

# Specification for Approval

|               |                                       |
|---------------|---------------------------------------|
| Customer      |                                       |
| Product Name  | Wire Wound Molded SMD Power Inductors |
| Customer P/N: |                                       |
| Cjiang P/N:   | FTC Series                            |

[  New Released,  Revised ]

SPEC No.:

|                            |  |  |
|----------------------------|--|--|
| REMARK:                    |  |  |
|                            |  |  |
| Customer Approval Feedback |  |  |
|                            |  |  |

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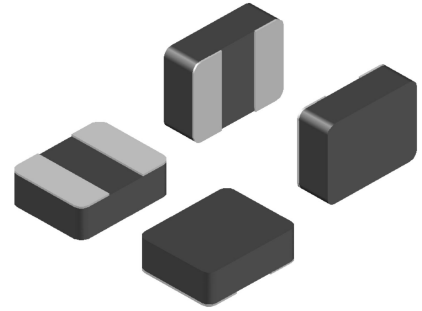
## Version change history

| Rev | Date     | Description | APPROVED | CHECKED | DRAWN |
|-----|----------|-------------|----------|---------|-------|
| 1.0 | 2022/8/9 | 文件制定        | Bond     | Charles | 王云燕   |

Caution :

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. Aircraft equipment.
2. Aerospace equipment.
3. Undersea equipment.
4. nuclear control equipment.
5. military equipment.
6. Power plant equipment.
7. Medical equipment.
8. Transportation equipment (automobiles, trains, ships,etc.)
9. Traffic signal equipment.
10. Disaster prevention / crime prevention equipment.
11. Data-processing equipment.
12. Applications of similar complexity or with reliability requirements comparable to the applications listed in the above.



## 1. Scope

### Features

- 1.1 Metal material for large current and low loss.
- 1.2 High performance (Isat) realized by metal dust core.
- 1.3 Low loss realized with low Rdc.
- 1.4 Closed magnetic circuit design reduces leakage flux.
- 1.5 Vinyl thermal spray, better surface compactness.
- 1.6 100% lead (Pb) free meet RoHS standard.

### Application

- 2.1 DC/DC converters.
- 2.2 Pad, Smart phone.
- 2.3 Portable gaming devices, Smart wear, Wi-Fi module.
- 2.4 Notebooks, VR, AR.
- 2.5 LCD displays, HDDs, DVCs, DSCs, etc.
- 2.6 Baseband power supply, Amplifier, Power management, Module power supply, Camera power manageme.

## 2. Ordering Procedure

|            |             |           |          |            |          |          |          |          |
|------------|-------------|-----------|----------|------------|----------|----------|----------|----------|
| <b>FTC</b> | <b>2016</b> | <b>10</b> | <b>S</b> | <b>1R0</b> | <b>M</b> | <b>B</b> | <b>C</b> | <b>*</b> |
| ①          | ②           | ③         | ④        | ⑤          | ⑥        | ⑦        | ⑧        | ⑨        |

①Series Name: Mini Molding Power Inductors

②External Dimensions(L×W):2016=2.0\*1.6 mm

③External Dimensions(H):10=1.0 mm

④Size Tolerance:S=±0.2mm D=±0.1mm

⑤Inductance value:1R0=1.0uH

⑥Tolerance:K=±10% M=±20% N=±30%

⑦Coating color:B=Black G=Grey

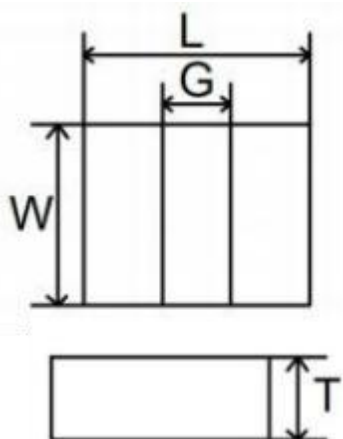
⑧Product type:C=Common

⑨Special define:A=Routine B~Z=Special

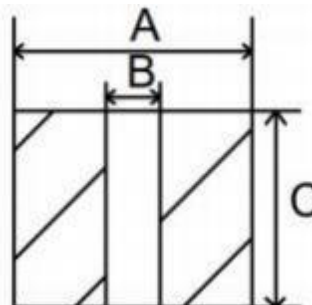
For special characteristics, please refer to the specific values in Item 5 "Specifications".

#### 4. SHAPE AND DIMENSIONS

**Outline Dimensions**



**Recommend Land Pattern Dimensions**



Units: mm

| Series     | L       | G (TYP) | W       | T        | A    | B    | C    |
|------------|---------|---------|---------|----------|------|------|------|
| FTC100765D | 1.0±0.1 | 0.3     | 0.7±0.1 | 0.65Max. | 1.00 | 0.20 | 0.70 |
| FTC121065S | 1.2±0.2 | 0.4     | 1.0±0.2 | 0.65Max. | 1.30 | 0.30 | 1.10 |
| FTC160865D | 1.6±0.1 | 0.5     | 0.8±0.1 | 0.65Max. | 1.70 | 0.40 | 0.90 |
| FTC160865S | 1.6±0.2 | 0.5     | 0.8±0.2 | 0.65Max. | 1.60 | 0.40 | 0.80 |
| FTC160808S | 1.6±0.2 | 0.5     | 0.8±0.2 | 0.80Max. | 1.70 | 0.40 | 0.90 |
| FTC160810S | 1.6±0.2 | 0.5     | 0.8±0.2 | 1.00Max. | 1.70 | 0.40 | 0.90 |
| FTC141265S | 1.4±0.2 | 0.5     | 1.2±0.2 | 0.65Max. | 1.50 | 0.45 | 1.30 |
| FTC141208S | 1.4±0.2 | 0.5     | 1.2±0.2 | 0.80Max. | 1.50 | 0.45 | 1.30 |
| FTC201265S | 2.0±0.2 | 0.5     | 1.2±0.2 | 0.65Max. | 2.10 | 0.50 | 1.30 |
| FTC201208S | 2.0±0.2 | 0.5     | 1.2±0.2 | 0.80Max. | 2.10 | 0.50 | 1.30 |
| FTC201210S | 2.0±0.2 | 0.5     | 1.2±0.2 | 1.00Max. | 2.10 | 0.50 | 1.30 |
| FTC201608S | 2.0±0.2 | 0.6     | 1.6±0.2 | 0.80Max. | 2.10 | 0.50 | 1.70 |
| FTC201610S | 2.0±0.2 | 0.6     | 1.6±0.2 | 1.00Max. | 2.10 | 0.50 | 1.70 |
| FTC201610D | 2.0±0.1 | 0.6     | 1.6±0.1 | 1.00Max. | 2.00 | 0.50 | 1.60 |
| FTC201612S | 2.0±0.2 | 0.6     | 1.6±0.2 | 1.20Max. | 2.10 | 0.50 | 1.70 |
| FTC252010S | 2.5±0.2 | 0.7     | 2.0±0.2 | 1.00Max. | 2.60 | 0.70 | 2.10 |
| FTC252012S | 2.5±0.2 | 0.7     | 2.0±0.2 | 1.20Max. | 2.60 | 0.70 | 2.10 |
| FTC322512S | 3.2±0.2 | 0.9     | 2.5±0.2 | 1.20Max. | 3.25 | 0.90 | 2.55 |
| FTC322520S | 3.2±0.2 | 0.9     | 2.5±0.2 | 2.00Max. | 3.25 | 0.90 | 2.55 |
| FTC303020D | 3.0±0.1 | 1.0     | 3.0±0.1 | 2.00Max. | 2.90 | 0.90 | 2.90 |

#### 5. Marking

**No Marking**

## 5. Specifications

### ①1007 Series

FTC100765(1.0\*0.7\*0.65mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC100765D1R5MBCA | 1.5                  | 400     | 500 | 0.4                            | 0.3 | 1.1                           | 0.9 |
| FTC100765D2R6MGCA | 2.6                  | 750     | 900 | 0.55                           | 0.4 | 1.0                           | 0.8 |

### ②1210 Series

FTC121065(1.2\*1.0\*0.65mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC121065S2R2MBCA | 2.2                  | 280     | 340 | 1.0                            | 0.9 | 1.3                           | 1.2 |

### ③1608 Series

FTC160865(1.6\*0.8\*0.65mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC160865DR22MGCA | 0.22                 | 35      | 43  | 3.8                            | 3.5 | 4.7                           | 4.3 |
| FTC160865SR47MGCA | 0.47                 | 66      | 82  | 2.3                            | 2.0 | 3.3                           | 3.0 |

FTC160808(1.6\*0.8\*0.8mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC160808SR22MBCA | 0.22                 | 33      | 40  | 3.4                            | 3.0 | 5.5                           | 5.0 |
| FTC160808SR24MBCA | 0.24                 | 34      | 41  | 3.3                            | 2.9 | 5.3                           | 4.8 |
| FTC160808SR47MBCA | 0.47                 | 80      | 100 | 2.6                            | 2.3 | 4.1                           | 3.7 |
| FTC160808SR47MBCD | 0.47                 | 48      | 55  | 3.8                            | 3.4 | 4.0                           | 3.5 |
| FTC160808SR56MBCA | 0.56                 | 85      | 110 | 2.2                            | 1.9 | 4.0                           | 3.5 |
| FTC160808SR68MBCA | 0.68                 | 110     | 130 | 2.1                            | 1.9 | 3.3                           | 3.0 |
| FTC160808S1R0MBCA | 1.0                  | 180     | 200 | 2.1                            | 1.8 | 3.0                           | 2.6 |
| FTC160808S1R0MGCD | 1.0                  | 105     | 115 | 2.1                            | 1.8 | 2.3                           | 2.1 |
| FTC160808S2R2MGCA | 2.2                  | 220     | 260 | 1.4                            | 1.2 | 1.5                           | 1.3 |

FTC160810(1.6\*0.8\*1.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC160810SR22MBCA | 0.22                 | 28      | 35  | 4.5                            | 4.0 | 6.5                           | 6.0 |
| FTC160810SR24MBCA | 0.24                 | 28      | 35  | 4.4                            | 3.9 | 6.3                           | 5.8 |

|                   |      |    |     |     |     |     |     |
|-------------------|------|----|-----|-----|-----|-----|-----|
| FTC160810SR47MBCA | 0.47 | 65 | 80  | 4.0 | 3.5 | 4.8 | 4.4 |
| FTC160810SR56MBCA | 0.56 | 70 | 95  | 3.5 | 3.0 | 4.2 | 3.7 |
| FTC160810SR68MBCA | 0.68 | 90 | 115 | 3.0 | 2.5 | 3.6 | 3.2 |

④1412 Series

FTC141265(1.4\*1.2\*0.65mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC141265SR33MBCA | 0.33                 | 26      | 32  | 4.4                            | 4.2 | 4.4                           | 4.0 |
| FTC141265SR33MGCA | 0.33                 | 26      | 32  | 4.4                            | 4.2 | 4.4                           | 4.0 |
| FTC141265SR47MBCA | 0.47                 | 37      | 45  | 3.0                            | 2.7 | 3.4                           | 3.0 |
| FTC141265SR47MGCA | 0.47                 | 37      | 45  | 3.0                            | 2.7 | 3.4                           | 3.0 |

FTC141207(1.4\*1.2\*0.7mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC141207SR24MBCA | 0.24                 | 22      | 28  | 4.0                            | 3.6 | 4.6                           | 4.3 |
| FTC141207SR47MBCA | 0.47                 | 34      | 38  | 3.8                            | 3.3 | 3.8                           | 3.5 |

FTC141208(1.4\*1.2\*0.8mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC141208SR24MBCA | 0.24                 | 22      | 27  | 4.1                            | 3.7 | 6.0                           | 5.7 |
| FTC141208SR33MBCA | 0.33                 | 23      | 28  | 4.0                            | 3.5 | 5.3                           | 5.0 |
| FTC141208SR33MGCA | 0.33                 | 23      | 28  | 4.0                            | 3.5 | 5.3                           | 5.0 |
| FTC141208SR47MBCA | 0.47                 | 29      | 35  | 3.8                            | 3.3 | 4.6                           | 4.2 |
| FTC141208SR47MGCA | 0.47                 | 29      | 35  | 3.8                            | 3.3 | 4.6                           | 4.2 |

⑤2012 Series

FTC201265(2.0\*1.2\*0.65mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC201265S1R0MBCA | 1.0                  | 78      | 86  | 2.6                            | 2.3 | 2.8                           | 2.5 |
| FTC201265D1R0MGCA | 1.0                  | 95      | 110 | 2.5                            | 2.2 | 2.7                           | 2.4 |
| FTC201265S2R2MBCA | 2.2                  | 215     | 230 | 1.7                            | 1.4 | 1.8                           | 1.5 |
| FTC201265S2R2MBCB | 2.2                  | 230     | 245 | 1.7                            | 1.4 | 1.8                           | 1.5 |

