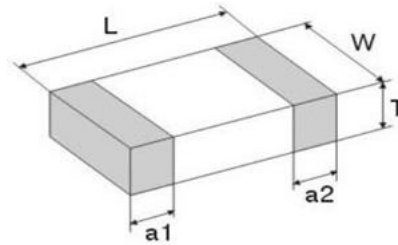


## GSTHI Series



### ● Dimensions and Land Patterns. (UNIT: mm)



#### ● Features:

- Monolithic construction yields high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance

#### ● Applications:

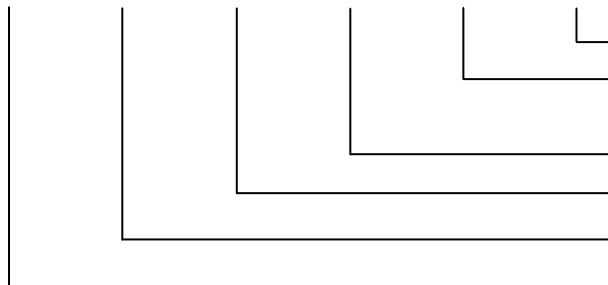
- High frequency circuits of telecommunication.
- Mobile phones such as GSM, CDMA, PDC, etc.
- GSM, CDMA, PDC, Bluetooth
- Other High frequency circuits in general

| TYPE             | L         | W         | T         | a1,a 2    |
|------------------|-----------|-----------|-----------|-----------|
| GSTHI0603 (0201) | 0.60±0.05 | 0.30±0.05 | 0.30±0.05 | 0.10±0.20 |
| GSTHI1005 (0402) | 1.00±0.15 | 0.50±0.15 | 0.50±0.15 | 0.25±0.10 |
| GSTHI1608 (0603) | 1.60±0.15 | 0.80±0.15 | 0.80±0.15 | 0.30±0.20 |
| GSTHI2012 (0805) | 2.00±0.20 | 1.25±0.20 | 0.85±0.20 | 0.50±0.30 |

#### ● Operating temperature: -55 °C to +125 °C

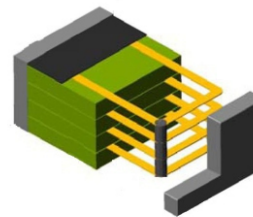
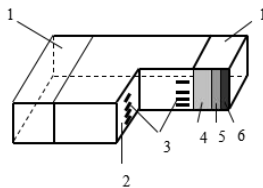
#### ● Part Numbering

GSTHI 1005 H — 10N J T



Packaging Code: T: Taping Reel B: Bulk  
 Inductance Tolerance: S: ±0.3nH D: ±0.5nH  
                                   J: ±5% K: ±10%  
 Inductance Value: 10N:10nH 1N0:1.0nH R10:100nH  
 Material code  
 Dimensions: 0603 1005 1608 2012  
 Product Type

#### ● Structure:



- 1、 External electrode
  - 4、 Ag (Ag electrode layer)
  - 5、 Ni (Ni electrode layer)
  - 6、 Sn (Sn protect layer)
- 2、 Ceramics
- 3、 Internal Electrode

**Electrical characteristics List**  
**GSTHI0603H(0201) Series**

| PART No.        | L(nH) | Test Condition (MHz) | Q Min. (MHz) |     |      | SRF (MHz) min. | DCR (Ω) Max. | IDC (A) Max. |
|-----------------|-------|----------------------|--------------|-----|------|----------------|--------------|--------------|
|                 |       |                      | 100          | 800 | 1800 |                |              |              |
| GSTHI0603H1N0□T | 1.0   | 100                  | 4            | 12  | 19   | 12000          | 0.20         | 300          |
| GSTHI0603H1N2□T | 1.2   | 100                  | 4            | 12  | 19   | 11000          | 0.22         | 300          |
| GSTHI0603H1N5□T | 1.5   | 100                  | 4            | 12  | 19   | 11000          | 0.24         | 300          |
| GSTHI0603H1N8□T | 1.8   | 100                  | 4            | 12  | 19   | 10000          | 0.27         | 300          |
| GSTHI0603H2N2□T | 2.2   | 100                  | 4            | 12  | 19   | 10000          | 0.30         | 300          |
| GSTHI0603H2N4□T | 2.4   | 100                  | 4            | 12  | 19   | 10000          | 0.30         | 300          |
| GSTHI0603H2N7□T | 2.7   | 100                  | 4            | 13  | 19   | 10000          | 0.35         | 300          |
| GSTHI0603H2N9□T | 2.9   | 100                  | 4            | 13  | 19   | 10000          | 0.35         | 300          |
| GSTHI0603H3N3□T | 3.3   | 100                  | 4            | 13  | 19   | 10000          | 0.40         | 200          |
| GSTHI0603H3N9□T | 3.9   | 100                  | 4            | 13  | 19   | 9000           | 0.45         | 200          |
| GSTHI0603H4N7□T | 4.7   | 100                  | 5            | 13  | 19   | 8500           | 0.50         | 200          |
| GSTHI0603H5N6□T | 5.6   | 100                  | 5            | 13  | 19   | 8500           | 0.60         | 200          |
| GSTHI0603H6N2□T | 6.2   | 100                  | 5            | 13  | 19   | 6000           | 0.65         | 200          |
| GSTHI0603H6N8□T | 6.8   | 100                  | 5            | 13  | 19   | 6000           | 0.65         | 200          |
| GSTHI0603H7N5□T | 7.5   | 100                  | 5            | 13  | 19   | 6000           | 0.70         | 200          |
| GSTHI0603H8N2□T | 8.2   | 100                  | 5            | 13  | 19   | 6000           | 0.70         | 200          |
| GSTHI0603H8N1□T | 9.1   | 100                  | 5            | 13  | 18   | 5500           | 0.80         | 200          |
| GSTHI0603H10N□T | 10    | 100                  | 5            | 13  | 18   | 5500           | 0.80         | 200          |
| GSTHI0603H12N□T | 12    | 100                  | 5            | 12  | 18   | 5000           | 1.00         | 150          |
| GSTHI0603H15N□T | 15    | 100                  | 5            | 12  | 17   | 4500           | 1.10         | 150          |
| GSTHI0603H18N□T | 18    | 100                  | 5            | 12  | 16   | 4000           | 1.30         | 100          |
| GSTHI0603H22N□T | 22    | 100                  | 5            | 12  | 16   | 3500           | 1.60         | 100          |
| GSTHI0603H27N□T | 27    | 100                  | 5            | 12  | 15   | 3000           | 1.70         | 100          |
| GSTHI0603H33N□T | 33    | 100                  | 5            | 11  | 14   | 28000          | 1.80         | 100          |
| GSTHI0603H39N□T | 39    | 100                  | 5            | 11  | -    | 1800           | 3.35         | 60           |
| GSTHI0603H47N□T | 47    | 100                  | 5            | 11  | -    | 1600           | 3.60         | 50           |
| GSTHI0603H56N□T | 56    | 100                  | 5            | 11  | -    | 1200           | 3.80         | 50           |
| GSTHI0603H68N□T | 68    | 100                  | 5            | 11  | -    | 1100           | 3.90         | 50           |
| GSTHI0603H82N□T | 82    | 100                  | 5            | 11  | -    | 1000           | 4.00         | 50           |

