

### FEATURES 特征

- Small chip suitable for surface mounting.  
小尺寸，可表面贴装
- Large inductance with ferrite material.  
铁氧体材料具有大电感量
- Single-sided package.  
单面封装
- Operating Temp : -45℃~+85℃(Including self heating).  
工作温度范围:-45℃~+85℃(包括自身温度上升)



### APPLICATIONS 用途

- Mobile phones, TWS headsets, smart watches and other portable devices.  
手机、TWS耳机、智能手表等便携式设备

### PART NUMBERING 产品型号

|     |      |   |   |     |   |   |   |
|-----|------|---|---|-----|---|---|---|
| AHW | 1608 | F | - | 100 | □ | T | F |
| ①   | ②    | ③ |   | ④   | ⑤ | ⑥ | ⑦ |

| ① Series Name |                                  |
|---------------|----------------------------------|
| AHW           | Wire Wound Chip Ferrite Inductor |

| ③ Feature Type |              |
|----------------|--------------|
| F              | Ferrite core |

| ⑤ Inductance Tolerance |      |
|------------------------|------|
| J                      | ±5%  |
| K                      | ±10% |
| M                      | ±20% |

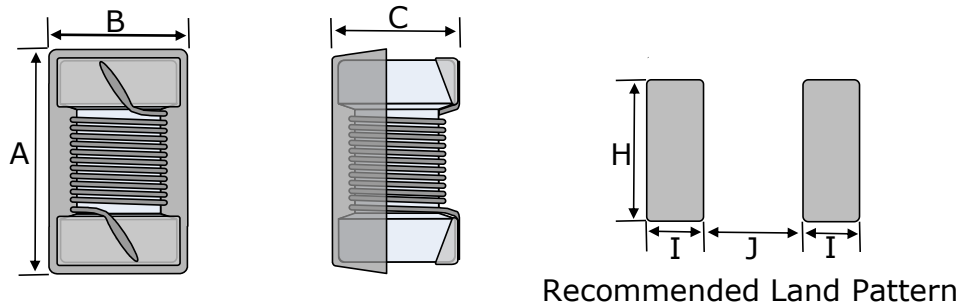
| ⑥ Packaging |             |
|-------------|-------------|
| T           | Tape & Reel |

| ② External Dimensions[inch] |            |
|-----------------------------|------------|
|                             | 1005[0402] |
|                             | 1608[0603] |
|                             | 2012[0805] |
|                             | 2520[1008] |
|                             | 3225[1210] |
|                             | 4532[1812] |

| ④ Nominal Inductance |                    |
|----------------------|--------------------|
| Code (example)       | Nominal Value [μH] |
| 1R0                  | 1.0                |
| 100                  | 10                 |
| 101                  | 100                |

| ⑦ HSF Products |                                   |
|----------------|-----------------------------------|
| F              | Hazardous Substance Free Products |

### DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘



Unit: mm

| Series   | Dimensions |      |      | Recommended Land Pattern |      |      |
|----------|------------|------|------|--------------------------|------|------|
|          | A          | B    | C    | I                        | H    | J    |
|          | Max.       |      |      | Typ.                     |      |      |
| AHW1005F | 1.19       | 0.70 | 0.64 | 0.36                     | 0.66 | 0.46 |
| AHW1608F | 1.80       | 1.25 | 1.10 | 0.64                     | 1.02 | 0.64 |
| AHW2012F | 2.40       | 1.73 | 1.52 | 1.02                     | 1.78 | 0.76 |
| AHW2520F | 2.92       | 2.70 | 2.23 | 1.02                     | 2.54 | 1.27 |
| AHW3225F | 3.50       | 2.90 | 2.60 | 1.02                     | 2.54 | 1.78 |
| AHW4532F | 4.80       | 3.40 | 3.15 | 1.14                     | 3.05 | 3.00 |

### ELECTRICAL CHARACTERISTICS 特性规格表

#### ● AHW1005F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           |                         |               |                     |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW1005F-22N□TF | 0.022      | K,M                  | 7.9          | /              | 2500                    | 0.065         | 1300                |
| AHW1005F-36N□TF | 0.036      | K,M                  | 7.9          | /              | 2300                    | 0.075         | 1300                |
| AHW1005F-39N□TF | 0.039      | K,M                  | 7.9          | /              | 2200                    | 0.115         | 830                 |
| AHW1005F-56N□TF | 0.056      | K,M                  | 7.9          | /              | 1900                    | 0.095         | 1000                |
| AHW1005F-75N□TF | 0.075      | K,M                  | 7.9          | /              | 1600                    | 0.15          | 600                 |
| AHW1005F-78N□TF | 0.078      | K,M                  | 7.9          | /              | 1600                    | 0.13          | 970                 |
| AHW1005F-R10□TF | 0.1        | K,M                  | 7.9          | /              | 1400                    | 0.16          | 900                 |
| AHW1005F-R11□TF | 0.11       | K,M                  | 7.9          | /              | 1000                    | 0.20          | 850                 |
| AHW1005F-R12□TF | 0.12       | K,M                  | 7.9          | /              | 1000                    | 0.20          | 850                 |
| AHW1005F-R15□TF | 0.15       | K,M                  | 7.9          | /              | 1220                    | 0.26          | 630                 |
| AHW1005F-R18□TF | 0.18       | K,M                  | 7.9          | /              | 1150                    | 0.28          | 560                 |
| AHW1005F-R20□TF | 0.2        | K,M                  | 7.9          | /              | 1000                    | 0.44          | 400                 |
| AHW1005F-R22□TF | 0.22       | K,M                  | 7.9          | /              | 1150                    | 0.53          | 380                 |
| AHW1005F-R25□TF | 0.25       | K,M                  | 7.9          | /              | 900                     | 0.90          | 360                 |
| AHW1005F-R27□TF | 0.27       | K,M                  | 7.9          | /              | 860                     | 0.90          | 360                 |
| AHW1005F-R30□TF | 0.3        | K,M                  | 7.9          | /              | 860                     | 0.90          | 360                 |
| AHW1005F-R33□TF | 0.33       | J,K,M                | 7.9          | /              | 820                     | 0.56          | 350                 |