FTC201208(2.0\*1.2\*0.8mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC201208SR24MBCA | 0.24                 | 18      | 23  | 6.5                            | 5.9 | 6.5                           | 6.0 |
| FTC201208SR24MGCA | 0.24                 | 18      | 23  | 6.5                            | 5.9 | 6.5                           | 6.0 |
| FTC201208SR33MBCA | 0.33                 | 33      | 45  | 4.3                            | 4.0 | 5.2                           | 4.8 |
| FTC201208SR47MBCA | 0.47                 | 34      | 50  | 3.5                            | 3.3 | 5.0                           | 4.6 |
| FTC201208SR47MGCA | 0.47                 | 34      | 50  | 3.5                            | 3.3 | 5.0                           | 4.6 |
| FTC201208SR47MBCD | 0.47                 | 24      | 28  | 4.7                            | 4.5 | 5.2                           | 4.8 |
| FTC201208DR47MGCA | 0.47                 | 34      | 42  | 4.3                            | 3.9 | 5.2                           | 4.8 |
| FTC201208SR68MBCA | 0.68                 | 50      | 60  | 3.7                            | 3.3 | 4.2                           | 3.7 |
| FTC201208S1R0MBCA | 1.0                  | 55      | 70  | 3.3                            | 2.9 | 4.0                           | 3.5 |
| FTC201208S1R0MBCD | 1.0                  | 48      | 55  | 3.2                            | 2.8 | 3.2                           | 2.8 |
| FTC201208S1R0MGCD | 1.0                  | 48      | 55  | 3.2                            | 2.8 | 3.2                           | 2.8 |
| FTC201208S1R5MBCA | 1.5                  | 118     | 135 | 2.2                            | 1.9 | 3.0                           | 2.5 |
| FTC201208S2R2MBCA | 2.2                  | 160     | 185 | 2.2                            | 1.8 | 2.6                           | 2.3 |
| FTC201208S4R7MBCA | 4.7                  | 285     | 325 | 1.7                            | 1.5 | 1.6                           | 1.4 |

FTC201210(2.0\*1.2\*1.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC201210SR10MBCA | 0.1                  | 8.0     | 13  | 7.5                            | 7.0 | 8.5                           | 8.0 |
| FTC201210SR22MBCA | 0.22                 | 16      | 22  | 7.1                            | 6.5 | 7.3                           | 6.8 |
| FTC201210SR24MBCA | 0.24                 | 17      | 23  | 7.0                            | 6.4 | 7.2                           | 6.7 |
| FTC201210SR24MGCD | 0.24                 | 13      | 17  | 7.0                            | 6.4 | 7.2                           | 6.7 |
| FTC201210SR33MBCA | 0.33                 | 24      | 32  | 5.5                            | 5.0 | 6.5                           | 6.0 |
| FTC201210SR47MBCA | 0.47                 | 29      | 36  | 4.7                            | 4.3 | 5.5                           | 5.0 |
| FTC201210SR68MBCA | 0.68                 | 37      | 43  | 4.3                            | 4.0 | 5.0                           | 4.5 |
| FTC201210S1R0MBCA | 1.0                  | 55      | 63  | 3.9                            | 3.5 | 4.0                           | 3.5 |
| FTC201210S1R5MBCA | 1.5                  | 76      | 85  | 3.1                            | 2.6 | 3.2                           | 2.7 |
| FTC201210S2R2MBCA | 2.2                  | 135     | 150 | 2.0                            | 1.7 | 2.7                           | 2.4 |

©2016 Series  
FTC201608(2.0\*1.6\*0.8mm)

| P/N               | L0( $\mu$ H)<br>@ (0A) 1MHz | Rdc(m $\Omega$ ) |     | Heat rating current<br>I <sub>rms</sub> (A) |     | Saturation current<br>I <sub>sat</sub> (A) |     |
|-------------------|-----------------------------|------------------|-----|---|-----|--|-----|
|                   |                             | Typical          | Max | Typical                                     | Max | Typical                                    | Max |
| FTC201608SR22MBCA | 0.22                        | 14               | 19  | 6.6   | 5.9 | 6.1  | 5.6 |
| FTC201608SR24MBCA | 0.24                        | 14               | 20  | 6.5   | 5.8 | 6.0  | 5.5 |
| FTC201608SR33MBCA | 0.33                        | 18               | 24  | 5.5   | 4.8 | 5.8  | 5.3 |
| FTC201608SR47MBCA | 0.47                        | 24               | 27  | 4.6   | 4.4 | 5.5  | 5.0 |
| FTC201608SR47MGCA | 0.47                        | 24               | 27  | 4.6   | 4.4 | 5.5  | 5.0 |
| FTC201608SR68MBCA | 0.68                        | 39               | 44  | 3.8   | 3.5 | 4.6  | 4.2 |
| FTC201608S1R0MBCA | 1.0                         | 53               | 60  | 3.6   | 3.3 | 3.3  | 3.1 |
| FTC201608S1R0MGCD | 1.0                         | 45               | 52  | 3.6   | 3.3 | 3.8  | 3.5 |
| FTC201608S1R5MBCA | 1.5                         | 73               | 85  | 3.1   | 2.8 | 3.0  | 2.8 |
| FTC201608S2R2MBCA | 2.2                         | 123              | 140 | 2.2   | 2.0 | 2.5  | 2.3 |
| FTC201608S3R3MBCA | 3.3                         | 200              | 220 | 1.8   | 1.5 | 2.1  | 1.8 |
| FTC201608S4R7MBCA | 4.7                         | 260              | 290 | 1.6   | 1.4 | 1.7  | 1.5 |



FTC201610(2.0\*1.6\*1.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>I <sub>rms</sub> (A) |     | Saturation current<br>I <sub>sat</sub> (A) |      |
|-------------------|----------------------|---------|-----|---|-----|--|------|
|                   |                      | Typical | Max | Typical                                     | Max | Typical                                    | Max  |
| FTC201610SR10MBCA | 0.1                  | 7.0     | 12  | 8.5   | 8.0 | 9.0  | 8.4  |
| FTC201610SR15MBCA | 0.15                 | 8.0     | 14  | 7.6   | 7.0 | 8.7  | 8.0  |
| FTC201610SR22MBCA | 0.22                 | 11      | 18  | 6.9   | 6.3 | 8.2  | 7.5  |
| FTC201610SR24MBCA | 0.24                 | 10.5    | 19  | 6.8   | 6.2 | 8.2  | 7.4  |
| FTC201610SR33MBCA | 0.33                 | 16.5    | 22  | 5.7   | 5.8 | 7.0  | 6.0  |
| FTC201610SR33MGCA | 0.33                 | 16.5    | 22  | 5.7   | 5.8 | 7.0  | 6.0  |
| FTC201610SR47MBCA | 0.47                 | 19.5    | 25  | 6.0   | 5.0 | 6.3  | 5.5  |
| FTC201610SR47MGCA | 0.47                 | 19.5    | 25  | 6.0   | 5.0 | 6.3  | 5.5  |
| FTC201610SR68MBCA | 0.68                 | 25      | 32  | 5.3   | 4.3 | 5.2  | 4.5  |
| FTC201610S1R0MBCA | 1.0                  | 35      | 43  | 4.5   | 4.1 | 4.6  | 3.8  |
| FTC201610S1R0MGCA | 1.0                  | 35      | 43  | 4.5   | 4.1 | 4.6  | 3.8  |
| FTC201610S1R0MBCD | 1.0                  | 31      | 36  | 4.6   | 4.2 | 4.7  | 4.2  |
| FTC201610S1R0MGCD | 1.0                  | 31      | 36  | 4.6   | 4.2 | 4.7  | 4.2  |
| FTC201610S1R5MBCA | 1.5                  | 58      | 100 | 3.3   | 2.3 | 3.2  | 2.9  |
| FTC201610S2R2MBCA | 2.2                  | 100     | 130 | 2.5   | 2.1 | 3.0  | 2.45 |
| FTC201610S2R2MGCA | 2.2                  | 100     | 130 | 2.5   | 2.1 | 3.0  | 2.45 |
| FTC201610D2R2MBCA | 2.2                  | 115     | 125 | 2.5   | 2.2 | 3.3  | 3.0  |
| FTC201610S3R3MBCA | 3.3                  | 140     | 170 | 1.7   | 1.5 | 2.3  | 2.0  |
| FTC201610S4R7MBCA | 4.7                  | 190     | 220 | 1.6   | 1.4 | 2.0  | 1.8  |
| FTC201610S4R7MGCA | 4.7                  | 190     | 220 | 1.6   | 1.4 | 2.0  | 1.8  |

FTC201612(2.0\*1.6\*1.2mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>I <sub>rms</sub> (A) |     | Saturation current<br>I <sub>sat</sub> (A) |      |
|-------------------|----------------------|---------|-----|---|-----|--|------|
|                   |                      | Typical | Max | Typical                                     | Max | Typical                                    | Max  |
| FTC201612SR10MBCA | 0.1                  | 4.0     | 6.0 | 12  | 10  | 13   | 11.5 |
| FTC201612SR24MBCA | 0.24                 | 9.0     | 11  | 9.1   | 8.6 | 9.2  | 8.7  |
| FTC201612SR33MBCA | 0.33                 | 10      | 15  | 7.7   | 7.2 | 7.8  | 7.3  |
| FTC201612SR47MBCA | 0.47                 | 13      | 17  | 6.7   | 6.0 | 6.7  | 6.0  |
| FTC201612S1R5MBCA | 1.5                  | 40      | 50  | 4.0   | 3.5 | 4.0  | 3.5  |

⑦2520 Series  
FTC252010S(2.5\*2.0\*1.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |      | Heat rating current<br>I <sub>rms</sub> (A) |      | Saturation current<br>I <sub>sat</sub> (A) |     |
|-------------------|----------------------|---------|------|---|------|--|-----|
|                   |                      | Typical | Max  | Typical                                     | Max  | Typical                                    | Max |
| FTC252010SR22MBCA | 0.22                 | 12      | 17   | 6.8   | 6.5  | 8.6  | 7.9 |
| FTC252010SR22MGCA | 0.22                 | 12      | 17   | 6.8   | 6.5  | 8.6  | 7.9 |
| FTC252010SR24MBCA | 0.24                 | 12      | 17.5 | 6.7   | 6.4  | 8.5  | 7.8 |
| FTC252010SR33MBCA | 0.33                 | 13      | 19   | 6.5   | 6.2  | 7.6  | 7.2 |
| FTC252010SR33MGCA | 0.33                 | 13      | 19   | 6.5   | 6.2  | 7.6  | 7.2 |
| FTC252010SR47MBCA | 0.47                 | 15      | 22   | 6.1   | 5.6  | 7.0  | 6.5 |
| FTC252010SR47MGCA | 0.47                 | 15      | 22   | 6.1   | 5.6  | 7.0  | 6.5 |
| FTC252010SR68MBCA | 0.68                 | 23      | 27   | 5.6   | 5.0  | 5.9  | 5.5 |
| FTC252010S1R0MBCA | 1.0                  | 22.5    | 30   | 5.4   | 4.1  | 5.3  | 4.8 |
| FTC252010S1R0MGCA | 1.0                  | 22.5    | 30   | 5.4   | 4.1  | 5.3  | 4.8 |
| FTC252010S1R5MBCA | 1.5                  | 45      | 55   | 3.4   | 3.0  | 4.3  | 3.9 |
| FTC252010S1R5MGCA | 1.5                  | 45      | 55   | 3.4   | 3.0  | 4.3  | 3.9 |
| FTC252010S2R2MBCA | 2.2                  | 60.5    | 70   | 2.5   | 2.1  | 3.5  | 3.0 |
| FTC252010S2R2MGCA | 2.2                  | 60.5    | 70   | 2.5   | 2.1  | 3.5  | 3.0 |
| FTC252010S3R3MBCA | 3.3                  | 86      | 100  | 2.5   | 2.1  | 2.8  | 2.5 |
| FTC252010S3R3MGCA | 3.3                  | 86      | 100  | 2.5   | 2.1  | 2.8  | 2.5 |
| FTC252010S4R7MBCA | 4.7                  | 160     | 180  | 2.0   | 1.6  | 2.6  | 2.0 |
| FTC252010S4R7MGCA | 4.7                  | 160     | 180  | 2.0   | 1.6  | 2.6  | 2.0 |
| FTC252010S4R7MBCD | 4.7                  | 145     | 160  | 2.0   | 1.6  | 2.6  | 2.0 |
| FTC252010S6R8MBCA | 6.8                  | 270     | 320  | 1.6   | 1.4  | 2.4  | 1.9 |
| FTC252010S100MBCA | 10.0                 | 500     | 560  | 1.05  | 0.95 | 1.55                                       | 1.4 |
| FTC252010S100MGCA | 10.0                 | 500     | 560  | 1.05  | 0.95 | 1.55                                       | 1.4 |
| FTC252010S220MGCA | 22.0                 | 1100    | 1300 | 0.85  | 0.6  | 1.1  | 0.9 |

