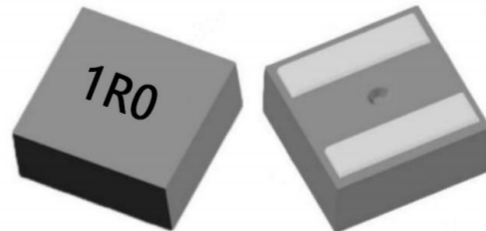


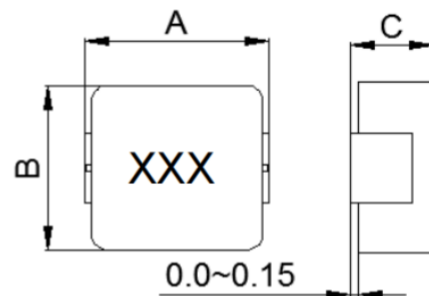
**SMD Molding Power Inductor**

**◆ Features**

- 1、Soft saturation
- 2、High current, low DCR, high efficiency
- 3、High reliability.
- 4、100% Lead(Pb)-Free and RoHS compliant.
- 5、Operating temperature  $-40^{\circ}\text{C}\sim+125^{\circ}\text{C}$   
(Including self - temperature rise)

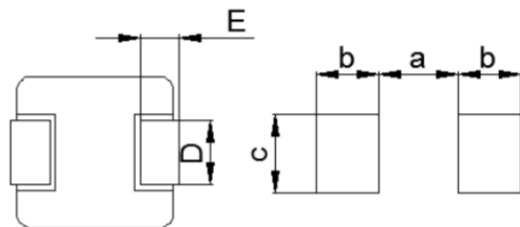

**◆ Applications**

- 1、Note PC power system, incl. IMVP-6
- 2、DC/DC converter
- 3、Pad,Smart phone.
- 4、Portable gaming devices, Smart wear, Wi-Fi module.
- 5、Notebooks, VR, AR
- 6、LCD displays, HDDs, DVCs, DSCs, etc
- 7、Baseband power supply, Amplifier, Power management,  
Module power supply, Camera power manageme.


**◆ Lead Free Part Numbering**

**SLO 0412 T 1R0 M S T**  
**(1) (2) (3) (4) (5) (6) (7)**

- (1) Series Type
- (2) Dimension: A X C
- (3) Material Code
- (4) Inductance: 1R0=1.0 $\mu\text{H}$  ;  
2R2=2.2 $\mu\text{H}$ ;
- (5) Inductance Tolerance: M= $\pm 20\%$ , Y= $\pm 30\%$
- (6) Company Code
- (7) Packaging : packed in embossed carrier tape


**◆ Dimensions**

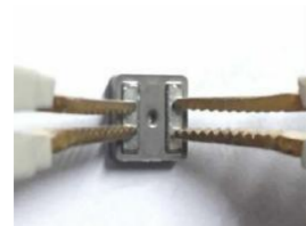
| Series   | A $\pm 0.35(\text{mm})$ | B $\pm 0.25(\text{mm})$ | C $\pm 0.2(\text{mm})$ | D $\pm 0.3(\text{mm})$ | E $\pm 0.3(\text{mm})$ | a Typ | b Typ | c Typ |
|----------|-------------------------|-------------------------|------------------------|------------------------|------------------------|-------|-------|-------|
| SLO0412T | 4.5                     | 4.2                     | 1.0                    | 3.4                    | 0.8                    | 2.2   | 1.5   | 2.5   |

**◆ Specification**

| Part Number     | INDUCTANCE<br>Lo( $\mu$ H) | DCR (m $\Omega$ ) @25 $^{\circ}$ C |      | Test a<br>condition | Isat (A) | Irms (A) |
|-----------------|----------------------------|------------------------------------|------|---------------------|----------|----------|
|                 |                            | Max.                               | Typ. |                     | Typ.     | Typ.     |
| SLO0412T Series |                            |                                    |      |                     |          |          |
| SLO0412TR47MTT  | 0.47                       | 21                                 | 19   | 100KHz/0.1V         | 6.8      | 6.0      |
| SLO0412TR68MTT  | 0.68                       | 36                                 | 32   | 100KHz/0.1V         | 6.0      | 4.7      |
| SLO0412T1R0MTT  | 1.0                        | 47                                 | 43   | 100KHz/0.1V         | 5.5      | 4.5      |
| SLO0412T1R5MTT  | 1.5                        | 75                                 | 68   | 100KHz/0.1V         | 4.0      | 3.25     |
| SLO0412T2R2MTT  | 2.2                        | 85                                 | 79.3 | 100KHz/0.1V         | 3.0      | 2.75     |
| SLO0412T3R3MTT  | 3.3                        | 160                                | 145  | 100KHz/0.1V         | 2.7      | 2.0      |
| SLO0412T4R7MTT  | 4.7                        | 200                                | 175  | 100KHz/0.1V         | 2.2      | 1.8      |

