

### FEATURES

- SHIELDED POWER INDUCTOR
- SMALL SIZE WITH CURRENT RATINGS TO 6.8 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 1000 $\mu$ 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                                              | NPIS20D               | NPIS21D           | NPIS24D          | NPIS28D          | NPIS33D          | NPIS34D          | NPIS35D          |
|--------------------------------------------------------|-----------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| Inductance Range                                       | 1.2 ~ 10 $\mu$ H      | 1.2 ~ 100 $\mu$ H | 1.5 ~ 12 $\mu$ H | 2.2 ~ 47 $\mu$ H | 2.7 ~ 39 $\mu$ H | 1.2 ~ 22 $\mu$ H | 1.5 ~ 33 $\mu$ H |
| Ambient Operating Temperature Range                    | -55°C ~ +85°C         |                   |                  |                  |                  |                  |                  |
| Maximum Component Temperature (Ambient + Self-Heating) | +125°C                |                   |                  |                  |                  |                  |                  |
| Temperature Rise at I <sub>rms</sub>                   | +40°C max.            |                   |                  |                  |                  |                  |                  |
| Inductance Change at I <sub>sat</sub>                  | -35% typical          |                   |                  |                  |                  |                  |                  |
| Inductance Tolerance                                   | ±20% (M), ±30% (Y)    |                   |                  |                  |                  |                  |                  |
| Resistance to Solder Heat                              | +250°C for 10 seconds |                   |                  |                  |                  |                  |                  |

| Case Size                                              | NPIS36D               | NPIS39D          | NPIS42D           | NPIS43D           | NPIS52D           | NPIS53D           | NPIS63D           | NPIS64D            |
|--------------------------------------------------------|-----------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Inductance Range                                       | 1.5 ~ 47 $\mu$ H      | 3.3 ~ 47 $\mu$ H | 1.0 ~ 180 $\mu$ H | 1.2 ~ 270 $\mu$ H | 3.3 ~ 220 $\mu$ H | 2.2 ~ 680 $\mu$ H | 3.3 ~ 680 $\mu$ H | 1.5 ~ 1000 $\mu$ H |
| Ambient Operating Temperature Range                    | -55°C ~ +85°C         |                  |                   |                   |                   |                   |                   |                    |
| Maximum Component Temperature (Ambient + Self-Heating) | +125°C                |                  |                   |                   |                   |                   |                   |                    |
| Temperature Rise at I <sub>rms</sub>                   | +40°C max             |                  |                   |                   |                   |                   |                   |                    |
| Inductance Change at I <sub>sat</sub>                  | -35% typical          |                  |                   |                   |                   |                   |                   |                    |
| Inductance Tolerance                                   | ±20% (M), ±30% (Y)    |                  |                   |                   |                   |                   |                   |                    |
| Resistance to Solder Heat                              | +250°C for 10 seconds |                  |                   |                   |                   |                   |                   |                    |

| Case Size                                              | NPIS83D               | NPIS84D           | NPIS85D           |
|--------------------------------------------------------|-----------------------|-------------------|-------------------|
| Inductance Range                                       | 2.5 ~ 100 $\mu$ H     | 1.8 ~ 100 $\mu$ H | 2.0 ~ 100 $\mu$ H |
| Ambient Operating Temperature Range                    | -55°C ~ +85°C         |                   |                   |
| Maximum Component Temperature (Ambient + Self-Heating) | +125°C                |                   |                   |
| Temperature Rise at I <sub>rms</sub>                   | +40°C max             |                   |                   |
| Inductance Change at I <sub>sat</sub>                  | -35% typical          |                   |                   |
| Inductance Tolerance                                   | ±20% (M), ±30% (Y)    |                   |                   |
| Resistance to Solder Heat                              | +250°C for 10 seconds |                   |                   |

### PART NUMBER SYSTEM

NPIS 42 D 150 M TR F

Termination Finish:  
F = Standard Pb-free (100%Sn)  
Taping Options (Contact NIC)

Packaging: TR = Tape & Reel

Inductance Tolerance Code: M=±20%, Y=±30%

Inductance Code ( $\mu$ H): 1st two digits are significant, 3rd digit is multiplier.

Construction Code (see drawing for details)

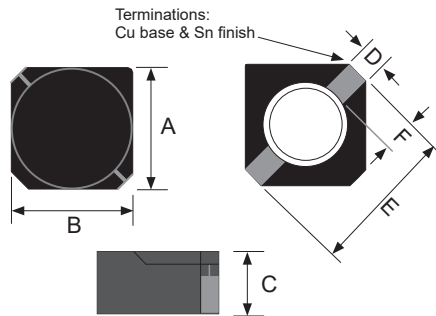
Size Code (see table for details)