### ELECTRICAL CHARACTERISTICS 特性规格表

#### ● AHW1005F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW1005F-R36□TF | 0.36       | J,K,M                | 7.9          | /              | 810                     | 0.90          | 250                 |
| AHW1005F-R39□TF | 0.39       | J,K,M                | 7.9          | /              | 760                     | 1.00          | 200                 |
| AHW1005F-R47□TF | 0.47       | J,K,M                | 7.9          | /              | 650                     | 1.00          | 200                 |
| AHW1005F-R56□TF | 0.56       | J,K,M                | 7.9          | /              | 600                     | 1.20          | 200                 |
| AHW1005F-R68□TF | 0.68       | J,K,M                | 7.9          | /              | 290                     | 1.60          | 100                 |
| AHW1005F-R82□TF | 0.82       | J,K,M                | 7.9          | /              | 385                     | 5.85          | 90                  |
| AHW1005F-1R0□TF | 1.0        | J,K,M                | 7.9          | /              | 200                     | 6.50          | 50                  |
| AHW1005F-2R2□TF | 2.2        | J,K,M                | 7.9          | /              | 100                     | 2.30          | 40                  |
| AHW1005F-3R3□TF | 3.3        | J,K,M                | 7.9          | /              | 80                      | 3.60          | 10                  |
| AHW1005F-4R7□TF | 4.7        | J,K,M                | 7.9          | /              | 50                      | 4.80          | 10                  |
| AHW1005F-6R8□TF | 6.8        | J,K,M                | 7.9          | /              | 50                      | 6.10          | 10                  |
| AHW1005F-100□TF | 10         | J,K,M                | 1            | /              | 20                      | 8.50          | 10                  |

#### ● AHW1608F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW1608F-R12□TF | 0.12       | J,K,M                | 7.9          | 12             | 1000                    | 0.15          | 1000                |
| AHW1608F-R15□TF | 0.15       | J,K,M                | 7.9          | 12             | 950                     | 0.15          | 1000                |
| AHW1608F-R18□TF | 0.18       | J,K,M                | 7.9          | 12             | 950                     | 0.20          | 1000                |
| AHW1608F-R22□TF | 0.22       | J,K,M                | 7.9          | 12             | 775                     | 0.30          | 700                 |
| AHW1608F-R27□TF | 0.27       | J,K,M                | 7.9          | 12             | 775                     | 0.30          | 700                 |
| AHW1608F-R33□TF | 0.33       | J,K,M                | 7.9          | 12             | 725                     | 0.32          | 600                 |
| AHW1608F-R39□TF | 0.39       | J,K,M                | 7.9          | 12             | 620                     | 0.51          | 500                 |
| AHW1608F-R47□TF | 0.47       | J,K,M                | 7.9          | 12             | 540                     | 0.43          | 570                 |
| AHW1608F-R56□TF | 0.56       | J,K,M                | 7.9          | 12             | 600                     | 0.65          | 400                 |
| AHW1608F-R68□TF | 0.68       | J,K,M                | 7.9          | 12             | 500                     | 1.00          | 380                 |
| AHW1608F-R82□TF | 0.82       | J,K,M                | 7.9          | 12             | 500                     | 1.30          | 350                 |
| AHW1608F-1R0□TF | 1.0        | J,K,M                | 7.9          | 12             | 400                     | 0.81          | 330                 |
| AHW1608F-1R2□TF | 1.2        | J,K,M                | 7.9          | 12             | 380                     | 1.70          | 320                 |
| AHW1608F-1R5□TF | 1.5        | J,K,M                | 7.9          | 12             | 300                     | 1.30          | 310                 |
| AHW1608F-1R8□TF | 1.8        | J,K,M                | 7.9          | 12             | 180                     | 2.20          | 300                 |
| AHW1608F-2R2□TF | 2.2        | J,K,M                | 7.9          | 12             | 180                     | 2.30          | 280                 |
| AHW1608F-2R7□TF | 2.7        | J,K,M                | 7.9          | 12             | 150                     | 2.60          | 250                 |

**ELECTRICAL CHARACTERISTICS 特性规格表**
**● AHW1608F Series**

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW1608F-3R3□TF | 3.3        | J,K,M                | 7.9          | 12             | 150                     | 2.90          | 230                 |
| AHW1608F-3R9□TF | 3.9        | J,K,M                | 7.9          | 12             | 100                     | 2.00          | 200                 |
| AHW1608F-4R7□TF | 4.7        | J,K,M                | 7.9          | 12             | 100                     | 4.00          | 200                 |
| AHW1608F-5R6□TF | 5.6        | J,K,M                | 7.9          | 12             | 32                      | 2.60          | 240                 |
| AHW1608F-6R8□TF | 6.8        | J,K,M                | 7.9          | 12             | 31                      | 3.90          | 200                 |
| AHW1608F-8R2□TF | 8.2        | J,K,M                | 7.9          | 12             | 26                      | 4.20          | 190                 |
| AHW1608F-100□TF | 10         | J,K,M                | 2.5          | 12             | 25                      | 4.80          | 180                 |
| AHW1608F-150□TF | 15         | J,K,M                | 2.5          | 10             | 23                      | 8.50          | 170                 |
| AHW1608F-220□TF | 22         | J,K,M                | 2.5          | 10             | 10                      | 12.0          | 100                 |