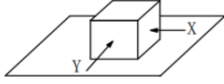
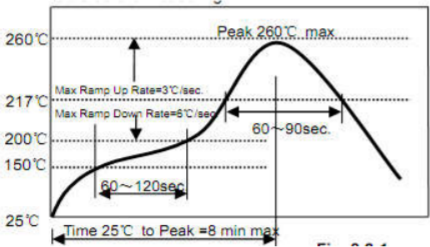
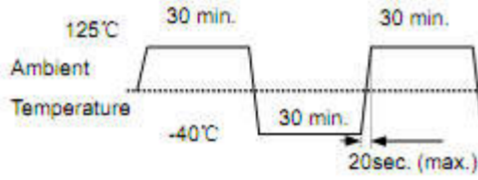
**NOTES:**

1. Test frequency : L : 100KHz /0.1V;
2. All test in 25  $^{\circ}$ C temperature.
3. Testing Instrument:L:HP4285A,CH11025,CH3302,CH1320,CH1320S LCR METER / Rdc:CH16502, MICRO OHMMETER.
4. Heating Rating Current (Irms) will cause the coil temperature rise of 40 $^{\circ}$ C approximately ( $\Delta$ t) ;
5. Saturation Current (Isat ) will cause L0 to drop 30% approximately.
6. The part temperature (ambient + temp rise) should not exceed 125 $^{\circ}$ C under the worst case operating condition. Circuit design, component,PCB trace size and thickness airflow and other cooling provisions all could affect the part temperature. Part temperature should be verified in the end application.
7. Special inquiries besides the above common used types can be met on your requirement.n.



DCR Test

**◆ Reliability Test**

| Mechanical Reliability          |   |  |
|---------------------------------|---|--|
| Item                            | Specification and Requirement   | Test Method  |
| Terminal Strength               | No removal or split of the termination or other defects shall occur.<br><br>Fig.6.1-1    | 1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.6.1-1) using eutectic solder. Then apply a force in the direction of the arrow.<br>2) 10N force.<br>3) Keep time: 5±2s   |
| High Temperature                | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1) Storage Temperature :125+/-5<br>2) Duration : 96 ±4 Hours<br>3) Recovery : then measured at room ambient temperature after placing 24 hours.  |
| Low Temperature                 | 1. No visible mechanical damage<br>2. Inductance change: Within ±10%  | 1) Temperature and time: -40±5<br>2) Duration: 96±4 hours<br>3) TRecovery : then measured at room ambient temperature after placing 24 hours.  |
| Vibration test                  | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1) Frequency range:10HZ~55HZ~10HZ<br>2) Amplitude:1.5mm p-p<br>3) Direction:X,Y,Z<br>4) Time:1 minute/cycle,2hours per axis  |
| High Temperature Storage Tested | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1)Storage Temperature :60+/-2°C<br>2) Relative Humidity :90-95%<br>3) Duration : 96 ±4 Hours<br>4)Recovery : then measured at room ambient temperature after placing 24 hours.   |
| Resistance to Soldering Heat    | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%<br>              | 1) Re-flowing Profile: Please refer to Fig.6.6-1<br>2) Test board thickness: 1.0mm<br>3) Test board material: glass epoxy resin<br>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring                                  |
| Thermal Shock                   | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%<br><br>Fig.6.7-1 | 1) Temperature and time: -40±3 for 30±3 min→105 for 30±3min, please refer to Fig.6.7-1.<br>2) Transforming interval: Max,3 minute<br>3) Tested cycle: 100 cycles<br>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring |

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