Series

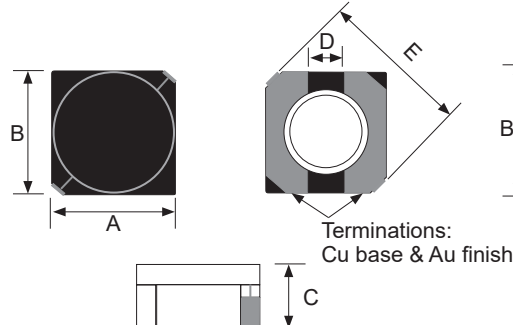
### DIMENSIONS (mm)

| Series  | A         | B         | C         | D typ. | E         | F typ. |
|---------|-----------|-----------|-----------|--------|-----------|--------|
| NPIS20D | 3.0 ± 0.3 | 3.0 ± 0.3 | 0.9 ± 0.2 | 1.2    | 3.9 ± 0.5 | 1.2    |
| NPIS21D | 3.0 ± 0.3 | 3.0 ± 0.3 | 1.1 ± 0.2 | 1.2    | 3.9 ± 0.5 | 1.2    |
| NPIS24D | 3.0 ± 0.3 | 3.0 ± 0.3 | 1.4 ± 0.2 | 1.2    | 3.9 ± 0.5 | 1.2    |
| NPIS28D | 3.0 ± 0.3 | 3.0 ± 0.3 | 1.9 ± 0.2 | 1.2    | 3.9 ± 0.5 | 1.2    |
| NPIS33D | 3.9 ± 0.3 | 3.9 ± 0.3 | 1.1 ± 0.2 | 1.4    | 5.0 ± 0.5 | 1.4    |
| NPIS34D | 3.9 ± 0.3 | 3.9 ± 0.3 | 1.4 ± 0.2 | 1.4    | 5.0 ± 0.5 | 1.4    |
| NPIS35D | 3.9 ± 0.3 | 3.9 ± 0.3 | 1.6 ± 0.2 | 1.4    | 5.0 ± 0.5 | 1.4    |
| NPIS36D | 3.9 ± 0.3 | 3.9 ± 0.3 | 1.9 ± 0.2 | 1.4    | 5.0 ± 0.5 | /      |
| NPIS39D | 3.9 ± 0.3 | 3.9 ± 0.3 | 3.0 ± 0.2 | 1.2    | 5.0 ± 0.5 | /      |
| NPIS42D | 4.7 ± 0.3 | 4.7 ± 0.3 | 1.8 ± 0.2 | 1.4    | 6.4 ± 0.5 | /      |
| NPIS43D | 4.7 ± 0.3 | 4.7 ± 0.3 | 2.8 ± 0.2 | 1.4    | 6.4 ± 0.5 | /      |
| NPIS52D | 5.7 ± 0.3 | 5.7 ± 0.3 | 1.8 ± 0.2 | 1.8    | 7.7 ± 0.5 | /      |
| NPIS53D | 5.7 ± 0.3 | 5.7 ± 0.3 | 2.8 ± 0.2 | 1.8    | 7.7 ± 0.5 | /      |
| NPIS63D | 6.7 ± 0.3 | 6.7 ± 0.3 | 2.8 ± 0.2 | 2.0    | 9.0 ± 0.5 | /      |
| NPIS64D | 6.7 ± 0.3 | 6.7 ± 0.3 | 3.8 ± 0.2 | 2.0    | 9.0 ± 0.5 | /      |
| NPIS83D | 9.6 ± 0.5 | 8.0 ± 0.3 | 2.7 ± 0.3 | 8.3    | /         | /      |
| NPIS84D | 9.6 ± 0.5 | 8.0 ± 0.3 | 3.7 ± 0.3 | 8.3    | /         | /      |
| NPIS85D | 9.6 ± 0.5 | 8.0 ± 0.3 | 4.2 ± 0.3 | 8.3    | /         | /      |

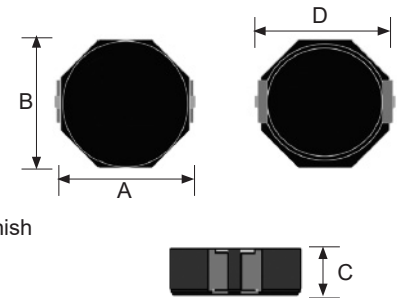
NPIS20D, 21D, 24D, 28D, 33D  
34D & 35D



NPIS36D, 39D, 42D, 43D, 52D,  
53D, 63D & 64D



NPIS83D, 84D & 85D



| Part Number    | Standard Values - Case Size 20 (3.3 x 3.3 x 1.1mm) |                     |                   |                             |
|----------------|----------------------------------------------------|---------------------|-------------------|-----------------------------|
|                | Inductance Value (μH)                              | Test Conditions (L) | DC Resistance (Ω) | DC Current Isat/Irms (Amps) |
| NPIS20D1R2YTRF | 1.2 ± 30%*                                         | 100KHz, 0.3V        | 0.097             | 0.8                         |
| NPIS20D1R5YTRF | 1.5 ± 30%*                                         | 100KHz, 0.3V        | 0.11              | 0.73                        |
| NPIS20D1R8YTRF | 1.8 ± 30%*                                         | 100KHz, 0.3V        | 0.131             | 0.65                        |
| NPIS20D2R2YTRF | 2.2 ± 30%*                                         | 100KHz, 0.3V        | 0.144             | 0.6                         |
| NPIS20D2R5YTRF | 2.5 ± 30%*                                         | 100KHz, 0.3V        | 0.15              | 0.53                        |
| NPIS20D3R0YTRF | 3.0 ± 30%*                                         | 100KHz, 0.3V        | 0.194             | 0.47                        |
| NPIS20D3R9YTRF | 3.9 ± 30%*                                         | 100KHz, 0.3V        | 0.225             | 0.45                        |
| NPIS20D4R7YTRF | 4.7 ± 30%*                                         | 100KHz, 0.3V        | 0.288             | 0.4                         |
| NPIS20D5R6YTRF | 5.6 ± 30%*                                         | 100KHz, 0.3V        | 0.325             | 0.37                        |
| NPIS20D6R8YTRF | 6.8 ± 30%*                                         | 100KHz, 0.3V        | 0.425             | 0.33                        |
| NPIS20D8R2YTRF | 8.2 ± 30%*                                         | 100KHz, 0.3V        | 0.457             | 0.3                         |
| NPIS20D100MTRF | 10 ± 20%                                           | 1KHz, 0.3V          | 0.538             | 0.28                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in ± 20% tolerance (M)



