 | 92 | 4.4 | 5.0 | |
| NPIM104B470MTRF* | 47 | 145 | 3.3 | 3.5 | |
| NPIM104B680MTRF* | 68 | 195 | 2.3 | 3.0 | |



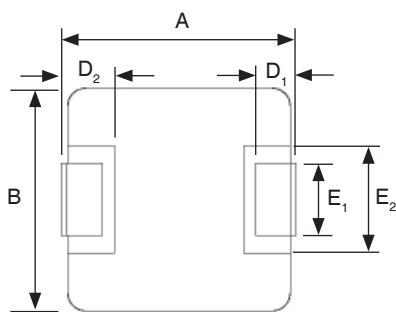
Contact NIC for NPIM104B Performance Curves

Maximum +40°C temperature rise at Irms. Typical -30% inductance change at Isat.

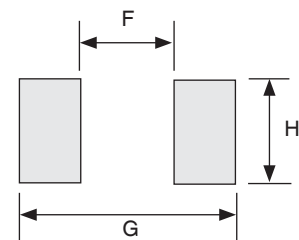
*Minimum order quantity may apply for this value. Contact NIC for details.

NPIM104S CASE AND LAND PATTERN DIMENSIONS

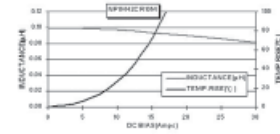
| Series | Value | A | B | C | D ₁ | D ₂ | E ₁ | E ₂ | t | F | G | H |
|----------|-----------|--------------|------------|-----------|----------------|----------------|----------------|----------------|-----------|-----|------|-----|
| NPIM104B | R36 ~ 1R5 | 11.15 ± 0.35 | 10.0 ± 0.3 | 3.8 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |
| | 1R8 ~ 470 | 10.85 ± 0.35 | 10.0 ± 0.3 | 3.8 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |



LAND PATTERN



| Part Number | STANDARD VALUES - CASE SIZE 105B | | | | Test Frequency |
|------------------|----------------------------------|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIM105B1R0MTRF | 1.0 | 3.2 | 22.0 | 34.0 | 10KHz |
| NPIM105B2R2MTRF | 2.2 | 7.0 | 14.0 | 16.0 | |
| NPIM105B3R3MTRF | 3.3 | 13.2 | 11.0 | 14.5 | |
| NPIM105B4R7MTRF | 4.7 | 15.0 | 10.0 | 13.0 | |
| NPIM105B5R6MTRF* | 5.6 | 18.5 | 8.5 | 11.0 | |
| NPIM105B6R8MTRF | 6.8 | 24.0 | 7.5 | 10.0 | |



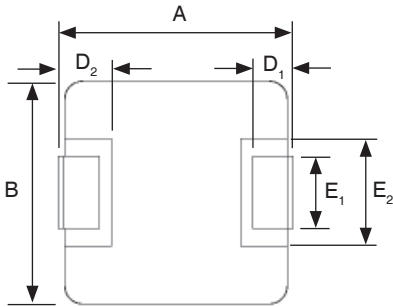
Contact NIC for NPIM105B Performance Curves

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

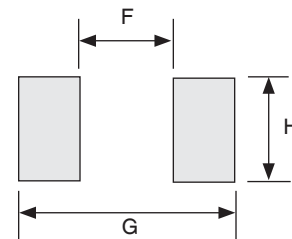
*Minimum order quantity may apply for this value. Contact NIC for details.

NPIM105B CASE AND LAND PATTERN DIMENSIONS

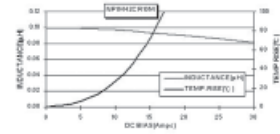
| Series | Value | A | B | C | D ₁ | D ₂ | E ₁ | E ₂ | t | F | G | H |
|----------|-----------|--------------|------------|-----------|----------------|----------------|----------------|----------------|-----------|-----|------|-----|
| NPIM105B | 1.0 | 11.15 ± 0.35 | 10.0 ± 0.3 | 4.3 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |
| | 2.2 ~ 6.8 | 10.85 ± 0.35 | 10.0 ± 0.3 | 4.3 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 3.0 ± 0.5 | 5.0 ± 0.2 | 0 ~ +0.15 | 5.4 | 13.6 | 4.1 |



