APPROVAL SHEET

WLBD1005-4532 HC
(High Current Series)
Chip Bead

華新科技股份有限公司 著作權所有 重製必究
PSA PASSIVE SYSTEM ALLIANCE
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RoHS COMPLIANT

Pb Pb-Free

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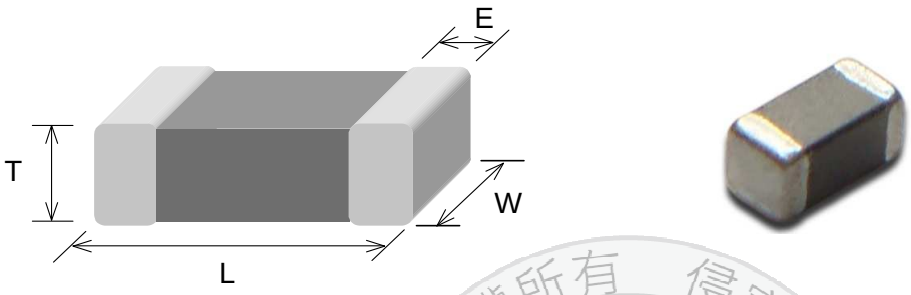
FEATURES

1. Combination of high frequency noise suppression with capability of handing high current
2. The current rating up to 6 Amps with low DCR

APPLICATIONS

1. High current DC power lines
2. Circuits where a stable ground in unavailabl

SHAPE and DIMENSION



TYPE	1005 (EIA 0402)	1608 (EIA 0603)	2012 (EIA 0805)	3216 (EIA 1206)	3225 (EIA 1210)	4516 (EIA 1806)	4532 (EIA 1812)
L	1.00±0.10	1.60±0.15	2.00±0.20	3.20±0.20	3.20±0.20	4.50±0.25	4.50±0.25
W	0.50±0.10	0.80±0.15	1.25±0.20	1.60±0.20	2.50±0.20	1.60±0.20	3.20±0.25
T	0.50±0.10	0.80±0.15	0.90±0.20	1.10±0.20	1.30±0.20	1.60±0.20	1.50±0.25
E	0.25±0.10	0.30±0.20	0.50±0.30	0.50±030	0.50±0.30	0.60±0.40	0.60±0.40
Unit	mm						

Ordering Information

WL	BD	1005 - 4532	HC	U	300	T / P	H / L
Product Code WL: Inductor	**Series** BD: Chip Bead.	**Dimensions** **JIS: (EIA)** 1005 :(0402) 1608: (0603) 2012: (0805) 3216: (1206) 3225: (1210) 4516: (1806) 4532: (1812)	**Series extension** Refer to characteristic	**Tolerance** U: ±25%	**Value** 300 =30 OHM 601 =600 OHM 102 =1000OHM	**Packing Code** T = 7" Paper Tape P = 7" Plastic Tape	H: High current L: Low DCR

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PART NUMBER AND CHARACTERISTICS TABLE

WLBD1005- 3216 HC_H series

Walsin Part Number	Impedance (Ω) +/-25%	Test Frequency (MHz)	DC Resistance (Ω) max.	Rated Current (mA) max.
WLBD1005HCU100TH	10	100	0.09	2000
WLBD1005HCU300TH	30	100	0.09	2000
WLBD1005HCU600TH	60	100	0.20	1000
WLBD1005HCU121TH	120	100	0.15	1500
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD1608HCU300TH	30	100	0.04	3000
WLBD1608HCU600TH	60	100	0.04	3000
WLBD1608HCU800TH	80	100	0.04	3000
WLBD1608HCU121TH	120	100	0.07	2500
WLBD1608HCU221TH	220	100	0.09	2000
WLBD1608HCU301TH	300	100	0.09	2000
WLBD1608HCU471TH	470	100	0.20	1000
WLBD1608HCU601TH	600	100	0.20	1000
WLBD1608HCU102TH	1000	100	0.25	800
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD2012HCU310TH	31	100	0.015	6000
WLBD2012HCU400TH	40	100	0.03	4000
WLBD2012HCU600TH	60	100	0.04	3000
WLBD2012HCU800TH	80	100	0.02	5000
WLBD2012HCU121TH	120	100	0.02	5000
WLBD2012HCU221TH	220	100	0.04	3000
WLBD2012HCU301TH	300	100	0.09	2000
WLBD2012HCU331TH	330	100	0.09	2000
WLBD2012HCU601TH	600	100	0.09	2000
WLBD2012HCU102TH	1000	100	0.2	1000
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD3216HCU300PH	30	100	0.015	6000
WLBD3216HCU500PH	50	100	0.015	6000
WLBD3216HCU800PH	80	100	0.03	4000
WLBD3216HCU121PH	120	100	0.015	6000
WLBD3216HCU601PH	600	100	0.07	2500
WLBD3216HCU122PH	1200	100	0.2	1000
Test Level	250 mV			
Test Instruments	• HP4291B RF IMPEDANCE / MATERIAL ANALYZER • HP4338A/B MILLIOHMMETER • Agilent 8720ES S-PARAMETER NETWORK ANALYZER • HP6632B SYSTEM DC POWER SUPPLY			

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PART NUMBER AND CHARACTERISTICS TABLE

