APPROVAL SHEET

WLFM160808_P
WLFM201209_P
WLFM201205_P
WLFM201609_P
Multi-Layer Power Inductors

RoHS COMPLIANT

Pb Pb-Free

*Contents in this sheet are subject to change without prior notice.

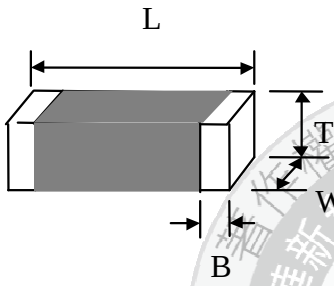
Features

1. General purpose chip ferrite power inductor for high integration electronics device.
2. Ceramic structure provides high reliability、high productivity.
3. Low DC resistance with high current.
4. RoHS compliance.

Applications

1. DC line filter, DC/DC inductor.
2. Suitable for DVD,DSC,PND,PC,NB,Power Line.

Shape and Dimension



Unit: mm (inches)

WLFM Series	L	W	T	B (Min/Max)
WLFM160808*P	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
WLFM201209*P	2.0±0.15	1.25±0.15	0.9±0.1	0.5±0.2
WLFM201205*P	2.0±0.15	1.25±0.15	0.5±0.05	0.5±0.2
WLFM201609*P	2.0±0.15	1.60±0.15	0.9±0.1	0.5±0.2

Ordering Information

WL	FM	1608	08	M	R47	P	P
Product Code WL: Inductor	**Series** Multilayer	**Dimensions** 1608:EIA 0603 2012:EIA 0805 2016:EIA 0806	**Thickness** 05 = 0.5mm 08 = 0.8mm 09= 0.9mm	**Tolerance** M: ± 20%	**Value** R47=0.47uH 2R2=2.2uH	**Packing Code** P=7" Reeled (Embossed tape)	**P** P=General

Electrical Characteristics

● WLFM160808 series (EIA 0603)

Walsin Part Number	L(uH)	Tolerance	Measuring Frequency (MHz)	RDC (Ω) Max.	Rated Current (mA)
WLFM160808MR24PP	0.24	M	1	0.1	1200
WLFM160808MR47PP	0.47	M	1	0.1	1200
WLFM160808M1R0PP	1.0	M	1	0.2	950
WLFM160808M2R2PP	2.2	M	1	0.3	750

● WLFM201209 series (EIA 0805)

Walsin Part Number	L(uH)	Tolerance	Measuring Frequency (MHz)	RDC (Ω) Max.	Rated Current (mA)
WLFM201209MR47PP	0.47	M	1	0.08	1300
WLFM201209M1R0PP	1.0	M	1	0.1	900
WLFM201209M2R2PP	2.2	M	1	0.23	800
WLFM201209M4R7PP	4.7	M	1	0.23	800

● WLFM201205 series (EIA 0805)

Walsin Part Number	L(uH)	Tolerance	Measuring Frequency (MHz)	RDC (Ω) Max.	Rated Current (mA)
WLFM201205MR47PP	0.47	M	1	0.12	1100
WLFM201205M1R0PP	1.0	M	1	0.19	800
WLFM201205M1R5PP	1.5	M	1	0.26	700
WLFM201205M2R2PP	2.2	M	1	0.33	600

● WLFM201609 series (EIA 0806)

Walsin Part Number	L(uH)	Tolerance	Measuring Frequency (MHz)	RDC (Ω) Max.	Rated Current (mA)
WLFM201609MR47PP	0.47	M	1	0.06	1600
WLFM201609M1R0PP	1.0	M	1	0.09	1400
WLFM201609M1R5PP	1.5	M	1	0.11	1200
WLFM201609M2R2PP	2.2	M	1	0.11	1200
WLFM201609M4R7PP	4.7	M	1	0.14	1100