LAND PATTERN



| Part Number | STANDARD VALUES - CASE SIZE 146B | | | | Test Frequency |
|------------------|----------------------------------|--------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (μH) | DC Resistance (mΩ) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIM146B180MTRF* | 18 | 35 | 5.0 | 8.0 | 10KHz |
| NPIM146B220MTRF | 22 | 39.5 | 5.0 | 7.5 | |
| NPIM146B270MTRF* | 27 | 56 | 4.0 | 6.5 | |
| NPIM146B330MTRF | 33 | 75 | 4.0 | 6.0 | |
| NPIM146B470MTRF | 47 | 90 | 3.5 | 5.5 | |
| NPIM146B680MTRF* | 68 | 140 | 3.0 | 4.5 | |
| NPIM146B101MTRF* | 100 | 200 | 2.5 | 3.5 | |



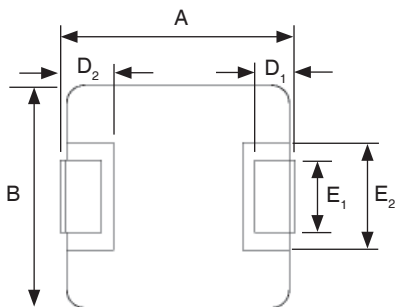
Contact NIC for NPIM146B Performance Curves

Maximum +40°C temperature rise at I_{rms}. Typical -30% inductance change at I_{sat}.

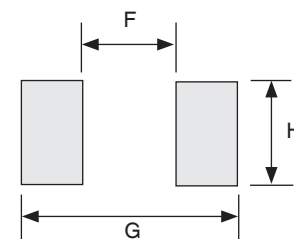
*Minimum order quantity may apply for this value. Contact NIC for details.

NPIM146B CASE AND LAND PATTERN DIMENSIONS

| Series | Value | A | B | C | D ₁ | D ₂ | E ₁ | E ₂ | t | F | G | H |
|----------|----------|--------------|------------|-----------|----------------|----------------|----------------|----------------|-----------|-----|------|-----|
| NPIM146B | 18 ~ 100 | 13.45 ± 0.35 | 12.6 ± 0.2 | 5.8 ± 0.2 | 2.0 ± 0.5 | 2.5 ± 0.1 | 5.0 ± 0.5 | 6.0 ± 0.2 | 0 ~ +0.15 | 8.0 | 14.5 | 5.5 |

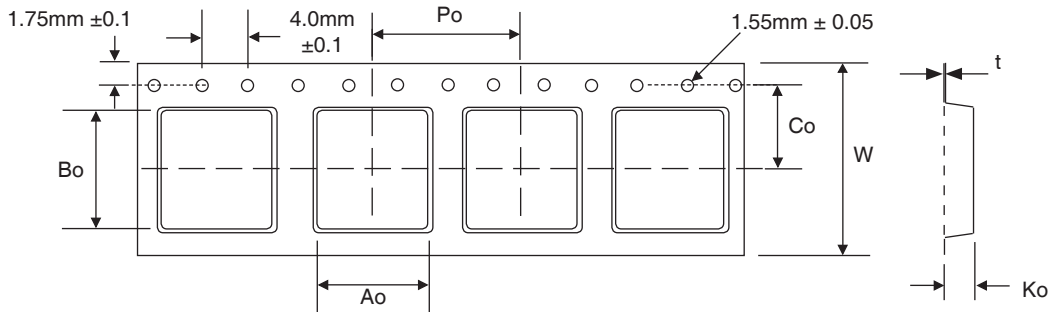


LAND PATTERN



CARRIER TAPE DIMENSIONS (mm)