WLBD3225- 4532 HC_H series

Walsin Part Number	Impedance (Ω) +/-25%	Test Frequency (MHz)	DC Resistance (Ω) max.	Rated Current (mA) max.
WLBD3225HCU600PH	60	100	0.15	1500
WLBD3225HCU102PH	1000	50	0.09	2000
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD4516HCU600PH	60	100	0.015	6000
WLBD4516HCU720PH	72	100	0.015	6000
WLBD4516HCU851PH	850	100	0.15	1500
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD4532HCU800PH	80	100	0.01	9000
WLBD4532HCU121PH	120	100	0.015	6000
WLBD4532HCU601PH	600	50	0.04	3000
WLBD4532HCU132PH	1300	60	0.04	3000
Test Level	250 mV			
Test Instruments	• HP4291B RF IMPEDANCE / MATERIAL ANALYZER • HP4338A/B MILLIOHMMETER • Agilent 8720ES S-PARAMETER NETWORK ANALYZER • HP6632B SYSTEM DC POWER SUPPLY			

GENERAL TECHNICAL DATA

1. Operating temperature range : - 55℃ ~ +125℃
2. Storage Condition : Less than 40℃ and 70% RH
3. Storage Time: 12 months(Size:1005 above)
4. Soldering method: Reflow or Wave Soldering

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PART NUMBER AND CHARACTERISTICS TABLE

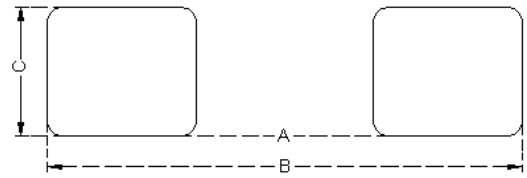
WLBD1005- 1608 HC_L series (Low DCR Type)

Walsin Part Number	Impedance (Ω) +/-25%	Test Frequency (MHz)	DC Resistance (Ω) max.	Rated Current (mA) max.
WLBD1005HCU330TL	33	100	0.022	3000
WLBD1005HCU600TL	60	100	0.032	2500
WLBD1005HCU800TL	80	100	0.038	2300
WLBD1005HCU121TL	120	100	0.055	2000
WLBD1005HCU181TL	180	100	0.090	1500
WLBD1005HCU221TL	220	100	0.100	1400
WLBD1005HCU331TL	330	100	0.150	1200
WLBD1005HCU471TL	470	100	0.200	1000
WLBD1005HCU601TL	600	100	0.230	900
Walsin Part Number	**Impedance (Ω) +/-25%**	**Test Frequency (MHz)**	**DC Resistance (Ω) max.**	**Rated Current (mA) max.**
WLBD1608HCU260TL	26	100	0.007	6000
WLBD1608HCU300TL	30	100	0.010	5000
WLBD1608HCU700TL	70	100	0.022	3500
WLBD1608HCU101TL	100	100	0.030	3000
WLBD1608HCU121TL	120	100	0.030	3000
WLBD1608HCU221TL	220	100	0.050	2200
WLBD1608HCU331TL	330	100	0.080	1700
WLBD1608HCU471TL	470	100	0.130	1500
WLBD1608HCU601TL	600	100	0.150	1300
Test Level	250 mV			
Test Instruments	•HP4991A RF Impedance / Material Analyzer •HP4338A/B Milliohm meter •Agilent 5071C S-Parameter Network Analyzer •HP6632B System DC Power Supply			

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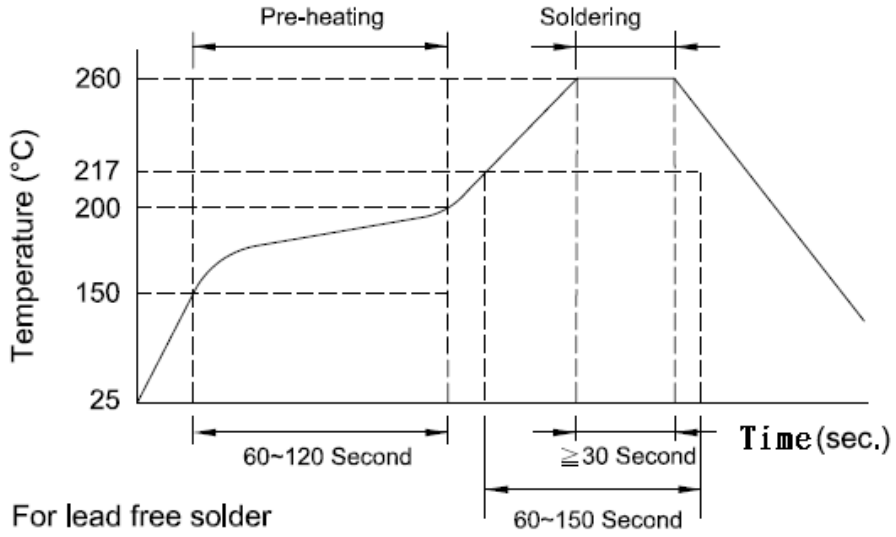
Land Patterns for Reflow Soldering



Solder Land Information Unit: mm (inches)

Size	A	B	C
1005	0.4 (0.016)	1.2 ~1.4 (0.047 ~0.055)	0.5 (0.020)
1608	0.7 (0.028)	1.8~ 2.0 (0.071~ 0.079)	0.7 (0.028)
2012	1.2 (0.047)	3.0 ~4.0 (0.118 ~0.157)	1.0 (0.039)
3216	2.0 (0.079)	4.2 ~5.2 (0.165 ~0.205)	1.2 (0.047)
3225	2.0 (0.079)	4.2 ~5.2 (0.165 ~0.205)	3.4 (0.134)
4516	3.0 (0.118)	5.5~6.5 (0.217 ~0.256)	1.2 (0.047)
4532	3.0 (0.118)	5.5 ~6.5 (0.217 ~0.256)	4.22 (0.166)

