SMD Multi-layer Ferrite Chip Beads

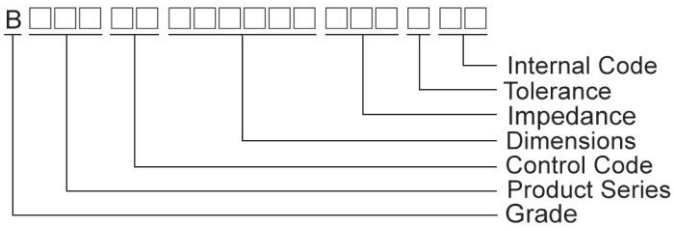
BBSY/BBBK Series

Pulse
a YAGEO company

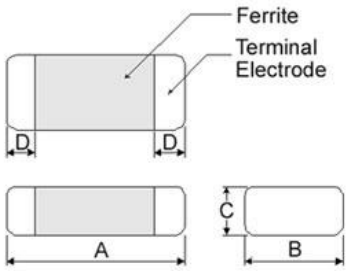


Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

Product Identification



Shape and Dimensions

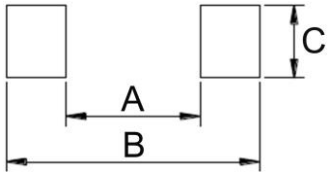


Dimensions in mm

TYPE	A	B	C	D
①060303	0.6±0.03	0.30±0.03	0.3±0.03	0.15±0.05
②100505	1.0±0.10	0.50±0.10	0.5±0.10	0.25±0.10
③160805	1.6±0.15	0.80±0.15	0.5±0.15	0.3±0.2
④160808	1.6±0.15	0.80±0.15	0.8±0.15	0.3±0.2
⑤201209	2.0±0.20	1.25±0.20	0.9±0.20	0.5±0.3
⑥321611	3.2±0.20	1.60±0.20	1.1±0.20	0.5±0.3
⑦453215	4.5±0.25	3.20±0.20	1.5±0.20	0.5±0.3

① : BBSY / BBSJ / BBNQ / BBPY
② : BBSY / BBSJ / BBNQ / BBPY / BBUP / BBFY / BBFJ
③ : BBUP ④ : BBBK / BBSJ / BBGK / BBPY / BBNQ / BBUP / BBHV
⑤ : BBBK / BBGK / BBPY / BBUP ⑥ : BBSY / BBBK / BBPY / BBUP
⑦ : BBPY / BBUP

Recommended Pattern



Dimensions in mm

TYPE	A	B	C
①060303	0.2 ~ 0.3	0.75 ~ 1.05	0.3
②100505	0.4	1.2 ~ 1.4	0.5
③160805	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
⑤201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.4
⑥321611	2.0 ~ 2.4	4.2 ~ 5.2	1.3 ~ 1.9
⑦453215	3.0	5.5 ~ 6.5	2.4

∗ Don't apply narrower pattern than listed above to BBPY and BBUP Narrow pattern might cause excessive heat or open circuit.

Dimension Conversion

Code	Dimension in mm (AxBxC)	EIA
060303	0.6X0.3X0.3	0201
100505	1.0X0.5X0.5	0402
160805	1.6x0.8x0.5	0603
160808	1.6x0.8x0.8	0603
201209	2.0x1.2x0.9	0805
321611	3.2x1.6x.1.1	1206
453215	4.5x3.2x1.5	1812

Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBSY00060303100Y00	10	100	0.1	500
BBSY00060303600Y00	60	100	0.4	200
BBSY00060303121Y00	120	100	0.5	200
BBSY00060303241Y00	240	100	0.8	200

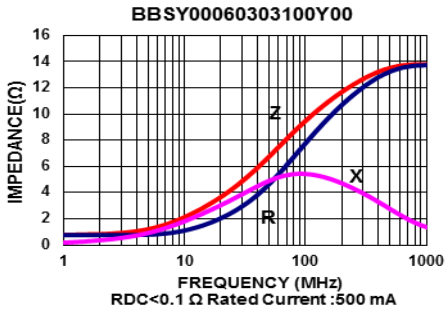
Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

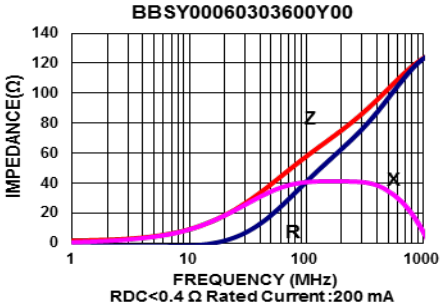
- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

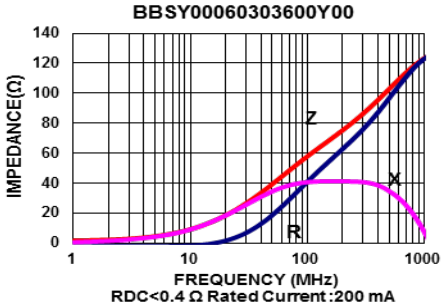
  Z：HP4291A

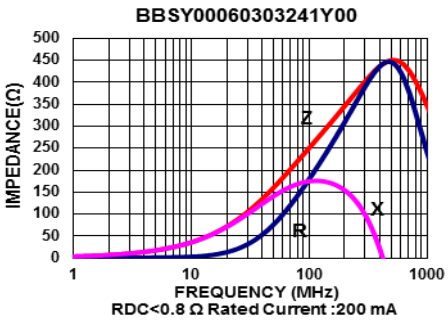
  RDC：HP4338B or CHEN HWA 502

Test Instruments：Agilent E4991A Impedance / Material Analyzer









Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBSY00100505100Y00	10	100	0.025	1000
BBSY00100505110Y00	11	100	0.05	500
BBSY00100505150Y00	15	100	0.10	500
BBSY00100505190Y00	19	100	0.10	500
BBSY00100505220Y00	22	100	0.15	500
BBSY00100505300Y00	30	100	0.20	500
BBSY00100505320Y00	32	100	0.20	500
BBSY00100505330Y00	33	100	0.20	500
BBSY00100505400Y00	40	100	0.20	500
BBSY00100505470Y00	47	100	0.20	500
BBSY00100505500Y00	50	100	0.20	500
BBSY00100505600Y00	60	100	0.20	500
BBSY00100505700Y00	70	100	0.15	600
BBSY00100505750Y00	75	100	0.20	500
BBSY00100505800Y00	80	100	0.20	500
BBSY00100505900Y00	90	100	0.25	500
BBSY00100505101Y00	100	100	0.25	500
BBSY00100505121Y00	120	100	0.19	550
BBSY00100505151Y00	150	100	0.40	400
BBSY00100505181Y00	180	100	0.40	400
BBSY00100505221Y00	220	100	0.29	450
BBSY00100505241Y00	240	100	0.40	400
BBSY00100505301Y00	300	100	0.50	300
BBSY00100505331Y00	330	100	0.50	300
BBSY00100505471Y00	470	100	0.50	300
BBSY00100505481Y00	480	100	0.50	300
BBSY00100505601Y00	600	100	0.52	300
BBSY00100505102Y00	1000	100	0.65	300
BBSY00100505182Y00	1800	100	1.40	100
BBSY00100505222Y00	2200	100	1.40	100

Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

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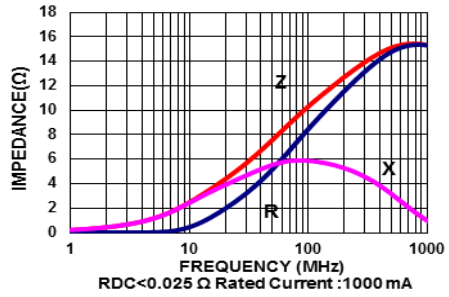
  RDC：HP4338B or CHEN HWA 502

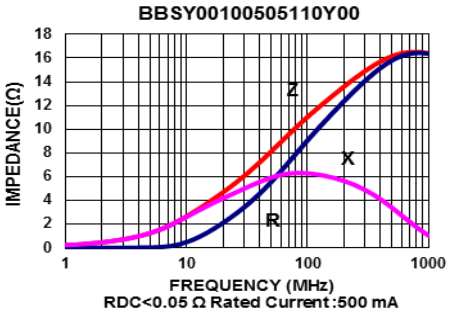
Test Instruments：Agilent E4991A Impedance / Material Analyzer

BBSY00100505100Y00



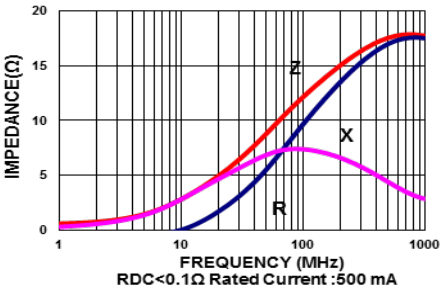
RDC<0.025 Ω Rated Current :1000 mA

BBSY00100505110Y00



RDC<0.05 Ω Rated Current :500 mA

BBSY00100505150Y00



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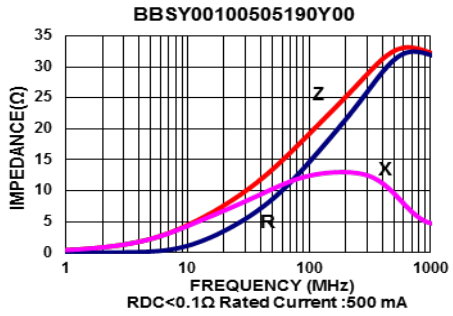
BBSY00100505190Y00



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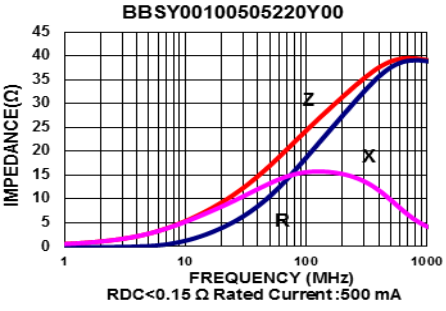
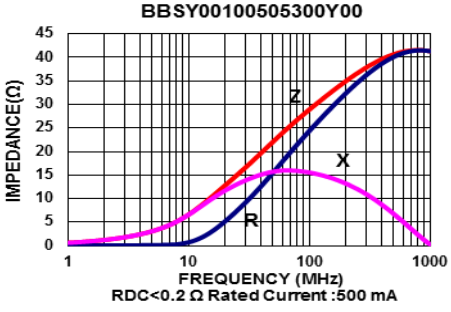
BBSY00100505220Y00



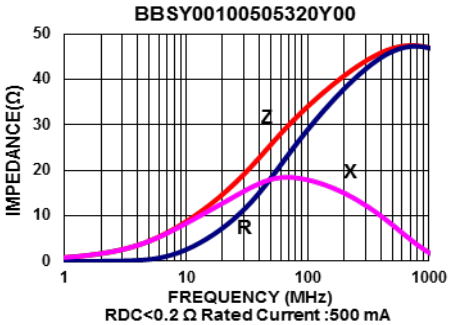
RDC<0.15 Ω Rated Current :500 mA

BBSY00100505300Y00



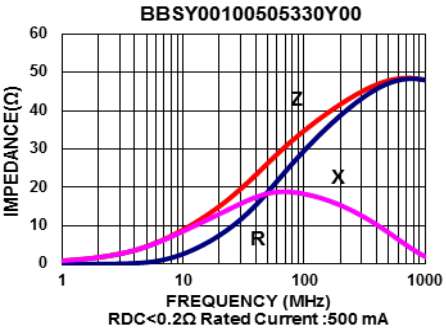
RDC<0.2 Ω Rated Current :500 mA

BBSY00100505320Y00



RDC<0.2 Ω Rated Current :500 mA

BBSY00100505330Y00



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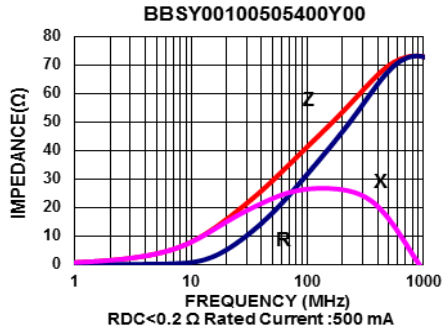
BBSY00100505400Y00



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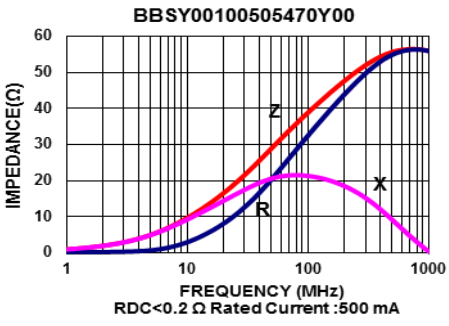
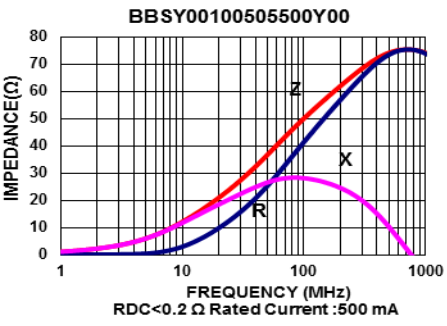
BBSY00100505470Y00



