

### FEATURES

- EIA 0201 & 0402 SIZES
- EXCELLENT HIGH Q AND HIGH SRF CHARACTERISTICS
- REFLOW SOLDERING APPLICABLE
- PACKAGE FOR AUTOMATIC PICK-PLACE

### SPECIFICATIONS

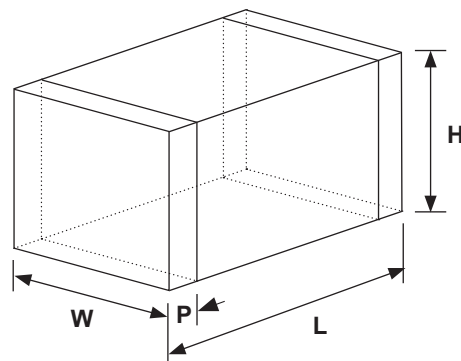
| Series | Case size | Inductance Range | Tolerance                                | Temperature Range |
|--------|-----------|------------------|------------------------------------------|-------------------|
| NMLQ02 | 0201      | 0.6 ~ 3.9nH      | ±0.1nH (B), ±0.2nH (C), ±0.3nH (D)       | -40°C ~ +105°C    |
|        |           | 4.3 ~ 6.2nH      | ±0.2nH (C), ±0.3nH (D), ±3% (H), ±5% (J) |                   |
|        |           | 6.8 ~ 22nH       | ±3% (H), ±5% (J)                         |                   |
|        |           | 27 ~ 100nH       | ±5% (J)                                  |                   |
| NMLQ04 | 0402      | 1.0 ~ 6.2nH      | ±0.1nH (B), ±0.2nH (C), ±0.3nH (D)       | 55°C ~ +125°C     |
|        |           | 6.8nH ~ 15nH     | ±2% (G), ±3% (H), ±5% (J)                |                   |

See Specifications Tables for Q Factor, Self Resonant Frequency, DC Resistance and DC Current Ratings

Note: Extended values, tolerances, and enhanced versions are available please contact NIC for more details.

### DIMENSIONS (mm)

| Case Size | L         | W         | H         | P         |
|-----------|-----------|-----------|-----------|-----------|
| 0201      | 0.60±0.03 | 0.30±0.03 | 0.30±0.03 | 0.10±0.05 |
| 0402      | 1.00±0.15 | 0.60±0.15 | 0.50±0.15 | 0.25±0.10 |



### PART NUMBER SYSTEM

**NML-Q 04 B 2N2 TR E**  
 — Series  
 — Case Size Code: 02 = 0201, 04 = 0402  
 — Tolerance Code: B = ±0.1nH, C = ±0.2nH, D = ±0.3nH, G = ±2%, H = ±3%, J = ±5%  
 — Inductance Value in nH ("N" denotes decimal point)  
 — Packaging: TR = Tape & Reel  
 — RoHS compliant