RECOMMENDED SOLDERING CONDITIONS



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RELIABILITY AND TEST CONDITION

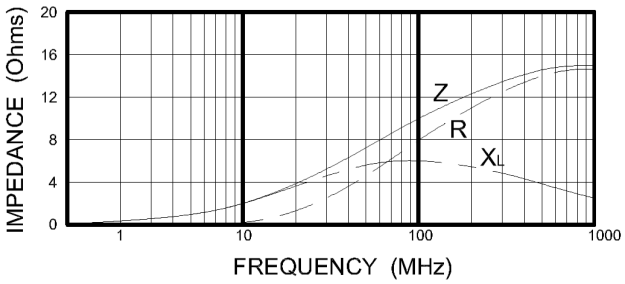
Test item	Test Condition	Criteria
Temperature Cycle	a. Temperature : -40 ~ +85℃ b. Cycle : 100 cycles c. Dwell time : 30minutes d. Measurement : at ambient temperature 24 hours after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Operational Life	a. Temperature : 125℃ ± 5℃ b. Test time : 1000 hours c. Apply current : full rated current d. Measurement : at ambient temperature 24 hours after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Rated Current Test	a. Apply current : full rated current / 5min	a. Temperature rise should be less than 40℃
Biased Humidity	a. Temperature : 40℃ ± 2℃ b. Humidity : 90 ~ 95 % RH c. Test time : 1000 hours d. Apply current : full rated current e. Measurement : at ambient temperature 24 hours after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Resistance to Solder Heat	a. Solder temperature : 260 ± 5℃ b. Flux : Rosin c. DIP time : 10 ± 1 sec	a. More than 95 % of terminal electrode should be covered with new solder b. No mechanical damage c. Impedance value should be within ± 20 % of the initial value
Adhesive Test	a. Reflow temperature : 245℃ It shall be Soldered on thesubstrate applying direction paralle1 to the substrate b. Apply force(F) : 5 N c. Test time : 10 sec	a. No mechanical damage b. Soldering the products on PCB after the pulling test force > 5 N
Steam Aging Test	a. Temperature : 93℃ b. Test time : 4 hours(MHC1005) Others : 8 hours c. Solder temperature : 235 ± 5℃ d. Flux : Rosin e. e. DIP time : 5 ± 1 sec	a. More than 95 % of terminal electrode should be covered with new solder

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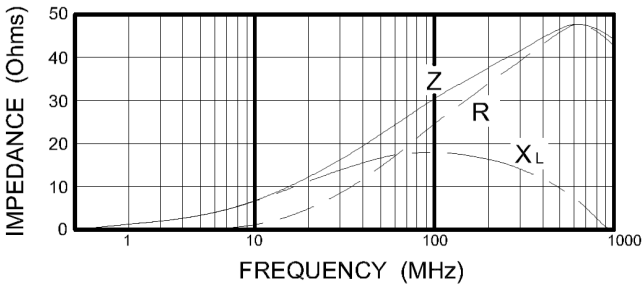
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Bead 1005- Impedance Frequency Characteristics (Typical)

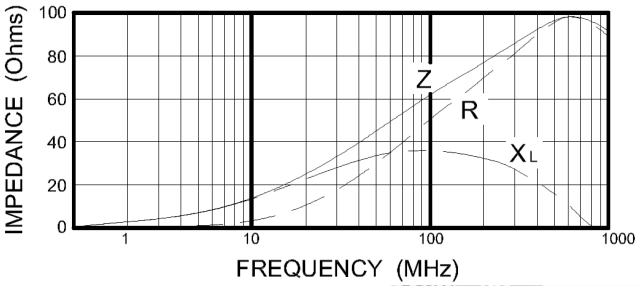
WLBD1005HCU100TH



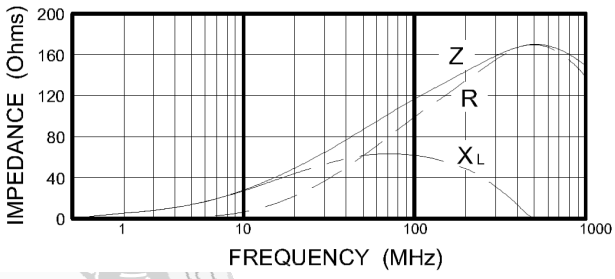
WLBD1005HCU300TH



WLBD1005HCU600TH

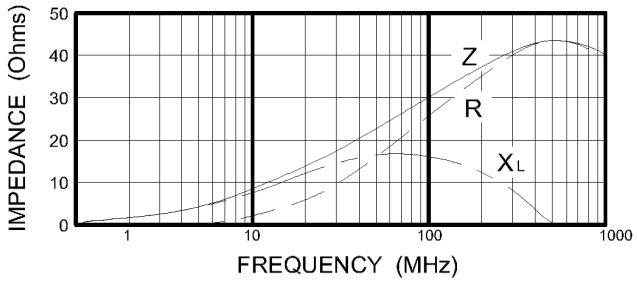


WLBD1005HCU121TH

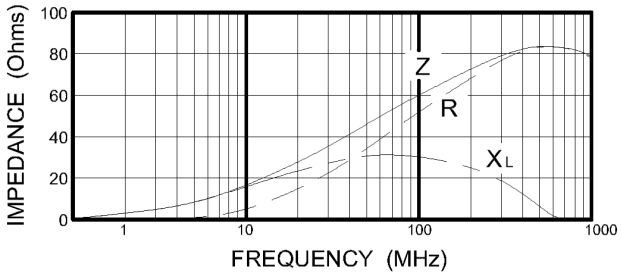


Bead 1608- Impedance Frequency Characteristics (Typical)

