

FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT, SMALL SIZE (UP TO 7 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 10,000 μ H)
- TAPED AND REELED FOR AUTOMATIC INSERTION
- FOR USE IN DC/DC CONVERTERS

**RoHS
Compliant**
includes all homogeneous materials

*See Part Number System for Details



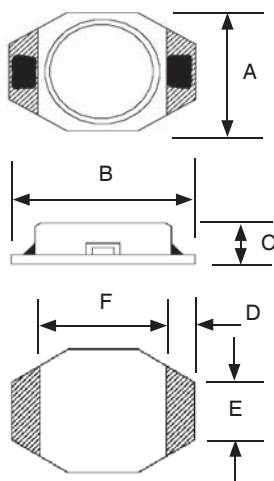
CHARACTERISTICS

| Case Size | NPIS16R | NPIS31R | NPIS52R |
|--|---|-------------------|-------------------|
| Inductance Range | 1 ~ 10000 μ H | 1.0 ~ 390 μ H | 10 ~ 1000 μ H |
| Ambient Operating Temperature Range | -40°C ~ +125°C | | |
| Maximum Component Temperature (Ambient + Self-Heating) | +155°C | +155°C | |
| Temperature Rise at Irms | +30°C max. | +40°C max. | |
| Inductance Change at Isat | -30% typical (NPIS16R), -10% typical (All Other Case Sizes) | | |
| Inductance Tolerance | 20% (M), \pm 30% (Y) | | |
| Resistance to Solder Heat | 260°C for 10 seconds | | |

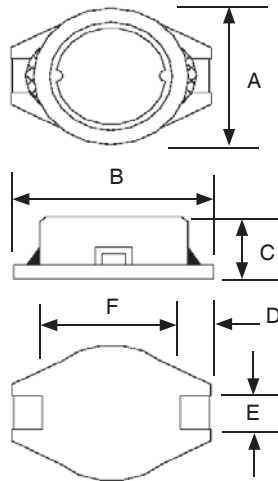
DIMENSIONS (mm)

| Series | A | B | C | D | E | F | G | H | I |
|---------|----------------|----------------|---------------|----------------|----------------|----------------|------|------|-----|
| NPIS16R | 4.45 Max | 6.6 Max | 2.92 Max | 1.02 \pm 0.2 | 1.27 \pm 0.2 | 4.32 \pm 0.3 | 4.06 | 3.56 | 1.4 |
| NPIS31R | 10.0 \pm 0.2 | 12.7 \pm 0.2 | 5.0 \pm 0.3 | 2.4 \pm 0.2 | 2.2 \pm 0.2 | 7.6 \pm 0.3 | 7.3 | 2.8 | 3.0 |
| NPIS52R | 15.0 \pm 0.3 | 18.4 \pm 0.3 | 7.0 \pm 0.5 | 2.4 \pm 0.2 | 2.2 \pm 0.2 | 13.3 \pm 0.3 | 12.7 | 2.8 | 3.0 |