TEST INSTRUMENT：

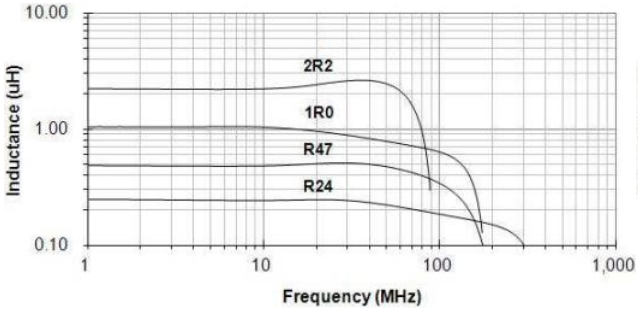
- HP4291B-RF Impedance / Material Analyzer
- HP4338A/B Milliohm meter

Test Frequency : 1MHz / OSC Level : 100mV

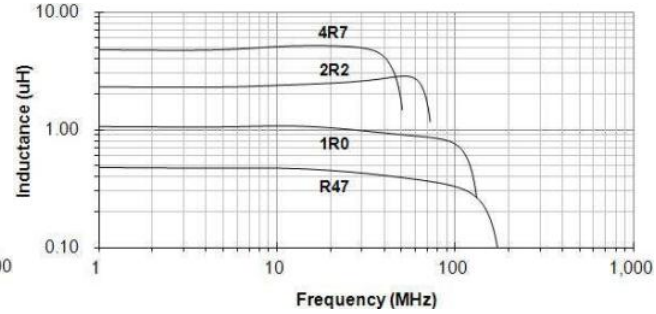
Typical Characteristic

Inductance@Frequency

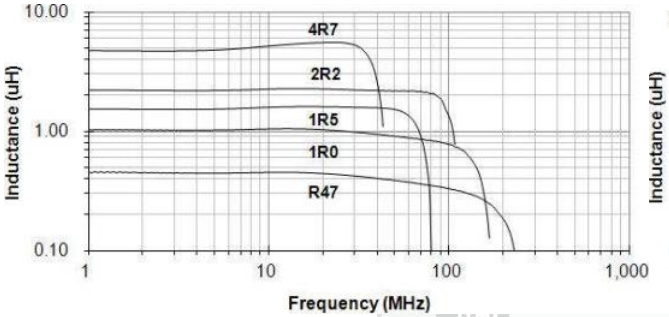
1608 Series



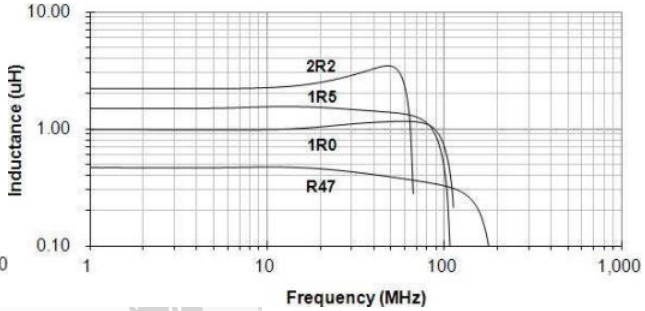
2012 Series



2016 Series

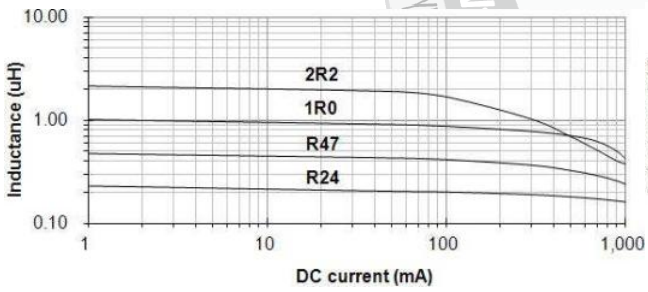


201205 Series

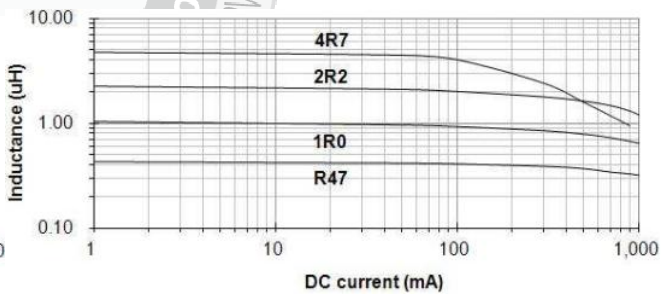


Inductance vs DC-bias

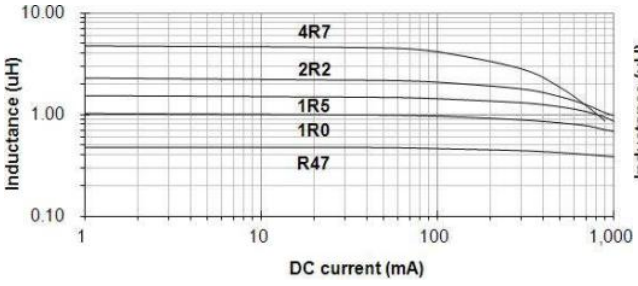