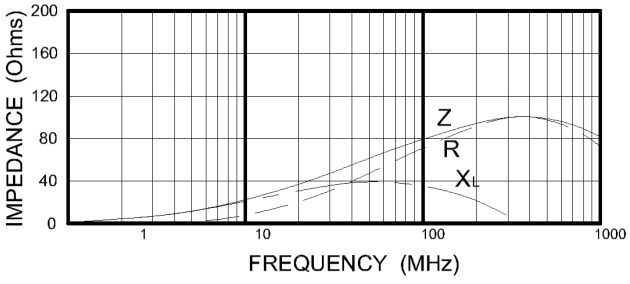
WLBD1608HCU300TH



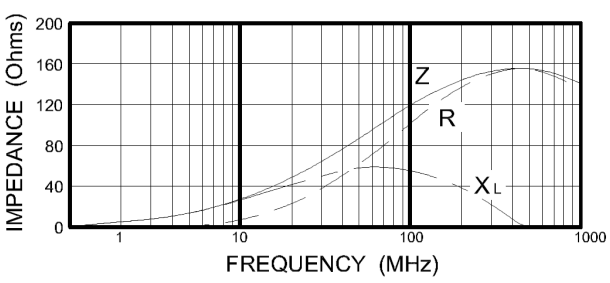
WLBD1608HCU600TH



WLBD1608HCU800TH



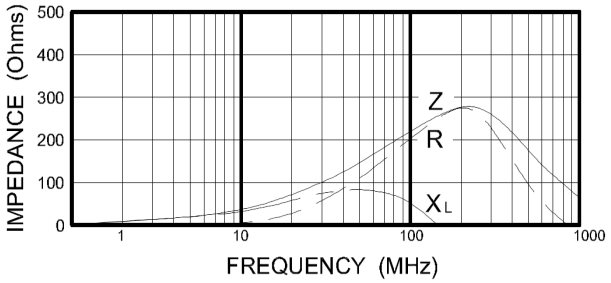
WLBD1608HCU121TH



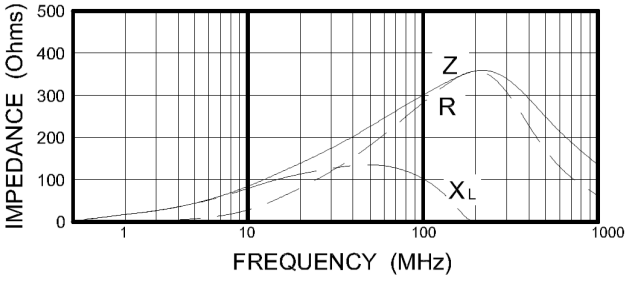
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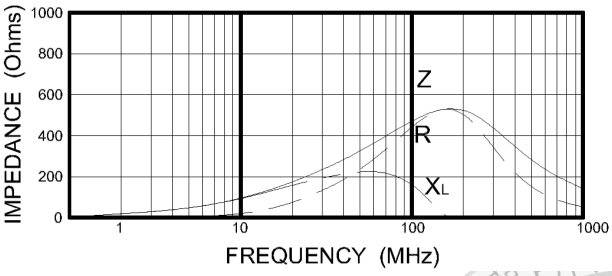
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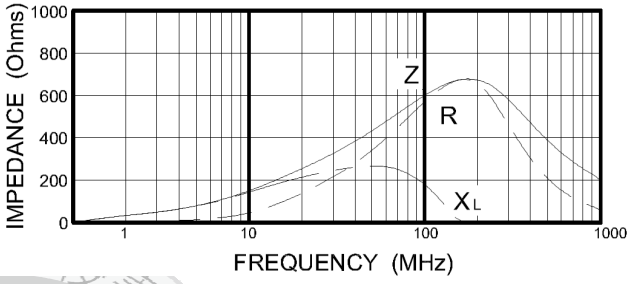
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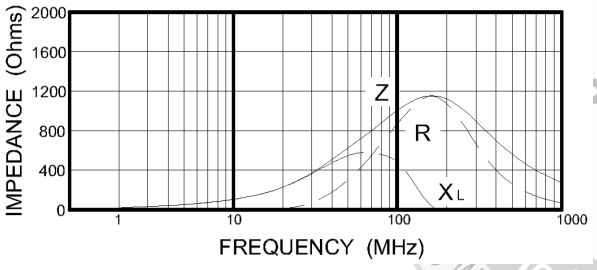
WLBD1608HCU471TH



WLBD1608HCU601TH



WLBD1608HCU102TH



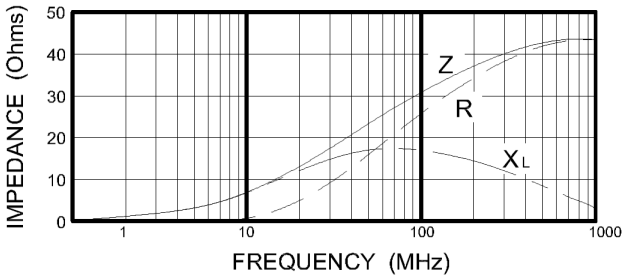
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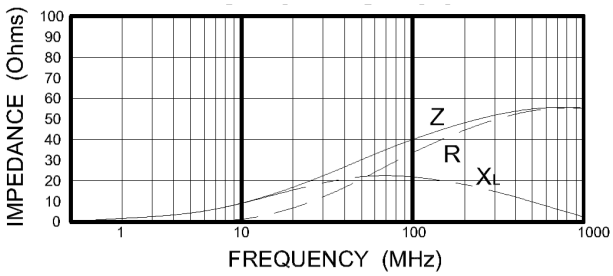
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Bead 2012- Impedance Frequency Characteristics(Typical)