| Part Number    | Standard Values - Case Size 21 (3.3 x 3.3 x 1.3mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS21D1R2YTRF | $1.2 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.068                      | 0.9                         |
| NPIS21D2R2YTRF | $2.2 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.098                      | 0.78                        |
| NPIS21D3R3YTRF | $3.3 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.15                       | 0.6                         |
| NPIS21D4R7YTRF | $4.7 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.17                       | 0.5                         |
| NPIS21D6R8YTRF | $6.8 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.26                       | 0.44                        |
| NPIS21D100MTRF | $10 \pm 20\%$                                      | 1KHz, 0.3V          | 0.4                        | 0.35                        |
| NPIS21D150MTRF | $15 \pm 20\%$                                      | 1KHz, 0.3V          | 0.65                       | 0.25                        |
| NPIS21D220MTRF | $22 \pm 20\%$                                      | 1KHz, 0.3V          | 1                          | 0.22                        |
| NPIS21D330MTRF | $33 \pm 20\%$                                      | 1KHz, 0.3V          | 1.6                        | 0.2                         |
| NPIS21D470MTRF | $47 \pm 20\%$                                      | 1KHz, 0.3V          | 2                          | 0.15                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm 20\%$  tolerance (M)

| Part Number    | Standard Values - Case Size 24 (3.3 x 3.3 x 1.55mm) |                     |                            |                             |
|----------------|-----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                         | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS24D1R5YTRF | $1.5 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.063                      | 1.8                         |
| NPIS24D1R8YTRF | $1.8 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.075                      | 1.65                        |
| NPIS24D2R2YTRF | $2.2 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.094                      | 1.5                         |
| NPIS24D2R7YTRF | $2.7 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.106                      | 1.35                        |
| NPIS24D3R3YTRF | $3.3 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.125                      | 1.2                         |
| NPIS24D3R9YTRF | $3.9 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.138                      | 1.1                         |
| NPIS24D4R7YTRF | $4.7 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.169                      | 1                           |
| NPIS24D5R6YTRF | $5.6 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.188                      | 0.95                        |
| NPIS24D6R8YTRF | $6.8 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.213                      | 0.85                        |
| NPIS24D8R2YTRF | $8.2 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.281                      | 0.8                         |
| NPIS24D100MTRF | $10 \pm 20\%$                                       | 1KHz, 0.3V          | 0.294                      | 0.7                         |
| NPIS24D120MTRF | $12 \pm 20\%$                                       | 1KHz, 0.3V          | 0.394                      | 0.62                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm 20\%$  tolerance (M)

| Part Number    | Standard Values - Case Size 28 (3.2 x 3.2 x 2.1mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS28D2R2YTRF | $2.2 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.041                      | 0.85                        |
| NPIS28D3R3YTRF | $3.3 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.054                      | 0.75                        |
| NPIS28D4R7YTRF | $4.7 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.078                      | 0.63                        |
| NPIS28D6R8YTRF | $6.8 \pm 30\%^*$                                   | 100KHz, 0.3V        | 0.106                      | 0.52                        |
| NPIS28D100MTRF | $10 \pm 20\%$                                      | 1KHz, 0.3V          | 0.18                       | 0.43                        |
| NPIS28D150MTRF | $15 \pm 20\%$                                      | 1KHz, 0.3V          | 0.22                       | 0.35                        |
| NPIS28D220MTRF | $22 \pm 20\%$                                      | 1KHz, 0.3V          | 0.32                       | 0.3                         |
| NPIS28D330MTRF | $33 \pm 20\%$                                      | 1KHz, 0.3V          | 0.46                       | 0.24                        |
| NPIS28D470MTRF | $47 \pm 20\%$                                      | 1KHz, 0.3V          | 0.66                       | 0.2                         |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm 20\%$  tolerance (M)