RDC<0.2 Ω Rated Current :500 mA

BBSY00100505500Y00



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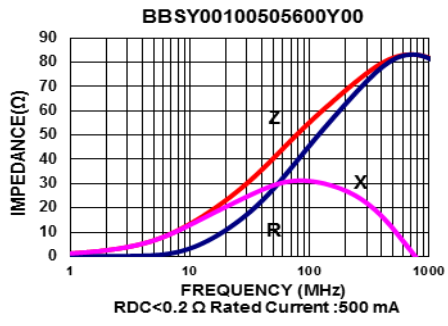
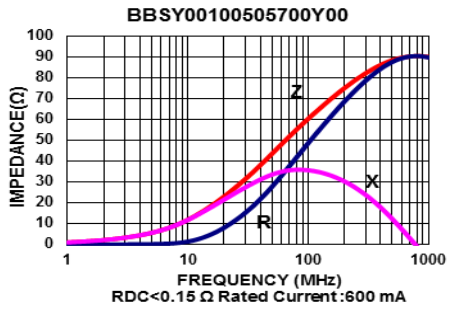
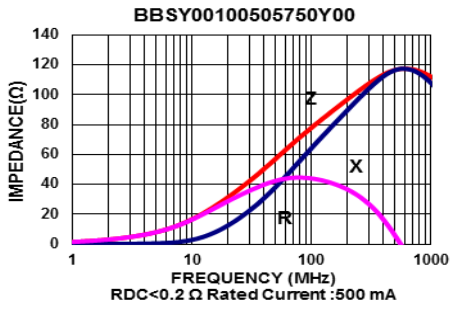
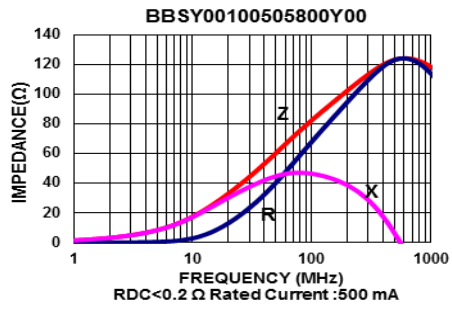


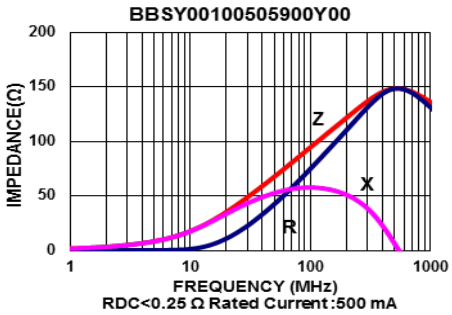
RDC<0.2 Ω Rated Current :500 mA

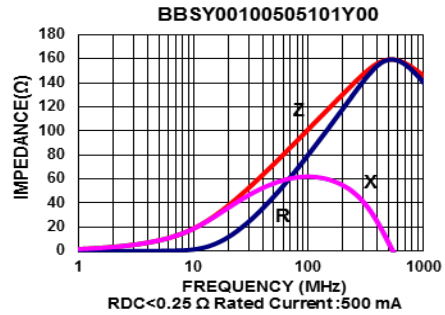


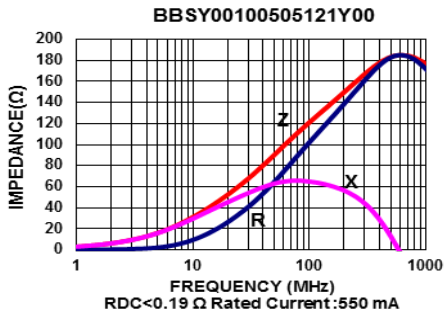


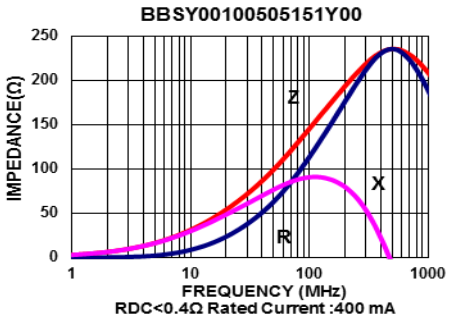


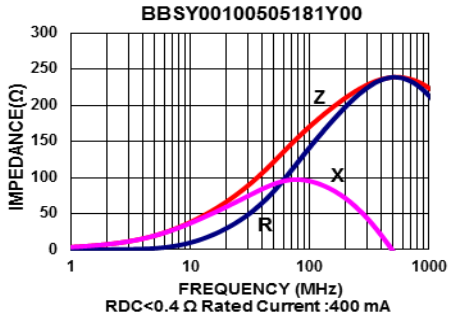
Test Instruments：Agilent E4991A Impedance / Material Analyzer