## Electrical characteristics List

### GSTHI0603T(0201) Series

| PART No.        | L<br>(nH) | Q<br>Min. | Test<br>Freq.<br>MHz | Q Min.<br>(MHz) Typ. |     |      |      |      | SRF<br>(MHz)<br>min. | DCR<br>(Ω)<br>Max. | IDC<br>(A)<br>Max. |
|-----------------|-----------|-----------|----------------------|----------------------|-----|------|------|------|----------------------|--------------------|--------------------|
|                 |           |           |                      | 500                  | 800 | 1800 | 2000 | 2400 |                      |                    |                    |
| GSTHI0603T0N6□T | 0.6       | 14        | 500                  | >24                  | >32 | >54  | >57  | >65  | 10000                | 0.06               | 600                |
| GSTHI0603T1N0□T | 1.0       | 14        | 500                  | 24                   | 32  | 54   | 57   | 65   | 10000                | 0.08               | 520                |
| GSTHI0603T1N2□T | 1.2       | 14        | 500                  | 19                   | 25  | 43   | 44   | 52   | 10000                | 0.12               | 420                |
| GSTHI0603T1N5□T | 1.5       | 14        | 500                  | 19                   | 24  | 39   | 41   | 46   | 10000                | 0.12               | 420                |
| GSTHI0603T1N8□T | 1.8       | 14        | 500                  | 19                   | 24  | 39   | 41   | 46   | 10000                | 0.15               | 380                |
| GSTHI0603T2N2□T | 2.2       | 14        | 500                  | 17                   | 24  | 38   | 40   | 43   | 10000                | 0.25               | 290                |
| GSTHI0603T2N4□T | 2.4       | 14        | 500                  | 17                   | 23  | 36   | 38   | 42   | 10000                | 0.22               | 310                |
| GSTHI0603T2N7□T | 2.7       | 14        | 500                  | 17                   | 22  | 34   | 35   | 39   | 9200                 | 0.22               | 310                |
| GSTHI0603T3N3□T | 3.3       | 14        | 500                  | 18                   | 23  | 34   | 36   | 40   | 8100                 | 0.30               | 270                |
| GSTHI0603T3N6□T | 3.6       | 14        | 500                  | 16                   | 23  | 33   | 35   | 39   | 7700                 | 0.38               | 240                |
| GSTHI0603T3N9□T | 3.9       | 14        | 500                  | 16                   | 22  | 33   | 35   | 38   | 7400                 | 0.42               | 230                |
| GSTHI0603T4N3□T | 4.3       | 14        | 500                  | 16                   | 21  | 32   | 34   | 37   | 6800                 | 0.44               | 220                |
| GSTHI0603T4N7□T | 4.7       | 14        | 500                  | 16                   | 22  | 33   | 35   | 38   | 6200                 | 0.45               | 220                |
| GSTHI0603T5N1□T | 5.1       | 14        | 500                  | 17                   | 22  | 34   | 36   | 38   | 5900                 | 0.46               | 210                |
| GSTHI0603T5N6□T | 5.6       | 14        | 500                  | 16                   | 21  | 33   | 34   | 37   | 5500                 | 0.46               | 210                |
| GSTHI0603T6N2□T | 6.2       | 14        | 500                  | 18                   | 23  | 34   | 35   | 37   | 5100                 | 0.48               | 210                |
| GSTHI0603T6N8□T | 6.8       | 14        | 500                  | 17                   | 22  | 32   | 33   | 35   | 4900                 | 0.50               | 200                |
| GSTHI0603T7N5□T | 7.5       | 14        | 500                  | 16                   | 21  | 31   | 33   | 34   | 4700                 | 0.50               | 200                |
| GSTHI0603T8N2□T | 8.2       | 14        | 500                  | 16                   | 21  | 31   | 32   | 34   | 4300                 | 0.56               | 190                |
| GSTHI0603T9N1□T | 9.1       | 14        | 500                  | 16                   | 20  | 30   | 31   | 32   | 4100                 | 0.72               | 170                |
| GSTHI0603T10N□T | 10        | 14        | 500                  | 16                   | 20  | 28   | 29   | 31   | 3800                 | 0.80               | 160                |
| GSTHI0603T12N□T | 12        | 14        | 500                  | 16                   | 20  | 27   | 28   | 28   | 3400                 | 0.80               | 160                |
| GSTHI0603T15N□T | 15        | 13        | 500                  | 15                   | 19  | 24   | 24   | 23   | 2600                 | 0.85               | 160                |
| GSTHI0603T18N□T | 18        | 13        | 500                  | 15                   | 19  | 23   | 24   | 22   | 2300                 | 1.00               | 140                |
| GSTHI0603T22N□T | 22        | 13        | 500                  | 15                   | 19  | 22   | 23   | 20   | 1900                 | 1.20               | 130                |
| GSTHI0603T27N□T | 27        | 12        | 500                  | 14                   | 17  | 15   | 12   | 5    | 2000                 | 1.50               | 100                |
| GSTHI0603T33N□T | 33        | 12        | 500                  | 15                   | 17  | 12   | 8    | -    | 1700                 | 1.70               | 100                |
| GSTHI0603T39N□T | 39        | 9         | 500                  | 14                   | 15  | 3    | -    | -    | 1500                 | 2.50               | 80                 |
| GSTHI0603T47N□T | 47        | 9         | 500                  | 14                   | 14  | 1    | -    | -    | 1300                 | 2.70               | 80                 |
| GSTHI0603T56N□T | 56        | 9         | 500                  | 13                   | 13  | -    | -    | -    | 1200                 | 3.20               | 80                 |