| Part Number    | Standard Values - Case Size 33 (4.2 x 4.2 x 1.3mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS33D2R7YTRF | 2.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.078                      | 0.5                         |
| NPIS33D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.123                      | 0.4                         |
| NPIS33D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.18                       | 0.34                        |
| NPIS33D8R2YTRF | 8.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.204                      | 0.32                        |
| NPIS33D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.24                       | 0.28                        |
| NPIS33D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.276                      | 0.25                        |
| NPIS33D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.372                      | 0.23                        |
| NPIS33D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.468                      | 0.21                        |
| NPIS33D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.54                       | 0.19                        |
| NPIS33D270MTRF | 27 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.726                      | 0.17                        |
| NPIS33D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.822                      | 0.15                        |
| NPIS33D390MTRF | 39 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.942                      | 0.14                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 34 (4.2 x 4.2 x 1.6mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS34D1R2YTRF | 1.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.045                      | 2.15                        |
| NPIS34D1R7YTRF | 1.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.063                      | 1.85                        |
| NPIS34D2R2YTRF | 2.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.069                      | 1.6                         |
| NPIS34D2R7YTRF | 2.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.088                      | 1.45                        |
| NPIS34D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.1                        | 1.35                        |
| NPIS34D3R9YTRF | 3.9 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.135                      | 1.15                        |
| NPIS34D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.15                       | 1.1                         |
| NPIS34D8R2YTRF | 8.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.238                      | 0.82                        |
| NPIS34D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.262                      | 0.75                        |
| NPIS34D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.35                       | 0.67                        |
| NPIS34D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.488                      | 0.6                         |
| NPIS34D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.575                      | 0.52                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 35 (4.2 x 4.2 x 1.8mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS35D1R5YTRF | 1.5 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.052                      | 1.55                        |
| NPIS35D2R2YTRF | 2.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.072                      | 1.2                         |
| NPIS35D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.085                      | 1.1                         |
| NPIS35D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.105                      | 0.9                         |
| NPIS35D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.17                       | 0.73                        |
| NPIS35D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.21                       | 0.55                        |
| NPIS35D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.295                      | 0.45                        |
| NPIS35D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.43                       | 0.4                         |
| NPIS35D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.66                       | 0.32                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 36 (4.2 x 4.2 x 2.1mm) |                     |                   |                             |
|----------------|----------------------------------------------------|---------------------|-------------------|-----------------------------|
|                | Inductance Value (μH)                              | Test Conditions (L) | DC Resistance (Ω) | DC Current Isat/Irms (Amps) |
| NPIS36D1R5YTRF | 1.5 ± 30%*                                         | 100KHz, 0.3V        | 0.052             | 1.55                        |
| NPIS36D2R2YTRF | 2.2 ± 30%*                                         | 100KHz, 0.3V        | 0.072             | 1.2                         |
| NPIS36D3R0YTRF | 3.0 ± 30%*                                         | 100KHz, 0.3V        | 0.069             | 1.6                         |
| NPIS36D3R3YTRF | 3.3 ± 30%*                                         | 100KHz, 0.3V        | 0.085             | 1.1                         |
| NPIS36D4R7YTRF | 4.7 ± 30%*                                         | 100KHz, 0.3V        | 0.1075            | 1.35                        |
| NPIS36D6R8YTRF | 6.8 ± 30%*                                         | 100KHz, 0.3V        | 0.15              | 1.1                         |
| NPIS36D100MTRF | 10 ± 20%                                           | 1KHz, 0.3V          | 0.205             | 0.9                         |
| NPIS36D150MTRF | 15 ± 20%                                           | 1KHz, 0.3V          | 0.301             | 0.75                        |
| NPIS36D220MTRF | 22 ± 20%                                           | 1KHz, 0.3V          | 0.424             | 0.6                         |
| NPIS36D330MTRF | 33 ± 20%                                           | 1KHz, 0.3V          | 0.64              | 0.45                        |
| NPIS36D470MTRF | 47 ± 20%                                           | 1KHz, 0.3V          | 0.964             | 0.35                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in ± 20% tolerance (M)

| Part Number    | Standard Values - Case Size 38 (4.2 x 4.2 x 3.2mm) |                     |                   |                             |
|----------------|----------------------------------------------------|---------------------|-------------------|-----------------------------|
|                | Inductance Value (μH)                              | Test Conditions (L) | DC Resistance (Ω) | DC Current Isat/Irms (Amps) |
| NPIS39D3R3YTRF | 3.3 ± 30%*                                         | 100KHz, 0.3V        | 0.0721            | 2                           |
| NPIS39D4R7YTRF | 4.7 ± 30%*                                         | 100KHz, 0.3V        | 0.0883            | 1.65                        |
| NPIS39D6R8YTRF | 6.8 ± 30%*                                         | 100KHz, 0.3V        | 0.119             | 1.24                        |
| NPIS39D100MTRF | 10 ± 20%                                           | 1KHz, 0.3V          | 0.145             | 1.05                        |
| NPIS39D150MTRF | 15 ± 20%                                           | 1KHz, 0.3V          | 0.213             | 0.9                         |
| NPIS39D220MTRF | 22 ± 20%                                           | 1KHz, 0.3V          | 0.335             | 0.76                        |
| NPIS39D330MTRF | 33 ± 20%                                           | 1KHz, 0.3V          | 0.481             | 0.58                        |
| NPIS39D470MTRF | 47 ± 20%                                           | 1KHz, 0.3V          | 0.599             | 0.48                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in ± 20% tolerance (M)