## NML-Q SERIES 0201 CASE SIZE STANDARD VALUES & SPECIFICATIONS

| NIC<br>P/N    | 'L'<br>Inductance<br>(nH) | Tolerance  | 'Q'<br>Factor<br>(min.) | L & Q<br>Test<br>Frequency<br>(MHz) | Typical Q (MHz) |     |      |      | SRF<br>MHz<br>(min.) | DC<br>Resistance<br>(ohms) Max. | Rated<br>DC Current<br>(mA) Max. |
|---------------|---------------------------|------------|-------------------------|-------------------------------------|-----------------|-----|------|------|----------------------|---------------------------------|----------------------------------|
|               |                           |            |                         |                                     | 500             | 800 | 1800 | 2000 |                      |                                 |                                  |
| NMLQ02_0N6TRF | 0.6                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.07                            | 850                              |
| NMLQ02_0N7TRF | 0.7                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.07                            | 850                              |
| NMLQ02_0N8TRF | 0.8                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.07                            | 850                              |
| NMLQ02_0N9TRF | 0.9                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.09                            | 760                              |
| NMLQ02_1N0TRF | 1.0                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.12                            | 680                              |
| NMLQ02_1N1TRF | 1.1                       | B, C, D    | 15                      | 500                                 | 30<             | 40< | 75<  | 80<  | 10000                | 0.1                             | 750                              |
| NMLQ02_1N2TRF | 1.2                       | B, C, D    | 15                      | 500                                 | 30              | 40  | 75   | 80   | 10000                | 0.1                             | 750                              |
| NMLQ02_1N3TRF | 1.3                       | B, C, D    | 15                      | 500                                 | 30              | 40  | 70   | 74   | 10000                | 0.12                            | 650                              |
| NMLQ02_1N4TRF | 1.4                       | B, C, D    | 15                      | 500                                 | 30              | 39  | 65   | 68   | 10000                | 0.12                            | 650                              |
| NMLQ02_1N5TRF | 1.5                       | B, C, D    | 15                      | 500                                 | 30              | 38  | 60   | 63   | 10000                | 0.12                            | 650                              |
| NMLQ02_1N6TRF | 1.6                       | B, C, D    | 15                      | 500                                 | 26              | 34  | 55   | 57   | 10000                | 0.14                            | 610                              |
| NMLQ02_1N7TRF | 1.7                       | B, C, D    | 15                      | 500                                 | 25              | 33  | 53   | 55   | 10000                | 0.14                            | 610                              |
| NMLQ02_1N8TRF | 1.8                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 53   | 55   | 10000                | 0.14                            | 610                              |
| NMLQ02_1N9TRF | 1.9                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 53   | 55   | 10000                | 0.14                            | 610                              |
| NMLQ02_2N0TRF | 2.0                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 53   | 55   | 10000                | 0.14                            | 610                              |
| NMLQ02_2N1TRF | 2.1                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 52   | 54   | 10000                | 0.14                            | 610                              |
| NMLQ02_2N2TRF | 2.2                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 52   | 54   | 10000                | 0.14                            | 610                              |
| NMLQ02_2N3TRF | 2.3                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 52   | 54   | 10000                | 0.16                            | 560                              |
| NMLQ02_2N4TRF | 2.4                       | B, C, D    | 15                      | 500                                 | 25              | 32  | 51   | 53   | 10000                | 0.16                            | 560                              |
| NMLQ02_2N5TRF | 2.5                       | B, C, D    | 15                      | 500                                 | 24              | 32  | 51   | 53   | 8500                 | 0.16                            | 560                              |
| NMLQ02_2N6TRF | 2.6                       | B, C, D    | 15                      | 500                                 | 24              | 32  | 50   | 52   | 8500                 | 0.16                            | 560                              |
| NMLQ02_2N7TRF | 2.7                       | B, C, D    | 15                      | 500                                 | 23              | 31  | 48   | 49   | 8500                 | 0.19                            | 510                              |
| NMLQ02_2N8TRF | 2.8                       | B, C, D    | 15                      | 500                                 | 23              | 31  | 48   | 50   | 8500                 | 0.2                             | 500                              |
| NMLQ02_2N9TRF | 2.9                       | B, C, D    | 15                      | 500                                 | 23              | 31  | 48   | 49   | 8500                 | 0.2                             | 500                              |
| NMLQ02_3N0TRF | 3.0                       | B, C, D    | 15                      | 500                                 | 22              | 31  | 46   | 47   | 8500                 | 0.2                             | 500                              |