**Electrical characteristics List**  
**GSTHI1005(0402) Series**

| PART No.        | L( nH ) | Test Condition (MHz) | Q Min. (MHz) |     |      | SRF (MHz) min. | DCR (Ω) Max. | IDC (A) Max. |
|-----------------|---------|----------------------|--------------|-----|------|----------------|--------------|--------------|
|                 |         |                      | 100          | 900 | 1800 |                |              |              |
| GSTHI1005T1N0□T | 1.0     | 100                  | 9            | 44  | 50   | 10000          | 0.08         | 400          |
| GSTHI1005T1N2□T | 1.2     | 100                  | 9            | 44  | 50   | 10000          | 0.08         | 400          |
| GSTHI1005T1N5□T | 1.5     | 100                  | 9            | 43  | 48   | 6000           | 0.10         | 400          |
| GSTHI1005T1N8□T | 1.8     | 100                  | 9            | 35  | 45   | 6000           | 0.12         | 400          |
| GSTHI1005T2N2□T | 2.2     | 100                  | 9            | 30  | 43   | 6000           | 0.12         | 400          |
| GSTHI1005T2N4□T | 2.4     | 100                  | 9            | 30  | 43   | 6000           | 0.12         | 400          |
| GSTHI1005T2N7□T | 2.7     | 100                  | 9            | 30  | 40   | 6000           | 0.13         | 400          |
| GSTHI1005T3N0□T | 3.0     | 100                  | 9            | 30  | 40   | 6000           | 0.15         | 400          |
| GSTHI1005T3N3□T | 3.3     | 100                  | 9            | 30  | 40   | 6000           | 0.15         | 400          |
| GSTHI1005T3N9□T | 3.9     | 100                  | 9            | 30  | 41   | 4500           | 0.21         | 400          |
| GSTHI1005T4N3□T | 4.3     | 100                  | 9            | 30  | 36   | 4500           | 0.21         | 300          |
| GSTHI1005T4N7□T | 4.7     | 100                  | 9            | 29  | 38   | 4500           | 0.21         | 300          |
| GSTHI1005T5N1□T | 5.1     | 100                  | 9            | 28  | 36   | 4000           | 0.23         | 300          |
| GSTHI1005T5N6□T | 5.6     | 100                  | 9            | 25  | 32   | 4000           | 0.23         | 300          |
| GSTHI1005T6N2□T | 6.2     | 100                  | 9            | 25  | 32   | 4000           | 0.25         | 300          |
| GSTHI1005T6N8□T | 6.8     | 100                  | 9            | 25  | 33   | 4000           | 0.25         | 300          |
| GSTHI1005T7N5□T | 7.5     | 100                  | 9            | 25  | 32   | 3600           | 0.35         | 300          |
| GSTHI1005T8N2□T | 8.2     | 100                  | 9            | 25  | 32   | 3600           | 0.35         | 300          |
| GSTHI1005T9N1□T | 9.1     | 100                  | 9            | 25  | 31   | 3200           | 0.42         | 300          |
| GSTHI1005T10N□T | 10      | 100                  | 9            | 26  | 30   | 3200           | 0.42         | 300          |
| GSTHI1005T12N□T | 12      | 100                  | 9            | 26  | 29   | 2800           | 0.50         | 300          |
| GSTHI1005T15N□T | 15      | 100                  | 9            | 25  | 26   | 2500           | 0.60         | 300          |
| GSTHI1005T18N□T | 18      | 100                  | 9            | 23  | 24   | 2200           | 0.80         | 300          |
| GSTHI1005T22N□T | 22      | 100                  | 9            | 23  | 22   | 1900           | 0.85         | 300          |
| GSTHI1005T27N□T | 27      | 100                  | 9            | 23  | -    | 1600           | 1.00         | 300          |
| GSTHI1005T33N□T | 33      | 100                  | 9            | 22  | -    | 1300           | 1.00         | 200          |
| GSTHI1005T39N□T | 39      | 100                  | 9            | 21  | -    | 1200           | 1.30         | 200          |
| GSTHI1005T47N□T | 47      | 100                  | 9            | 20  | -    | 1000           | 1.50         | 200          |
| GSTHI1005T56N□T | 56      | 100                  | 9            | 17  | -    | 750            | 1.80         | 200          |
| GSTHI1005T68N□T | 68      | 100                  | 9            | 15  | -    | 750            | 1.95         | 180          |
| GSTHI1005T82N□T | 82      | 100                  | 9            | -   | -    | 600            | 2.10         | 150          |
| GSTHI1005TR10□T | 100     | 100                  | 9            | -   | -    | 600            | 2.50         | 150          |
| GSTHI1005TR12□T | 120     | 100                  | 9            | -   | -    | 600            | 2.80         | 150          |
| GSTHI1005TR15□T | 150     | 100                  | 8            | -   | -    | 550            | 2.35         | 150          |
| GSTHI1005TR18□T | 180     | 100                  | 8            | -   | -    | 500            | 2.55         | 100          |
| GSTHI1005TR22□T | 220     | 100                  | 8            | -   | -    | 450            | 2.65         | 100          |
| GSTHI1005TR27□T | 270     | 100                  | 8            | -   | -    | 400            | 2.85         | 50           |
| GSTHI1005TR33□T | 330     | 50                   | 8            | -   | -    | 350            | 3.00         | 50           |