| Part Number    | Standard Values - Case Size 42 (5.0 x 5.0 x 2.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS42D1R0YTRF | 1.0 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.045                      | 1.72                        |
| NPIS42D2R2YTRF | 2.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.075                      | 1.32                        |
| NPIS42D2R7YTRF | 2.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.105                      | 1.28                        |
| NPIS42D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.11                       | 1.04                        |
| NPIS42D3R9YTRF | 3.9 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.155                      | 0.88                        |
| NPIS42D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.162                      | 0.84                        |
| NPIS42D5R6YTRF | 5.6 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.17                       | 0.8                         |
| NPIS42D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.19                       | 0.76                        |
| NPIS42D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.2                        | 0.61                        |
| NPIS42D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.21                       | 0.56                        |
| NPIS42D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.24                       | 0.5                         |
| NPIS42D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.338                      | 0.48                        |
| NPIS42D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.397                      | 0.41                        |
| NPIS42D270MTRF | 27 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.441                      | 0.35                        |
| NPIS42D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.694                      | 0.32                        |
| NPIS42D390MTRF | 39 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.709                      | 0.3                         |
| NPIS42D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.922                      | 0.28                        |
| NPIS42D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 1.08                       | 0.26                        |
| NPIS42D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 1.3                        | 0.24                        |
| NPIS42D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 1.56                       | 0.22                        |
| NPIS42D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.73                       | 0.2                         |
| NPIS42D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.39                       | 0.18                        |
| NPIS42D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.67                       | 0.15                        |
| NPIS42D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 4                          | 0.14                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 43 (5.0 x 5.0 x 3.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS43D1R2YTRF | 1.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.0242                     | 2.56                        |
| NPIS43D2R2YTRF | 2.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.0313                     | 2.04                        |
| NPIS43D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.049                      | 1.57                        |
| NPIS43D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.072                      | 1.32                        |
| NPIS43D5R6YTRF | 5.6 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.1009                     | 1.17                        |
| NPIS43D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.108                      | 1.12                        |
| NPIS43D8R2YTRF | 8.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.118                      | 1.04                        |
| NPIS43D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.128                      | 1                           |
| NPIS43D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.132                      | 0.84                        |
| NPIS43D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.149                      | 0.76                        |
| NPIS43D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.165                      | 0.72                        |
| NPIS43D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.235                      | 0.7                         |
| NPIS43D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.331                      | 0.56                        |
| NPIS43D390MTRF | 39 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.384                      | 0.5                         |
| NPIS43D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.587                      | 0.48                        |
| NPIS43D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.624                      | 0.41                        |
| NPIS43D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.699                      | 0.35                        |
| NPIS43D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.915                      | 0.32                        |
| NPIS43D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.02                       | 0.29                        |
| NPIS43D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.27                       | 0.27                        |
| NPIS43D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.35                       | 0.24                        |
| NPIS43D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.54                       | 0.22                        |
| NPIS43D271MTRF | 270 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.95                       | 0.16                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 52 (6.0 x 6.0 x 2.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS52D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.053                      | 2                           |
| NPIS52D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.06                       | 1.9                         |
| NPIS52D5R6YTRF | 5.6 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.076                      | 1.6                         |
| NPIS52D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.105                      | 1.4                         |
| NPIS52D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.124                      | 1.2                         |
| NPIS52D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.153                      | 1.1                         |
| NPIS52D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.21                       | 0.85                        |
| NPIS52D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.29                       | 0.8                         |
| NPIS52D270MTRF | 27 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.33                       | 0.75                        |
| NPIS52D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.386                      | 0.65                        |
| NPIS52D390MTRF | 39 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.52                       | 0.57                        |
| NPIS52D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.595                      | 0.54                        |
| NPIS52D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.665                      | 0.5                         |
| NPIS52D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.84                       | 0.43                        |
| NPIS52D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.978                      | 0.41                        |
| NPIS52D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.2                        | 0.36                        |
| NPIS52D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.5                        | 0.33                        |
| NPIS52D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.71                       | 0.31                        |
| NPIS52D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 3.38                       | 0.21                        |
| NPIS52D221MTRF | 220 $\pm$ 20%                                      | 1KHz, 0.3V          | 4.34                       | 0.18                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 53 (6.0 x 6.0 x 3.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS53D2R2YTRF | 2.2 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.017                      | 2.6                         |
| NPIS53D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.029                      | 2.4                         |
| NPIS53D5R6MTRF | 5.6 $\pm$ 20%                                      | 100KHz, 0.3V        | 0.045                      | 1.9                         |
| NPIS53D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.065                      | 1.3                         |
| NPIS53D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.076                      | 1.2                         |
| NPIS53D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.11                       | 1.0                         |
| NPIS53D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.122                      | 0.9                         |
| NPIS53D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.189                      | 0.75                        |
| NPIS53D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.25                       | 0.62                        |
| NPIS53D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.305                      | 0.58                        |
| NPIS53D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.355                      | 0.52                        |
| NPIS53D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.463                      | 0.46                        |
| NPIS53D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.52                       | 0.42                        |
| NPIS53D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.56                       | 0.40                        |
| NPIS53D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.68                       | 0.35                        |
| NPIS53D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.93                       | 0.32                        |
| NPIS53D221MTRF | 220 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.15                       | 0.30                        |
| NPIS53D271MTRF | 270 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.56                       | 0.27                        |
| NPIS53D331MTRF | 330 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.98                       | 0.25                        |
| NPIS53D391MTRF | 390 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.5                        | 0.22                        |
| NPIS53D471MTRF | 470 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.7                        | 0.20                        |
| NPIS53D561MTRF | 560 $\pm$ 20%                                      | 1KHz, 0.3V          | 3.12                       | 0.18                        |
| NPIS53D681MTRF | 680 $\pm$ 20%                                      | 1KHz, 0.3V          | 4.15                       | 0.16                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 63 (7.0 x 7.0 x 3.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS63D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.026                      | 2.8                         |
| NPIS63D4R7YTRF | 4.7 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.031                      | 2.4                         |
| NPIS63D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.065                      | 1.7                         |
| NPIS63D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.084                      | 1.4                         |
| NPIS63D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.095                      | 1.32                        |
| NPIS63D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.128                      | 1.2                         |
| NPIS63D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.165                      | 0.97                        |
| NPIS63D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.238                      | 0.8                         |
| NPIS63D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.277                      | 0.73                        |
| NPIS63D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.304                      | 0.65                        |
| NPIS63D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.39                       | 0.6                         |
| NPIS63D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.535                      | 0.54                        |
| NPIS63D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.75                       | 0.51                        |
| NPIS63D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.95                       | 0.47                        |
| NPIS63D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.2                        | 0.41                        |
| NPIS63D221MTRF | 220 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.5                        | 0.37                        |
| NPIS63D271MTRF | 270 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.7                        | 0.33                        |
| NPIS63D331MTRF | 330 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.15                       | 0.28                        |
| NPIS63D471MTRF | 470 $\pm$ 20%                                      | 1KHz, 0.3V          | 3.15                       | 0.21                        |
| NPIS63D681MTRF | 680 $\pm$ 20%                                      | 1KHz, 0.3V          | 5.15                       | 0.2                         |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 64 (7.0 x 7.0 x 4.0mm) |                     |                            |                             |
|----------------|----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                        | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS64D1R5YTRF | 1.5 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.015                      | 5.2                         |
| NPIS64D3R3YTRF | 3.3 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.02                       | 3.5                         |
| NPIS64D6R8YTRF | 6.8 $\pm$ 30%*                                     | 100KHz, 0.3V        | 0.029                      | 2.4                         |
| NPIS64D100MTRF | 10 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.038                      | 2                           |
| NPIS64D120MTRF | 12 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.053                      | 1.7                         |
| NPIS64D150MTRF | 15 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.057                      | 1.6                         |
| NPIS64D180MTRF | 18 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.092                      | 1.5                         |
| NPIS64D220MTRF | 22 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.096                      | 1.3                         |
| NPIS64D270MTRF | 27 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.109                      | 1.2                         |
| NPIS64D330MTRF | 33 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.124                      | 1.1                         |
| NPIS64D390MTRF | 39 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.138                      | 1                           |
| NPIS64D470MTRF | 47 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.155                      | 0.95                        |
| NPIS64D560MTRF | 56 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.202                      | 0.85                        |
| NPIS64D680MTRF | 68 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.234                      | 0.75                        |
| NPIS64D820MTRF | 82 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.324                      | 0.7                         |
| NPIS64D101MTRF | 100 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.358                      | 0.65                        |
| NPIS64D121MTRF | 120 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.47                       | 0.59                        |
| NPIS64D151MTRF | 150 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.58                       | 0.54                        |
| NPIS64D181MTRF | 180 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.69                       | 0.49                        |
| NPIS64D221MTRF | 220 $\pm$ 20%                                      | 1KHz, 0.3V          | 0.89                       | 0.43                        |
| NPIS64D271MTRF | 270 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.29                       | 0.4                         |
| NPIS64D331MTRF | 330 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.7                        | 0.37                        |
| NPIS64D391MTRF | 390 $\pm$ 20%                                      | 1KHz, 0.3V          | 1.75                       | 0.34                        |
| NPIS64D471MTRF | 470 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.2                        | 0.32                        |
| NPIS64D561MTRF | 560 $\pm$ 20%                                      | 1KHz, 0.3V          | 2.85                       | 0.29                        |
| NPIS64D681MTRF | 680 $\pm$ 20%                                      | 1KHz, 0.3V          | 3.2                        | 0.25                        |
| NPIS64D821MTRF | 820 $\pm$ 20%                                      | 1KHz, 0.3V          | 4.05                       | 0.22                        |
| NPIS64D102MTRF | 1000 $\pm$ 20%                                     | 1KHz, 0.3V          | 5.7                        | 0.2                         |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)