**● AHW2012F Series**

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW2012F-R12□TF | 0.12       | J,K,M                | 7.9          | 19             | 340                     | 0.27          | 750                 |
| AHW2012F-R15□TF | 0.15       | J,K,M                | 7.9          | 19             | 480                     | 0.30          | 720                 |
| AHW2012F-R18□TF | 0.18       | J,K,M                | 7.9          | 19             | 480                     | 0.40          | 720                 |
| AHW2012F-R22□TF | 0.22       | J,K,M                | 7.9          | 19             | 480                     | 0.40          | 720                 |
| AHW2012F-R27□TF | 0.27       | J,K,M                | 7.9          | 19             | 500                     | 0.31          | 650                 |
| AHW2012F-R39□TF | 0.39       | J,K,M                | 7.9          | 19             | 500                     | 0.31          | 720                 |
| AHW2012F-R47□TF | 0.47       | J,K,M                | 7.9          | 19             | 500                     | 0.31          | 720                 |
| AHW2012F-R56□TF | 0.56       | J,K,M                | 7.9          | 12             | 400                     | 0.46          | 400                 |
| AHW2012F-R62□TF | 0.62       | J,K,M                | 7.9          | 19             | 400                     | 0.46          | 590                 |
| AHW2012F-R68□TF | 0.68       | J,K,M                | 7.9          | 19             | 400                     | 0.46          | 590                 |
| AHW2012F-R81□TF | 0.81       | J,K,M                | 7.9          | 12             | 360                     | 1.00          | 520                 |
| AHW2012F-R88□TF | 0.88       | J,K,M                | 7.9          | 12             | 360                     | 1.00          | 520                 |
| AHW2012F-R91□TF | 0.91       | J,K,M                | 7.9          | 12             | 360                     | 1.00          | 430                 |
| AHW2012F-1R0□TF | 1.0        | J,K,M                | 7.9          | 12             | 360                     | 1.00          | 430                 |
| AHW2012F-1R2□TF | 1.2        | J,K,M                | 7.9          | 12             | 350                     | 1.15          | 410                 |
| AHW2012F-1R5□TF | 1.5        | J,K,M                | 7.9          | 12             | 300                     | 1.20          | 400                 |
| AHW2012F-1R8□TF | 1.8        | J,K,M                | 7.9          | 12             | 300                     | 1.35          | 380                 |
| AHW2012F-2R2□TF | 2.2        | J,K,M                | 7.9          | 12             | 170                     | 1.50          | 350                 |
| AHW2012F-2R7□TF | 2.7        | J,K,M                | 7.9          | 12             | 100                     | 1.70          | 320                 |
| AHW2012F-3R0□TF | 3          | J,K,M                | 7.9          | 12             | 90                      | 1.80          | 300                 |

### ELECTRICAL CHARACTERISTICS 特性规格表

#### ● AHW2012F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW2012F-3R3□TF | 3.3        | J,K,M                | 7.9          | 12             | 90                      | 1.80          | 300                 |
| AHW2012F-3R9□TF | 3.9        | J,K,M                | 7.9          | 12             | 90                      | 1.95          | 280                 |
| AHW2012F-4R7□TF | 4.7        | J,K,M                | 7.9          | 12             | 85                      | 2.05          | 250                 |
| AHW2012F-5R6□TF | 5.6        | J,K,M                | 7.9          | 12             | 70                      | 2.30          | 240                 |
| AHW2012F-6R8□TF | 6.8        | J,K,M                | 7.9          | 12             | 55                      | 2.60          | 220                 |
| AHW2012F-7R5□TF | 7.5        | J,K,M                | 7.9          | 12             | 50                      | 2.60          | 180                 |
| AHW2012F-8R2□TF | 8.2        | J,K,M                | 7.9          | 12             | 50                      | 3.00          | 180                 |
| AHW2012F-100□TF | 10         | J,K,M                | 2.5          | 10             | 30                      | 2.55          | 150                 |
| AHW2012F-120□TF | 12         | J,K,M                | 2.5          | 10             | 16                      | 3.50          | 100                 |
| AHW2012F-150□TF | 15         | J,K,M                | 2.5          | 10             | 16                      | 4.20          | 100                 |
| AHW2012F-180□TF | 18         | J,K,M                | 2.5          | 10             | 15                      | 4.50          | 95                  |
| AHW2012F-220□TF | 22         | J,K,M                | 2.5          | 10             | 14                      | 6.00          | 80                  |
| AHW2012F-270□TF | 27         | J,K,M                | 2.5          | 10             | 17                      | 10.7          | 60                  |
| AHW2012F-330□TF | 33         | J,K,M                | 2.5          | 10             | 17                      | 10.7          | 60                  |
| AHW2012F-470□TF | 47         | J,K,M                | 2.5          | 10             | 14                      | 13.8          | 55                  |
| AHW2012F-560□TF | 56         | J,K,M                | 2.5          | 10             | 8                       | 14.0          | 30                  |
| AHW2012F-680□TF | 68         | J,K,M                | 2.5          | 8              | 11                      | 17.5          | 40                  |
| AHW2012F-101□TF | 100        | J,K,M                | 1            | 8              | 5                       | 25.0          | 30                  |
| AHW2012F-111□TF | 110        | J,K,M                | 1            | 8              | 5                       | 26.0          | 20                  |