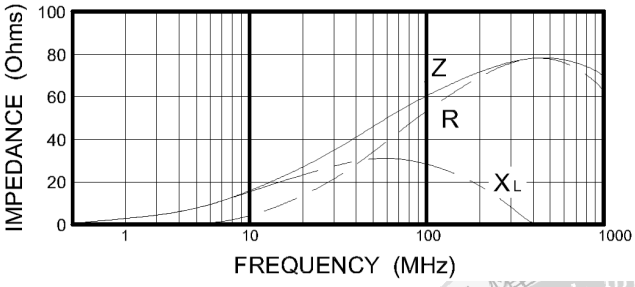
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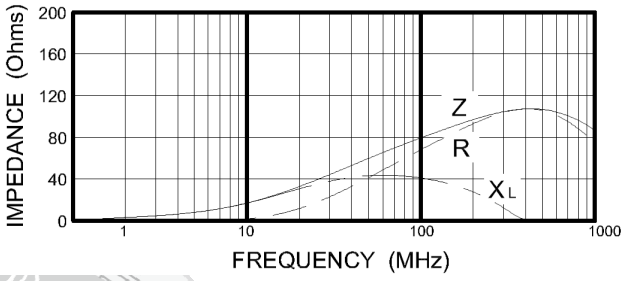
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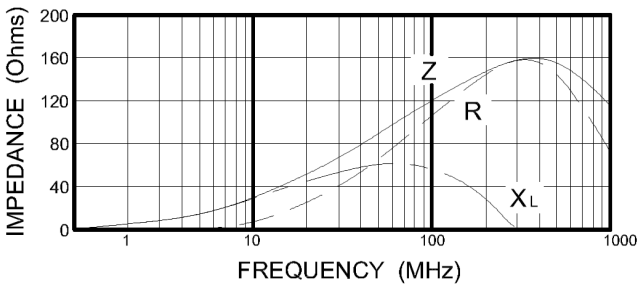
WLBD2012HCU600TH



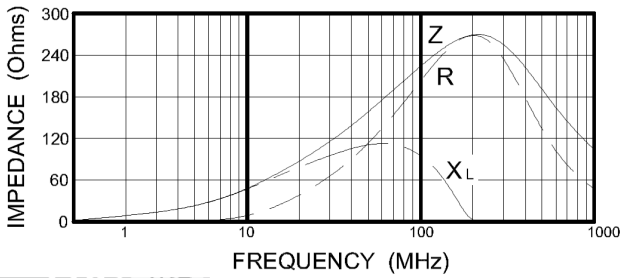
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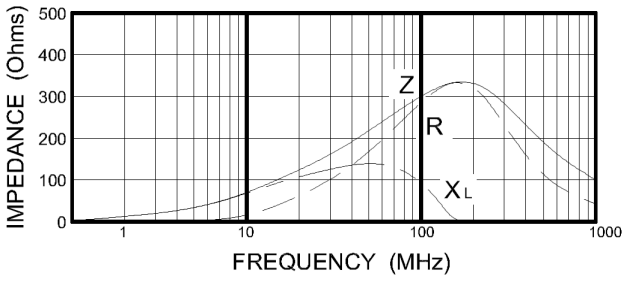
WLBD2012HCU121TH



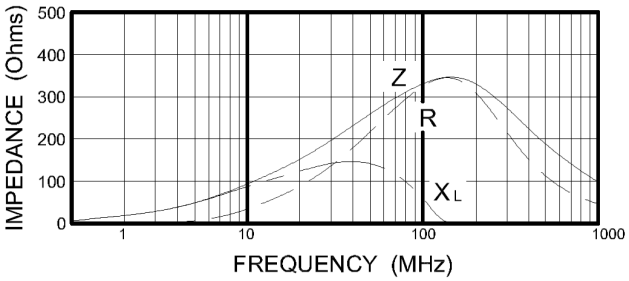
WLBD2012HCU221TH



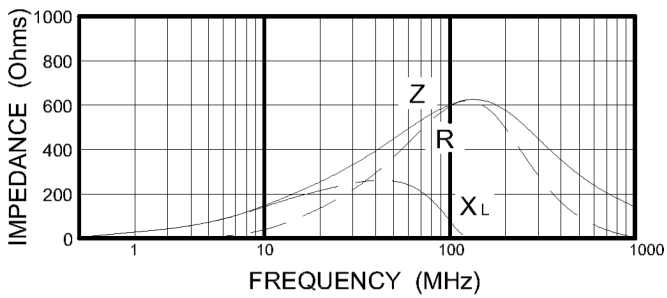
WLBD2012HCU301TH



WLBD2012HCU331TH



WLBD2012HCU601TH

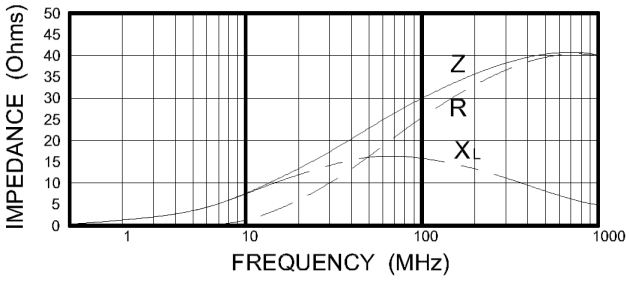


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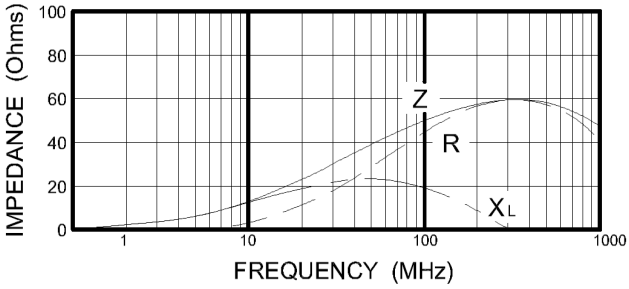
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Bead 3216- Impedance Frequency Characteristics(Typical)