FTC252012S(2.5\*2.0\*1.2mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |      | Saturation current<br>Isat(A) |      |
|-------------------|----------------------|---------|-----|--------------------------------|------|-------------------------------|------|
|                   |                      | Typical | Max | Typical                        | Max  | Typical                       | Max  |
| FTC252012SR10MBCA | 0.1                  | 6       | 10  | 12                             | 10.5 | 13.5                          | 12.5 |
| FTC252012SR15MBCA | 0.15                 | 7       | 11  | 11.5                           | 10   | 13.0                          | 12.0 |
| FTC252012SR22MBCA | 0.22                 | 9       | 14  | 8.2                            | 7.6  | 9.6                           | 9.0  |
| FTC252012SR24MBCA | 0.24                 | 10      | 15  | 8.0                            | 6.4  | 9.5                           | 8.8  |
| FTC252012SR24MGCA | 0.24                 | 10      | 15  | 8.0                            | 6.4  | 9.5                           | 8.8  |
| FTC252012SR33MBCA | 0.33                 | 11      | 17  | 6.8                            | 6.1  | 8.6                           | 7.8  |
| FTC252012SR47MBCA | 0.47                 | 13      | 19  | 6.5                            | 6.0  | 7.5                           | 6.8  |
| FTC252012SR47MBCD | 0.47                 | 11      | 13  | 8.0                            | 7.5  | 8.5                           | 8.0  |
| FTC252012SR47MGCD | 0.47                 | 11      | 13  | 8.0                            | 7.5  | 8.5                           | 8.0  |
| FTC252012SR68MBCA | 0.68                 | 17      | 23  | 6.3                            | 5.0  | 6.5                           | 6.0  |
| FTC252012S1R0MBCA | 1.0                  | 33      | 42  | 4.4                            | 3.6  | 5.6                           | 4.5  |
| FTC252012S1R0MBCD | 1.0                  | 16      | 22  | 5.2                            | 4.5  | 6.5                           | 6.0  |
| FTC252012S1R0MGCD | 1.0                  | 16      | 22  | 5.2                            | 4.5  | 6.5                           | 6.0  |
| FTC252012S1R5MBCA | 1.5                  | 44      | 56  | 3.7                            | 3.2  | 4.5                           | 3.8  |
| FTC252012S1R5MBCD | 1.5                  | 27      | 32  | 4.6                            | 4.2  | 4.7                           | 4.4  |
| FTC252012S1R5MBCE | 1.5                  | 48      | 55  | 4.4                            | 4.0  | 4.3                           | 3.9  |
| FTC252012S1R5MGCA | 1.5                  | 44      | 56  | 3.7                            | 3.2  | 4.5                           | 3.8  |
| FTC252012S2R2MBCA | 2.2                  | 55      | 79  | 3.2                            | 2.7  | 3.8                           | 3.3  |
| FTC252012S2R2MGCA | 2.2                  | 55      | 79  | 3.2                            | 2.7  | 3.8                           | 3.3  |
| FTC252012S3R3MBCA | 3.3                  | 80      | 125 | 2.3                            | 1.8  | 3.0                           | 2.5  |
| FTC252012S4R7MBCA | 4.7                  | 145     | 180 | 1.8                            | 1.5  | 2.4                           | 2.1  |
| FTC252012S4R7MGCA | 4.7                  | 145     | 180 | 1.8                            | 1.5  | 2.4                           | 2.1  |
| FTC252012S6R8MBCA | 6.8                  | 225     | 270 | 1.6                            | 1.3  | 2.2                           | 1.7  |
| FTC252012S100MBCA | 10.0                 | 330     | 400 | 1.2                            | 1.05 | 1.6                           | 1.45 |
| FTC252012S100MGCA | 10.0                 | 330     | 400 | 1.2                            | 1.05 | 1.6                           | 1.45 |

FTC252075S(2.5\*2.0\*0.75mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC252075S2R2MGCA | 2.2                  | 78      | 90  | 2.3                            | 2.0 | 2.6                           | 2.4 |
| FTC252075S100MGCA | 10.0                 | 487     | 530 | 1.1                            | 0.9 | 1.1                           | 0.9 |

⑧3225 Series  
FTC322510S(3.2\*2.5\*1.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC322510SR47MBCA | 0.47                 | 17      | 22  | 6.4                            | 5.9 | 8.3                           | 7.6 |
| FTC322510SR68MBCA | 0.68                 | 22      | 28  | 6.2                            | 5.7 | 7.5                           | 7.0 |
| FTC322510S1R0MBCA | 1.0                  | 25      | 30  | 5.4                            | 4.9 | 6.0                           | 5.3 |
| FTC322510S1R5MBCA | 1.5                  | 34      | 42  | 4.0                            | 3.6 | 5.0                           | 4.4 |
| FTC322510S2R2MBCA | 2.2                  | 55      | 66  | 3.7                            | 3.4 | 4.0                           | 3.5 |
| FTC322510S3R3MBCA | 3.3                  | 105     | 120 | 2.7                            | 2.3 | 3.7                           | 3.3 |
| FTC322510S4R7MBCA | 4.7                  | 125     | 140 | 2.3                            | 1.9 | 2.8                           | 2.5 |

FTC322512S(3.2\*2.5\*1.2mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |      |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|------|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max  |
| FTC322512SR10MBCA | 0.10                 | 5.2     | 7.0 | 12                             | 11  | 18                            | 16.5 |
| FTC322512SR22MBCA | 0.22                 | 6.6     | 10  | 9.2                            | 8.7 | 11.5                          | 11   |
| FTC322512SR22MGCA | 0.22                 | 6.6     | 10  | 9.2                            | 8.7 | 11.5                          | 11   |
| FTC322512SR24MBCA | 0.24                 | 7.0     | 12  | 9.0                            | 8.5 | 11                            | 10.5 |
| FTC322512SR33MBCA | 0.33                 | 9.0     | 14  | 8.4                            | 8.1 | 10                            | 9.5  |
| FTC322512SR47MBCA | 0.47                 | 14      | 19  | 7.5                            | 7.2 | 8.6                           | 8.2  |
| FTC322512SR47MGCA | 0.47                 | 14      | 19  | 7.5                            | 7.2 | 8.6                           | 8.2  |
| FTC322512SR47MBCD | 0.47                 | 11      | 14  | 7.5                            | 7.2 | 8.6                           | 8.2  |
| FTC322512SR68MBCA | 0.68                 | 18      | 23  | 7.3                            | 6.8 | 8.1                           | 7.7  |
| FTC322512SR68MBCD | 0.68                 | 12      | 15  | 7.0                            | 6.5 | 8.0                           | 7.5  |
| FTC322512S1R0MBCA | 1.0                  | 26      | 30  | 5.3                            | 4.8 | 6.6                           | 5.8  |

|                   |     |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|
| FTC322512S1R0MGCA | 1.0 | 26  | 30  | 5.3 | 4.8 | 6.6 | 5.8 |
| FTC322512S1R0MBCD | 1.0 | 18  | 21  | 5.5 | 5.0 | 7.7 | 7.0 |
| FTC322512S1R5MBCA | 1.5 | 37  | 44  | 4.7 | 4.3 | 5.1 | 4.7 |
| FTC322512S2R2MBCA | 2.2 | 58  | 70  | 3.6 | 3.0 | 4.6 | 4.2 |
| FTC322512S2R2MBCD | 2.2 | 42  | 50  | 3.8 | 3.5 | 5.0 | 4.5 |
| FTC322512S2R2MGCD | 2.2 | 42  | 50  | 3.8 | 3.5 | 5.0 | 4.5 |
| FTC322512S3R3MBCA | 3.3 | 75  | 95  | 2.9 | 2.5 | 3.7 | 3.2 |
| FTC322512S3R3MGCA | 3.3 | 75  | 95  | 2.9 | 2.5 | 3.7 | 3.2 |
| FTC322512S4R7MBCA | 4.7 | 115 | 135 | 2.3 | 2.0 | 2.9 | 2.6 |

FTC322520S(3.2\*2.5\*2.0mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |      | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|------|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max  | Typical                        | Max | Typical                       | Max |
| FTC322520SR33MBCA | 0.33                 | 8.0     | 9.6  | 8.5                            | 8.0 | 11.0                          | 10  |
| FTC322520SR47MBCA | 0.47                 | 9.0     | 10.5 | 8.0                            | 7.5 | 10.0                          | 9.0 |
| FTC322520SR68MBCA | 0.68                 | 12.5    | 14.5 | 7.0                            | 6.5 | 8.6                           | 7.5 |
| FTC322520S1R0MBCA | 1.0                  | 15.0    | 17.5 | 6.5                            | 6.0 | 7.5                           | 6.5 |
| FTC322520S1R5MBCA | 1.5                  | 24.5    | 28.0 | 5.5                            | 5.0 | 6.3                           | 5.5 |
| FTC322520S2R2MBCA | 2.2                  | 36.5    | 44.0 | 5.0                            | 4.5 | 5.4                           | 4.8 |
| FTC322520S3R3MBCA | 3.3                  | 54.0    | 63.0 | 3.2                            | 2.7 | 4.5                           | 4.0 |
| FTC322520S4R7MBCA | 4.7                  | 82.0    | 95.0 | 2.8                            | 2.4 | 3.5                           | 3.0 |

⑨3030 Series

FTC303012(3.0\*3.0\*1.2mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC303012D100MBCA | 10.0                 | 192     | 220 | 2.3                            | 1.9 | 2.3                           | 2.0 |

FTC303015(3.0\*3.0\*1.5mm)

| P/N               | L0(μH)<br>@(0A) 1MHz | Rdc(mΩ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------|---------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                      | Typical | Max | Typical                        | Max | Typical                       | Max |
| FTC303015D220MBCA | 22.0                 | 580     | 700 | 1.2                            | 1.0 | 1.6                           | 1.2 |

FTC303018(3.0\*3.0\*1.8mm)

| P/N               | L0( $\mu$ H)<br>@(0A) 1MHz | Rdc(m $\Omega$ ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------------|------------------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                            | Typical          | Max | Typical                        | Max | Typical                       | Max |
| FTC303018DR22MBCA | 0.22                       | 5.5              | 7.0 | 10.0                           | 9.0 | 17                            | 16  |
| FTC303018D4R7MBCA | 4.7                        | 72               | 87  | 3.4                            | 3.0 | 4.7                           | 4.2 |

FTC303020(3.0\*3.0\*2.0mm)

| P/N               | L0( $\mu$ H)<br>@(0A) 1MHz | Rdc(m $\Omega$ ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------------|------------------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                            | Typical          | Max | Typical                        | Max | Typical                       | Max |
| FTC303020DR50MBCA | 0.5                        | 9.0              | 12  | 9.0                            | 8.0 | 15                            | 13  |
| FTC303020DR68MBCA | 0.68                       | 13               | 19  | 6.8                            | 6.2 | 8.3                           | 7.6 |
| FTC303020D1R0MBCA | 1.0                        | 14               | 20  | 6.5                            | 6.0 | 8.0                           | 7.3 |
| FTC303020D1R5MBCA | 1.5                        | 19               | 30  | 5.0                            | 4.5 | 5.5                           | 5.0 |
| FTC303020D2R2MBCA | 2.2                        | 37               | 45  | 4.7                            | 4.3 | 6.0                           | 5.5 |
| FTC303020D100MBCA | 10.0                       | 135              | 170 | 2.5                            | 2.0 | 3.8                           | 3.3 |

⑩4040 Series

FTC404012(4.0\*4.0\*1.2mm)

| P/N               | L0( $\mu$ H)<br>@(0A) 1MHz | Rdc(m $\Omega$ ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------------|------------------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                            | Typical          | Max | Typical                        | Max | Typical                       | Max |
| FTC404012S1R0MBCA | 1.0                        | 21               | 25  | 6.3                            | 5.5 | 11                            | 10  |

FTC404030(4.0\*4.0\*3.0mm)

| P/N               | L0( $\mu$ H)<br>@(0A) 1MHz | Rdc(m $\Omega$ ) |     | Heat rating current<br>Irms(A) |     | Saturation current<br>Isat(A) |     |
|-------------------|----------------------------|------------------|-----|--------------------------------|-----|-------------------------------|-----|
|                   |                            | Typical          | Max | Typical                        | Max | Typical                       | Max |
| FTC404030S4R7MGCA | 4.7                        | 41               | 46  | 4.3                            | 4.0 | 7.0                           | 6.0 |

#### Test remarks

Note 1.: All test data is referenced to 25 °C ambient.

Note 2.: Test Condition:1MHz, 1.0Vrms.

Note 3.: Irms:DC current (A) that will cause an approximate  $\Delta T$  of 40 °C.

Note 4.: Isat:DC current (A) that will cause L0 to drop approximately 30%.

Note 5.: Operating Temperature Range -55°C to + 125°C.

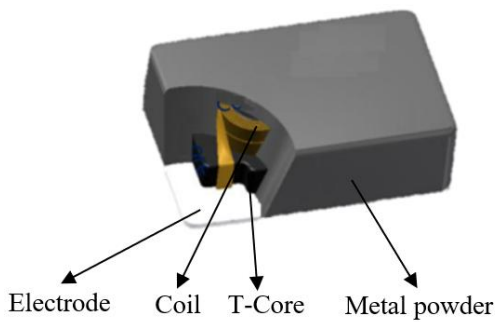
Note 6.: The part temperature (ambient + temp rise) should not exceed 125 under °C the worst case operating conditions. Circuit design,

Note 7.: The rated current as listed is either the saturation current or the heating current depending on which value is lower.