**Electrical characteristics List**
**GSTHI1608(0603) Series**

| PART No.        | L( nH ) | Q<br>min | Test Condition<br>(MHz) | SRF<br>(MHz)<br>min. | DCR<br>(Ω)<br>Max. | IDC<br>(A)<br>Max. |
|-----------------|---------|----------|-------------------------|----------------------|--------------------|--------------------|
| GSTHI1608H1N0□T | 1.0     | 8        | 100                     | >10000               | 0.05               | 500                |
| GSTHI1608H1N2□T | 1.2     | 8        | 100                     | >10000               | 0.05               | 500                |
| GSTHI1608H1N5□T | 1.5     | 8        | 100                     | >10000               | 0.10               | 500                |
| GSTHI1608H1N8□T | 1.8     | 8        | 100                     | >10000               | 0.10               | 500                |
| GSTHI1608H2N2□T | 2.2     | 8        | 100                     | 10000                | 0.10               | 500                |
| GSTHI1608H2N7□T | 2.7     | 10       | 100                     | 9000                 | 0.10               | 500                |
| GSTHI1608H3N3□T | 3.3     | 10       | 100                     | 8000                 | 0.12               | 500                |
| GSTHI1608H3N9□T | 3.9     | 10       | 100                     | 7000                 | 0.14               | 500                |
| GSTHI1608H4N7□T | 4.7     | 10       | 100                     | 5500                 | 0.16               | 500                |
| GSTHI1608H5N6□T | 5.6     | 10       | 100                     | 4500                 | 0.18               | 500                |
| GSTHI1608H6N8□T | 6.8     | 10       | 100                     | 4000                 | 0.22               | 500                |
| GSTHI1608H8N2□T | 8.2     | 10       | 100                     | 3600                 | 0.24               | 500                |
| GSTHI1608H10N□T | 10      | 12       | 100                     | 3400                 | 0.26               | 300                |
| GSTHI1608H12N□T | 12      | 12       | 100                     | 2800                 | 0.30               | 300                |
| GSTHI1608H15N□T | 15      | 12       | 100                     | 2500                 | 0.32               | 300                |
| GSTHI1608H18N□T | 18      | 12       | 100                     | 2100                 | 0.35               | 300                |
| GSTHI1608H22N□T | 22      | 12       | 100                     | 1700                 | 0.40               | 300                |
| GSTHI1608H27N□T | 27      | 12       | 100                     | 1500                 | 0.45               | 300                |
| GSTHI1608H33N□T | 33      | 12       | 100                     | 1300                 | 0.55               | 300                |
| GSTHI1608H39N□T | 39      | 12       | 100                     | 1100                 | 0.60               | 300                |
| GSTHI1608H47N□T | 47      | 12       | 100                     | 1000                 | 0.70               | 300                |
| GSTHI1608H56N□T | 56      | 12       | 100                     | 900                  | 0.75               | 300                |
| GSTHI1608H68N□T | 68      | 12       | 100                     | 700                  | 0.85               | 300                |
| GSTHI1608H82N□T | 82      | 12       | 100                     | 600                  | 0.95               | 300                |
| GSTHI1608HR10□T | 100     | 12       | 100                     | 600                  | 1.00               | 300                |
| GSTHI1608HR12□T | 120     | 8        | 100                     | 500                  | 1.30               | 300                |
| GSTHI1608HR15□T | 150     | 8        | 100                     | 500                  | 1.50               | 300                |
| GSTHI1608HR18□T | 180     | 8        | 100                     | 400                  | 1.80               | 300                |
| GSTHI1608HR22□T | 220     | 8        | 100                     | 400                  | 2.10               | 300                |
| GSTHI1608HR27□T | 270     | 8        | 100                     | 350                  | 2.10               | 300                |
| GSTHI1608HR33□T | 330     | 8        | 100                     | 350                  | 3.00               | 300                |