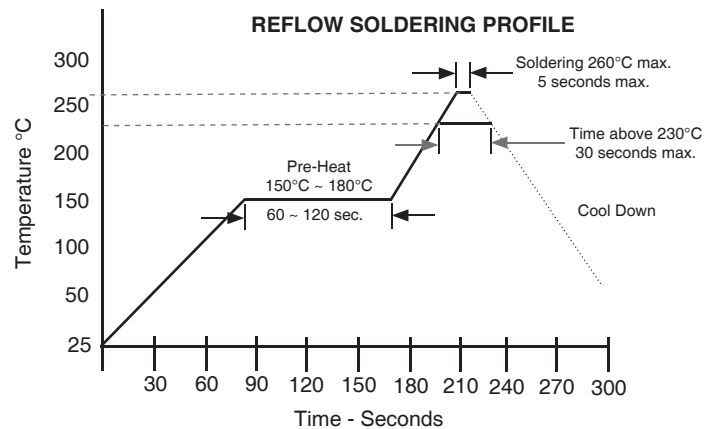
NPIS16R



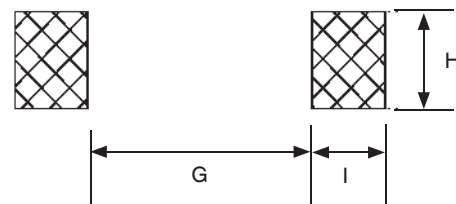
NPIS31R AND 52R



REFLOW SOLDERING PROFILE



LAND PATTERN

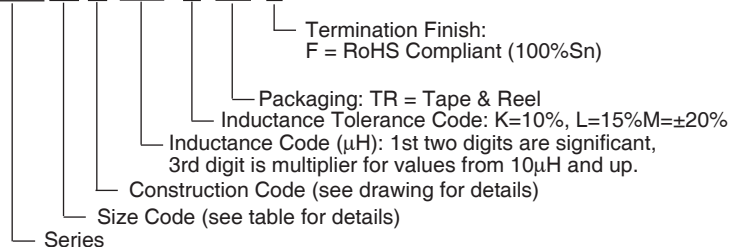


| Part Number | STANDARD VALUES - CASE SIZE 16 (4.45 x 6.6 x 2.92mm) | | | | |
|----------------|--|-------------------|-------------------|-----------------------------|----------------|
| | Inductance Value (μH) | SRF (Typical) MHz | DC Resistance (Ω) | DC Current Isat/Irms (Amps) | Test Frequency |
| NPIS16R1R0MTRF | 1.0±20% | 250 | 0.040 | 3.0 | 100KHz |
| NPIS16R1R5MTRF | 1.5±20% | 125 | 0.045 | 2.3 | |
| NPIS16R2R2MTRF | 2.2±20% | 120 | 0.050 | 1.8 | |
| NPIS16R3R3MTRF | 3.3±20% | 120 | 0.055 | 1.6 | |
| NPIS16R4R7MTRF | 4.7±20% | 105 | 0.060 | 1.4 | |
| NPIS16R6R8MTRF | 6.8±20% | 50 | 0.065 | 1.2 | |
| NPIS16R100MTRF | 10±20% | 38 | 0.075 | 1.0 | |
| NPIS16R150MTRF | 15±20% | 33 | 0.090 | 0.80 | |
| NPIS16R220MTRF | 22±20% | 25 | 0.110 | 0.70 | |
| NPIS16R330MTRF | 33±20% | 20 | 0.190 | 0.60 | |
| NPIS16R470MTRF | 47±20% | 20 | 0.230 | 0.50 | |
| NPIS16R680MTRF | 68±20% | 15 | 0.290 | 0.40 | |
| NPIS16R101MTRF | 100±20% | 10 | 0.480 | 0.30 | |
| NPIS16R151MTRF | 150±20% | 9.0 | 0.590 | 0.26 | |
| NPIS16R221MTRF | 220±20% | 6.0 | 0.770 | 0.22 | |
| NPIS16R331MTRF | 330±20% | 5.0 | 1.40 | 0.20 | |
| NPIS16R471MTRF | 470±20% | 4.0 | 1.80 | 0.19 | |
| NPIS16R681MTRF | 680±20% | 3.0 | 2.20 | 0.16 | |
| NPIS16R102MTRF | 1000±20% | 2.0 | 3.40 | 0.15 | |
| NPIS16R152MTRF | 1500±20% | 2.0 | 4.20 | 0.12 | |
| NPIS16R222MTRF | 2200±20% | 2.0 | 8.50 | 0.10 | |
| NPIS16R332MTRF | 3300±20% | 1.0 | 11.0 | 0.08 | |
| NPIS16R472MTRF | 4700±20% | 1.0 | 13.9 | 0.06 | |
| NPIS16R682MTRF | 6800±20% | 1.0 | 25.0 | 0.04 | |
| NPIS16R103MTRF | 10000±20% | 0.8 | 32.8 | 0.02 | |