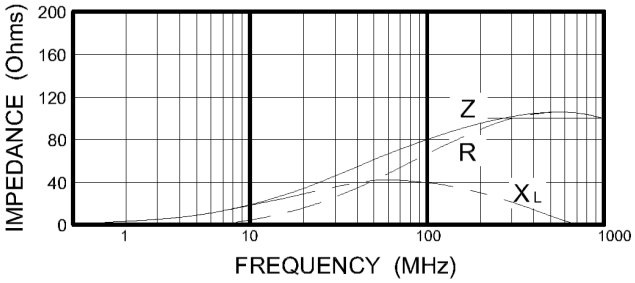
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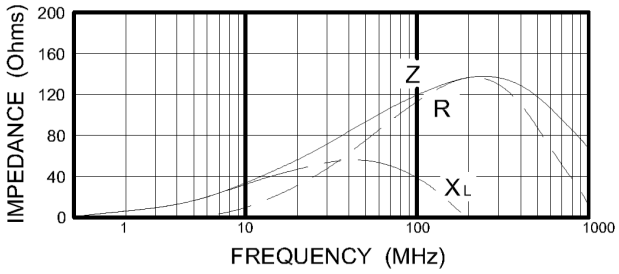
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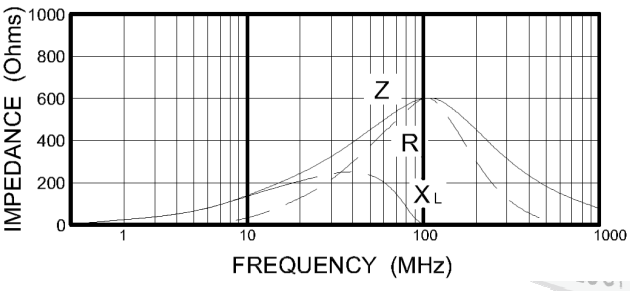
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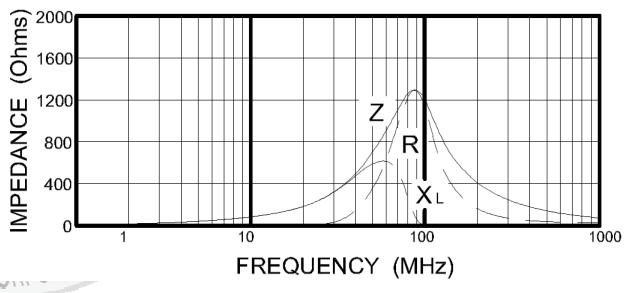
WLBD3216HCU121PH



WLBD3216HCU601PH

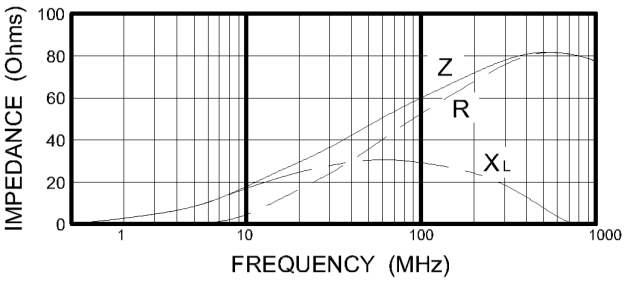


WLBD3216HCU122PH

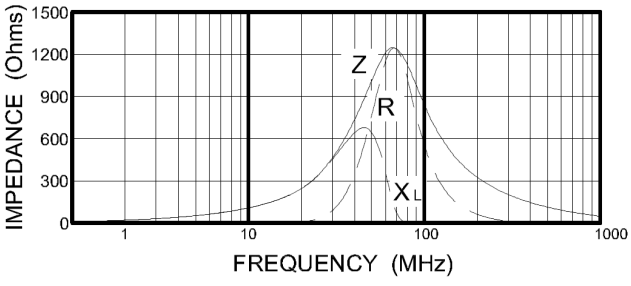


Bead 3225- Impedance Frequency Characteristics(Typical)

WLBD3225HCU600PH



WLBD3225HCU102PH

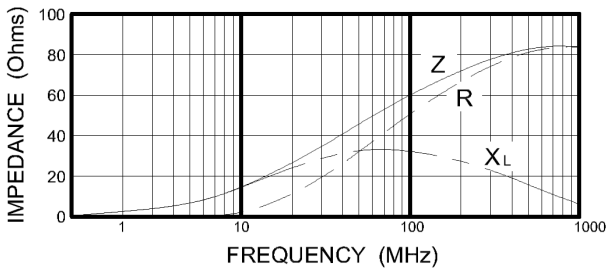


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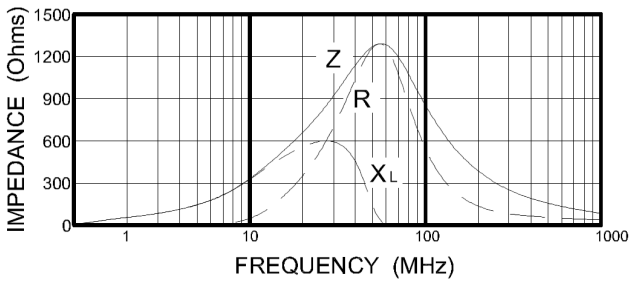
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Bead 4516- Impedance Frequency Characteristics (Typical)