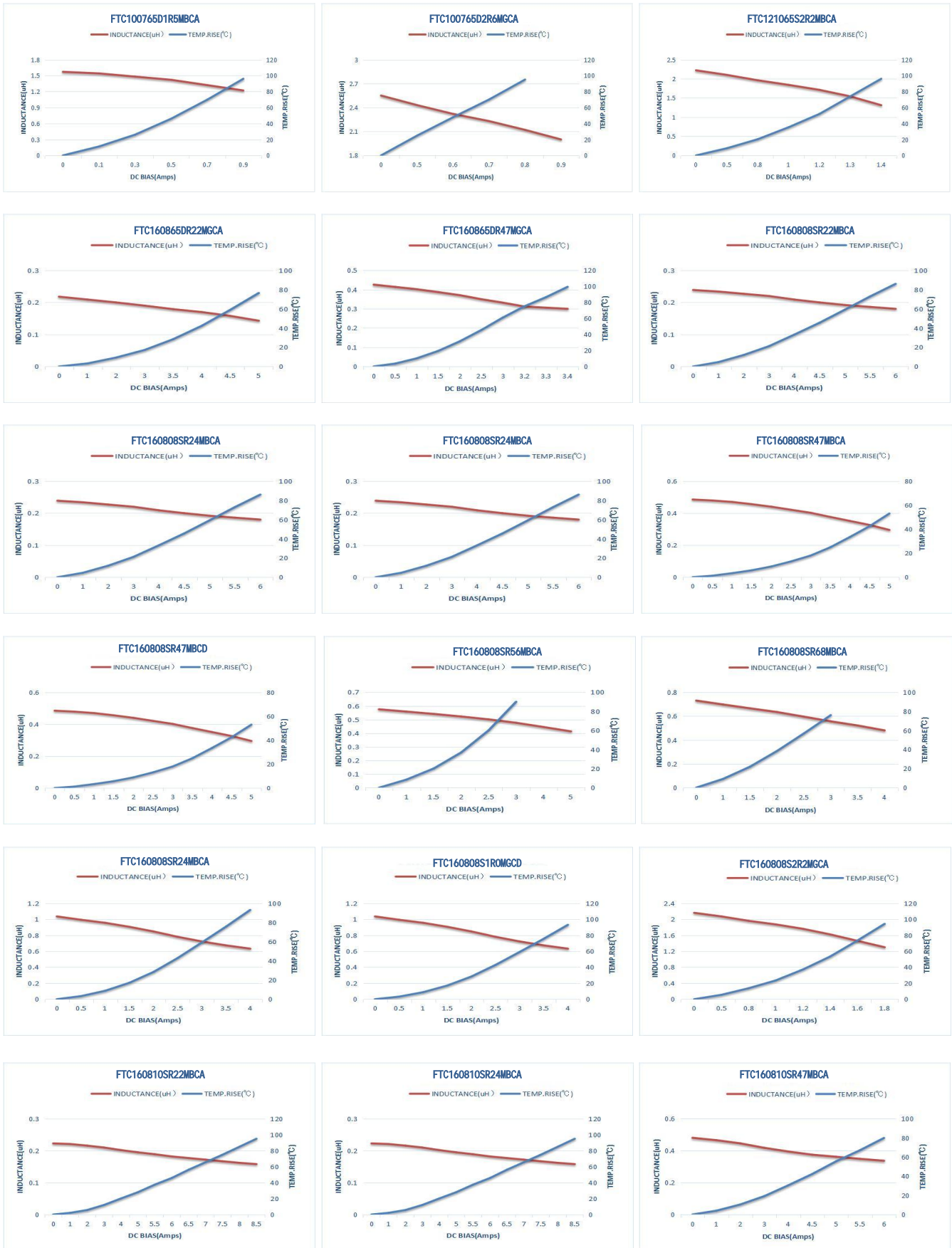
Note 8 : For FTC series inductors,absolute maximum voltage: DC 20V

#### 6. Structure

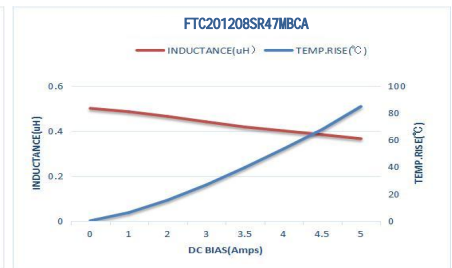
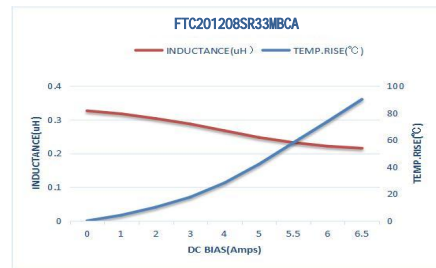
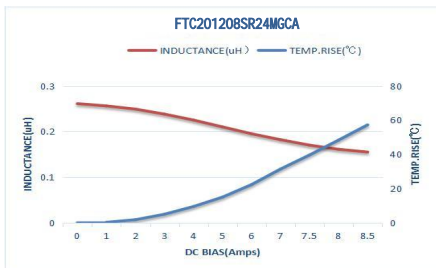
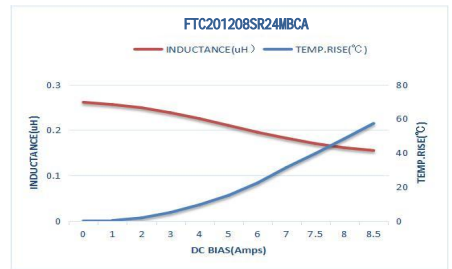
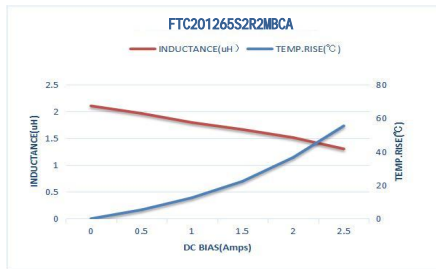
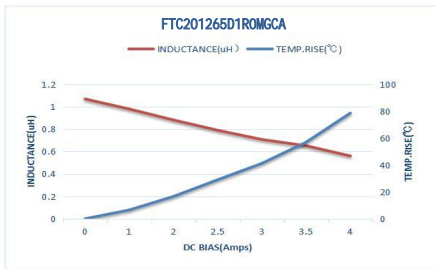
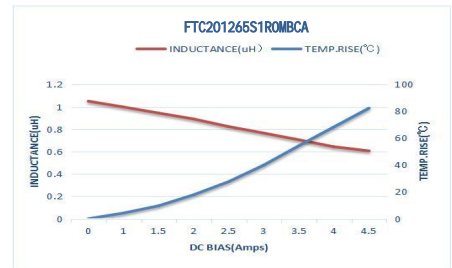
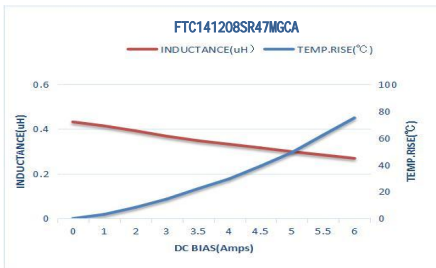
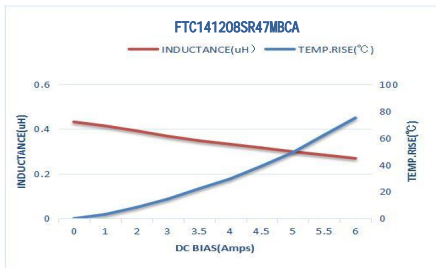
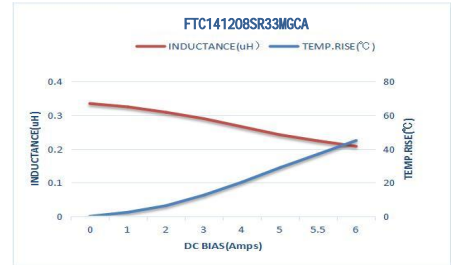
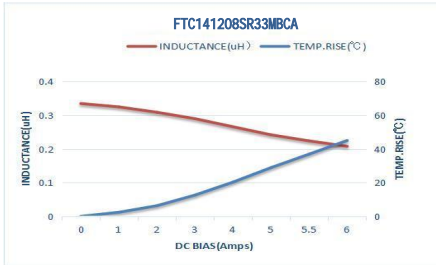
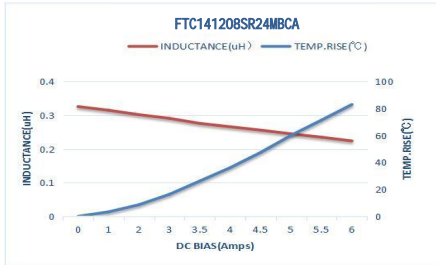
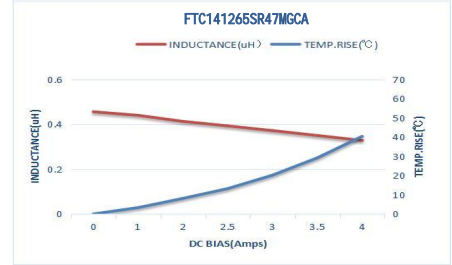
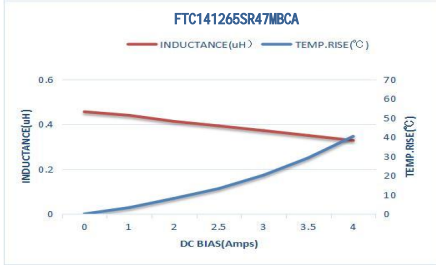
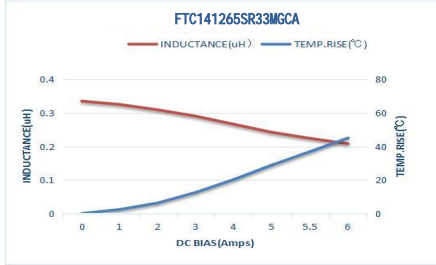
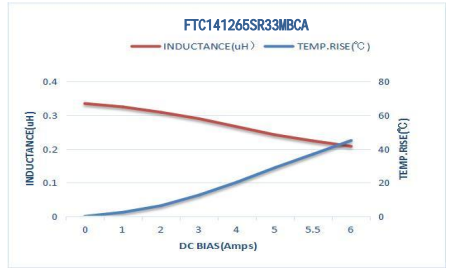
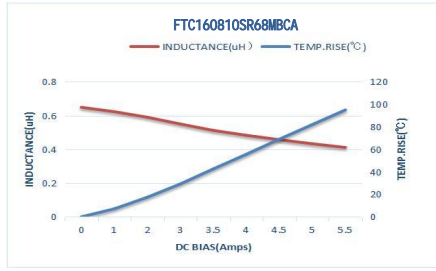
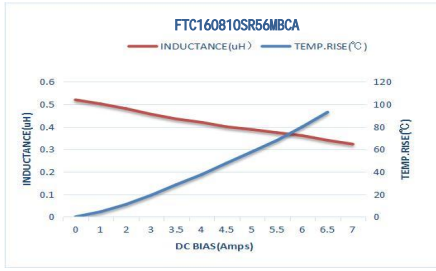
component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.