#### ● AHW2520F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW2520F-R39□TF | 0.39       | K,M                  | 7.9          | 12             | 400                     | 0.40          | 500                 |
| AHW2520F-R47□TF | 0.47       | K,M                  | 25           | 12             | 600                     | 0.27          | 700                 |
| AHW2520F-R56□TF | 0.56       | K,M                  | 7.9          | 12             | 230                     | 0.62          | 700                 |
| AHW2520F-R68□TF | 0.68       | J,K,M                | 7.9          | 12             | 230                     | 0.62          | 700                 |
| AHW2520F-R82□TF | 0.82       | J,K,M                | 7.9          | 12             | 230                     | 0.62          | 700                 |
| AHW2520F-R90□TF | 0.9        | J,K,M                | 7.9          | 20             | 300                     | 0.35          | 1400                |
| AHW2520F-1R0□TF | 1.0        | J,K,M                | 7.9          | 18             | 230                     | 0.62          | 700                 |
| AHW2520F-1R2□TF | 1.2        | J,K,M                | 7.9          | 18             | 210                     | 0.68          | 650                 |
| AHW2520F-1R5□TF | 1.5        | J,K,M                | 7.9          | 18             | 190                     | 0.76          | 630                 |
| AHW2520F-1R8□TF | 1.8        | J,K,M                | 7.9          | 18             | 170                     | 0.84          | 600                 |

**ELECTRICAL CHARACTERISTICS 特性规格表**
**● AHW2520F Series**

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW2520F-2R0□TF | 2.0        | J,K,M                | 7.9          | 18             | 160                     | 1.10          | 550                 |
| AHW2520F-2R2□TF | 2.2        | J,K,M                | 7.9          | 18             | 150                     | 1.10          | 520                 |
| AHW2520F-2R7□TF | 2.7        | J,K,M                | 7.9          | 18             | 135                     | 1.28          | 490                 |
| AHW2520F-3R3□TF | 3.3        | J,K,M                | 7.9          | 18             | 120                     | 1.46          | 450                 |
| AHW2520F-3R9□TF | 3.9        | J,K,M                | 7.9          | 18             | 105                     | 2.30          | 300                 |
| AHW2520F-4R7□TF | 4.7        | J,K,M                | 7.9          | 18             | 90                      | 2.00          | 400                 |
| AHW2520F-5R6□TF | 5.6        | J,K,M                | 7.9          | 15             | 80                      | 1.80          | 380                 |
| AHW2520F-6R8□TF | 6.8        | J,K,M                | 7.9          | 15             | 70                      | 2.00          | 360                 |
| AHW2520F-8R2□TF | 8.2        | J,K,M                | 7.9          | 15             | 65                      | 2.65          | 330                 |
| AHW2520F-100□TF | 10         | J,K,M                | 2.5          | 12             | 60                      | 2.95          | 300                 |
| AHW2520F-150□TF | 15         | J,K,M                | 2.5          | 12             | 30                      | 3.70          | 280                 |
| AHW2520F-180□TF | 18         | J,K,M                | 2.5          | 12             | 26                      | 4.00          | 160                 |
| AHW2520F-220□TF | 22         | J,K,M                | 2.5          | 12             | 22                      | 6.14          | 270                 |
| AHW2520F-330□TF | 33         | J,K,M                | 2.5          | 10             | 12                      | 7.00          | 200                 |
| AHW2520F-390□TF | 39         | J,K,M                | 2.5          | 10             | 16                      | 10.0          | 180                 |
| AHW2520F-470□TF | 47         | J,K,M                | 2.5          | 10             | 10                      | 10.7          | 160                 |
| AHW2520F-560□TF | 56         | J,K,M                | 2.5          | 10             | 8                       | 12.0          | 170                 |
| AHW2520F-680□TF | 68         | J,K,M                | 2.5          | 10             | 6                       | 13.5          | 145                 |
| AHW2520F-820□TF | 82         | J,K,M                | 2.5          | 8              | 6                       | 20.0          | 100                 |
| AHW2520F-101□TF | 100        | J,K,M                | 1            | 8              | 4                       | 21.0          | 80                  |

**● AHW3225F Series**

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW3225F-R56□TF | 0.56       | K,M                  | 25           | 20             | 180                     | 0.55          | 450                 |
| AHW3225F-R82□TF | 0.82       | K,M                  | 7.9          | 20             | 200                     | 0.40          | 450                 |
| AHW3225F-1R0□TF | 1.0        | J,K,M                | 7.9          | 20             | 200                     | 0.40          | 450                 |
| AHW3225F-1R2□TF | 1.2        | J,K,M                | 7.9          | 20             | 200                     | 0.40          | 450                 |
| AHW3225F-1R5□TF | 1.5        | J,K,M                | 7.9          | 20             | 200                     | 0.40          | 450                 |
| AHW3225F-1R8□TF | 1.8        | J,K,M                | 7.9          | 20             | 195                     | 0.80          | 450                 |
| AHW3225F-2R2□TF | 2.2        | J,K,M                | 7.9          | 30             | 175                     | 0.80          | 450                 |
| AHW3225F-3R3□TF | 3.3        | J,K,M                | 7.9          | 20             | 150                     | 1.20          | 400                 |
| AHW3225F-4R7□TF | 4.7        | J,K,M                | 7.9          | 18             | 60                      | 1.30          | 350                 |