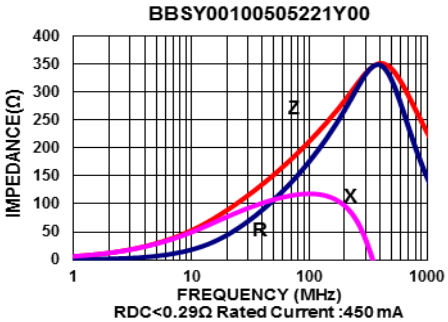


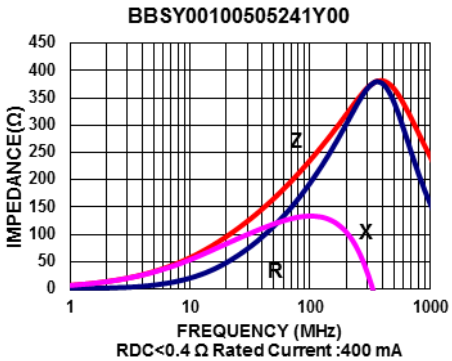


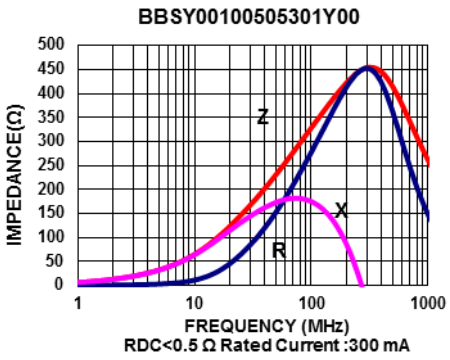


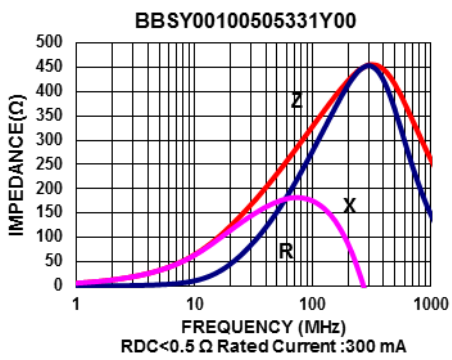


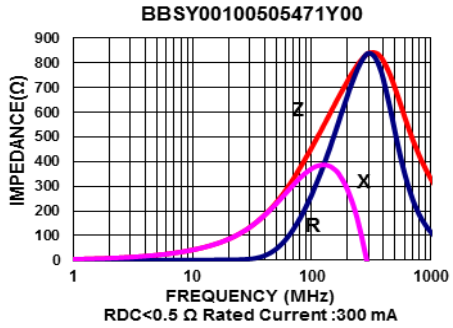


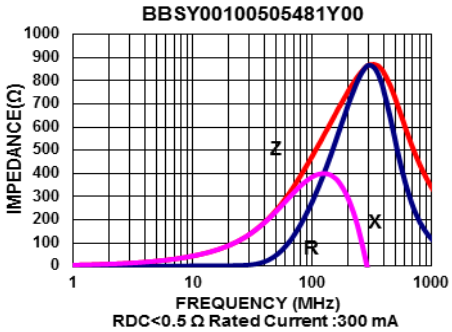


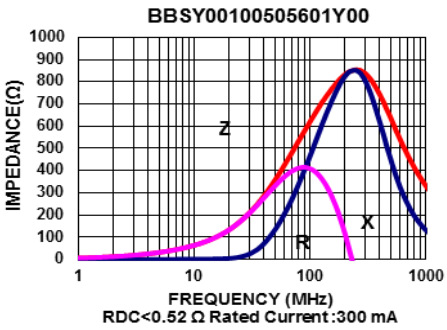


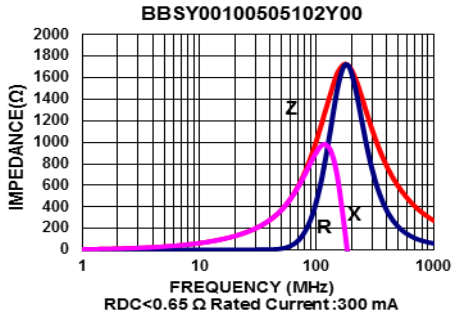


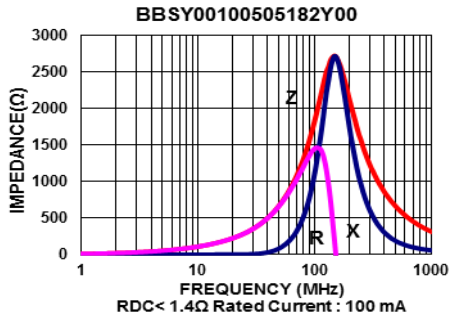


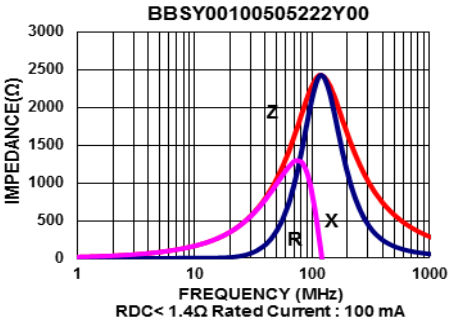












Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBBK00160808100Y00	10	100	0.05	500
BBBK00160808110Y00	11	100	0.05	500
BBBK00160808300Y00	30	100	0.10	400
BBBK00160808310Y00	31	100	0.10	400
BBBK00160808600Y00	60	100	0.10	400
BBBK00160808800Y00	80	100	0.15	400
BBBK00160808101Y00	100	100	0.20	400
BBBK00160808121Y00	120	100	0.25	400
BBBK00160808221Y00	220	100	0.30	300
BBBK00160808301Y00	300	100	0.40	300
BBBK00160808471Y00	470	100	0.50	300
BBBK00160808601Y00	600	100	0.50	300
BBBK00160808102Y00	1000	100	0.60	300
BBBK00160808152Y00	1500	100	0.60	300
BBBK00160808182Y00	1800	100	0.80	200
BBBK00160808202Y00	2000	100	0.80	200

BBBK00160808222Y00	2200	100	0.80	200
BBBK00160808252Y00	2500	100	0.80	200
BBBK00160808272Y00	2700	100	0.80	200

Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
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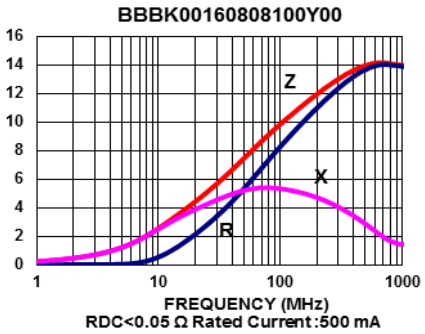
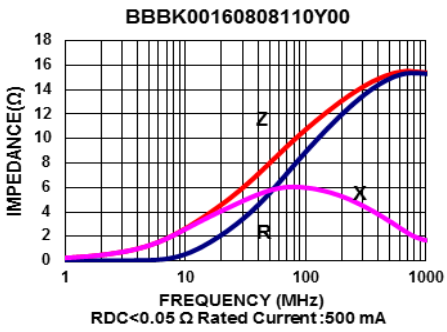
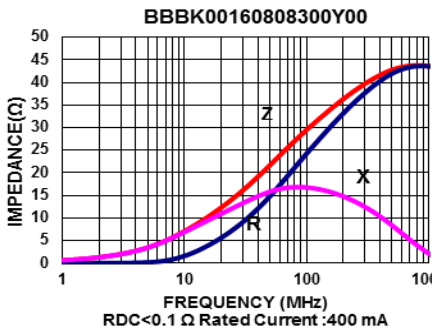
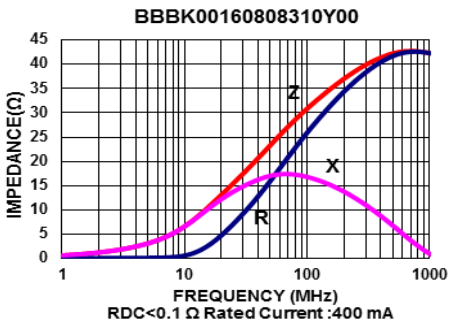
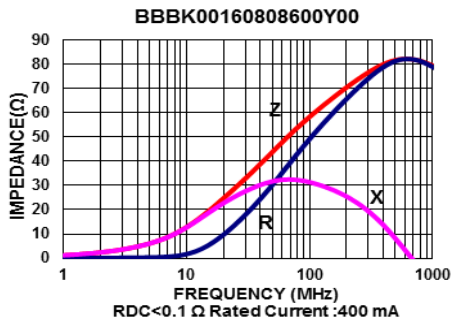