| NMLQ02_3N1TRF | 3.1                       | B, C, D    | 15                      | 500                                 | 22              | 30  | 46   | 48   | 8500                 | 0.2                             | 500                              |
| NMLQ02_3N2TRF | 3.2                       | B, C, D    | 15                      | 500                                 | 22              | 30  | 46   | 48   | 8500                 | 0.2                             | 500                              |
| NMLQ02_3N3TRF | 3.3                       | B, C, D    | 15                      | 500                                 | 22              | 30  | 45   | 46   | 8000                 | 0.2                             | 500                              |
| NMLQ02_3N4TRF | 3.4                       | B, C, D    | 15                      | 500                                 | 22              | 30  | 46   | 47   | 8000                 | 0.2                             | 500                              |
| NMLQ02_3N5TRF | 3.5                       | B, C, D    | 15                      | 500                                 | 22              | 29  | 45   | 46   | 8000                 | 0.2                             | 500                              |
| NMLQ02_3N6TRF | 3.6                       | B, C, D    | 15                      | 500                                 | 22              | 29  | 45   | 46   | 7000                 | 0.2                             | 500                              |
| NMLQ02_3N7TRF | 3.7                       | B, C, D    | 15                      | 500                                 | 22              | 28  | 43   | 44   | 7000                 | 0.2                             | 500                              |
| NMLQ02_3N8TRF | 3.8                       | B, C, D    | 15                      | 500                                 | 22              | 28  | 43   | 44   | 7000                 | 0.2                             | 500                              |
| NMLQ02_3N9TRF | 3.9                       | B, C, D    | 15                      | 500                                 | 22              | 28  | 43   | 43   | 7000                 | 0.25                            | 440                              |
| NMLQ02_4N3TRF | 4.3                       | C, D, H, J | 15                      | 500                                 | 21              | 29  | 43   | 44   | 6000                 | 0.3                             | 400                              |
| NMLQ02_4N7TRF | 4.7                       | C, D, H, J | 15                      | 500                                 | 21              | 29  | 42   | 42   | 6000                 | 0.35                            | 370                              |
| NMLQ02_5N1TRF | 5.1                       | C, D, H, J | 15                      | 500                                 | 21              | 27  | 41   | 41   | 6000                 | 0.35                            | 370                              |
| NMLQ02_5N6TRF | 5.6                       | C, D, H, J | 15                      | 500                                 | 21              | 28  | 40   | 40   | 6000                 | 0.35                            | 370                              |
| NMLQ02_6N2TRF | 6.2                       | C, D, H, J | 15                      | 500                                 | 21              | 27  | 40   | 41   | 6000                 | 0.4                             | 340                              |
| NMLQ02_6N8TRF | 6.8                       | H, J       | 15                      | 500                                 | 21              | 27  | 39   | 39   | 6000                 | 0.5                             | 310                              |
| NMLQ02_7N5TRF | 7.5                       | H, J       | 14                      | 500                                 | 20              | 27  | 37   | 37   | 5000                 | 0.6                             | 300                              |
| NMLQ02_8N2TRF | 8.2                       | H, J       | 14                      | 500                                 | 20              | 27  | 37   | 37   | 5000                 | 0.7                             | 250                              |
| NMLQ02_9N1TRF | 9.1                       | H, J       | 14                      | 500                                 | 20              | 26  | 36   | 36   | 4000                 | 0.7                             | 250                              |
| NMLQ02_10NTRF | 10                        | H, J       | 14                      | 500                                 | 20              | 26  | 35   | 35   | 4000                 | 0.85                            | 220                              |
| NMLQ02_12NTRF | 12                        | H, J       | 14                      | 500                                 | 20              | 26  | 32   | 33   | 3000                 | 0.85                            | 220                              |
| NMLQ02_15NTRF | 15                        | H, J       | 14                      | 500                                 | 20              | 24  | 30   | 29   | 3000                 | 0.9                             | 200                              |
| NMLQ02_18NTRF | 18                        | H, J       | 14                      | 500                                 | 19              | 24  | 28   | 26   | 2500                 | 1.2                             | 180                              |
| NMLQ02_22NTRF | 22                        | H, J       | 14                      | 500                                 | 18              | 23  | 26   | 26   | 2500                 | 1.6                             | 160                              |
| NMLQ02_27NTRF | 27                        | J          | 9                       | 500                                 | 13              | 15  | 12   | -    | 1700                 | 1.6                             | 160                              |
| NMLQ02_33NTRF | 33                        | J          | 7                       | 300                                 | 13              | 14  | -    | -    | 1500                 | 1.6                             | 160                              |