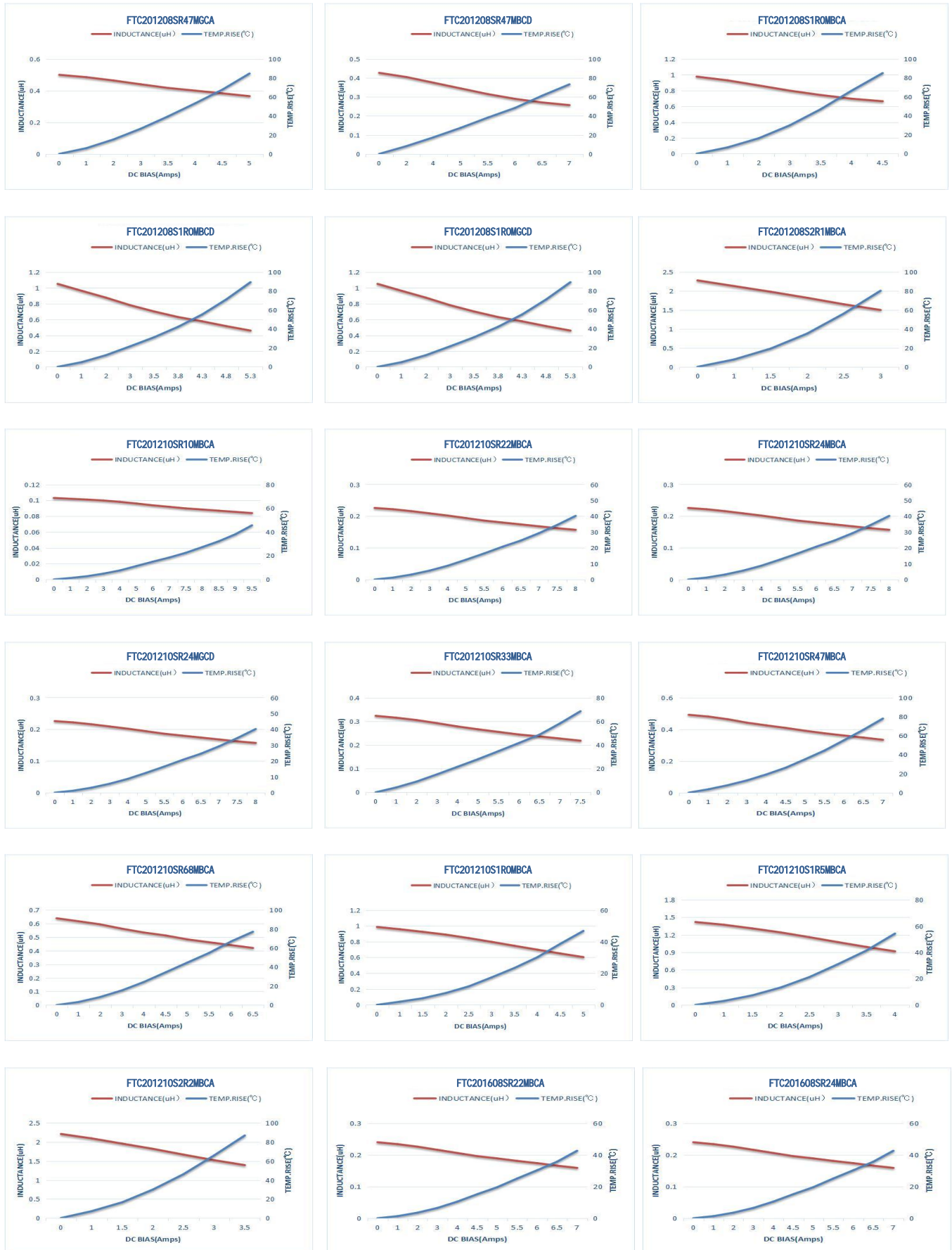


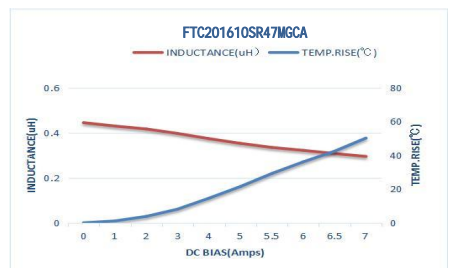
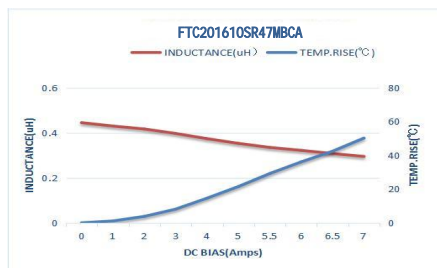
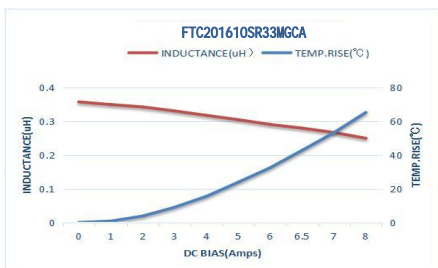
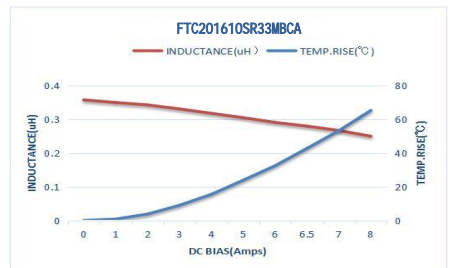
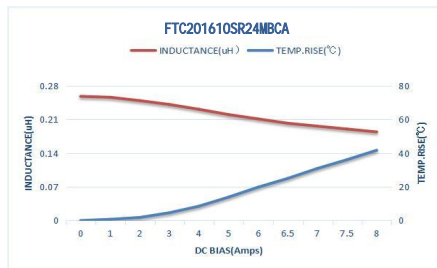
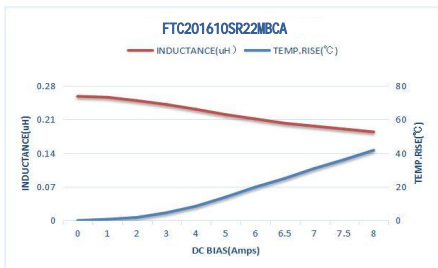
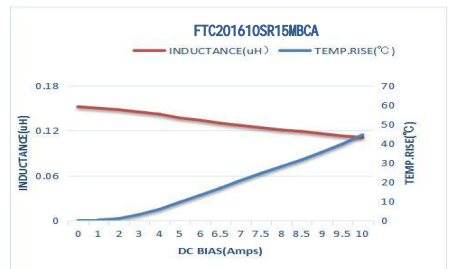
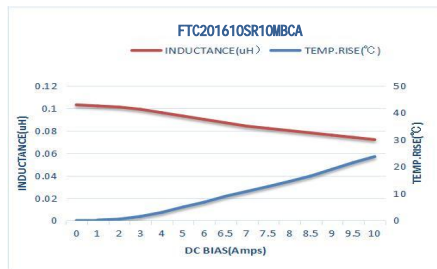
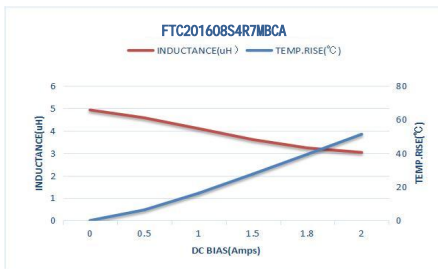
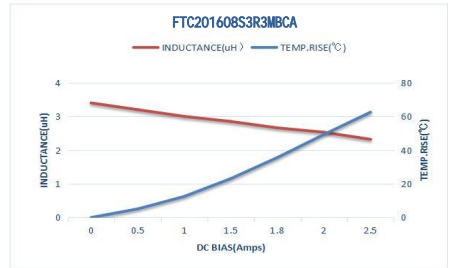
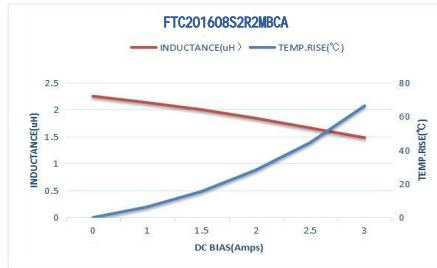
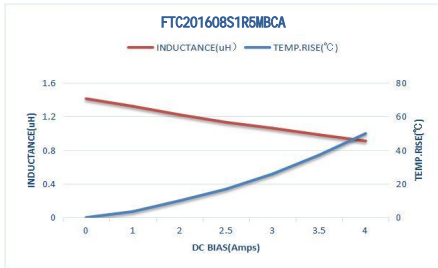
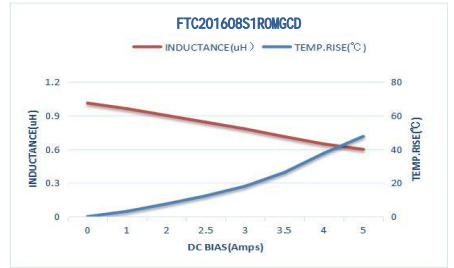
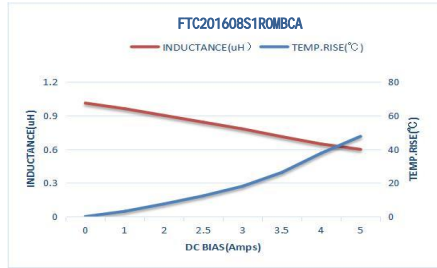
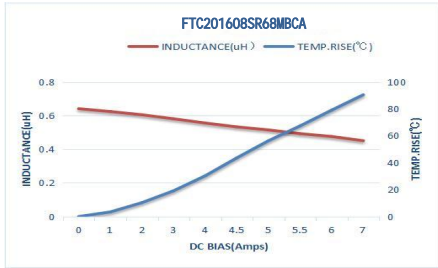
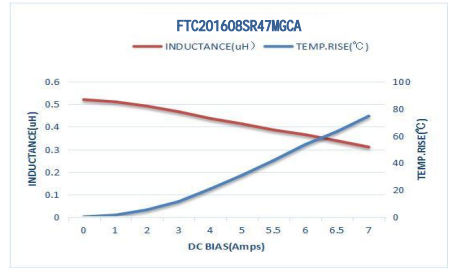
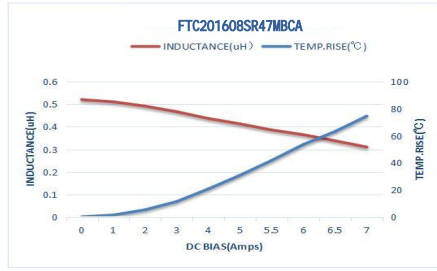
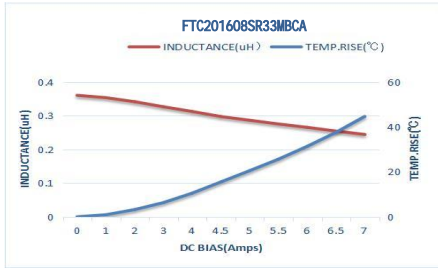
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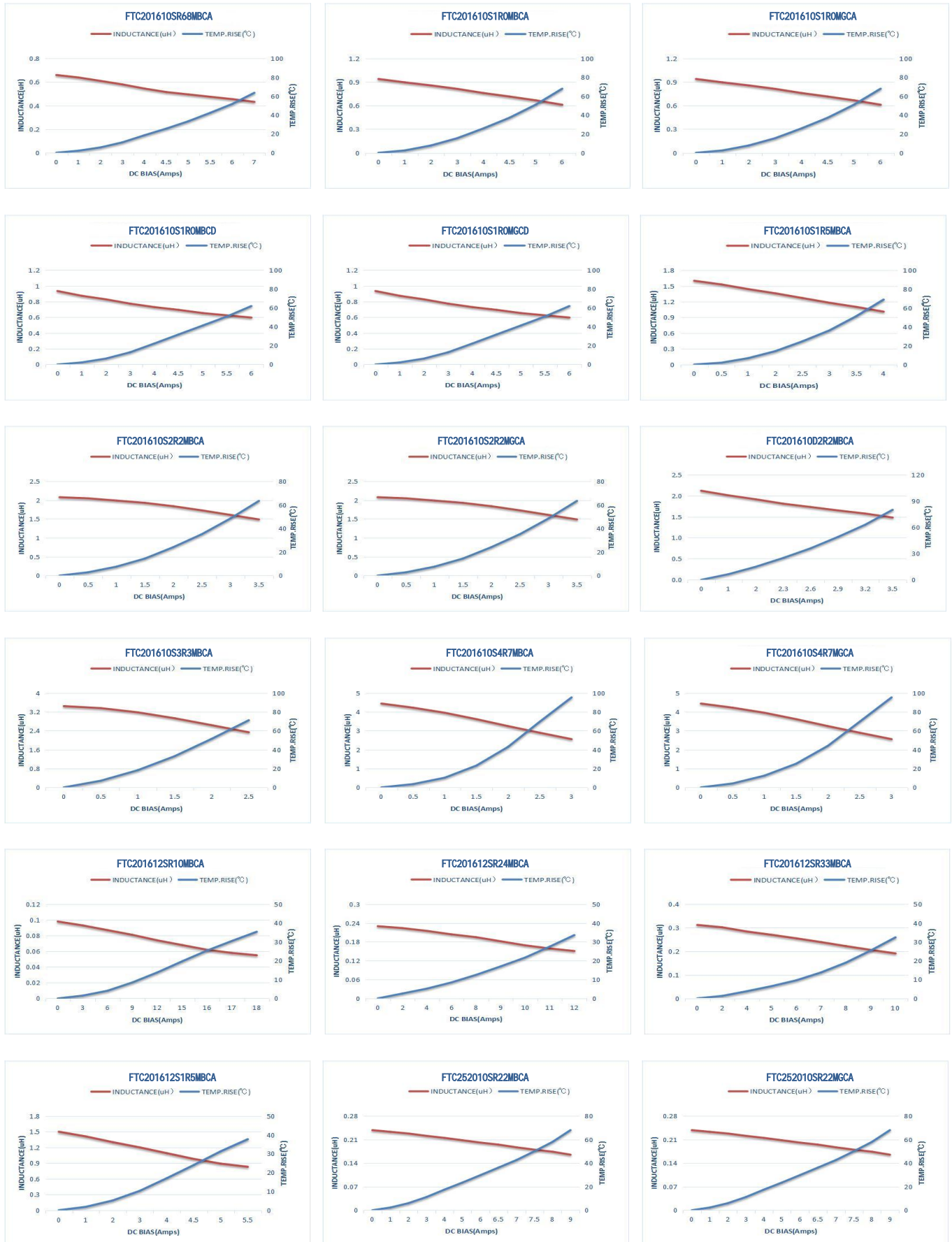