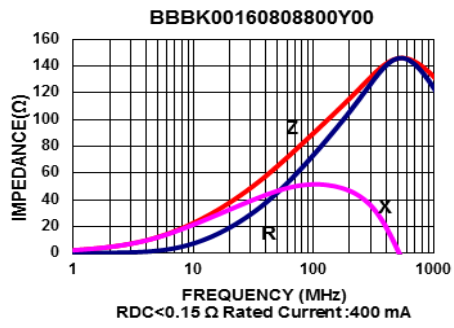




Test Instruments：Agilent E4991A Impedance / Material Analyzer







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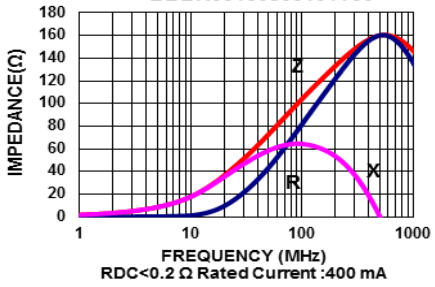
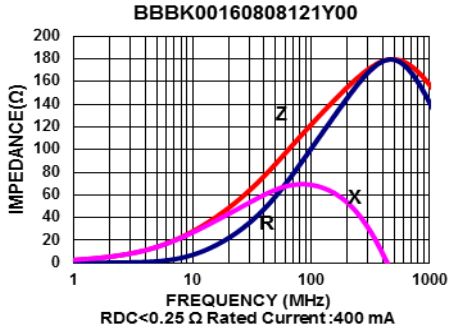


RDC<0.2 Ω Rated Current :400 mA

BBBK00160808121Y00



RDC<0.25 Ω Rated Current :400 mA

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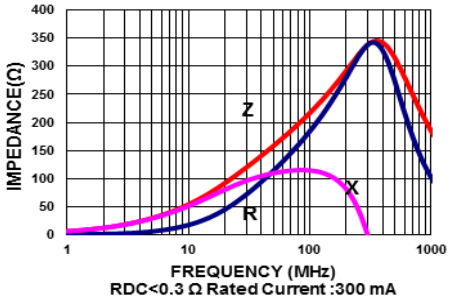
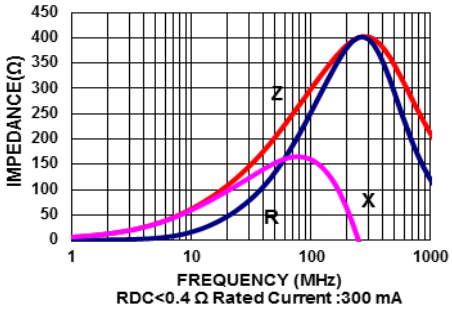