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

PART NUMBER SYSTEM

NPIS 16 R 102 K TR F



| Part Number | STANDARD VALUES - CASE SIZE 31 (10.0 x 12.7 x 5.0mm) | | | | | Test Frequency |
|----------------|--|-------------------|-------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (µH) | SRF (Typical) MHz | DC Resistance (Ω) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS31R1R0YTRF | 1.0 ± 30% | 130 | 0.021 | 5.00 | 5.6 | 100KHz |
| NPIS31R1R5YTRF | 1.5 ± 30% | 110 | 0.022 | 4.50 | 5.2 | |
| NPIS31R2R2YTRF | 2.2 ± 30% | 90 | 0.027 | 3.10 | 5.0 | |
| NPIS31R3R0YTRF | 3.0 ± 30% | 65 | 0.030 | 2.90 | 3.9 | |
| NPIS31R4R7YTRF | 4.7 ± 30% | 50 | 0.040 | 2.50 | 3.2 | |
| NPIS31R6R8YTRF | 6.8 ± 30% | 30 | 0.055 | 2.20 | 2.8 | |
| NPIS31R100MTRF | 10 ± 20% | 28 | 0.065 | 2.00 | 2.4 | |
| NPIS31R120MTRF | 12 ± 20% | 25 | 0.080 | 1.80 | 2.2 | |
| NPIS31R150MTRF | 15 ± 20% | 20 | 0.085 | 1.70 | 2.0 | |
| NPIS31R180MTRF | 18 ± 20% | 19 | 0.090 | 1.60 | 1.8 | |
| NPIS31R220MTRF | 22 ± 20% | 18 | 0.100 | 1.40 | 1.6 | |
| NPIS31R270MTRF | 27 ± 20% | 16 | 0.120 | 1.30 | 1.5 | |
| NPIS31R330MTRF | 33 ± 20% | 14 | 0.160 | 1.20 | 1.4 | |
| NPIS31R390MTRF | 39 ± 20% | 12 | 0.180 | 1.05 | 1.2 | |
| NPIS31R470MTRF | 47 ± 20% | 11 | 0.190 | 1.00 | 1.0 | |
| NPIS31R560MTRF | 56 ± 20% | 10 | 0.210 | 0.90 | 0.95 | |
| NPIS31R680MTRF | 68 ± 20% | 9.0 | 0.340 | 0.82 | 0.90 | |
| NPIS31R820MTRF | 82 ± 20% | 8.0 | 0.380 | 0.75 | 0.85 | |
| NPIS31R101MTRF | 100 ± 20% | 7.5 | 0.420 | 0.68 | 0.80 | |
| NPIS31R121MTRF | 120 ± 20% | 7.0 | 0.460 | 0.60 | 0.70 | |
| NPIS31R151MTRF | 150 ± 20% | 6.3 | 0.520 | 0.55 | 0.60 | |
| NPIS31R181MTRF | 180 ± 20% | 5.5 | 0.700 | 0.50 | 0.65 | |
| NPIS31R221MTRF | 220 ± 20% | 5.0 | 0.800 | 0.45 | 0.50 | |
| NPIS31R271MTRF | 270 ± 20% | 4.5 | 1.10 | 0.40 | 0.45 | |
| NPIS31R331MTRF | 330 ± 20% | 4.0 | 1.20 | 0.35 | 0.40 | |
| NPIS31R391MTRF | 390 ± 20% | 3.3 | 1.40 | 0.33 | 0.35 | |