## Electrical characteristics List

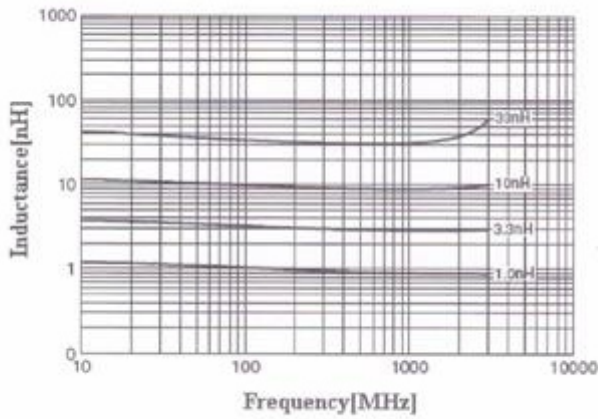
## GSTHI2012(0805) Series

| PART No.        | L( nH ) | Q<br>min | Test Condition<br>(MHz) | SRF<br>(MHz)<br>min. | DCR<br>( $\Omega$ )<br>Max. | IDC<br>(A)<br>Max. |
|-----------------|---------|----------|-------------------------|----------------------|-----------------------------|--------------------|
| GSTHI2012H1N5□T | 1.5     | 10       | 100                     | 6000                 | 0.10                        | 600                |
| GSTHI2012H1N8□T | 1.8     | 10       | 100                     | 6000                 | 0.10                        | 600                |
| GSTHI2012H2N2□T | 2.2     | 10       | 100                     | 6000                 | 0.10                        | 600                |
| GSTHI2012H2N7□T | 2.7     | 12       | 100                     | 6000                 | 0.10                        | 600                |
| GSTHI2012H3N3□T | 3.3     | 12       | 100                     | 6000                 | 0.13                        | 600                |
| GSTHI2012H3N9□T | 3.9     | 12       | 100                     | 5000                 | 0.15                        | 600                |
| GSTHI2012H4N7□T | 4.7     | 12       | 100                     | 4000                 | 0.20                        | 400                |
| GSTHI2012H5N6□T | 5.6     | 15       | 100                     | 3500                 | 0.23                        | 400                |
| GSTHI2012H6N8□T | 6.8     | 15       | 100                     | 2800                 | 0.25                        | 400                |
| GSTHI2012H8N2□T | 8.2     | 15       | 100                     | 2400                 | 0.28                        | 400                |
| GSTHI2012H10N□T | 10      | 15       | 100                     | 2100                 | 0.30                        | 300                |
| GSTHI2012H12N□T | 12      | 15       | 100                     | 1900                 | 0.35                        | 300                |
| GSTHI2012H15N□T | 15      | 15       | 100                     | 1800                 | 0.40                        | 300                |
| GSTHI2012H18N□T | 18      | 15       | 100                     | 1500                 | 0.45                        | 300                |
| GSTHI2012H22N□T | 22      | 15       | 100                     | 1400                 | 0.50                        | 300                |
| GSTHI2012H27N□T | 27      | 15       | 100                     | 1300                 | 0.55                        | 300                |
| GSTHI2012H33N□T | 33      | 15       | 100                     | 1200                 | 0.60                        | 300                |
| GSTHI2012H39N□T | 39      | 15       | 100                     | 1000                 | 0.65                        | 300                |
| GSTHI2012H47N□T | 47      | 15       | 100                     | 900                  | 0.70                        | 300                |
| GSTHI2012H56N□T | 56      | 15       | 100                     | 800                  | 0.75                        | 300                |
| GSTHI2012H68N□T | 68      | 15       | 100                     | 700                  | 0.80                        | 300                |
| GSTHI2012H82N□T | 82      | 15       | 100                     | 600                  | 0.90                        | 300                |
| GSTHI2012HR10□T | 100     | 15       | 100                     | 600                  | 0.90                        | 300                |
| GSTHI2012HR12□T | 120     | 15       | 100                     | 500                  | 0.95                        | 300                |
| GSTHI2012HR15□T | 150     | 15       | 50                      | 500                  | 1.00                        | 300                |
| GSTHI2012HR18□T | 180     | 13       | 50                      | 400                  | 1.20                        | 300                |
| GSTHI2012HR22□T | 220     | 12       | 50                      | 350                  | 1.40                        | 300                |
| GSTHI2012HR27□T | 270     | 12       | 50                      | 300                  | 1.70                        | 300                |
| GSTHI2012HR33□T | 330     | 12       | 50                      | 250                  | 2.00                        | 300                |
| GSTHI2012HR39□T | 390     | 10       | 50                      | 250                  | 2.50                        | 300                |
| GSTHI2012HR47□T | 470     | 10       | 50                      | 200                  | 2.80                        | 300                |