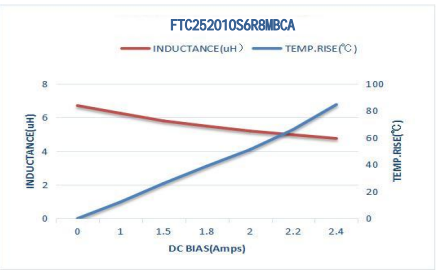
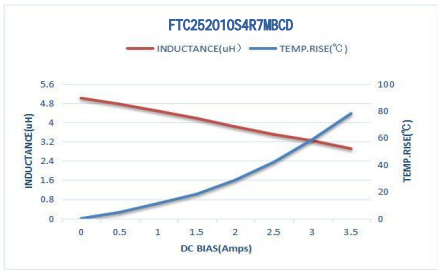
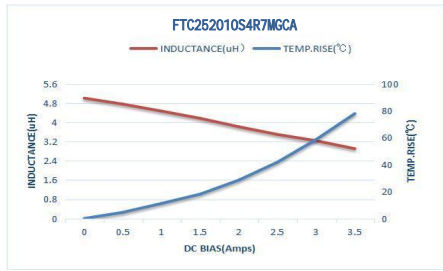
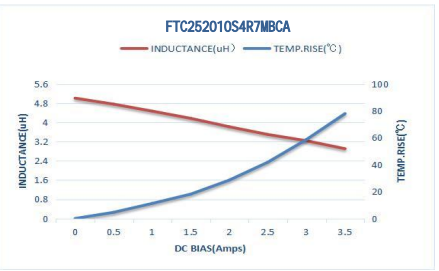
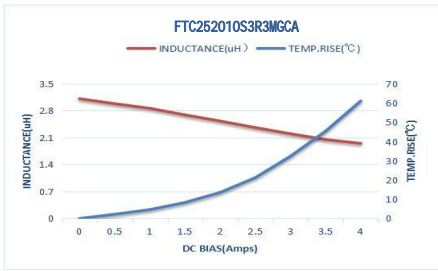
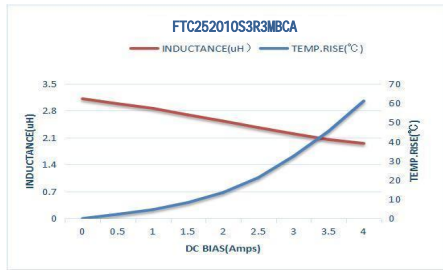
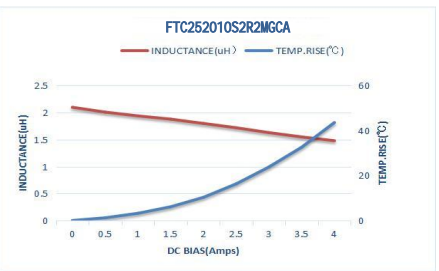
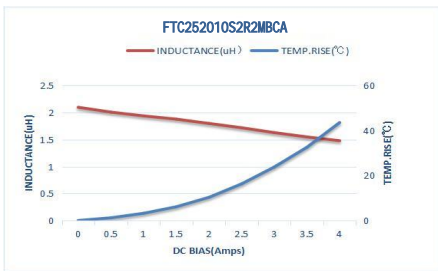
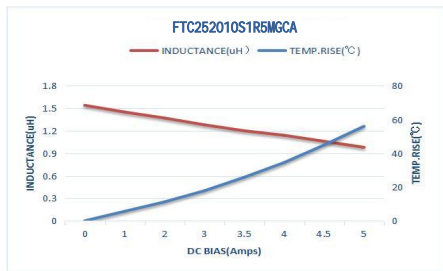
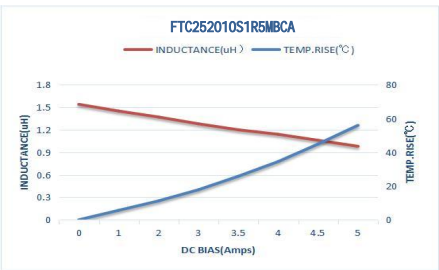
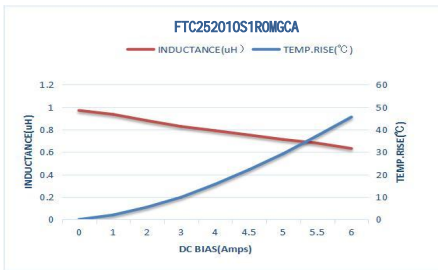
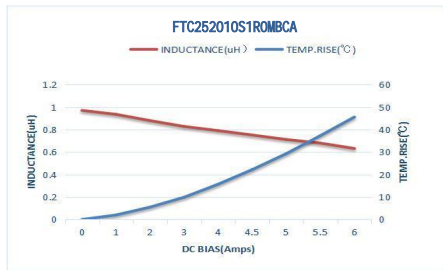
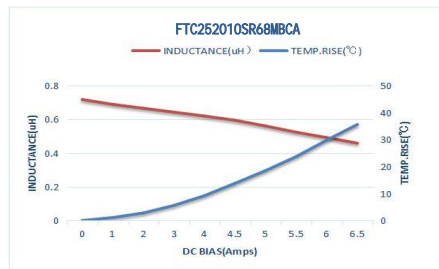
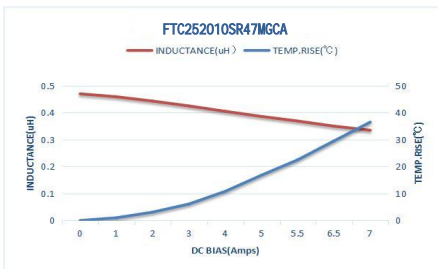
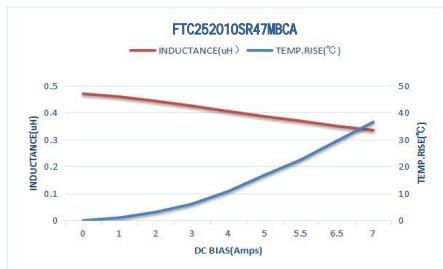
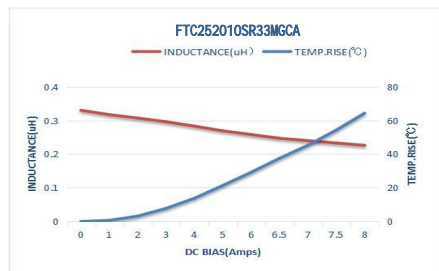
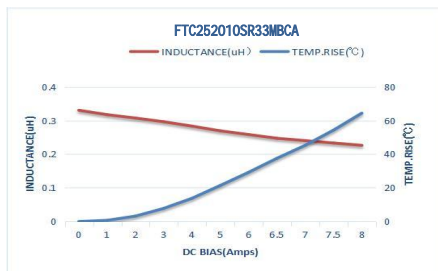
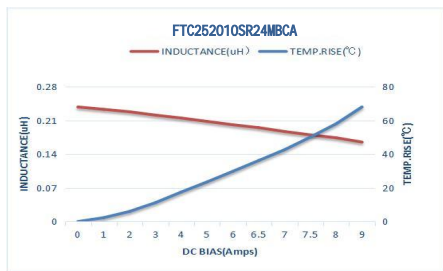


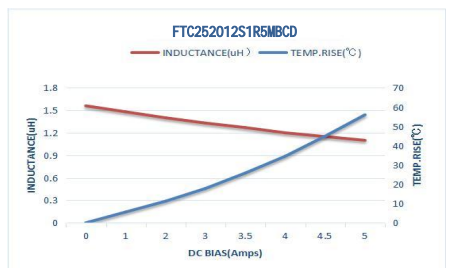
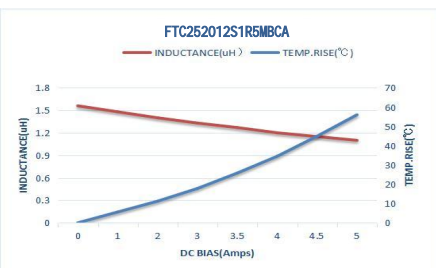
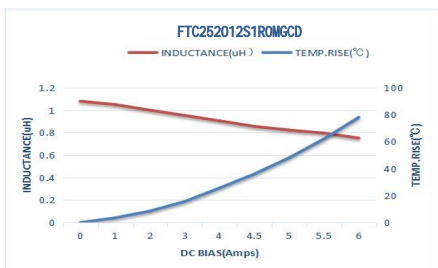
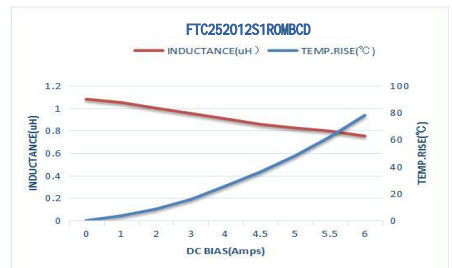
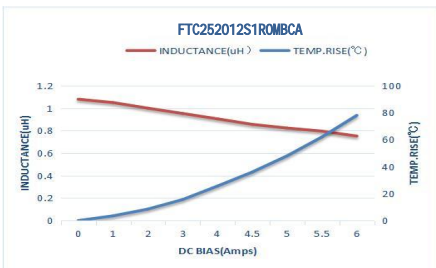
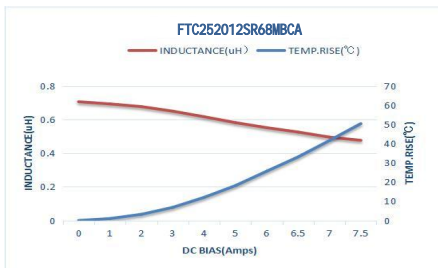
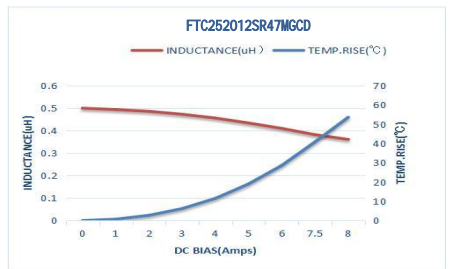
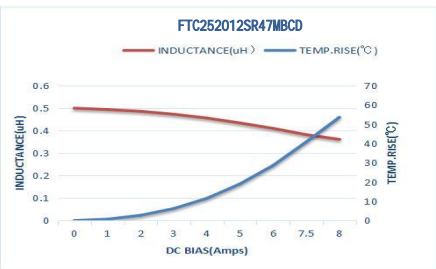
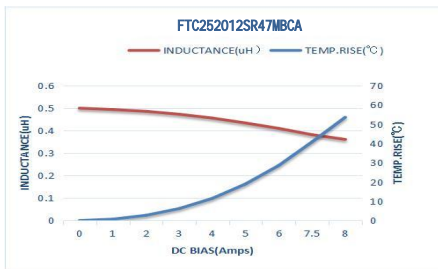
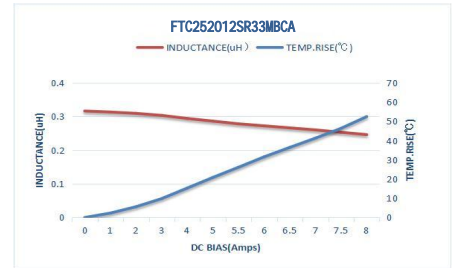
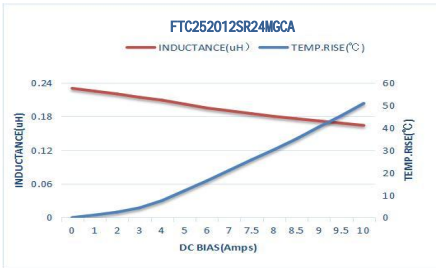
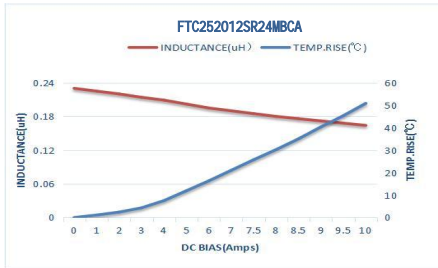
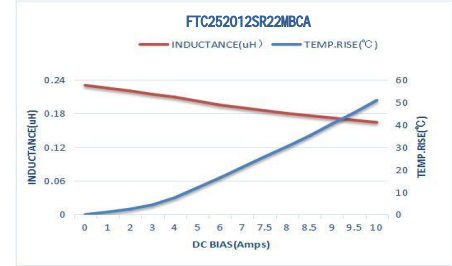
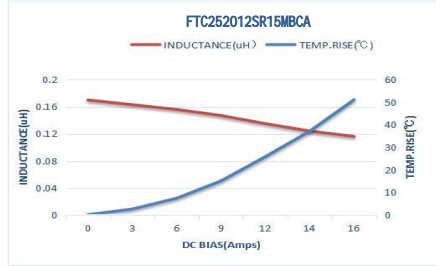
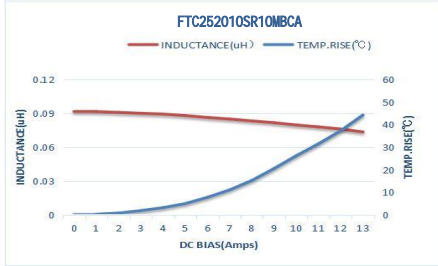
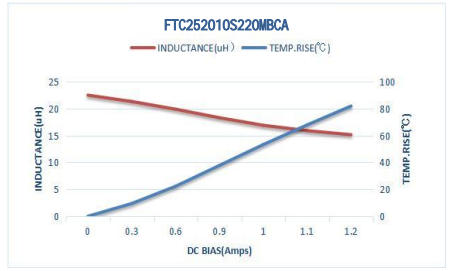
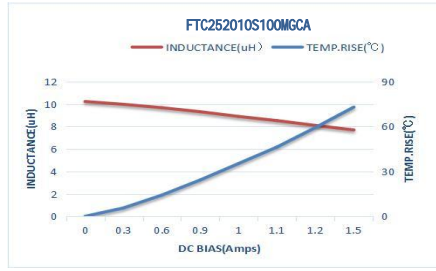
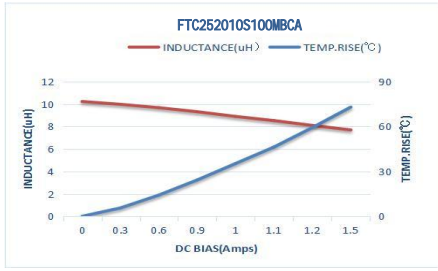