TABLE CONTINUES ON NEXT PAGE



## NML-Q SERIES 0201 CASE SIZE STANDARD VALUES & SPECIFICATIONS

| NIC P/N       | 'L' Inductance (nH) | Tolerance | 'Q' Factor (min.) | L & Q Test Frequency (MHz) | Typical Q (MHz) |     |      |      | SRF MHz (min.) | DC Resistance (ohms) Max. | Rated DC Current (mA) Max. |
|---------------|---------------------|-----------|-------------------|----------------------------|-----------------|-----|------|------|----------------|---------------------------|----------------------------|
|               |                     |           |                   |                            | 500             | 800 | 1800 | 2000 |                |                           |                            |
| NMLQ02_39NTRF | 39                  | J         | 7                 | 300                        | 12              | 13  | -    | -    | 1300           | 2.0                       | 140                        |
| NMLQ02_47NTRF | 47                  | J         | 7                 | 300                        | 12              | 13  | -    | -    | 1200           | 2.1                       | 140                        |
| NMLQ02_56NTRF | 56                  | J         | 7                 | 300                        | 11              | 12  | -    | -    | 1000           | 3.0                       | 120                        |
| NMLQ02_68NTRF | 68                  | J         | 7                 | 300                        | 11              | 12  | -    | -    | 1000           | 3.1                       | 120                        |
| NMLQ02_82NTRF | 82                  | J         | 7                 | 300                        | 11              | 11  | -    | -    | 900            | 3.5                       | 110                        |
| NMLQ02_R10TRF | 100                 | J         | 6                 | 300                        | 10              | 8   | -    | -    | 800            | 4.1                       | 100                        |

Tolerance Code: B =  $\pm 0.1\text{nH}$ , C =  $\pm 0.2\text{nH}$ , D =  $\pm 0.3\text{nH}$ , G =  $\pm 2\%$ , H =  $\pm 3\%$ , J =  $\pm 5\%$

Note: Extended values, tolerances, and enhanced versions are available please contact NIC for more details.

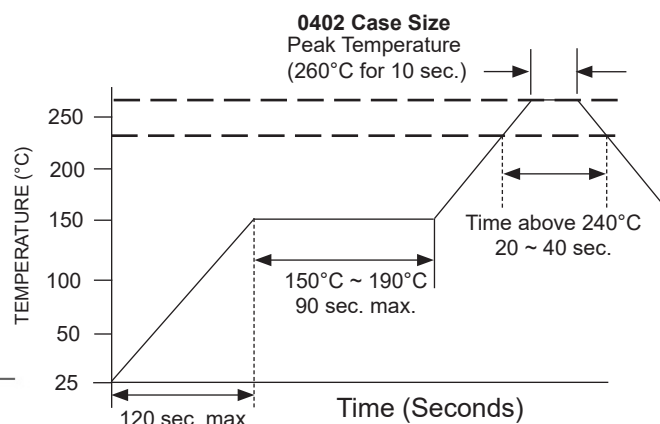
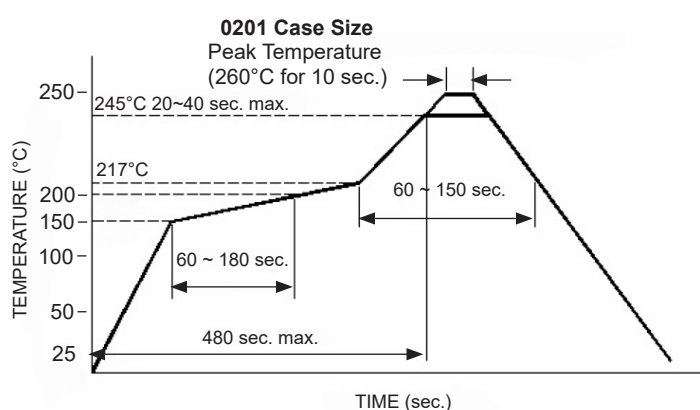
## NML-Q SERIES 0402 CASE SIZE STANDARD VALUES & SPECIFICATIONS