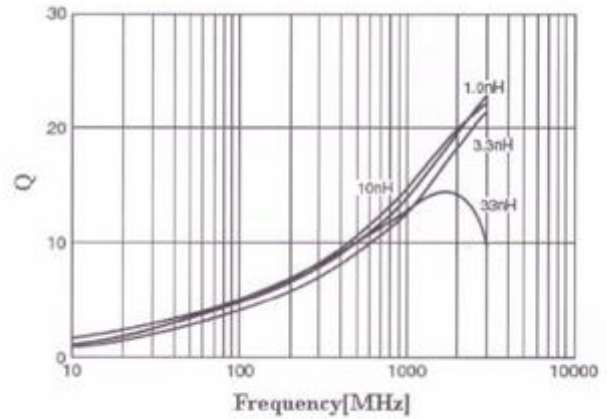
## Characteristic Curve

### GSTHI0603H(0201) Series

INDUCTANCE vs FREQUENCY CHARACTERISTICS  
电感·频率特征曲线图

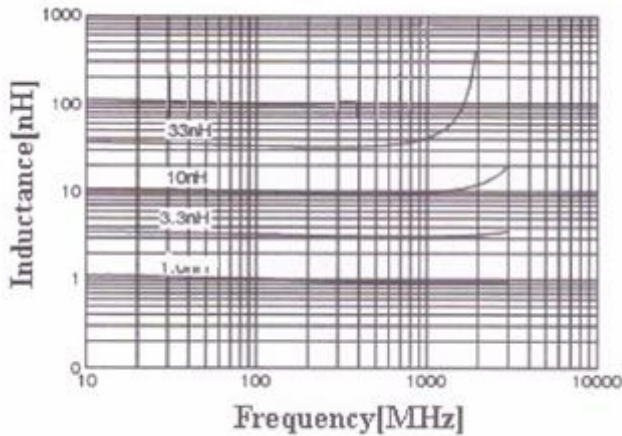


Q vs FREQUENCY CHARACTERISTICS  
Q·频率特征曲线图

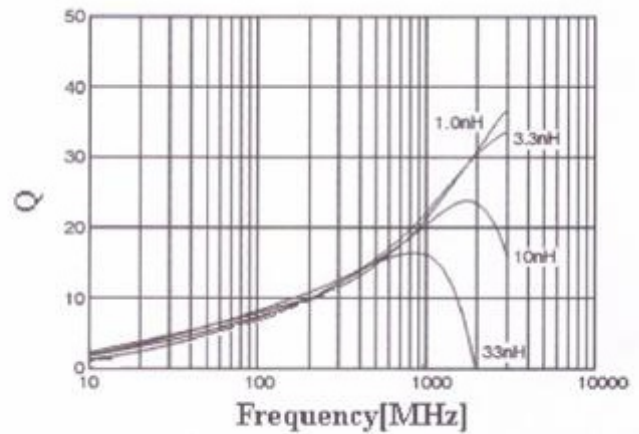


### GSTHI0603T(0201) Series

INDUCTANCE vs FREQUENCY CHARACTERISTICS  
电感·频率特征曲线图

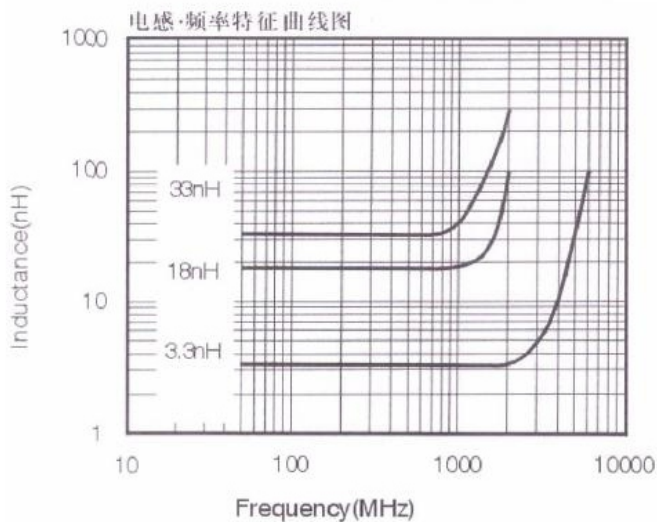


Q vs FREQUENCY CHARACTERISTICS  
Q·频率特征曲线图

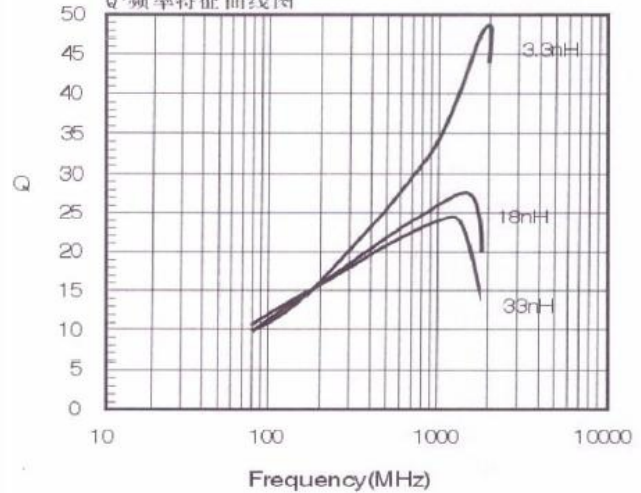


### GSTHI1005(0402) Series

INDUCTANCE vs FREQUENCY CHARACTERISTICS

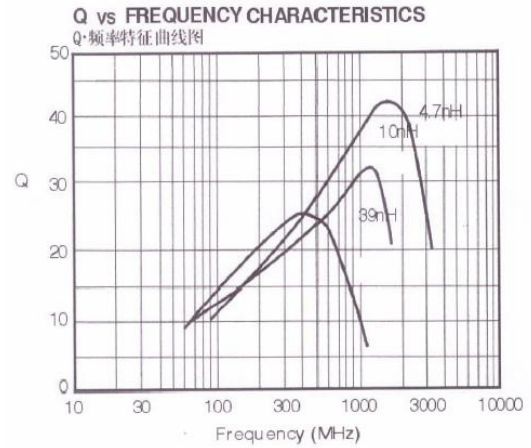
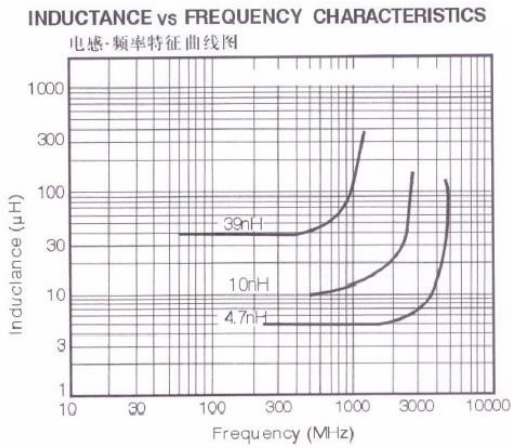