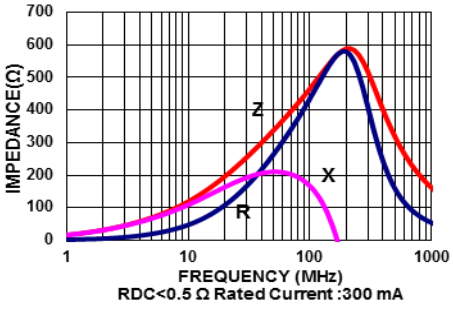
RDC<0.3 Ω Rated Current :300 mA

BBBK00160808301Y00



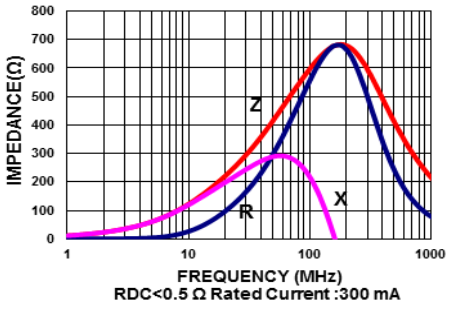
RDC<0.4 Ω Rated Current :300 mA

BBBK00160808471Y00



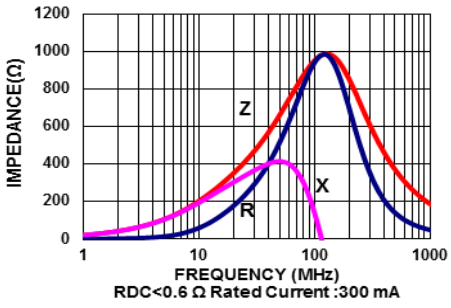
RDC<0.5 Ω Rated Current :300 mA

BBBK00160808601Y00



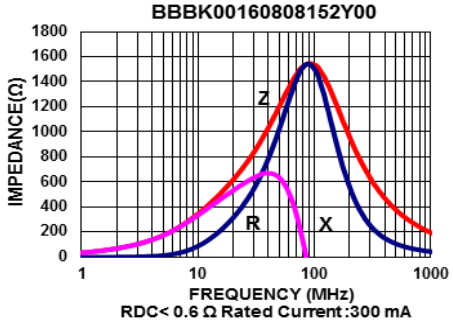
RDC<0.5 Ω Rated Current :300 mA

BBBK00160808102Y00



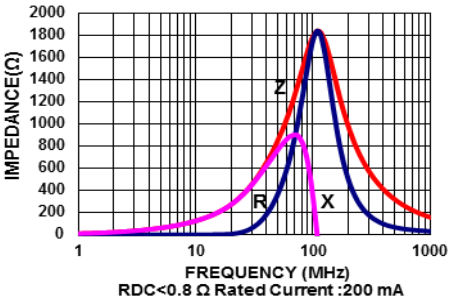
RDC<0.6 Ω Rated Current :300 mA

BBBK00160808152Y00



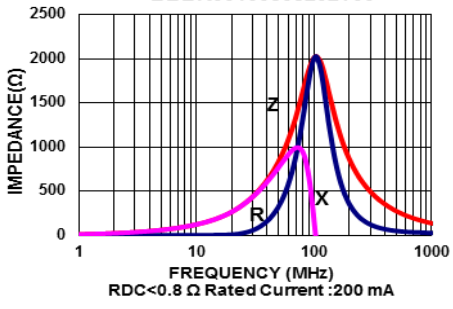
RDC< 0.6 Ω Rated Current :300 mA

BBBK00160808182Y00



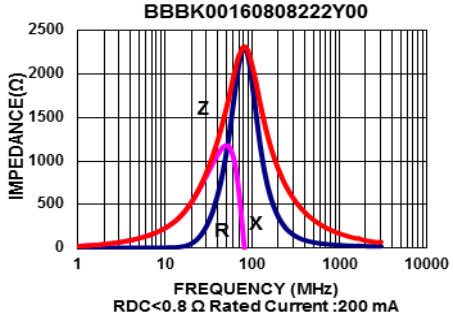
RDC<0.8 Ω Rated Current :200 mA

BBBK00160808202Y00



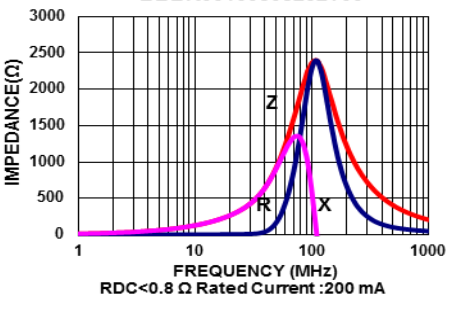
RDC<0.8 Ω Rated Current :200 mA

BBBK00160808222Y00



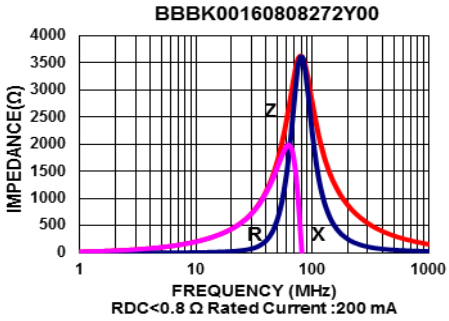
RDC<0.8 Ω Rated Current :200 mA

BBBK00160808252Y00



RDC<0.8 Ω Rated Current :200 mA

Test Instruments：Agilent E4991A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	DC Resistance (Ω) Max	Rated current (mA) Max
BBBK00201209600Y00	60	100	0.15	500
BBBK00201209800Y00	80	100	0.15	500
BBBK00201209121Y00	120	100	0.25	300
BBBK00201209221Y00	220	100	0.30	300
BBBK00201209301Y00	300	100	0.30	300
BBBK00201209431Y00	430	100	0.40	300
BBBK00201209471Y00	470	100	0.40	300
BBBK00201209601Y00	600	100	0.40	300
BBBK00201209102Y00	1000	100	0.50	200
BBBK00201209122Y00	1200	100	0.60	200
BBBK00201209152Y00	1500	100	0.60	200
BBBK00201209202Y00	2000	100	0.70	200
BBBK00201209222Y00	2200	100	0.70	200
BBBK00201209252Y00	2500	100	0.70	200
BBBK00201209272Y00	2700	100	0.70	200

Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

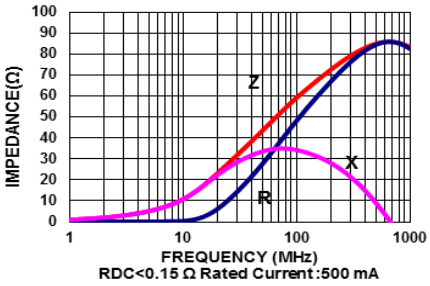
- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

  Z：HP4291A

  RDC：HP4338B or CHEN HWA 502

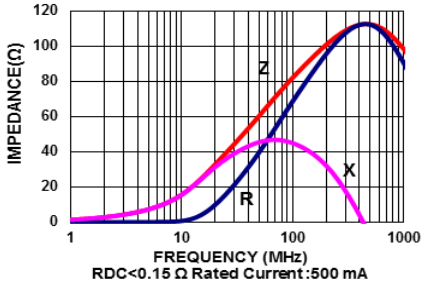
Test Instruments：Agilent E4991A Impedance / Material Analyzer