| NIC P/N       | 'L' Inductance (nH) | Tolerance | 'Q' Factor (min.) | L & Q Test Frequency (MHz) | Typical Q (MHz) |     |     |      | SRF MHz (min.) | DC Resistance (ohms) Max. | Rated DC Current (mA) Max. |
|---------------|---------------------|-----------|-------------------|----------------------------|-----------------|-----|-----|------|----------------|---------------------------|----------------------------|
|               |                     |           |                   |                            | 100             | 250 | 900 | 1800 |                |                           |                            |
| NMLQ04_1N0TRF | 1.0                 | B, C, D   | 20                | 250                        | 13              | 22  | 48  | 75   | 6000           | 0.05                      | 1000                       |
| NMLQ04_1N3TRF | 1.3                 | B, C, D   | 20                | 250                        | 13              | 22  | 60  | 76   | 6000           | 0.05                      | 1000                       |
| NMLQ04_1N5TRF | 1.5                 | B, C, D   | 20                | 250                        | 13              | 22  | 58  | 76   | 6000           | 0.05                      | 1000                       |
| NMLQ04_1N8TRF | 1.8                 | B, C, D   | 20                | 250                        | 13              | 22  | 49  | 78   | 6000           | 0.07                      | 800                        |
| NMLQ04_2N2TRF | 2.2                 | B, C, D   | 20                | 250                        | 14              | 23  | 49  | 82   | 6000           | 0.07                      | 800                        |
| NMLQ04_2N4TRF | 2.4                 | B, C, D   | 20                | 250                        | 14              | 23  | 47  | 78   | 6000           | 0.07                      | 800                        |
| NMLQ04_2N7TRF | 2.7                 | B, C, D   | 20                | 250                        | 14              | 23  | 48  | 82   | 6000           | 0.09                      | 700                        |
| NMLQ04_3N3TRF | 3.3                 | B, C, D   | 20                | 250                        | 14              | 24  | 52  | 90   | 6000           | 0.09                      | 700                        |
| NMLQ04_3N6TRF | 3.6                 | B, C, D   | 20                | 250                        | 15              | 24  | 55  | 95   | 6000           | 0.10                      | 700                        |
| NMLQ04_3N9TRF | 3.9                 | B, C, D   | 20                | 250                        | 15              | 25  | 50  | 89   | 6000           | 0.10                      | 700                        |
| NMLQ04_4N3TRF | 4.3                 | B, C, D   | 20                | 250                        | 15              | 25  | 49  | 86   | 6000           | 0.13                      | 600                        |
| NMLQ04_4N7TRF | 4.7                 | B, C, D   | 20                | 250                        | 15              | 26  | 50  | 88   | 6000           | 0.13                      | 600                        |
| NMLQ04_5N1TRF | 5.1                 | B, C, D   | 20                | 250                        | 15              | 26  | 49  | 84   | 5500           | 0.13                      | 600                        |
| NMLQ04_5N6TRF | 5.6                 | B, C, D   | 20                | 250                        | 15              | 27  | 50  | 84   | 5500           | 0.13                      | 600                        |
| NMLQ04_6N2TRF | 6.2                 | B, C, D   | 20                | 250                        | 15              | 27  | 49  | 80   | 5500           | 0.14                      | 550                        |
| NMLQ04_6N8TRF | 6.8                 | G, H, J   | 22                | 250                        | 15              | 27  | 55  | 89   | 5000           | 0.15                      | 550                        |
| NMLQ04_7N5TRF | 7.5                 | G, H, J   | 22                | 250                        | 15              | 27  | 54  | 90   | 5000           | 0.16                      | 550                        |
| NMLQ04_8N2TRF | 8.2                 | G, H, J   | 22                | 250                        | 15              | 27  | 56  | 84   | 5000           | 0.16                      | 550                        |
| NMLQ04_9N1TRF | 9.1                 | G, H, J   | 22                | 250                        | 15              | 27  | 53  | 79   | 4500           | 0.18                      | 500                        |
| NMLQ04_10NTRF | 10                  | G, H, J   | 22                | 250                        | 16              | 29  | 52  | 75   | 4500           | 0.18                      | 500                        |
| NMLQ04_11NTRF | 11                  | G, H, J   | 22                | 250                        | 16              | 28  | 52  | 71   | 4000           | 0.20                      | 500                        |
| NMLQ04_12NTRF | 12                  | G, H, J   | 22                | 250                        | 16              | 29  | 51  | 68   | 4000           | 0.20                      | 500                        |
| NMLQ04_13NTRF | 13                  | G, H, J   | 22                | 250                        | 16              | 29  | 50  | 62   | 4000           | 0.20                      | 480                        |
| NMLQ04_15NTRF | 15                  | G, H, J   | 22                | 250                        | 16              | 29  | 50  | 60   | 4000           | 0.22                      | 430                        |