Q vs FREQUENCY CHARACTERISTICS  
Q·频率特征曲线图

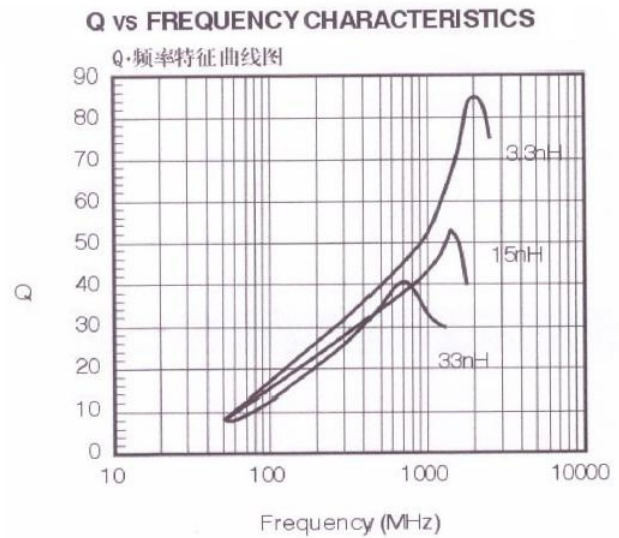
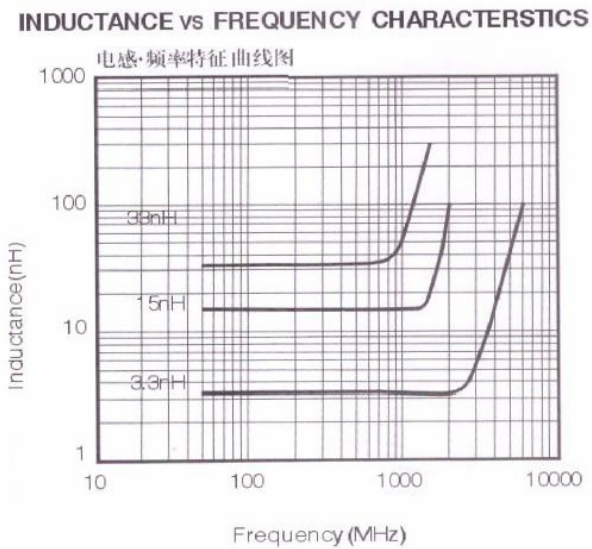


## Characteristic Curve

### GSTH1608(0603) Series

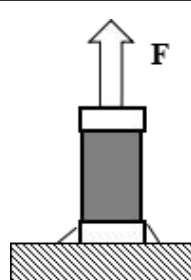
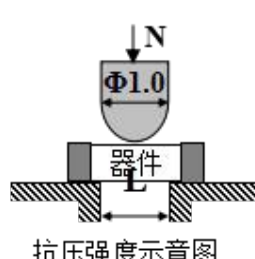


### GSTH2012(0805) Series





可靠性及测试条件(Reliability and Test Method)

| 项目<br>Items                              | 实验条件<br>Test Conditions  | 要求<br>Requirements   |        |         |      |     |      |      |     |      |      |     |      |  |
|--|--|--|--------|---------|------|-----|------|------|-----|------|------|-----|------|--|
| 1. 使用温度范围<br>Operating Temperature Range | GSTHI 系列: -55℃ ~ +125℃<br>GSTHI Series: -55℃ to +125℃  |  |        |         |      |     |      |      |     |      |      |     |      |  |
| 2. 储存温度范围<br>Storage Temperature Range   | 载带盘装: 0℃ ~ 60℃;<br>GSTHI 系列: -55℃ ~+125℃<br>packed with tape & reel: 0℃ to 60℃ ;<br>GSTHI Series: -55℃ ~+125℃  |  |        |         |      |     |      |      |     |      |      |     |      |  |
| 3. 可焊性<br>Solderability                  | 预热: 120℃ ~ 150℃ 时间 60 秒<br>焊剂: Sn-Ag2.5-Cu0.5<br>焊接温度: 255±5℃<br>助焊剂: 松香<br>浸焊时间: 4±1s<br>Preheat: 120℃ to 150℃,60 seconds<br>Solder: Sn-Ag2.5-Cu0.5<br>Solder temperature: 255±5℃<br>Flux: Rosin<br>Dip time: 4±1 seconds   | 超过 90%的端电极被焊锡覆盖<br><br>More than 90% of the terminal electrode shall be covered with solder.                                   |        |         |      |     |      |      |     |      |      |     |      |  |
| 4. 耐焊接热<br>Soldering Heat Resistance     | 预热: 120℃ ~ 150℃ 时间 60 秒<br>焊剂: Sn-Ag2.5-Cu0.5<br>焊接温度: 260±5℃<br>助焊剂: 松香<br>浸焊时间: 10±1s<br>Preheat: 120℃ to 150℃,60 seconds<br>Solder: Sn-Ag2.5-Cu0.5<br>Solder temperature: 260±5℃<br>Flux: Rosin<br>Dip time: 10±1 seconds   | 超过 75%的端电极被焊锡覆盖且器件不应破裂<br><br>The chip shall not be cracked. More than 75% of terminal electrode shall be covered with solder. |        |         |      |     |      |      |     |      |      |     |      |  |
| 5. 附着力<br>Terminal Strength              | <table border="1"> <thead> <tr> <th>Type</th> <th>F(kgf)</th> <th>Time(S)</th> </tr> </thead> <tbody> <tr> <td>1005</td> <td>0.1</td> <td>30±5</td> </tr> <tr> <td>1608</td> <td>0.2</td> <td>30±5</td> </tr> <tr> <td>2012</td> <td>0.4</td> <td>30±5</td> </tr> </tbody> </table>             | Type   | F(kgf) | Time(S) | 1005 | 0.1 | 30±5 | 1608 | 0.2 | 30±5 | 2012 | 0.4 | 30±5 | 实验过程及结束后, 端电极以及瓷体不应破裂<br><br>The terminal electrode and the ferrite shall not be damaged by the forces applied |
| Type                                     | F(kgf)   | Time(S)  |        |         |      |     |      |      |     |      |      |     |      |  |
| 1005                                     | 0.1  | 30±5   |        |         |      |     |      |      |     |      |      |     |      |  |
| 1608                                     | 0.2  | 30±5   |        |         |      |     |      |      |     |      |      |     |      |  |
| 2012                                     | 0.4  | 30±5   |        |         |      |     |      |      |     |      |      |     |      |  |
| 6. 抗弯强度<br>Bending Strength              | <table border="1"> <thead> <tr> <th>Type</th> <th>L(mm)</th> <th>N(kgf)</th> </tr> </thead> <tbody> <tr> <td>1005</td> <td>0.5</td> <td>1.0</td> </tr> <tr> <td>1608</td> <td>1.0</td> <td>1.5</td> </tr> <tr> <td>2012</td> <td>1.4</td> <td>2.5</td> </tr> </tbody> </table>  <p>抗压强度示意图</p> | Type   | L(mm)  | N(kgf)  | 1005 | 0.5 | 1.0  | 1608 | 1.0 | 1.5  | 2012 | 1.4 | 2.5  | 实验过程及结束后, 端电极以及瓷体不应破裂<br><br>The chips shall not be damaged by the forces applied, under proper condition.     |
| Type                                     | L(mm)  | N(kgf)   |        |         |      |     |      |      |     |      |      |     |      |  |
| 1005                                     | 0.5  | 1.0  |        |         |      |     |      |      |     |      |      |     |      |  |
| 1608                                     | 1.0  | 1.5  |        |         |      |     |      |      |     |      |      |     |      |  |
| 2012                                     | 1.4  | 2.5  |        |         |      |     |      |      |     |      |      |     |      |  |

