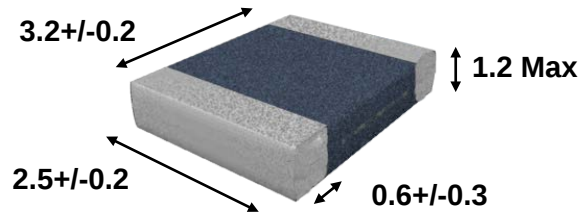


# TDK Thin Film Power inductor TFM322512 for Automotive

## FEATURES

- The thickness of this product is 1.2mm,and it is very thin compared with other same kind of products.
- This product consists of original fine copper pattern with micro-processing technology .
- This product corresponds to ROHS.

## PRODUCTS SHAPE & DIMENSIONS



## APPLICATIONS

- For Automotive usage

## OPERATING TEMPERATURE RANGE

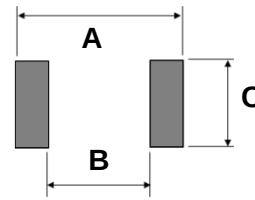
-55 to 150deg.C  
(Including self-temperature rise : 40deg.C)

## PRODUCT IDENTIFICATIONS

**TFM 3225 12 ALM A R47 M T AA**  
(1) (2) (3) (4) (5) (6) (7) (8) (9)

- (1) Series name
- (2) Product size ( Length , Width )
- (3) Product height
- (4) Product identification
- (5) Automotive usage grade
- (6) Inductance value (R47 : 0.47μH )
- (7) Inductance tolerance ( M : ±20% )
- (8) Packing style ( T : Taping )
- (9) Control mark

## RECOMMENDED RAND PATTERN



|           | A<br>[mm] | B<br>[mm] | C<br>[mm] |
|-----------|-----------|-----------|-----------|
| TFM322512 | 3.6       | 2.0       | 2.5       |

## ELECTRICAL CHARACTERISTICS

| Identification       | Inductance<br>[μH] | Rated<br>Voltage<br>[V] | DC Resistance<br>[mOhm] |      | Isat [A] |      | Itemp [A] |      |
|----------------------|--------------------|-------------------------|-------------------------|------|----------|------|-----------|------|
|                      |                    |                         | Max                     | Typ. | Max      | Typ. | Max.      | Typ. |
| TFM322512ALMAR10MTAA | 0.10+/-20%         | 20                      | 8                       | 3    | 13       | 14   | 8.5       | 13   |
| TFM322512ALMAR15MTAA | 0.15+/-20%         | 20                      | 9                       | 5    | 10       | 11   | 8.0       | 11   |
| TFM322512ALMAR22MTAA | 0.22+/-20%         | 20                      | 11                      | 6    | 9.5      | 10   | 7.3       | 9.5  |
| TFM322512ALMAR33MTAA | 0.33+/-20%         | 20                      | 15                      | 10   | 7.6      | 8.4  | 6.2       | 7.6  |
| TFM322512ALMAR47MTAA | 0.47+/-20%         | 20                      | 21                      | 16   | 6.9      | 7.6  | 5.3       | 6.1  |
| TFM322512ALMAR68MTAA | 0.68+/-20%         | 20                      | 30                      | 23   | 5.5      | 6.1  | 4.4       | 5.0  |
| TFM322512ALMA1R0MTAA | 1.0 +/-20%         | 20                      | 37                      | 30   | 4.6      | 5.1  | 4.0       | 4.4  |
| TFM322512ALMA1R5MTAA | 1.5 +/-20%         | 20                      | 57                      | 46   | 4.0      | 4.5  | 3.2       | 3.5  |
| TFM322512ALMA2R2MTAA | 2.2 +/-20%         | 20                      | 77                      | 64   | 3.3      | 3.6  | 2.7       | 3.0  |
| TFM322512ALMA3R3MTAA | 3.3 +/-20%         | 20                      | 113                     | 97   | 2.5      | 2.8  | 2.3       | 2.5  |
| TFM322512ALMA4R7MTAA | 4.7 +/-20%         | 20                      | 151                     | 127  | 2.2      | 2.5  | 1.9       | 2.1  |
| TFM322512ALMA6R8MTAA | 6.8 +/-20%         | 20                      | 260                     | 220  | 1.8      | 2.1  | 1.4       | 1.6  |
| TFM322512ALMA100MTAA | 10 +/-20%          | 20                      | 360                     | 305  | 1.6      | 1.8  | 1.2       | 1.4  |