| Series | Part Thickness | Ao | Bo | Co | Po | Ko | t | W |
|----------|----------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|
| NPIM42B | All | 4.2 ± 0.10 | 4.5 ± 0.10 | 5.5 ± 0.10 | 8.0 ± 0.10 | 2.5 ± 0.15 | 1.55 ± 0.05 | 12.0 ± 0.30 |
| NPIM52B | All | 5.6 ± 0.10 | 5.9 ± 0.10 | 5.5 ± 0.10 | 8.0 ± 0.10 | 2.3 ± 0.15 | 0.35 ± 0.05 | 12.0 ± 0.30 |
| NPIM53B | All | 5.4 ± 0.10 | 5.2 ± 0.10 | 7.5 ± 0.10 | 12.0 ± 0.10 | 3.6 ± 0.15 | 0.35 ± 0.05 | 16.0 ± 0.30 |
| NPIM72B | All | 7.2 ± 0.10 | 7.5 ± 0.10 | 7.5 ± 0.10 | 12.0 ± 0.10 | 2.3 ± 0.10 | 0.30 ± 0.10 | 16.0 ± 0.30 |
| NPIM73B | All | 7.2 ± 0.10 | 7.5 ± 0.10 | 7.5 ± 0.10 | 12.0 ± 0.10 | 3.6 ± 0.15 | 0.30 ± 0.10 | 16.0 ± 0.30 |
| NPIM74B | All | 7.2 ± 0.10 | 7.5 ± 0.10 | 7.5 ± 0.10 | 12.0 ± 0.10 | 3.6 ± 0.15 | 0.30 ± 0.10 | 16.0 ± 0.30 |
| NPIM75B | All | 7.2 ± 0.10 | 7.5 ± 0.10 | 7.5 ± 0.10 | 12.0 ± 0.10 | 3.6 ± 0.15 | 0.30 ± 0.10 | 16.0 ± 0.30 |
| NPIM101B | All | 10.7 ± 0.10 | 12.0 ± 0.10 | 11.5 ± 0.10 | 16.0 ± 0.10 | 2.0 ± 0.10 | 0.35 ± 0.05 | 24.0 ± 0.30 |
| NPIM103B | All | 10.7 ± 0.10 | 12.0 ± 0.10 | 11.5 ± 0.10 | 16.0 ± 0.10 | 4.0 ± 0.10 | 0.35 ± 0.05 | 24.0 ± 0.30 |
| NPIM104B | 3.8mm | 10.7 ± 0.10 | 12.0 ± 0.10 | 11.5 ± 0.10 | 16.0 ± 0.10 | 4.0 ± 0.10 | 0.35 ± 0.05 | 24.0 ± 0.30 |
| | 4.3mm | | | | | 4.5 ± 0.10 | | |
| NPIM105B | All | 13.4 ± 0.10 | 14.1 ± 0.10 | 11.5 ± 0.10 | 16.0 ± 0.10 | 3.7 ± 0.15 | 0.35 ± 0.05 | 24.0 ± 0.30 |
| NPIM146B | All | 13.4 ± 0.10 | 14.1 ± 0.10 | 11.5 ± 0.10 | 16.0 ± 0.10 | 5.1 ± 0.15 | 0.35 ± 0.05 | 24.0 ± 0.30 |



REEL DIMENSIONS (mm)

| Series | A | B | Qty/Reel |
|----------|------------|-----------|----------|
| NPIM42B | 12.5 ± 0.5 | 2.0 ± 0.2 | 2,000 |
| NPIM52B | 12.5 ± 0.5 | 2.0 ± 0.2 | 3,000 |
| NPIM53B | 16.0 ± 0.5 | 2.0 ± 0.2 | 1,000 |
| NPIM72B | 16.0 ± 0.5 | 2.0 ± 0.2 | 1,000 |
| NPIM73B | 16.0 ± 0.5 | 2.0 ± 0.2 | 1,000 |
| NPIM74B | 16.0 ± 0.5 | 2.0 ± 0.2 | 1,000 |
| NPIM75B | 16.0 ± 0.5 | 2.0 ± 0.2 | 500 |
| NPIM101B | 24.5 ± 0.5 | 2.0 ± 0.2 | 500 |
| NPIM103B | 24.5 ± 0.5 | 2.0 ± 0.2 | 500 |
| NPIM104B | 24.5 ± 0.5 | 2.0 ± 0.2 | 500 |
| NPIM105B | 24.5 ± 0.5 | 2.0 ± 0.2 | 500 |
| NPIM146B | 24.5 ± 0.5 | 2.0 ± 0.2 | 500 |