BBBK00201209600Y00



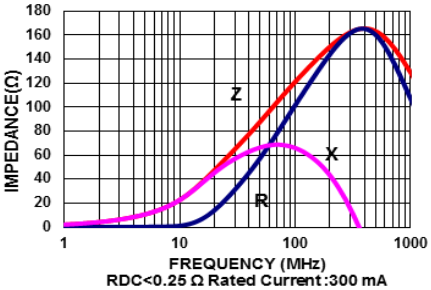
RDC<0.15 Ω Rated Current:500 mA

BBBK00201209800Y00



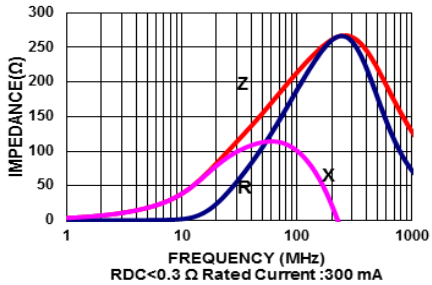
RDC<0.15 Ω Rated Current:500 mA

BBBK00201209121Y00



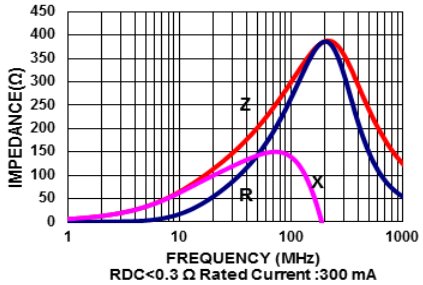
RDC<0.25 Ω Rated Current:300 mA

BBBK00201209221Y00



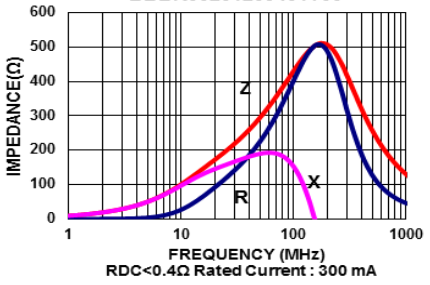
RDC<0.3 Ω Rated Current :300 mA

BBBK00201209301Y00



RDC<0.3 Ω Rated Current :300 mA

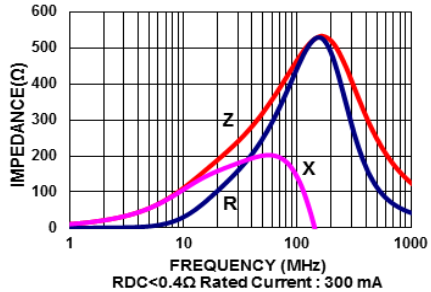
BBBK00201209431Y00



RDC<0.4Ω Rated Current : 300 mA

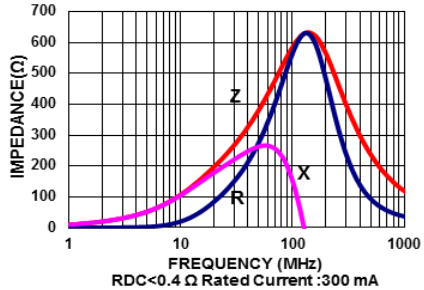
Test Instruments：Agilent E4991A Impedance / Material Analyzer

BBBK00201209471Y00



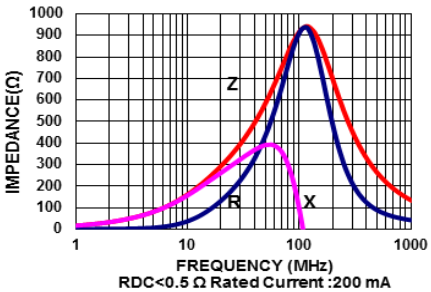
RDC<0.4Ω Rated Current : 300 mA

BBBK00201209601Y00



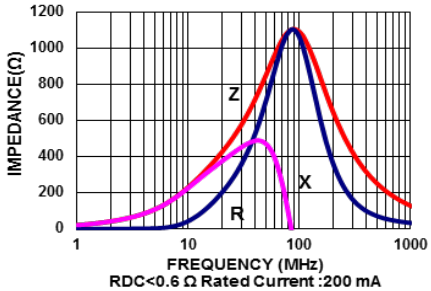
RDC<0.4 Ω Rated Current :300 mA

BBBK00201209102Y00



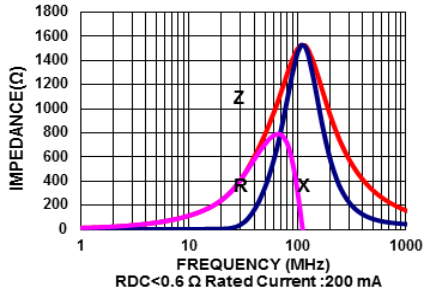
RDC<0.5 Ω Rated Current :200 mA

BBBK00201209122Y00



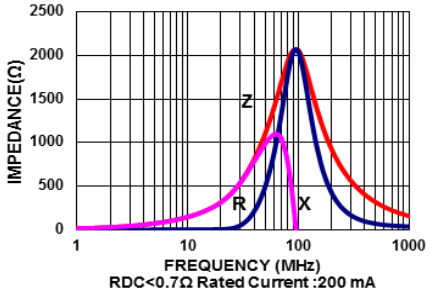
RDC<0.6 Ω Rated Current :200 mA

BBBK00201209152Y00

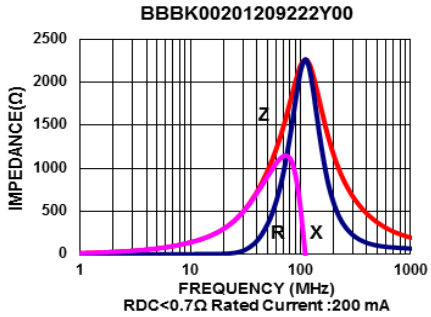


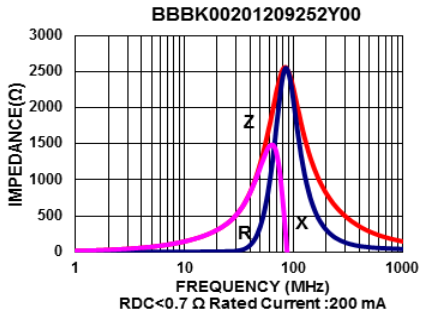
RDC<0.6 Ω Rated Current :200 mA

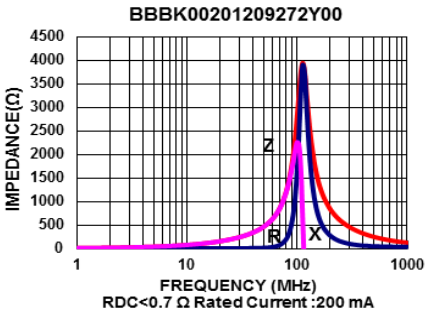
BBBK00201209202Y00



RDC<0.7Ω Rated Current :200 mA







Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBBK00321611700Y00	70	100	0.10	500
BBBK00321611800Y00	80	100	0.15	500
BBBK00321611900Y00	90	100	0.15	500
BBBK00321611101Y00	100	100	0.15	500
BBBK00321611121Y00	120	100	0.15	500
BBBK00321611151Y00	150	100	0.15	500
BBBK00321611221Y00	220	100	0.20	400
BBBK00321611301Y00	300	100	0.20	400
BBBK00321611401Y00	400	100	0.20	400
BBBK00321611471Y00	470	100	0.20	400
BBBK00321611501Y00	500	100	0.20	400
BBBK00321611601Y00	600	100	0.30	400
BBBK00321611102Y00	1000	50	0.40	200
BBBK00321611122Y00	1200	50	0.40	200
BBBK00321611152Y00	1500	50	0.45	200
BBBK00321611202Y00	2000	30	0.60	200
BBBK00321611272Y00	2700	30	0.60	300

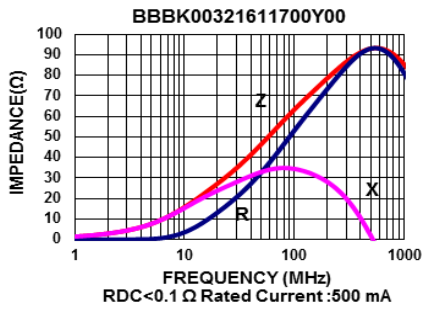
Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