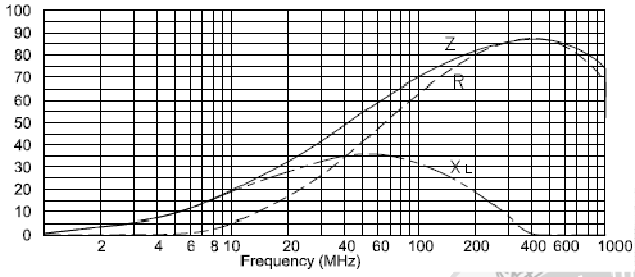
WLBD4516HCU600PH



WLBD4516HCU851PH

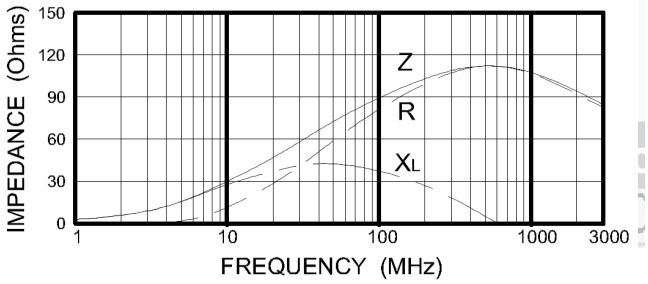


WLBD4516HCU720PH

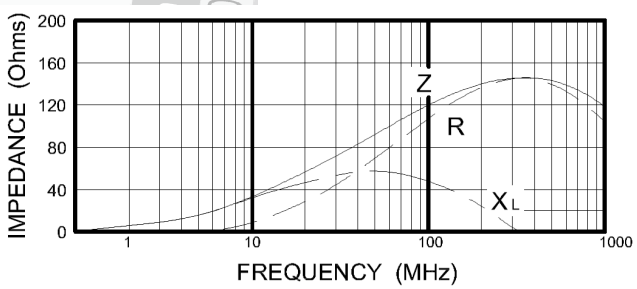


Bead 4532- Impedance Frequency Characteristics (Typical)

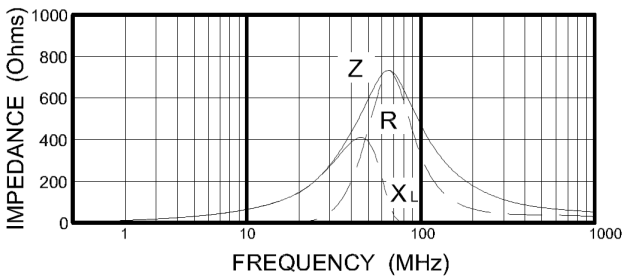
WLBD4532HCU800PH



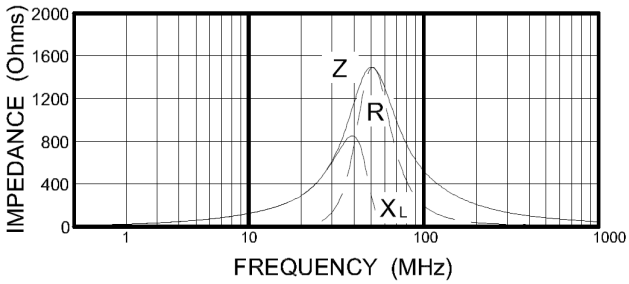
WLBD4532HCU12PH



WLBD4532HCU601PH



WLBD4532HCU132PH



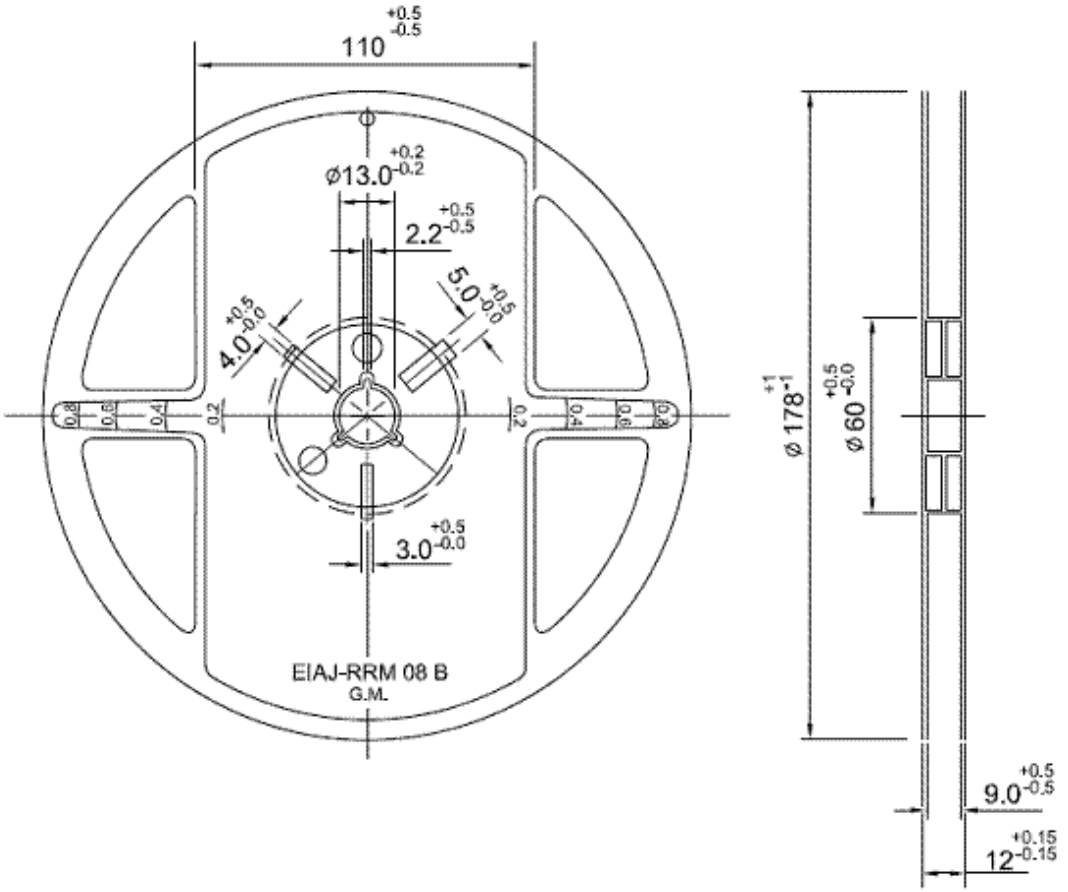
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Packaging Specification