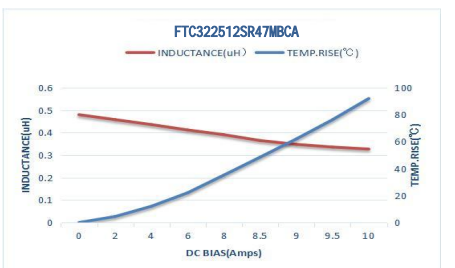
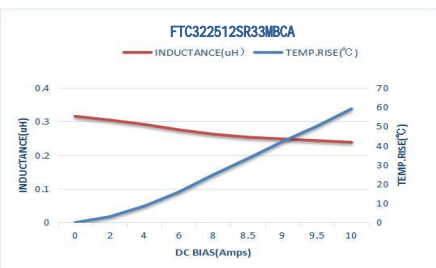
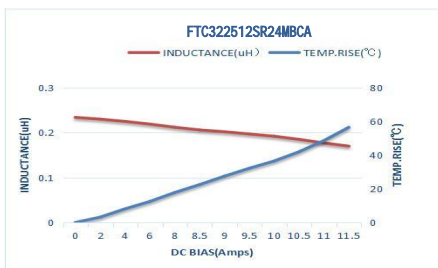
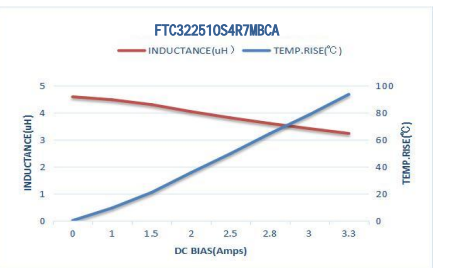
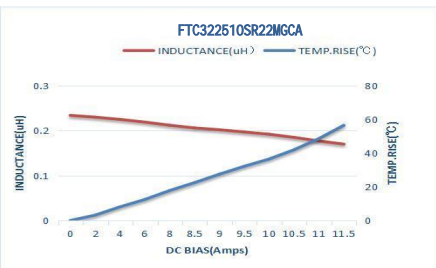
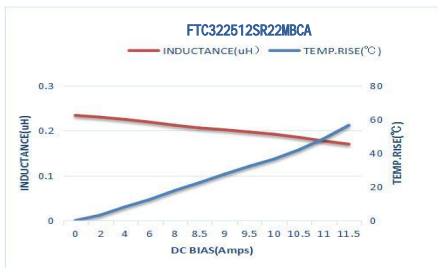
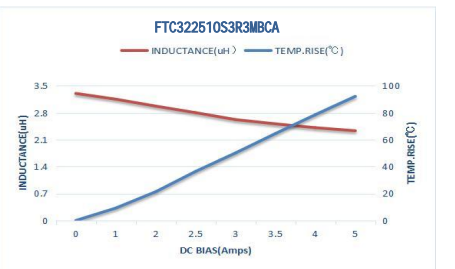
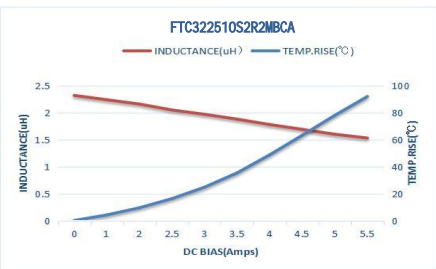
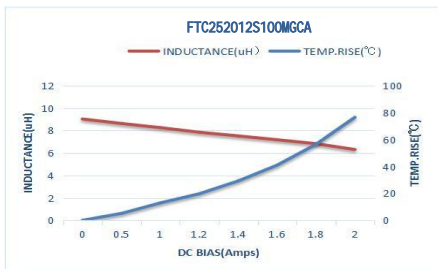
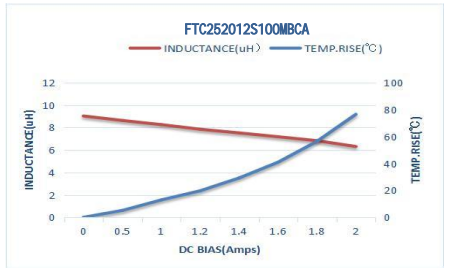
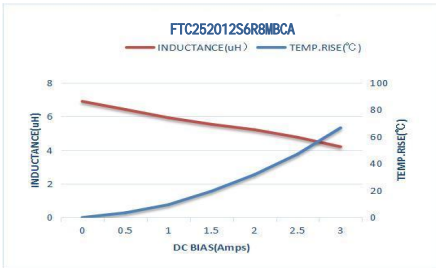
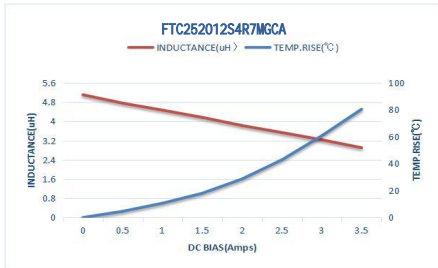
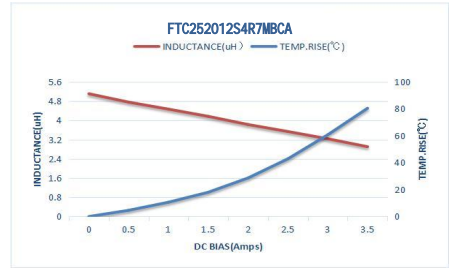
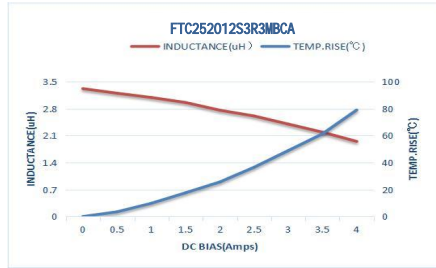
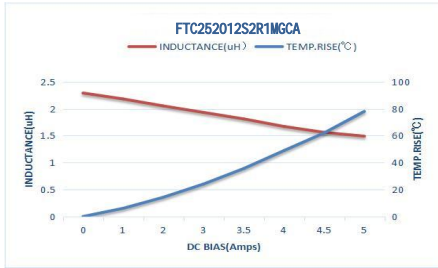
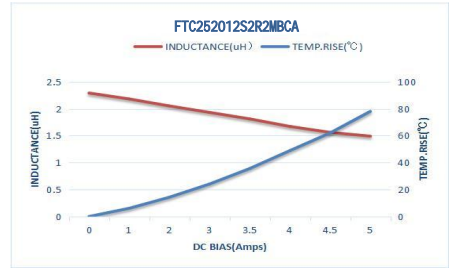
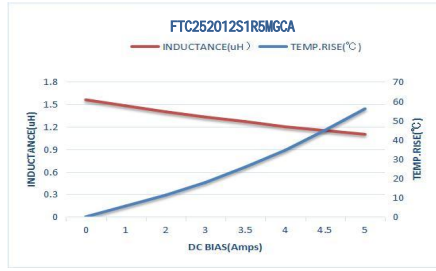
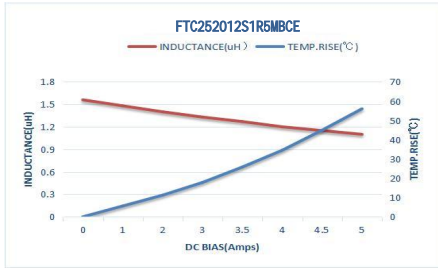


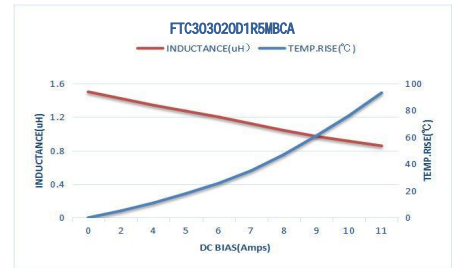
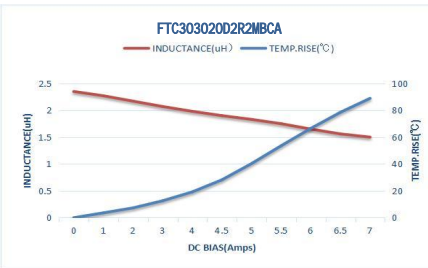
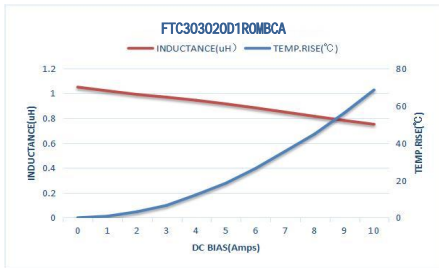
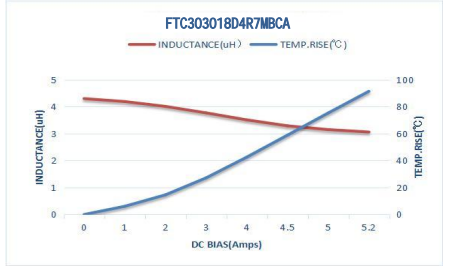
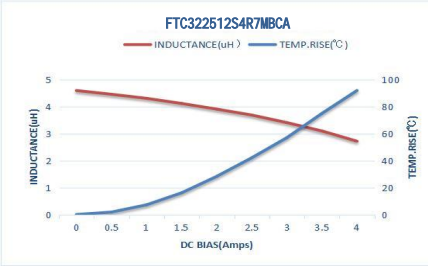
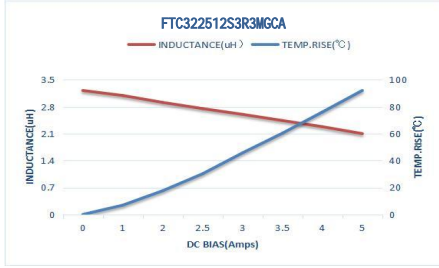
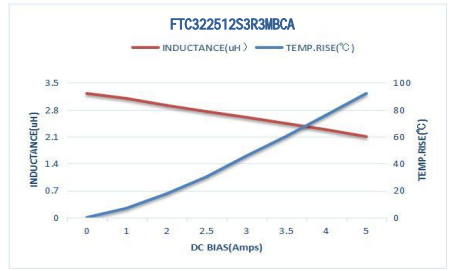
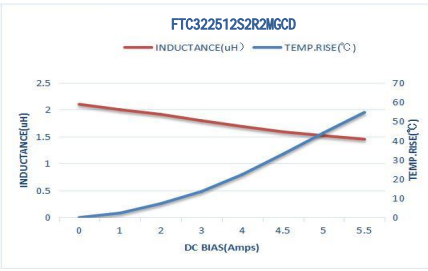
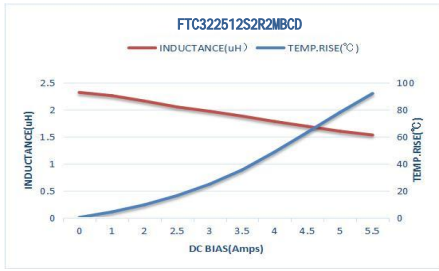
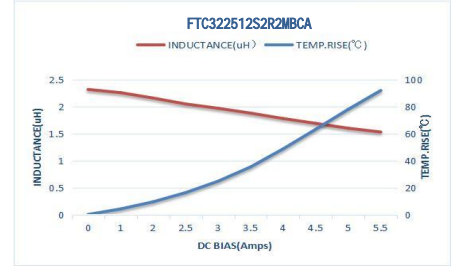
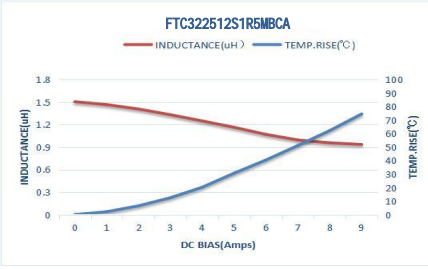
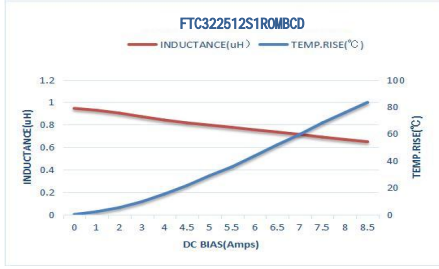
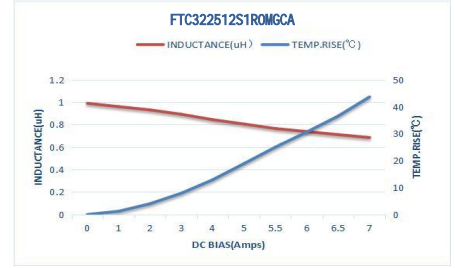
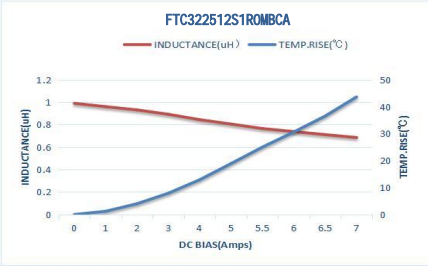
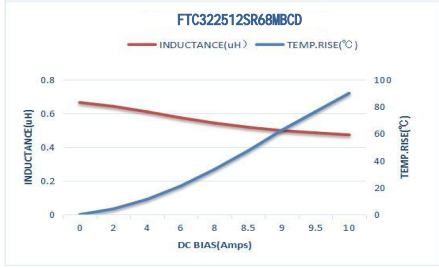
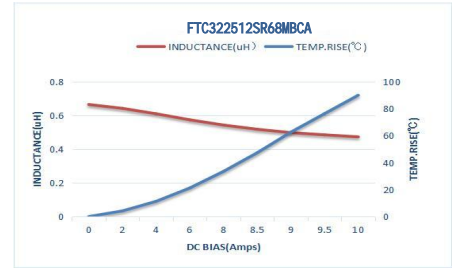
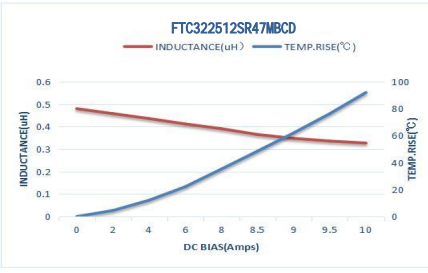
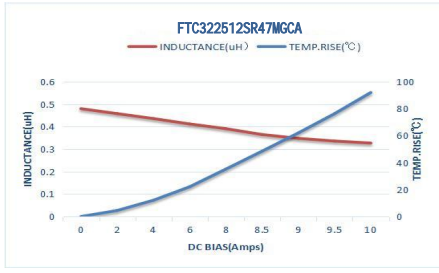