| Part Number    | Standard Values - Case Size 83 (10.1 x 8.3 x 3.0mm) |                     |                            |                             |
|----------------|-----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                         | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS83D2R5YTRF | 2.5 $\pm$ 30%*                                      | 100KHz, 0.3V        | 0.016                      | 4.50                        |
| NPIS83D3R3YTRF | 3.3 $\pm$ 30%*                                      | 100KHz, 0.3V        | 0.018                      | 4.00                        |
| NPIS83D4R7YTRF | 4.7 $\pm$ 30%*                                      | 100KHz, 0.3V        | 0.025                      | 3.40                        |
| NPIS83D100MTRF | 10 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.047                      | 2.50                        |
| NPIS83D150MTRF | 15 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.069                      | 1.90                        |
| NPIS83D220MTRF | 22 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.099                      | 1.60                        |
| NPIS83D330MTRF | 33 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.156                      | 1.30                        |
| NPIS83D470MTRF | 47 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.195                      | 1.15                        |
| NPIS83D680MTRF | 68 $\pm$ 20%                                        | 1KHz, 0.3V          | 0.286                      | 0.92                        |
| NPIS83D101MTRF | 100 $\pm$ 20%                                       | 1KHz, 0.3V          | 0.43                       | 0.75                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm$  20% tolerance (M)



| Part Number    | Standard Values - Case Size 84 (10.1 x 8.3 x 4.0mm) |                     |                            |                             |
|----------------|-----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                         | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS84D1R8YTRF | $1.8 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.016                      | 6.80                        |
| NPIS84D2R5YTRF | $2.5 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.018                      | 6.00                        |
| NPIS84D3R5YTRF | $3.5 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.024                      | 5.00                        |
| NPIS84D4R7YTRF | $4.7 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.029                      | 4.40                        |
| NPIS84D6R0YTRF | $6.0 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.032                      | 4.00                        |
| NPIS84D100MTRF | $10 \pm 20\%$                                       | 1KHz, 0.3V          | 0.048                      | 3.00                        |
| NPIS84D150MTRF | $15 \pm 20\%$                                       | 1KHz, 0.3V          | 0.067                      | 2.50                        |
| NPIS84D220MTRF | $22 \pm 20\%$                                       | 1KHz, 0.3V          | 0.105                      | 2.00                        |
| NPIS84D330MTRF | $33 \pm 20\%$                                       | 1KHz, 0.3V          | 0.157                      | 1.60                        |
| NPIS84D470MTRF | $47 \pm 20\%$                                       | 1KHz, 0.3V          | 0.189                      | 1.42                        |
| NPIS84D680MTRF | $68 \pm 20\%$                                       | 1KHz, 0.3V          | 0.29                       | 1.08                        |
| NPIS84D101MTRF | $100 \pm 20\%$                                      | 1KHz, 0.3V          | 0.41                       | 0.88                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