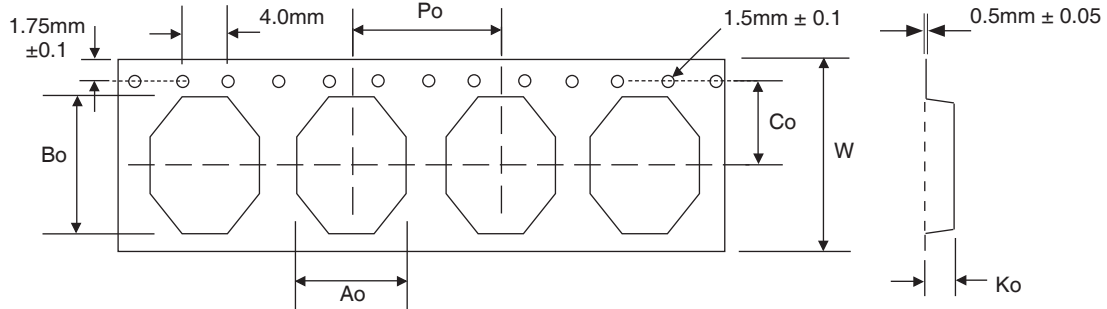
Maximum +40°C temperature rise at I_{rms}. Typical -10% inductance change at I_{sat}.

| Part Number | STANDARD VALUES - CASE SIZE 52 (15.0 x 18.4 x 7.0mm) | | | | | Test Frequency |
|----------------|--|-------------------|-------------------|------------------------------------|------------------------------------|----------------|
| | Inductance Value (µH) | SRF (Typical) MHz | DC Resistance (Ω) | DC Current I _{rms} (Amps) | DC Current I _{sat} (Amps) | |
| NPIS52R100MTRF | 10 ± 20% | 20 | 0.030 | 4.00 | 7.0 | 100KHz |
| NPIS52R150MTRF | 15 ± 20% | 17 | 0.035 | 3.60 | 6.2 | |
| NPIS52R220MTRF | 22 ± 20% | 15 | 0.045 | 3.15 | 5.0 | |
| NPIS52R330MTRF | 33 ± 20% | 10 | 0.060 | 2.80 | 4.2 | |
| NPIS52R470MTRF | 47 ± 20% | 8.5 | 0.080 | 2.45 | 3.5 | |
| NPIS52R680MTRF | 68 ± 20% | 6.5 | 0.115 | 2.00 | 3.0 | |
| NPIS52R101MTRF | 100 ± 20% | 5.5 | 0.180 | 1.70 | 2.4 | |
| NPIS52R151MTRF | 150 ± 20% | 5.0 | 0.220 | 1.35 | 2.0 | |
| NPIS52R221MTRF | 220 ± +0% | 4.0 | 0.320 | 1.15 | 1.6 | |
| NPIS52R331MTRF | 330 ± 20% | 3.0 | 0.500 | 0.90 | 1.3 | |
| NPIS52R471MTRF | 470 ± 20% | 2.5 | 0.750 | 0.75 | 1.1 | |
| NPIS52R681MTRF | 680 ± 20% | 2.3 | 1.10 | 0.65 | 0.90 | |
| NPIS52R102MTRF | 1000 ± 20% | 1.9 | 1.50 | 0.55 | 0.75 | |

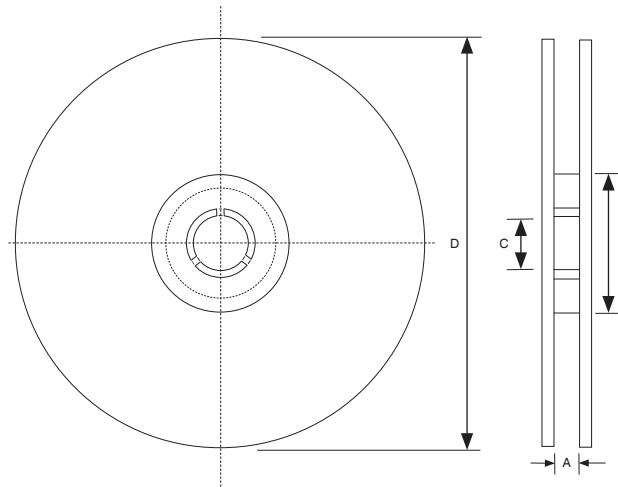
Maximum +40°C temperature rise at I_{rms}. Typical -10% inductance change at I_{sat}.