1608 Series



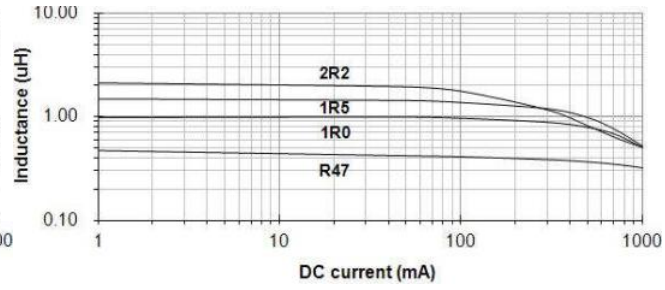
2012 Series



2016 Series

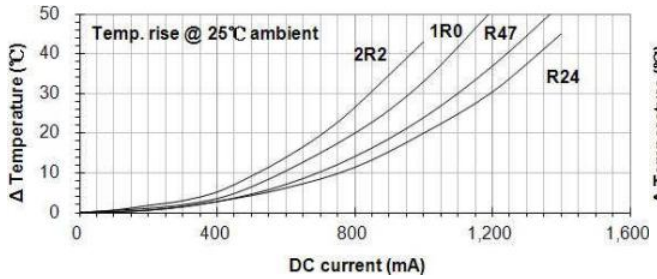


201205 Series

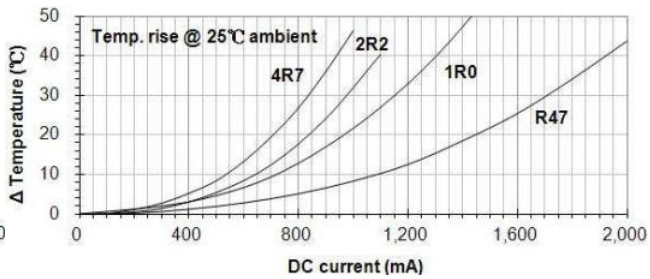


Temperature vs DC-bias

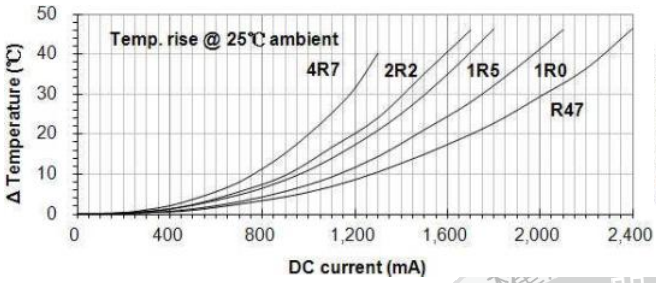
1608 Series



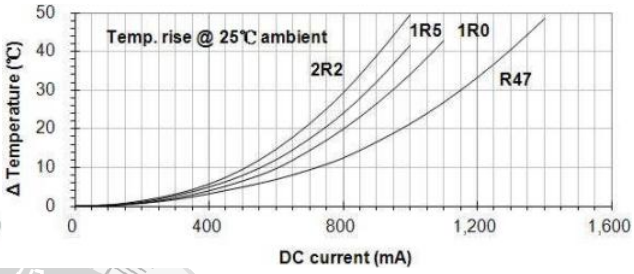
2012 Series



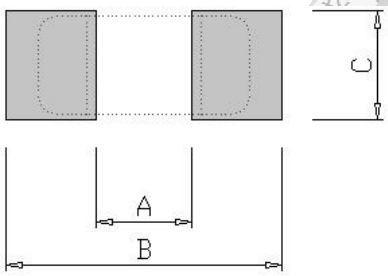
2016 Series



201205 Series



Land Patterns for Reflow Soldering



Size (mm)	A	B	C
1608	0.5 ~ 0.7	1.8 ~ 2.0	0.65 ~ 0.95
2012	1.0 ~ 1.2	3.0 ~ 4.0	1.0 ~1.4
2016	0.7 ~ 0.9	2.3 ~ 2.5	1.7 ~1.9