### ELECTRICAL CHARACTERISTICS 特性规格表

#### ● AHW3225F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW3225F-5R6□TF | 5.6        | J,K,M                | 7.9          | 18             | 50                      | 2.00          | 320                 |
| AHW3225F-6R8□TF | 6.8        | J,K,M                | 7.9          | 18             | 35                      | 1.50          | 310                 |
| AHW3225F-8R2□TF | 8.2        | J,K,M                | 7.9          | 15             | 33                      | 1.60          | 305                 |
| AHW3225F-100□TF | 10         | J,K,M                | 2.5          | 15             | 30                      | 1.00          | 300                 |
| AHW3225F-120□TF | 12         | J,K,M                | 2.5          | 15             | 25                      | 1.80          | 300                 |
| AHW3225F-150□TF | 15         | J,K,M                | 2.5          | 15             | 22                      | 2.00          | 225                 |
| AHW3225F-180□TF | 18         | J,K,M                | 2.5          | 15             | 22                      | 2.05          | 215                 |
| AHW3225F-220□TF | 22         | J,K,M                | 2.5          | 15             | 20                      | 2.40          | 210                 |
| AHW3225F-270□TF | 27         | J,K,M                | 2.5          | 15             | 20                      | 2.80          | 160                 |
| AHW3225F-330□TF | 33         | J,K,M                | 2.5          | 15             | 15                      | 2.90          | 160                 |
| AHW3225F-470□TF | 47         | J,K,M                | 2.5          | 15             | 10                      | 5.20          | 140                 |
| AHW3225F-560□TF | 56         | J,K,M                | 2.5          | 8              | 8                       | 5.60          | 125                 |
| AHW3225F-680□TF | 68         | J,K,M                | 1            | 6              | 10                      | 13.0          | 100                 |
| AHW3225F-820□TF | 82         | J,K,M                | 1            | 6              | 10                      | 13.0          | 100                 |
| AHW3225F-101□TF | 100        | J,K,M                | 1            | 6              | 10                      | 13.0          | 100                 |
| AHW3225F-221□TF | 220        | J,K,M                | 1            | 8              | 2.6                     | 30.0          | 65                  |
| AHW3225F-331□TF | 330        | J,K,M                | 1            | 8              | 2.3                     | 35.0          | 55                  |
| AHW3225F-471□TF | 470        | J,K,M                | 1            | 8              | 2                       | 42.0          | 40                  |
| AHW3225F-561□TF | 560        | J,K,M                | 1            | 8              | 3                       | 60.0          | 10                  |
| AHW3225F-621□TF | 620        | J,K,M                | 1            | 8              | 2                       | 85.0          | 10                  |
| AHW3225F-681□TF | 680        | J,K,M                | 1            | 6              | 2                       | 90.0          | 10                  |
| AHW3225F-102□TF | 1000       | J,K,M                | 1            | 6              | 1                       | 130           | 30                  |

#### ● AHW4532F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW4532F-R33□TF | 0.33       | J,K                  | 25.2         | 10             | 380                     | 0.13          | 1000                |
| AHW4532F-R47□TF | 0.47       | J,K                  | 25.2         | 10             | 330                     | 0.14          | 1000                |
| AHW4532F-R56□TF | 0.56       | J,K                  | 25.2         | 10             | 300                     | 0.15          | 1000                |
| AHW4532F-R82□TF | 0.82       | J,K                  | 25.2         | 10             | 250                     | 0.20          | 1000                |
| AHW4532F-1R0□TF | 1.0        | J,K                  | 7.96         | 15             | 200                     | 0.22          | 1000                |
| AHW4532F-1R2□TF | 1.2        | J,K                  | 7.96         | 15             | 200                     | 0.35          | 1000                |
| AHW4532F-1R5□TF | 1.5        | J,K                  | 7.96         | 15             | 180                     | 0.32          | 1000                |