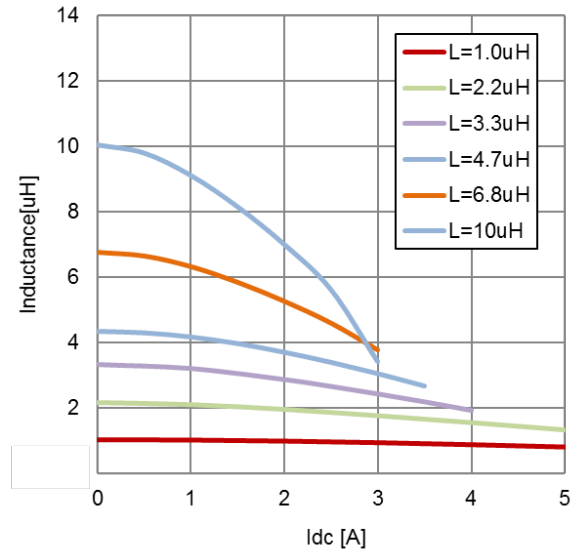
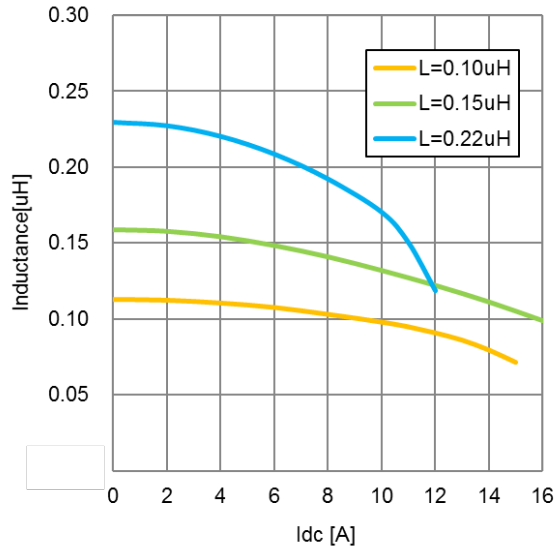
Isat : Depend on the Inductance Saturation. ( -30% Reduction from Initial L Value/ Test Freq. 1MHz )

Itemp : Depend on the Self Temperature Rise. ( 40deg.C Typ. )

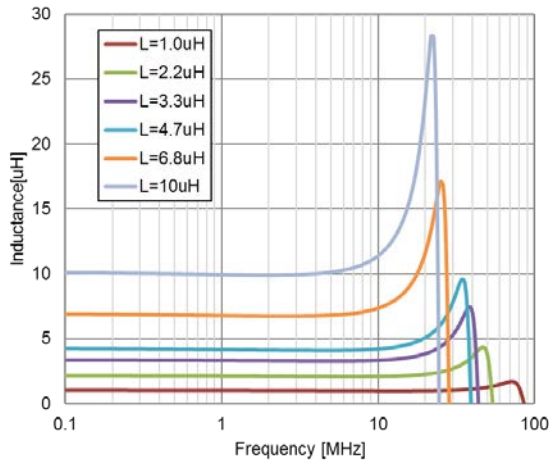
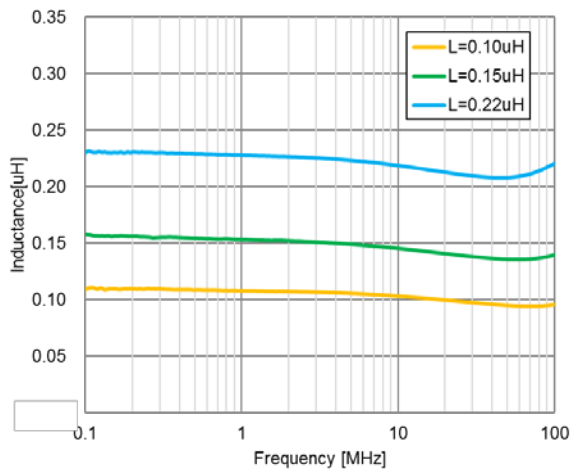
Rated Current: The less value which is Isat Max or Itemp Max.

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## INDUCTANCE VS.DC SUPERPOSITION CHARACTERISTICS ( 1MHz )



## L - FREQUENCY CHARACTERISTICS



## R - FREQUENCY CHARACTERISTICS