可靠性及测试条件 (续)  
Reliability and Test Method (Continue)

|  |   |   |
|--|---|---|
| <p>7. 高温寿命<br/>High Temperature Resistance</p> | <p>实验温度: 85±2℃<br/>实验时间: 1000h<sup>+24h</sup><sub>-0h</sub><br/>施加电流: 额定电流<br/>实验方法: 将器件焊接在 PCB 板上<br/>Temperature: 85±2℃<br/>Testing time: 1000h<sup>+24h</sup><sub>-0h</sub><br/>Applied current: Rated current<br/>Mounted method: Soldering onto PCB board.</p> |   |
| <p>8. 恒定湿热<br/>Humidity Resistance</p>         | <p>湿度: 90% ~ 95%<br/>温度: 40±2℃<br/>实验时间: 21 天<br/>实验方法: 将器件焊接在 PCB 板上<br/>Humidity: 90 to 95% RH<br/>Temperature: 40±2℃<br/>Testing time: 21days<br/>Mounted method: Soldering onto PCB board.</p>  |   |
| <p>9. 温度变化<br/>Thermal Shock</p>               | <p>温度: -40℃±3℃ ~ +85℃±3℃ ~ -40℃±3℃<br/>每个温度点保持 30 分钟<br/>循环周期: 32 个<br/>实验方法: 将器件焊接在 PCB 板上<br/>Temperature: -40℃±3℃— +85℃±3℃— -40℃ ±3℃<br/>kept stabilized for 30 minutes each .<br/>Cycles: 32 cycles<br/>Mounted method: soldering onto PCB board.</p>           |   |
| <p>9. 振动<br/>Vibration</p>                     | <p>频率: 10-55-10Hz<br/>振幅: 1.50mm<br/>振动方向: X、Y、Z 三个方向各 20 次。<br/>Frequency range: 10-55-10Hz<br/>Amplitude: 1.50mm<br/>Directions: 20 times in each directions : X、Y and Z.</p>   |   |
| <p>10. 抗溶性<br/>Solvent Resistance</p>          | <p>溶剂: 三氯乙烯<br/>清洗方式: 100 瓦的超声清洗机<br/>清洗时间: 3 分钟<br/>Solvent: Trichloroethyene<br/>Washer: Ultrasonic washer(100w)<br/>Washing time: 3min</p>   | <ul style="list-style-type: none"> <li>● 实验结束后 24 小时测量</li> <li>● 瓷体不被破坏, 外观应合格</li> <li>● 对片式电感器:<br/>电感量变化率: <math>L_s \leq 1000\text{nH}</math>, 不超过±10%<br/><math>1000\text{nH} &lt; L_s &lt; 10\mu\text{H}</math>, 不超过±20%<br/><math>L_s \geq 10\mu\text{H}</math>, 不超过±30%<br/>品质因数变化率: ±30%</li> <li>● <b>The appearance of chips shall not be damaged.</b></li> <li>● <b>Measured after testing for 24 hours</b></li> <li>● <b>For multiplayer chip inductors :</b><br/><math>L_s \leq 1000\text{nH}</math> , <math>L_s</math> changed within ±10% of the initial value.<br/><math>1000\text{nH} &lt; L_s &lt; 10\mu\text{H}</math> , <math>L_s</math> changed within ±20% of the initial value.<br/><math>L_s \geq 10\mu\text{H}</math> , <math>L_s</math> changed within ±30% of the initial value.<br/><math>Q</math> changed within ±30% of the initial value.</li> </ul> |