Reel Dimension

Unit: mm

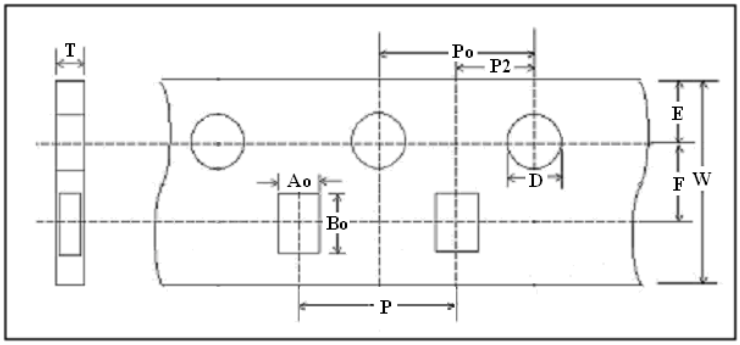


Reel Packaging Quantity								
PART SIZE (EIA SIZE)		**1005 (0402)**	**1608 (0603)**	**2012 (0805)**	**3216 (1206)**	**3225 (1210)**	**4516 (1806)**	**4532 (1812)**
7" REEL	Qty. (pcs)	10,000	4,000	4,000	3,000	2,000	2,000	1,000
inner box		5 reels	5 reels	5 reels	5 reels	5 reels	4 reels	4 reels

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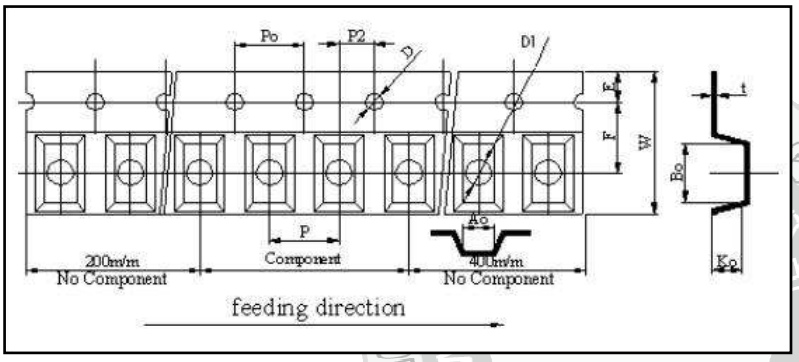
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TAPE AND REEL SPECIFICATIONS
PAPER CARRIER



TAPE AND REEL SPECIFICATIONS
PLASTIC CARRIER

Unit: mm



Unit: mm

Size	4532	4516	3225	3216	2012	1608	1005
Symbol	PLASTIC	PLASTIC	PLASTIC	PLASTIC	PAPER	PAPER	PAPER
W	12.0±0.10	11.7~12.3	7.70~8.30	7.90~8.30	8.00±0.10	8.00±0.10	8.00±0.10
P	8.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	2.00±0.05
E	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.05
F	5.50±0.05	5.50±0.05	3.50±0.05	3.50±0.05	3.50±0.10	3.50±0.10	3.50±0.05
D	1.55±0.05	1.55±0.05	1.55±0.05	1.55±0.05	1.56±0.10	1.56±0.10	1.55±0.05
D1	1.50~1.75	1.50~1.75	0.95~1.20	0.95~1.20	NA	NA	NA
Po	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10
Po10	40.0±0.20	40.0±0.20	40.0±0.20	40.0±0.20	40.0±0.20	NA	NA
P2	2.00±0.05	2.00±0.05	2.00±0.05	2.00±0.05	2.00±0.10	2.00±0.10	2.00±0.05
Ao	3.66±0.10	1.83±0.10	2.57±0.10	1.85±0.10	1.50±0.05	1.05±0.05	0.62±0.03
Bo	4.95±0.10	4.85±0.10	3.40±0.10	3.43±0.10	2.30±0.05	1.85±0.05	1.12±0.03
Ko(T)	1.83±0.10	1.83±0.10	1.32±0.10	1.22±0.10	0.95±0.05	0.95±0.05	0.60±0.03
t	0.23±0.10	0.29±0.10	0.25±0.10	0.25±0.10	NA	NA	NA

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