### ELECTRICAL CHARACTERISTICS 特性规格表

#### ● AHW4532F Series

| Part Number     | Inductance | Inductance Tolerance | L Test Freq. | Quality Factor | Self-resonant Frequency | DC Resistance | Heat Rating Current |
|-----------------|------------|----------------------|--------------|----------------|-------------------------|---------------|---------------------|
|                 |            |                      |              | Min.           | Min.                    | Max.          | Max.                |
| Unit            | μH         | -                    | MHz          | -              | MHz                     | Ω             | mA                  |
| Symbol          | L          | -                    | Freq.        | Q              | S.R.F                   | DCR           | Irms                |
| AHW4532F-1R8□TF | 1.8        | J,K                  | 7.96         | 15             | 160                     | 0.35          | 950                 |
| AHW4532F-2R2□TF | 2.2        | J,K                  | 7.96         | 15             | 150                     | 0.37          | 900                 |
| AHW4532F-2R7□TF | 2.7        | J,K                  | 7.96         | 15             | 145                     | 0.37          | 850                 |
| AHW4532F-3R3□TF | 3.3        | J,K                  | 7.96         | 15             | 140                     | 0.48          | 800                 |
| AHW4532F-3R9□TF | 3.9        | J,K                  | 7.96         | 15             | 135                     | 0.60          | 750                 |
| AHW4532F-4R7□TF | 4.7        | J,K                  | 7.96         | 15             | 120                     | 1.00          | 700                 |
| AHW4532F-5R6□TF | 5.6        | J,K                  | 7.96         | 15             | 110                     | 0.55          | 650                 |
| AHW4532F-6R8□TF | 6.8        | J,K                  | 7.96         | 15             | 80                      | 0.80          | 600                 |
| AHW4532F-8R2□TF | 8.2        | J,K                  | 7.96         | 15             | 70                      | 0.85          | 600                 |
| AHW4532F-100□TF | 10         | J,K                  | 2.52         | 10             | 60                      | 1.00          | 550                 |
| AHW4532F-120□TF | 12         | J,K                  | 2.52         | 10             | 55                      | 1.10          | 550                 |
| AHW4532F-150□TF | 15         | J,K                  | 2.52         | 10             | 35                      | 1.20          | 500                 |
| AHW4532F-180□TF | 18         | J,K                  | 2.52         | 10             | 29                      | 1.20          | 500                 |
| AHW4532F-220□TF | 22         | J,K                  | 2.52         | 10             | 20                      | 1.30          | 450                 |
| AHW4532F-270□TF | 27         | J,K                  | 2.52         | 10             | 20                      | 1.50          | 400                 |
| AHW4532F-330□TF | 33         | J,K                  | 2.52         | 10             | 18                      | 1.70          | 350                 |
| AHW4532F-390□TF | 39         | J,K                  | 2.52         | 10             | 14                      | 1.80          | 350                 |
| AHW4532F-470□TF | 47         | J,K                  | 2.52         | 10             | 10                      | 2.00          | 300                 |
| AHW4532F-560□TF | 56         | J,K                  | 2.52         | 10             | 10                      | 2.20          | 290                 |
| AHW4532F-680□TF | 68         | J,K                  | 2.52         | 10             | 5.4                     | 2.40          | 260                 |
| AHW4532F-820□TF | 82         | J,K                  | 2.52         | 10             | 5.2                     | 2.80          | 240                 |
| AHW4532F-101□TF | 100        | J,K                  | 0.796        | 10             | 4                       | 3.00          | 220                 |
| AHW4532F-121□TF | 120        | J,K                  | 0.796        | 10             | 3.3                     | 3.30          | 220                 |
| AHW4532F-151□TF | 150        | J,K                  | 0.796        | 10             | 3                       | 3.70          | 200                 |
| AHW4532F-181□TF | 180        | J,K                  | 0.796        | 10             | 3                       | 4.50          | 200                 |
| AHW4532F-221□TF | 220        | J,K                  | 0.796        | 10             | 2.5                     | 8.00          | 170                 |
| AHW4532F-271□TF | 270        | J,K                  | 0.796        | 10             | 2.2                     | 8.50          | 160                 |
| AHW4532F-331□TF | 330        | K                    | 0.796        | 10             | 2                       | 9.00          | 150                 |
| AHW4532F-391□TF | 390        | K                    | 0.796        | 10             | 1.8                     | 9.50          | 130                 |
| AHW4532F-471□TF | 470        | K                    | 0.796        | 8              | 1.6                     | 12.0          | 120                 |
| AHW4532F-561□TF | 560        | K                    | 0.796        | 8              | 1.5                     | 12.5          | 110                 |
| AHW4532F-681□TF | 680        | K                    | 0.796        | 8              | 1.5                     | 14.0          | 100                 |
| AHW4532F-751□TF | 750        | K                    | 0.796        | 8              | 1.5                     | 14.5          | 95                  |
| AHW4532F-821□TF | 820        | K                    | 0.796        | 8              | 1.5                     | 15.0          | 95                  |
| AHW4532F-102□TF | 1000       | K                    | 0.252        | 6              | 1.4                     | 16.5          | 90                  |

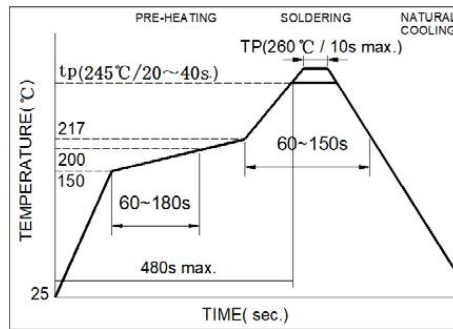
- All test data is referenced to 25°C ambient.
- Rating DC current: Temperature rise( $\Delta T$ ) is 40°C approximately at Irms.
- Storage temp.: -10°C ~ +40°C R.H.: 60% Max.

**RELIABILITY TEST 可靠性试验**

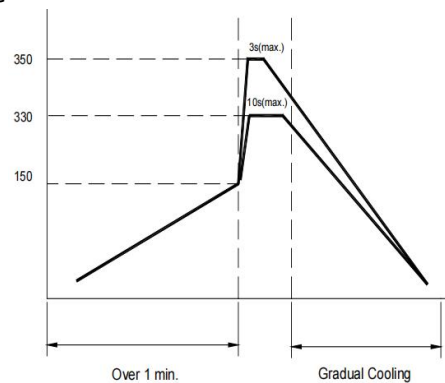
| Test Item                    | Test Requirements                                                                         | Test Conditions                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High Temperature             | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Test temperature: $85 \pm 3^\circ\text{C}$ ,<br>test duration: 1000 hrs.<br>Specimens shall be stabilized under standard atmospheric conditions for $24 \pm 4$ hours prior to measurement.                                                                                                                                                                                                         |
| Low Temperature              | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Test temperature: $-25 \pm 3^\circ\text{C}$ ,<br>test duration: 1000 hrs.<br>Specimens shall be stabilized under standard atmospheric conditions for $24 \pm 4$ hours prior to measurement.                                                                                                                                                                                                        |
| Damp Heat (Steady State)     | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Test temperature: $40 \pm 2^\circ\text{C}$ ,<br>test humidity: 90-95% RH,<br>test duration: 1000 hrs.<br>Specimens shall be stabilized under standard atmospheric conditions for $24 \pm 4$ hours prior to measurement. DCR shall remain within specification limits.                                                                                                                              |
| Thermal Shock                | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | One cycle consists of: $-25 \pm 3^\circ\text{C}$ for 30 min $\rightarrow$ $25 \pm 2^\circ\text{C}$ for 3 min $\rightarrow$ $85 \pm 3^\circ\text{C}$ for 30 min $\rightarrow$ $25 \pm 2^\circ\text{C}$ for 3 min. Total 100 cycles.<br>Specimens shall be stabilized under standard atmospheric conditions for $24 \pm 4$ hours prior to measurement. DCR shall remain within specification limits. |
| Load Life                    | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Test temperature: $85 \pm 3^\circ\text{C}$ ,<br>test duration: 1000 hrs, with rated current applied. Specimens shall be stabilized under standard atmospheric conditions for $24 \pm 4$ hours prior to measurement.                                                                                                                                                                                |
| Vibration                    | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Frequency range: (10 $\rightarrow$ 55 $\rightarrow$ 10) Hz,<br>total amplitude: 1.5 mm, duration: 2 hours in each of X, Y, Z directions (6 hours total).<br>Specimens shall be stabilized under standard atmospheric conditions for 1-2 hours prior to measurement.                                                                                                                                |
| Resistance to Soldering Heat | 1. No visible mechanical damage<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$ | Preheat: $150^\circ\text{C}$ for 1 min.<br>Solder temperature: $260 \pm 5^\circ\text{C}$ ,<br>immersion time: $10 \pm 2$ seconds.<br>Recovery time: $\geq 2$ hours.                                                                                                                                                                                                                                |
| Solderability                | No visible mechanical damage                                                              | 1. Solder temperature: $245 \pm 5^\circ\text{C}$ , dwell time: $5 \pm 0.5$ s.<br>2. Solder coverage shall be $\geq 90\%$ of the terminations (excluding the solder land area).                                                                                                                                                                                                                     |
| Board Flexure                | No visible mechanical damage                                                              | Preconditioning: 1 reflow soldering cycle.<br>Terminations soldered onto PCB.<br>Static load applied gradually, T: $60 \pm 5$ s, board deflection $\leq 2.0$ mm.                                                                                                                                                                                                                                   |
| Terminal Strength            | No visible mechanical damage                                                              | Specified static load applied vertically to the terminal for $30 \pm 1$ seconds.<br>Verify no detachment of the component.                                                                                                                                                                                                                                                                         |