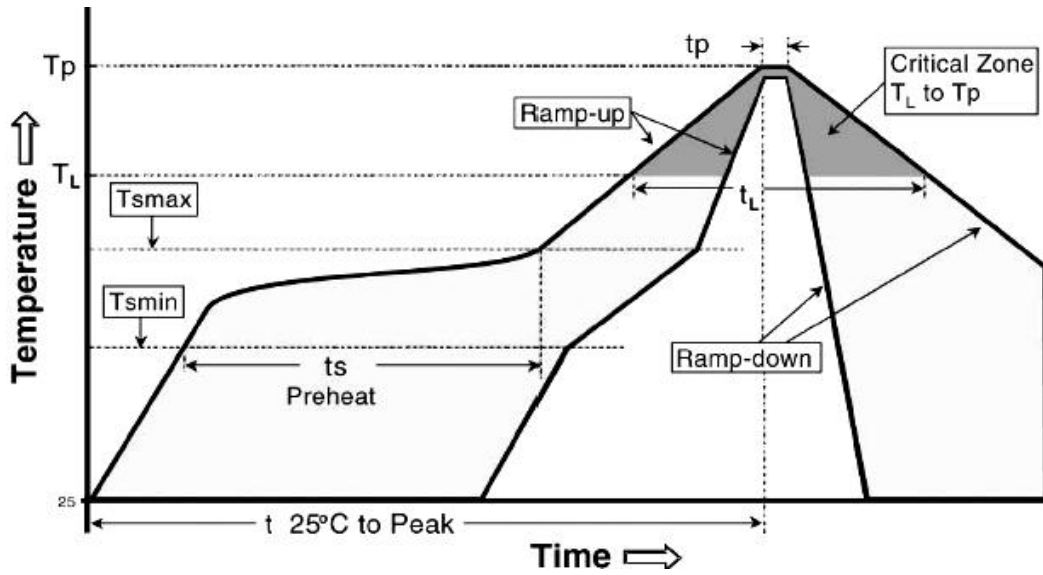
## 8. Reliability

| Item                         | Requirements   | Test Methods and Remarks  |
|------------------------------|--|---|
| Insulation Resistance        | ≥100MΩ   | 100 VDC between inductor coil and The middle of the top surface of the body for 60 seconds.   |
| Solderability                | 90% or more of electrode area shall be coated by new solde.                    | Dip pads in flux .<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free).<br>Solder Temperature: 245±5℃.<br>Immersion Time: (5±1) s.   |
| Resistance to Soldering Heat | No visible mechanical damage.<br>Inductance change: Within ±10.                | Dip pads in flux.<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free).<br>Solder Temperature: 260±5℃.<br>Immersion Time: 10±1sec.  |
| Adhesion of teral electrode  | Strong bond between the pad and the core, without come off PCB.                | Inductors shall be subjected to (260±5)℃ for (20±5)s Soldering in the base whit 0.3mm solder.<br>And then aplombelectrode way plus tax 10 N for (10±1) seconds.   |
| High temperature             | No case deformation or change in appearance.<br>Inductance change: Within ±10% | Temperature: 125±2℃.<br>Time : 1000 hours.<br>Measurement at 24±4 hours after test conclusion.  |
| Low temperature              | No visible mechanical damage.<br>Inductance change: Within ±10%                | Temperature: -40±2℃.<br>Time : 1000 hours.<br>Measurement at 24±4 hours after test conclusion.  |
| Thermal shock                | No visible mechanical damage.<br>Inductance change: Within ±10%                | The test sample shall be placed at (-55±3)℃ and (125±3)℃ for (30±3) , different temperature conversion time is 2~3 utes.<br>The temperature cycle shall be repeated 32 cycles.<br>Placed at room temperature for 2 hours, within 48±4 hours of testing. |
| Temperature characteristic   | Inductance change Pc-b,Pc-d:<br>Within ±20%                                    | a: +20 °C (30~45) →<br>b: -40 °C (30~45) →<br>c: +20 °C (30~45) →<br>d: +125 °C (30~45) →<br>e: +20 °C (30~45)<br>$P_{c-b} = \frac{L_b - L_c}{L_c} \times 100\% \quad ; \quad P_{c-d} = \frac{L_d - L_c}{L_c} \times 100\%$                             |
| Static Humidity              | No visible mechanical damage.<br>Inductance change: Within ±10%                | Inductors shall be subjected to (95±3)%RH .<br>at(60±2)℃ for (1000±4) h.<br>Placed at room temperature for 2 hours, within 48 hours of testing.   |
| Life                         | No visible mechanical damage.<br>Inductance change: Within ±10%                | Inductors shall be store at (85±2)℃ for (1000±4) hours with Irms applied.<br>Placed at room temperature for 2 hours, within 48 hours of testing   |

### 9. Soldering Condition

**(This is for recommendation, please customer perform adjustment according to actual application)**

Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



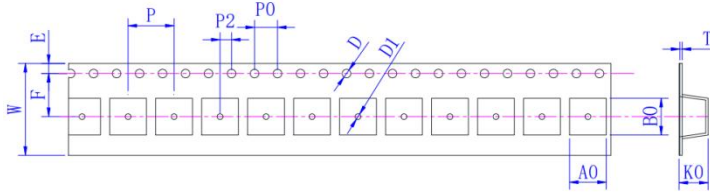
| Profile Feature  | Lead (Pb)-Free solder |
|--|-----------------------|
| Preheat:   |                       |
| Temperature Min ( $T_{smin}$ )   | 150°C                 |
| Temperature Max ( $T_{smax}$ )   | 200°C                 |
| Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )  | 60 -120 seconds       |
| Average ramp-up rate:  |                       |
| ( $T_{smax}$ to $T_p$ )  | 3°C / second max.     |
| Time maintained above :  |                       |
| Temperature ( $T_L$ )  | 217°C                 |
| Time ( $t_L$ )   | 60-150 seconds        |
| Peak Temperature ( $T_p$ )   | 260°C                 |
| Time within $\begin{matrix} +0^\circ\text{C} \\ -5 \end{matrix}$ of actual peak Temperature ( $t_p$ ) <sup>2</sup> | 10 seconds            |
| Ramp-down Rate   | 6°C/second max.       |
| Time 25°C to Peak Temperature  | 8minutes max.         |

Allowed Re-flow times : 2 times

Remark : To avoid discoloration phenomena of chip on terminal electrodes, please use N<sub>2</sub> Re-flow furnace .

## 10. Packing

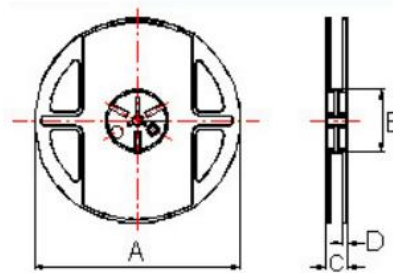
10.1 Dimension of plastic taping: (Unit: mm)



| Series | W<br>±0.30 | A0<br>±0.05 | B0<br>+0.1/-0 | D<br>+0.1/-0 | D1<br>Min | E<br>±0.10 | F<br>±0.10 | K0<br>±0.05 | P0<br>±0.10 | P2<br>±0.10 | P<br>±0.10 | T<br>±0.05 | Qty/Reel |
|--------|------------|-------------|---------------|--------------|-----------|------------|------------|-------------|-------------|-------------|------------|------------|----------|
| 100765 | 8.00       | 0.90        | 1.20          | 1.50         | 1.0       | 1.75       | 3.50       | 0.80        | 4.00        | 2.00        | 4.00       | 0.23       | 5K       |
| 121065 | 8.00       | 1.30        | 1.50          | 1.50         | 1.0       | 1.75       | 3.50       | 0.80        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 160865 | 8.00       | 1.10        | 1.90          | 1.50         | 1.0       | 1.75       | 3.50       | 0.80        | 4.00        | 2.00        | 4.00       | 0.23       | 3K       |
| 160808 | 8.00       | 1.10        | 1.90          | 1.50         | 1.0       | 1.75       | 3.50       | 1.00        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 160810 | 8.00       | 1.10        | 1.90          | 1.50         | 1.0       | 1.75       | 3.50       | 1.20        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 141265 | 8.00       | 1.50        | 1.70          | 1.50         | 1.0       | 1.75       | 3.50       | 0.80        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 141208 | 8.00       | 1.50        | 1.70          | 1.50         | 1.0       | 1.75       | 3.50       | 1.00        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201265 | 8.00       | 1.50        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 0.8         | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201208 | 8.00       | 1.50        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 1.00        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201210 | 8.00       | 1.50        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 1.20        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201608 | 8.00       | 1.90        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 1.00        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201610 | 8.00       | 1.90        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 1.20        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 201612 | 8.00       | 1.90        | 2.30          | 1.50         | 1.0       | 1.75       | 3.50       | 1.40        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 252010 | 8.00       | 2.40        | 2.80          | 1.50         | 1.0       | 1.75       | 3.50       | 1.20        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 252012 | 8.00       | 2.40        | 2.80          | 1.50         | 1.0       | 1.75       | 3.50       | 1.40        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 322510 | 8.00       | 2.90        | 3.50          | 1.50         | 1.0       | 1.75       | 3.50       | 1.20        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 322512 | 8.00       | 2.90        | 3.50          | 1.50         | 1.0       | 1.75       | 3.50       | 1.40        | 4.00        | 2.00        | 4.00       | 0.23       |          |
| 303018 | 12.0       | 3.40        | 3.40          | 1.50         | 1.0       | 1.75       | 5.50       | 2.00        | 4.00        | 2.00        | 8.00       | 0.35       |          |
| 303020 | 12.0       | 3.40        | 3.40          | 1.50         | 1.0       | 1.75       | 5.50       | 2.20        | 4.00        | 2.00        | 8.00       | 0.35       |          |

10.2 Dimension of Reel : (Unit: mm)

| Type | A<br>±0.5 | B<br>±0.5 | C<br>±0.5 | D<br>±1 |
|------|-----------|-----------|-----------|---------|
| All  | 178       | 60        | 12        | 1.5     |



## 11. Note

11.1 recommend products store in warehouse with temperature between 15 to 35°C under humidity between 25 to 75%RH.

Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.

11.2 Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.

11.3 Storage conditions as below are inappropriate:

- a. Stored in high electrostatic environment
- b. Stored in direct sunshine, rain, snow or condensation.
- c. Exposed to sea wind or corrosive gases, such as Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>2</sub>, etc.

11.4 The products are used in circuit board thickness greater than 1.6mm. If customers use less than the thickness of the circuit board that you should confirm with the company, in order to recommend a more suitable product.

**12. Record**

| Version | Description   | Page | Date        | Amended by | Checked by |
|---------|---|------|-------------|------------|------------|
| A0      | First version   | 1~23 | Nov.21.2022 | Charles    | Charles    |
| A1      | newly increased : FTC303020D1R5MBCA<br>FTC252010S6R8MBCA FTC252010S220MBCA<br>FTC322510S2R2MBCA FTC201208SR47MBCD   | 1~23 | Dec.14.2022 | Charles    | Charles    |
| A2      | newly increased : FTC303018D4R7MBCA<br>FTC322510S3R3MBCA FTC322510S4R7MBCA  | 1~23 | Dec.29.2022 | Charles    | Charles    |
| A3      | newly increased : FTC141207SR24MBCA<br>FTC141207SR47MBCA FTC201612SR47MBCA<br>FTC303018DR22MBCA FTC322512SR10MBCA<br>FTC322510SR68MBCA  | 1~24 | Jan.18.2023 | Charles    | Charles    |
| A4      | newly increased: FTC322512SR10MBCA<br>FTC322510SR68MBCA   | 1~24 | Feb.10.2023 | Charles    | Charles    |
| A5      | newly increased: FTC252010SR47MBCD<br>FTC322510S1R0MBCA FTC322512S6R8MBCA<br>FTC322512S100MBCA  | 1~24 | Feb.23.2023 | Charles    | Charles    |
| A6      | newly increased: FTC201208SR68MBCA<br>FTC201612S2R2MBCA FTC252008S1R0MBCA<br>FTC252008S2R2MBCA FTC252012SR68MBCD<br>FTC322510SR33MBCA FTC322510SR47MBC<br>A<br>FTC322510S1R5MBCA FTC322510S100MBCA<br>FTC303018D1R5MBCA | 1~24 | Mar.31.2023 | Charles    | Charles    |
| A7      | newly increased: FTC322510S6R8MBCA<br>FTC303012D100MBCA FTC303020DR50MBC<br>A<br>FTC303020DR68MBCA FTC252075S2R2MGCA<br>FTC201208S4R7MBCA   | 1~25 | Apr.28.2023 | Charles    | Charles    |
| A8      | newly increased: FTC303015D220MBCA<br>FTC303020D100MBCA FTC404012S1R0MBCA<br>FTC404030S4R7MGCA  | 1~26 | Apr.28.2023 | Charles    | Charles    |

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