Reliability and Test Conditions

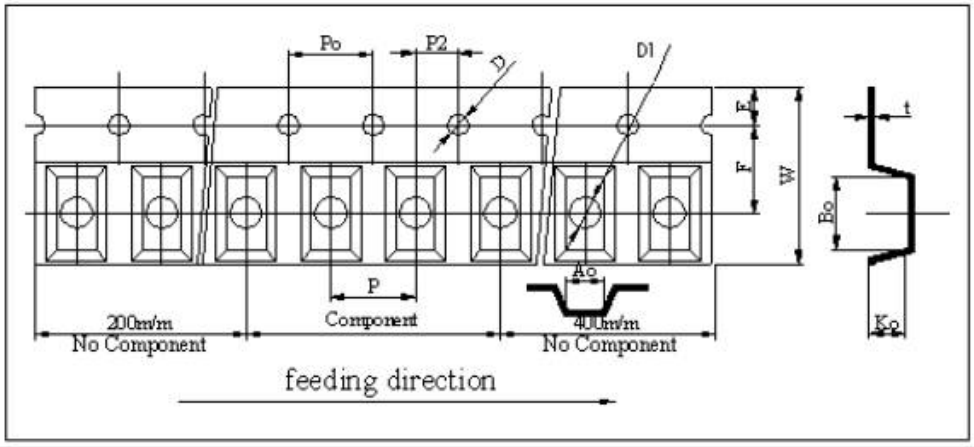
Test item	Test condition	Criteria
Resistance to Solder Heat	1. Solder temperature : 260 ± 5℃ 2. Flux : Rosin 3. DIP time : 10 ± 1 sec	1.More than 95 % of terminal electrode should be covered with new solder 2.No mechanical damage 3.Inductance value should be within ± 20 % of the initial value
Solderability	1. Solder temperature : 235 ± 5℃ 2. Flux : Rosin 3. DIP time : 5 ± 1 sec	1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage
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:-40 ~ 85℃ for 30 minutes each 2.Cycle: 100 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 (Inductance:≦0.47μH) Inductance should be within ±30% of the initial value (Inductance:＞0.47μH)
High Temperature Resistance	1.Temperature: 85 ± 5℃ 2.Testing time: 1000 hrs 3.Measurement: at ambient temperature 24 hours after test completion	1.No mechanical damage 2.Inductance should be within ±20% of the initial value (Inductance:≦0.47μH) Inductance should be within ±30% of the initial value (Inductance:＞0.47μH)
Humidity	1.Temperature: 40℃ ± 2℃ 2.Humidity: 90-95 % RH 3.Testing time: 1000 hrs 4.Measurement: at ambient temperature 24 hours after test completion	1.No mechanical damage 2.Inductance should be within ±20% of the initial value
Rated Current	1.At ambient temperature & humidity Testing time:5 minutes (under full rated current)	1.Product surface Temp: below room temperature plus 40℃