## RECOMMENDED SOLDERING TECHNOLOGIES 回流焊建议

- Re-flow Soldering (Lead Free)
- ☆ Preheat circuit and products to 150°C
- ☆ 260°C tip temperature (max)
- ☆ Reflow times: no more than 2 times
- ☆ Solder paste thickness: the best 0.08mm is ,but max is 0.1mm



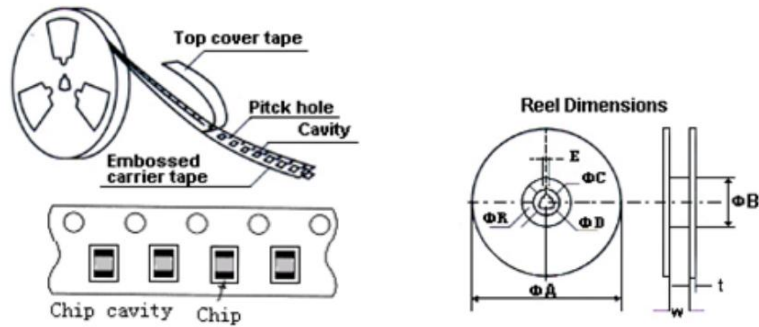
- Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.
- Hand Soldering
- ☆ Use a 20 watt soldering iron with tip diameter of 1.0mm
- ☆ Limit soldering time to 3 sec



- Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.

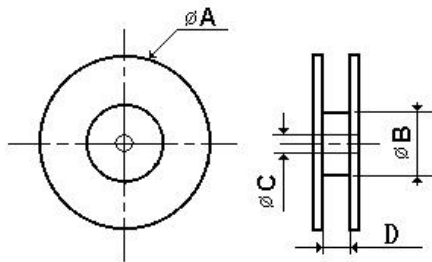
## PACKAGING 包装

- Packaging type: Strapping packaging.
- 1005~3225 Series



| Type      | ΦA  | ΦB | ΦC | ΦD | E | W   | t |
|-----------|-----|----|----|----|---|-----|---|
| 1005-3225 | 178 | 60 | 13 | 21 | 2 | 8.4 | 2 |

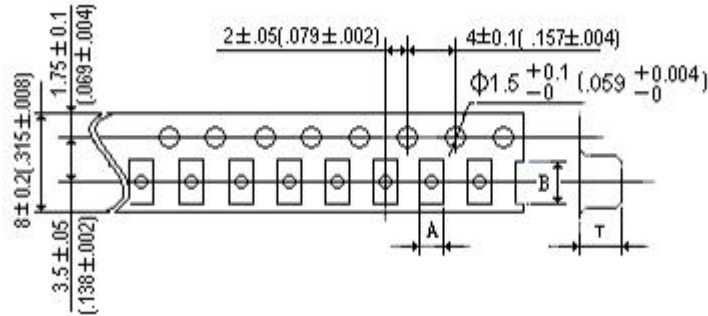
- 4532 Series



| Type | ΦA  | ΦB | ΦC | ΦD   |
|------|-----|----|----|------|
| 4532 | 330 | 98 | 13 | 12.4 |