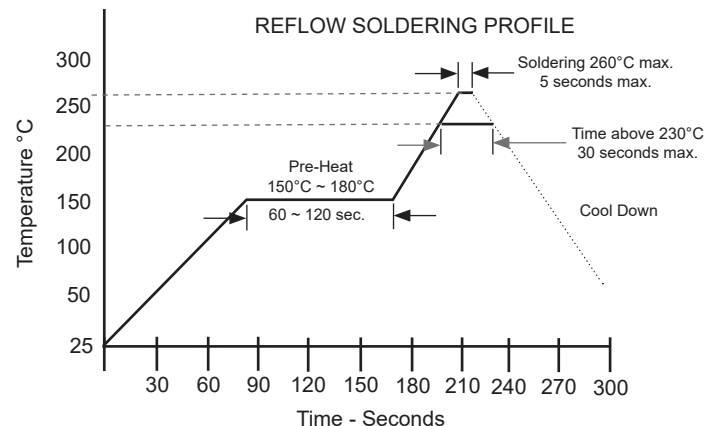
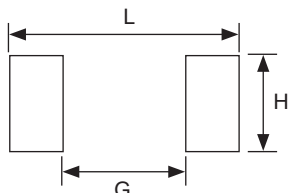
\*Also available in  $\pm 20\%$  tolerance (M)

| Part Number    | Standard Values - Case Size 84 (10.1 x 8.3 x 4.5mm) |                     |                            |                             |
|----------------|-----------------------------------------------------|---------------------|----------------------------|-----------------------------|
|                | Inductance Value ( $\mu$ H)                         | Test Conditions (L) | DC Resistance ( $\Omega$ ) | DC Current Isat/Irms (Amps) |
| NPIS85D2R0YTRF | $2.0 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.014                      | 5.50                        |
| NPIS85D3R9YTRF | $3.9 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.019                      | 4.50                        |
| NPIS85D4R7YTRF | $4.7 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.022                      | 4.10                        |
| NPIS85D6R8YTRF | $6.8 \pm 30\%^*$                                    | 100KHz, 0.3V        | 0.025                      | 3.90                        |
| NPIS85D100MTRF | $10 \pm 20\%$                                       | 1KHz, 0.3V          | 0.036                      | 3.20                        |
| NPIS85D150MTRF | $15 \pm 20\%$                                       | 1KHz, 0.3V          | 0.053                      | 2.30                        |
| NPIS85D220MTRF | $22 \pm 20\%$                                       | 1KHz, 0.3V          | 0.075                      | 1.80                        |
| NPIS85D330MTRF | $33 \pm 20\%$                                       | 1KHz, 0.3V          | 0.125                      | 1.40                        |
| NPIS85D470MTRF | $47 \pm 20\%$                                       | 1KHz, 0.3V          | 0.15                       | 1.30                        |
| NPIS85D680MTRF | $68 \pm 20\%$                                       | 1KHz, 0.3V          | 0.24                       | 1.00                        |
| NPIS85D101MTRF | $100 \pm 20\%$                                      | 1KHz, 0.3V          | 0.36                       | 0.80                        |

Irms/Isat specification is based on +40°C temperature rise or -35% inductance change whichever is less.

\*Also available in  $\pm 20\%$  tolerance (M)

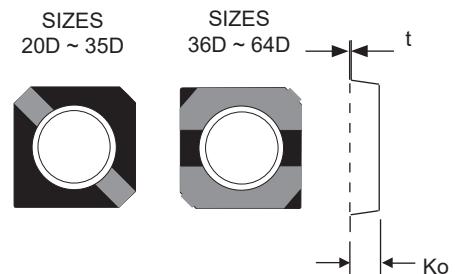
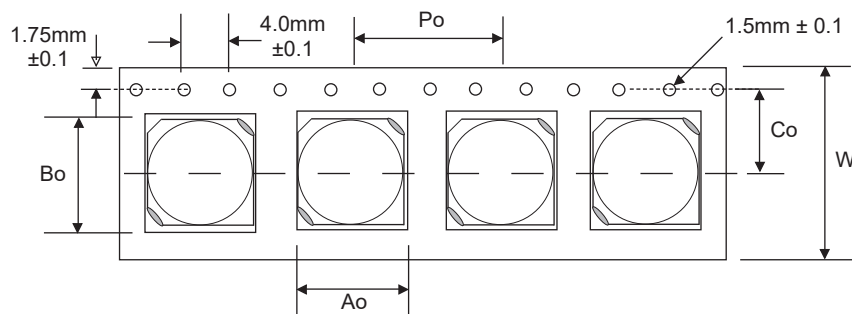
| Case Size               | LAND PATTERN DIMENSIONS (mm) |     |     |
|-------------------------|------------------------------|-----|-----|
|                         | L                            | G   | H   |
| NPIS20D, 21D, 24D & 28D | 4.3                          | 1.7 | 1.3 |
| NPIS33D, 34D, & 35D     | 5.2                          | 2.4 | 1.5 |
| NPIS36D & 39D           | 4.5                          | 1.1 | 4.5 |
| NPIS42D & 43D           | 5.3                          | 1.5 | 5.3 |
| NPIS52D & 53D           | 6.2                          | 2   | 6.3 |
| NPIS63D & 64D           | 7.2                          | 2   | 7.3 |
| NPIS83D, 84D & 85D      | 10.1                         | 6.1 | 2.8 |



