WIP201612P Series Engineering Specification

1. Scope

Feature

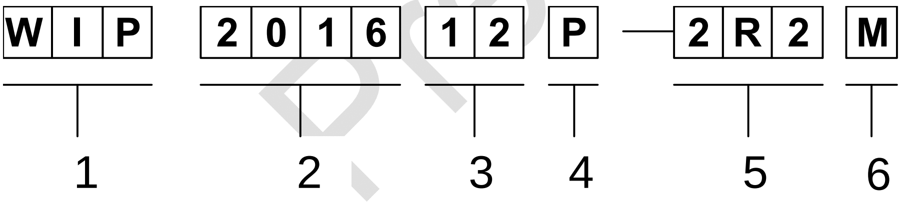
- Low Profile: 2.0 mm × 1.6 mm × 1.2 mm.
- Magnetically shielded structure to accomplish high resolution in EMC protection.
- Halogen free, Lead Free, RoHS Compliance.

Applications

WIP201612P series is generic applied in portable DC to DC converter line.

- Mobile Phones
- HDDs,
- DSCs,
- Pads,
- LCD, LED display, etc..

2. Explanation of Part Number



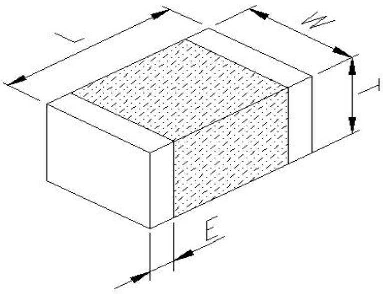
- 1 : Series Name
- 2 : Size Code: The first two digitals: length(mm), The last two digitals: width(mm)
- 3 : Thickness (mm)
- 4：Product Type
- 5：Inductance (μH)
- 6：Model code, Inductance tolerance within ±20%.

3. Construction & Dimensions

3.1. Core Material: Iron

3.2. End termination: Ni/Sn

3.3. Construction & Dimension :



Unit: mm

L	W	T	E
2.0±0.2	1.6±0.2	1.2 max.	0.4±0.2

4. General specifications

4.1. Temperature Specifications

Operating Temperature range : -40℃ to +125℃
Storage Temperature range : -50℃ to +125℃

* The detail operating temperature describing can refer to 5.1 (7).

5. Performance Characteristics

5.1. Specifications

Part Number	Inductance, Lo (μH) @ 1MHz	Rdc (mΩ) typical	Saturation Current Isat (A), typical	Heat Rating Current Irms (A), typical
WIP201612P-R47M	**0.47**	**40**	**4.5**	**2.4**
WIP201612P-R68M	**0.68**	**48**	**4.1**	**2.2**
WIP201612P-1R0M	**1.0**	**75**	**3.5**	**1.8**
WIP201612P-1R5M	**1.5**	**125**	**2.8**	**1.4**
WIP201612P-2R2M	**2.2**	**160**	**2.3**	**1.3**
WIP201612P-3R3M	**3.3**	**220**	**1.8**	**1.1**
WIP201612P-4R7M	**4.7**	**280**	**1.5**	**1.0**

(1) All test data is referenced to 25°C ambient.

(2) Inductance is measured with a LCR meter Agilent 4294A or equivalent.

(Test frequency : 1 MHz, test level : 1V)

(3) Inductance Tolerance ±20%.

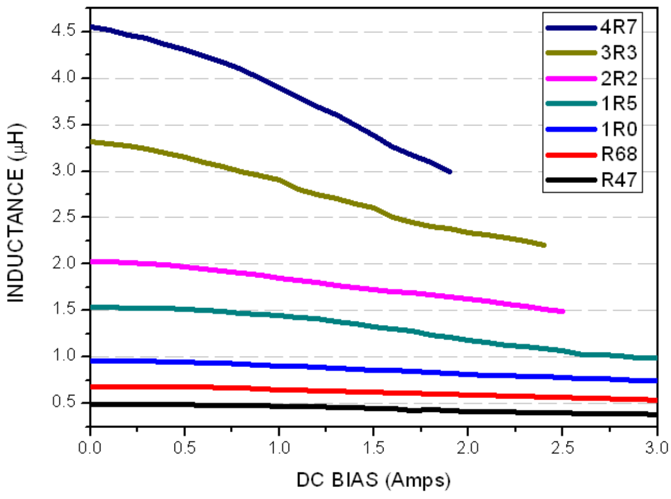
(4) Isat: DC current that will cause L_0 to drop approximately 30% at ambient 25°C.

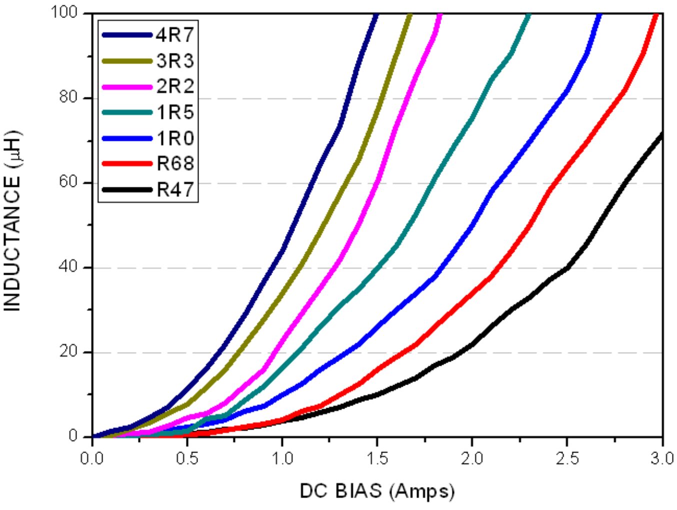
(5) Idc: DC current that will cause an approximate ΔT of 40°C.

(6) Rating Current: Value as listed is either the saturation current or the heating current, whichever is smaller.

(7) The part temperature (Ambient + temp rise) should not exceed 125°C under worse case operating condition.

5.2. Current Characteristic





6. Reliability and Test Condition

Test item	Test condition	Criteria
Resistance to Solder Heat	1. Solder temperature : 260 ± 5℃ 2. Flux : Rosin 3. DIP time : 10 ± 1 sec	1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage 3. Inductance value should be within ± 20 % of the initial value
Adhesive Test	1. Reflow temperature : 245℃ It shall be Soldered on the substrate applying direction parallel to the substrate 2. Apply force(F) : 5 N 3. Test time : 10 sec	1. No mechanical damage 2. Soldering the products on PCB after the pulling test force > 5 N
Temperature Cycle	1. Temperature:-50 ~ 125℃ For 30 minutes each 2. Cycle: 500 cycles 3. Measurement: At ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value
Dry Heat Test	1. Temperature: 85 ± 2℃ 2. Testing time: 500 hrs 3. Applied current: Full rated current 4. Measurement: At ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ± 20% of the initial value
Humidity Test	1. Temperature: 60 ± 2℃ 2. Humidity: 90-95 % RH 3. Applied current: Full rated current 4. Testing time: 500 hrs 5. Measurement: At ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value