| Case Size | TAPE DIMENSIONS | | | | | |
|-----------|-----------------|------|-----|-------|------|------|
| | Ao | Bo | Ko | Co | W | Po |
| NPIS16R | 6.7 | 4.6 | 3.2 | 4.25 | 12.0 | 8.0 |
| NPIS31R | 13.2 | 9.5 | 5.4 | 10.25 | 24.0 | 12.0 |
| NPIS52R | 18.7 | 15.4 | 7.3 | 14.25 | 32.0 | 20.0 |



| Tape Width | REEL DIMENSIONS (mm) | | | |
|------------|----------------------|-------|--------|-------|
| | A(mm) | B(mm) | C(mm) | D(mm) |
| 24mm | 24.5±0.1 | 100±1 | 13±0.5 | 330 |
| 32mm | 32.5±0.1 | | | |



| Size | REEL QUANTITY PER CASE SIZE | | | | |
|-------------------|-----------------------------|---------|---------|---------|---------|
| | NPIS16R | NPIS22R | NPIS30R | NPIS31R | NPIS52R |
| Quantity per reel | 2500 | 1000 | 1000 | 500 | 250 |
| Tape Width | 16mm | 24mm | 24mm | 24mm | 32mm |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [nic manufacturer](#):

Other Similar products are found below :

[NMC0603NPO270J100TRPF](#) [NRE-S100M25V4X7F](#) [NMC-P1206X7R104K100TRPF](#) [NCC0805F261HTRF](#) [NRWA470M35V6.3X11TBF](#)
[NACE221M16V6.3X8TR13F](#) [NRSS332M50V18X35.5F](#) [NDTM106K25F1TRF](#) [NACZ221M50V10X10.5TR13F](#) [NCM15X7R103K50F](#)
[NRSS682M25V18X35.5F](#) [NEXC224Z5.5V10.5X8.5TRF](#) [NRLRW221M450V30X35SF](#) [NDTM225K50F2TRF](#) [NEXT105Z5.5V21.5X13F](#)
[NRSZ471M50V12.5X20F](#) [NTCL106K35TRDF](#) [NRWA331M25V10X12.5F](#) [NRSY472M25V16X31.5F](#) [NEXS105Z5.5V28.5X14F](#)
[NRLR181M400V25X30SF](#) [NRSZ102M25V12.5X20F](#) [NUVA33T385TRF](#) [NUVA33V405TRF](#) [NRLMW331M250V30X25F](#)
[NRLF103M25V35X20F](#) [NDTM106K35F](#) [NRLMW102M200V35X35F](#) [NPIS43LS220MTRF](#) [NACZ101M25V6.3X8TR13F](#) [NTC-](#)
[T475K50TRDF](#) [NCD222M1KVZ5UKF](#) [NRLR472M63V25X40SF](#) [NTP157M10TRD\(40\)F](#) [NPIM74C3R3MTRF](#) [NPI104C100MTRF](#)
[NRLM102M100V25X25F](#) [NRLM223M50V 35X50F](#) [NAZT221M50V10X10.5LBF](#) [NACK102M10V 10X10.5TR13F](#)
[NACZ221M35V8X10.5TR13F](#) [NRWA101M10V5X11F](#) [NTC-T336K16TRCF](#) [NRWP102M16V10X12.5F](#) [NRLM822M50V30X35F](#)
[NACE470M63V8X10.5TR13F](#) [NCD4R7C1KVNPOF](#) [NRSZ152M35V 16X25F](#) [NRSH222M63V18X40F](#) [NRLM123M16V25X25F](#)