Tolerance Code: B =  $\pm 0.1\text{nH}$ , C =  $\pm 0.2\text{nH}$ , D =  $\pm 0.3\text{nH}$ , G =  $\pm 2\%$ , H =  $\pm 3\%$ , J =  $\pm 5\%$

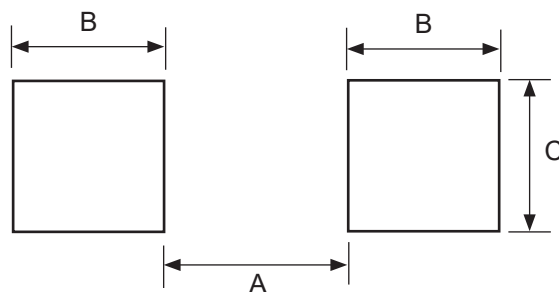
Note: Extended values, tolerances, and enhanced versions are available please contact NIC for more details.

### RECOMMENDED REFLOW SOLDERING PROFILE



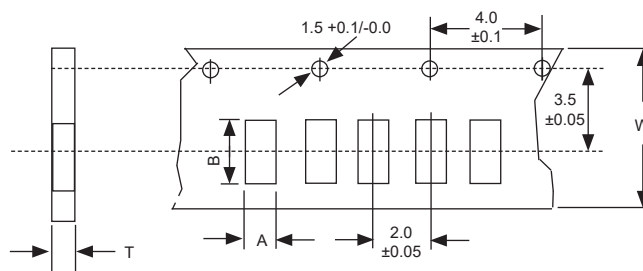
### LAND PATTERN DIMENSIONS (mm)

| Case Size | A           | B           | C           |
|-----------|-------------|-------------|-------------|
| 0201      | 0.20 ~ 0.30 | 0.25 ~ 0.30 | 0.25 ~ 0.40 |
| 0402      | 0.45 ~ 0.55 | 0.40 ~ 0.50 | 0.55 ~ 0.65 |



### PUNCHED CARRIER DIMENSIONS (mm)

| Case Size | A         | B         | T         | W         | QTY/REEL |
|-----------|-----------|-----------|-----------|-----------|----------|
| 0201      | 0.40 nom. | 0.70 nom. | 0.45 max. | 8.0 ± 0.3 | 15,000   |
| 0402      | 0.72 nom. | 1.15 nom. | 0.80 max. | 8.0 ± 0.3 | 10,000   |



### REEL DIMENSIONS (mm):