GENERAL TECHNICAL DATA

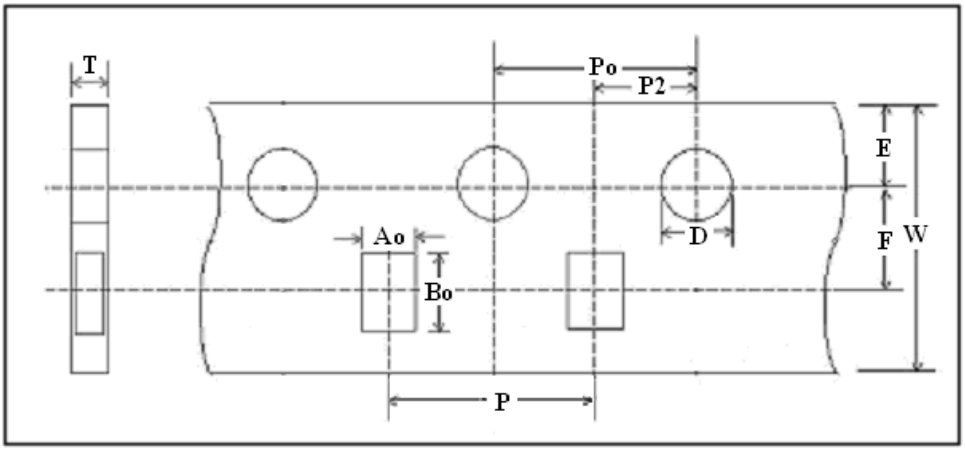
- Operating temperature range : - 40℃ ~ +85℃
- Storage Condition : Less than 40℃ and 70% RH
- Storage time : 12 months Max.
- Soldering method : Reflow

Tape and Reel Specifications

Plastic Carries(E)



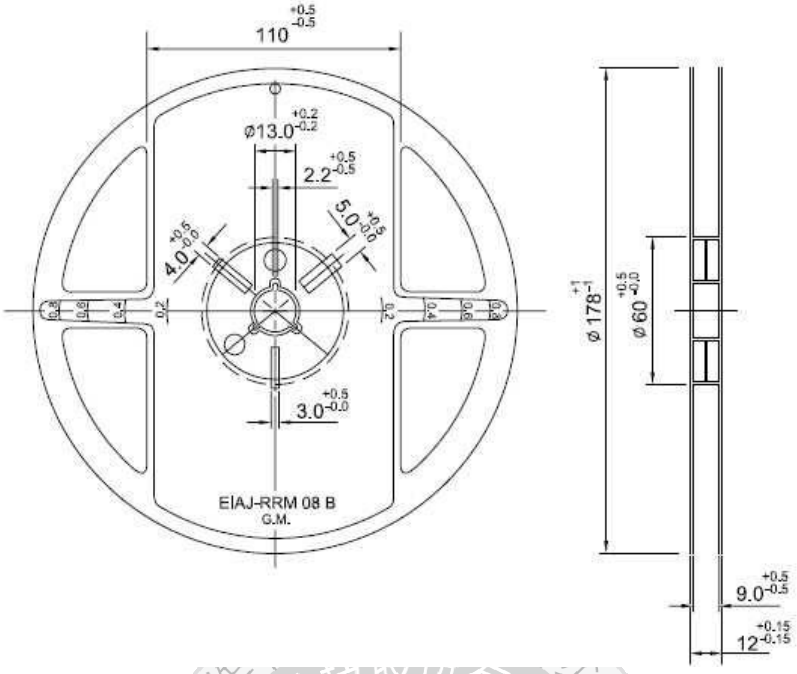
Paper Carrier(P)



Taping Dimensions

(mm)	160808	201209	201205	201609
Symbol	P	E	P	E
W	8.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10
P	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10
E	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.05	1.75 ± 0.10
F	3.50 ± 0.10	3.50 ± 0.10	3.50 ± 0.05	3.50 ± 0.10
D	1.56 ± 0.10	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05
D1	NA	1.00 ± 0.05	NA	1.00 ± 0.05
Po	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10
10Po	40.0 ± 0.20	40.0 ± 0.20	40.0 ± 0.10	40.0 ± 0.20
P2	2.00 ± 0.10	2.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.10
Ao	0.97 ± 0.05	1.40 ± 0.10	1.45 ± 0.05	1.90 ± 0.10
Bo	1.80 ± 0.05	2.30 ± 0.10	2.25 ± 0.05	2.30 ± 0.10
Ko(T)	0.75± 0.05	1.13 ± 0.10	0.60 ± 0.03	1.15 ± 0.10
t	NA	0.22 ± 0.05	NA	0.22 ± 0.05

Reel Dimensions



7" Reel Packaging Quantity				
PART SIZE	**160808**	**201209**	**201205**	**201609**
Qty.(pcs)	4,000	3,000	4,000	3,000
BOX	5 reels / inner box	5 reels / inner box	5 reels / inner box	5 reels / inner box

Recommended Soldering Conditions