| Case Size | Reel Qty | CARRIER TAPE DIMENSIONS (mm) |      |      |     |     |    |      |
|-----------|----------|------------------------------|------|------|-----|-----|----|------|
|           |          | W                            | A0   | B0   | Co  | K0  | Po | t    |
| NPIS20D   | 3,000    | 12.0                         | 3.5  | 3.5  | 5.5 | 1.4 | 8  | 0.3  |
| NPIS21D   | 3,000    |                              |      |      |     | 1.6 |    |      |
| NPIS24D   | 3,000    |                              |      |      |     | 1.6 |    |      |
| NPIS28D   | 3,000    |                              | 4.3  | 4.3  |     | 2.1 |    |      |
| NPIS33D   | 3,000    |                              |      |      |     |     |    |      |
| NPIS34D   | 3,000    |                              |      |      |     |     |    |      |
| NPIS35D   | 3,000    |                              |      |      |     |     |    |      |
| NPIS36D   | 3,500    |                              |      |      |     |     |    |      |
| NPIS39D   | 2,000    |                              |      |      |     |     |    |      |
| NPIS42D   | 3,500    |                              | 5.4  | 5.4  |     | 3.3 |    |      |
| NPIS43D   | 2,500    |                              |      |      |     | 2.2 |    |      |
| NPIS52D   | 3,500    |                              |      |      |     | 3.2 |    |      |
| NPIS53D   | 2,500    | 16.0                         | 7.4  | 7.4  | 7.5 | 3.4 | 12 | 0.35 |
| NPIS63D   | 1,500    |                              |      |      |     | 4.5 |    |      |
| NPIS64D   | 1,000    |                              | 10.5 | 10.5 |     | 3.5 |    | 0.4  |
| NPIS83D   | 1,000    |                              |      |      |     | 4.3 |    |      |
| NPIS84D   | 1,000    |                              |      |      |     | 4.3 |    |      |
| NPIS85D   | 800      |                              |      |      |     |     |    |      |

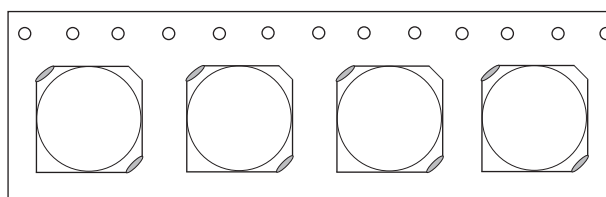
TRF  
STANDARD COMPONENT ORIENTATION  
(Contact NIC for Non-standard Options)

BOTTOM VIEW



BOTTOM VIEW

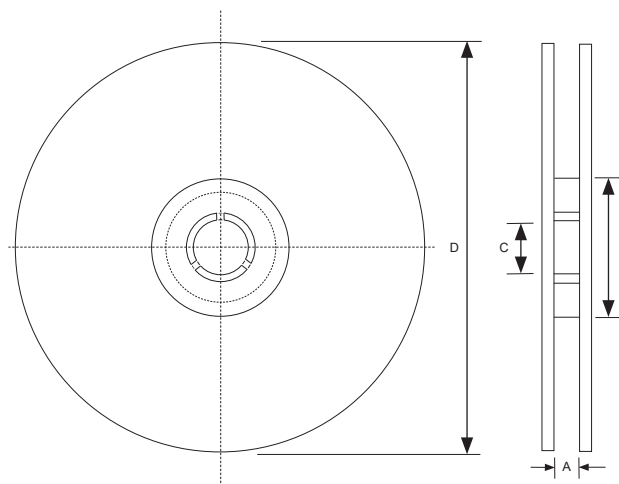
TRUF  
OPTIONAL 180° COMPONENT ORIENTATION



SIZES  
20D ~ 35D



| Tape Width | REEL DIMENSIONS (mm) |        |           |       |
|------------|----------------------|--------|-----------|-------|
|            | A(mm)                | B(mm)  | C(mm)     | D(mm) |
| 12mm       | 12.5 ±0.1            | 100 ±1 | 13.0 ±0.5 | 330   |
| 16mm       | 16.5 ±0.1            |        |           |       |



| Size       | REEL QUANTITY (330mm Reel) |         |         |         |         |         |         |         |         |
|------------|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|            | NPIS20D                    | NPIS21D | NPIS24D | NPIS28D | NPIS33D | NPIS34D | NPIS35D | NPIS36D | NPIS39D |
| Qty./Reel  | 3000                       | 3000    | 3000    | 3000    | 3000    | 3000    | 3000    | 3500    | 2000    |
| Tape Width | 12mm                       | 12mm    | 12mm    | 12mm    | 12mm    | 12mm    | 12mm    | 12mm    | 12mm    |

| Size       | REEL QUANTITY (330mm Reel) |         |         |         |         |         |         |         |         |
|------------|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|            | NPIS42D                    | NPIS43D | NPIS52D | NPIS53D | NPIS63D | NPIS64D | NPIS83D | NPIS84D | NPIS85D |
| Qty./Reel  | 3500                       | 2500    | 3500    | 2500    | 1500    | 1000    | 1000    | 1000    | 800     |
| Tape Width | 12mm                       | 12mm    | 16mm    | 16mm    | 16mm    | 16mm    | 16mm    | 16mm    | 16mm    |