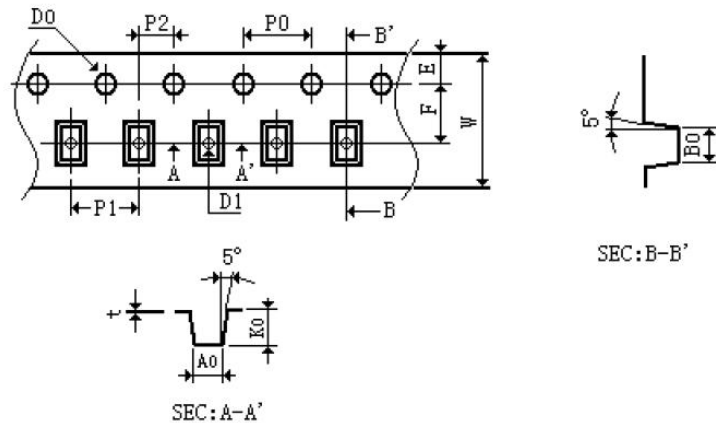
### PACKAGING 包装

- Packaging type: Strapping packaging.
- 1005~3225 Series



| Type | A    | B    | T    |
|------|------|------|------|
| 1005 | 0.74 | 1.23 | 0.75 |
| 1608 | 1.15 | 1.83 | 0.95 |
| 2012 | 1.90 | 2.40 | 1.45 |
| 2520 | 2.73 | 2.90 | 2.34 |
| 3225 | 2.96 | 3.6  | 2.4  |

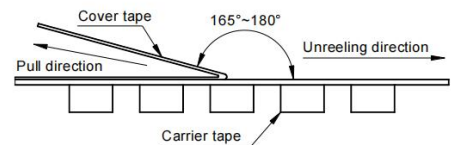
- 4532 Series



| Type | W     | E    | F    | D0   | D1   | P0   | P1   | P2   | P0X10 | t    | A0   | B0   | K0   |
|------|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| 4532 | 12.00 | 1.75 | 5.50 | 1.55 | 1.50 | 4.00 | 8.00 | 2.00 | 40    | 0.25 | 3.22 | 4.82 | 2.98 |

- Peeling off force
- Pull strength 1005~3225:20g~80g.
- Pull strength 4532:10g~100g.
- Speed of peeling off:300mm/min ±10%.

- Packing Quantity.



| Series   | Quantity/Reel |
|----------|---------------|
| AHW1005F | 10000Pcs      |
| AHW1608F | 4000Pcs       |
| AHW2012F | 2000Pcs       |
| AHW2520F | 2000Pcs       |
| AHW3225F | 2000Pcs       |
| AHW4532F | 2000Pcs       |

## ■ PRECAUTIONS ON USE 使用注意事项

### ● Precautions on Use.

- 1.Always wear static control bands to protect against ESD.
- 2.Any devices used with the products (soldering irons, measuring instruments) should be properly grounded.
- 3.Keep bare hands and metal conductors (i.e., metal desk) away from electrodes or conductive areas that lead to electrodes.
- 4.Preheat when soldering.
- 5.Don't apply current in excess of the rated current value. It may reduce the impedance or inductance, or cause damage to components due to over-current.
- 6.For magnetic products, keep clear of anything that may generate magnetic fields such as speakers and coils. Use non-magnetic tweezers when handling the chips.
- 7.When soldering, the electrical characteristics may be varied due to hot energy and mechanical stress.
- 8.When coating products with resin, the relatively high resin curing stress may change the electrical characteristics. For exterior coating, select resin carefully so that electrical and mechanical performance of the product is not affected. Before using, please evaluate reliability with the product mounted in your application set.
- 9.When mount chips with adhesive in preliminary assembly, do appropriate check before the soldering stage, i.e., the size of land pattern, type of adhesive, amount applied, hardening of the adhesive on proper usage and amounts of adhesive to use.
- 10.Mounting density: Add special attention to radiating heat of products when mounting other components nearby. The excessive heat by other products may cause deterioration at joint of this product with substrate.
- 11.Since some products are constructed like an open magnetic circuit, narrow spacing between components may cause magnetic coupling.
- 12.Please do not give the product any excessive mechanical shocks in transportation.
- 13.Please do not touch wires by sharp terminals such as tweezers to avoid causing any damage to wires.
- 14.Please do not add any shock and power to the soldered product to avoid causing any damage to chip body.
- 15.Please do not touch the electrodes by naked hand as the solderability of the external electrodes may deteriorate by grease or oil on the skin.
- 16.Magnetic materials shall be far away from parts to avoid impacts on their electrical characteristics;
- 17.Parts could be damaged by external mechanical pressure or stacked heavy objects, as well as strong shaking & dropping;
- 18.Please do not store parts in bulk to prevent coils and parts being damaged;
- 19.Oversized external force to parts on PCB may lead to parts being damaged or slipped off;
- 20.Please do not use parts on edge or top of PCB board in your design to avoid parts being damaged during PCB is moved.
- 21.Please use flux contained with resin since the highly acidic (Chlorine content more than 0.2 wt%) or water-soluble one could damage the insulation film of wires, then causing short circuit of parts.
- 22.Please do not use the brush to clean product or its surroundings. If you use the brush to clean product or its surroundings on PCB, copper wire may be broke, causing the product open.
- 23.Avoid strong solvents, strong alkalis and chlorine-based cleaners. They swell and soften the UV coating, which may dissolve and peel off, damaging device appearance and partial functions.
- 24.Avoid ultrasonic processing, which may cause component falling off and poor pad contact.
- 25.When using APV products, customers should record the production batch number for traceability.



## ■ SAFETY REMINDERS 注意事项

## SAFETY REMINDERS

● All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or Warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

- ☆ 1.Aerospace/aviation equipment
- ☆ 2.Transportation equipment (cars, electric trains, ships, etc.)
- ☆ 3.Medical equipment
- ☆ 4.Power-generation control equipment
- ☆ 5.Atomic energy-related equipment
- ☆ 6.Seabed equipment
- ☆ 7.Transportation control equipment
- ☆ 8.Public information-processing equipment
- ☆ 9.Military equipment
- ☆ 10.Electric heating apparatus, burning equipment
- ☆ 11.Disaster prevention/crime prevention equipment
- ☆ 12.Safety equipment
- ☆ 13.Other applications that are not considered general-purpose applications

● When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.