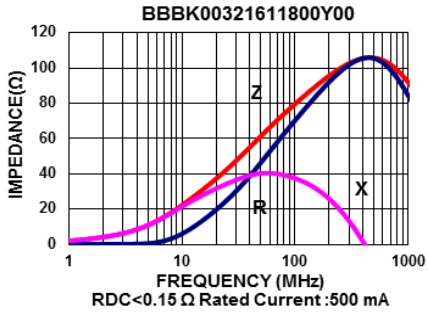
- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

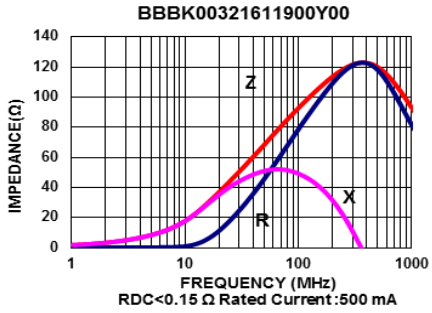
  Z：HP4291A

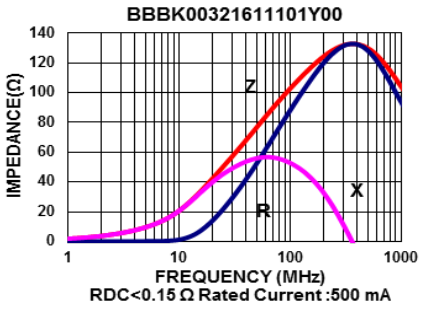
  RDC：HP4338B or CHEN HWA 502

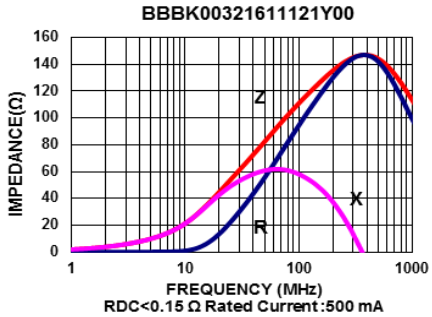
Test Instruments：Agilent E4991A Impedance / Material Analyzer

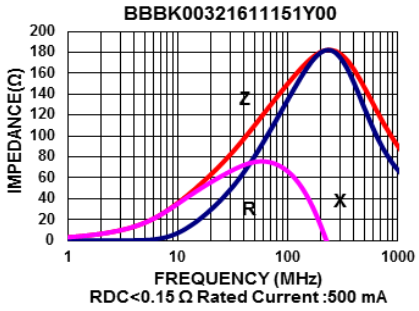




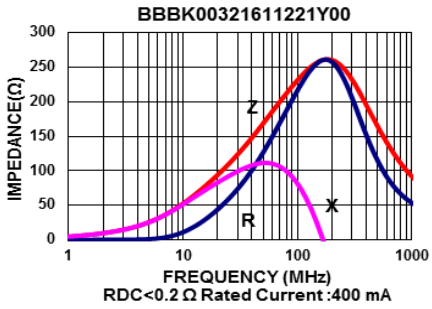


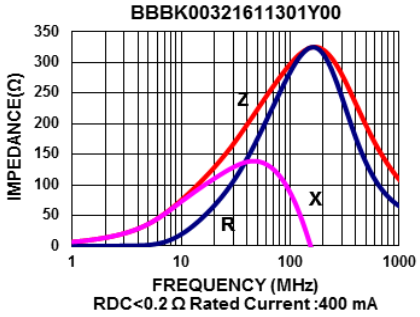


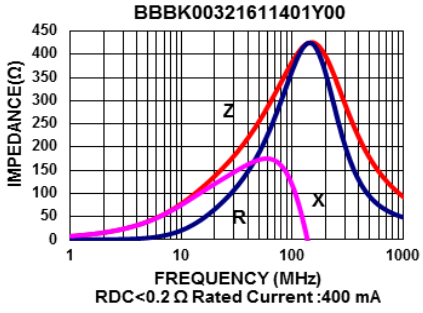


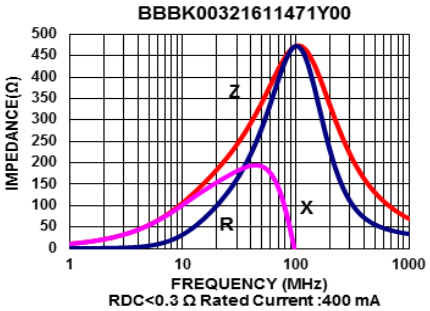


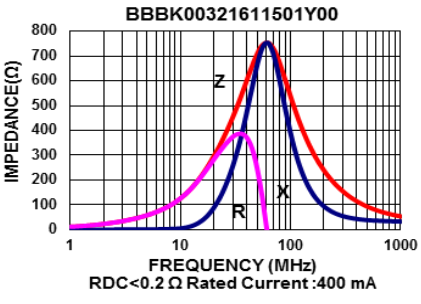
Test Instruments：Agilent E4991A Impedance / Material Analyzer

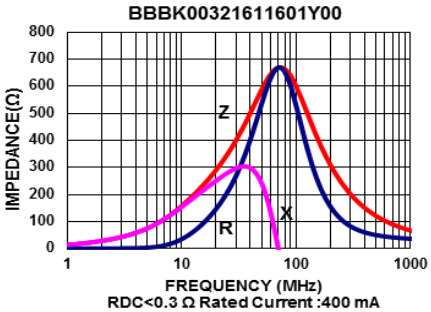


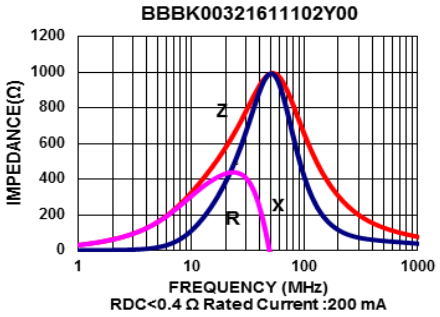


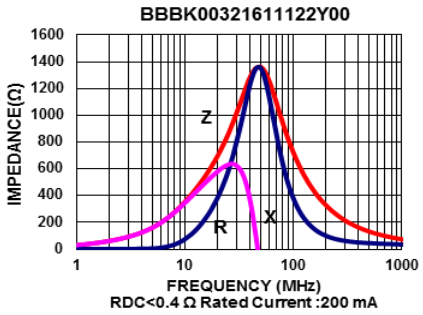


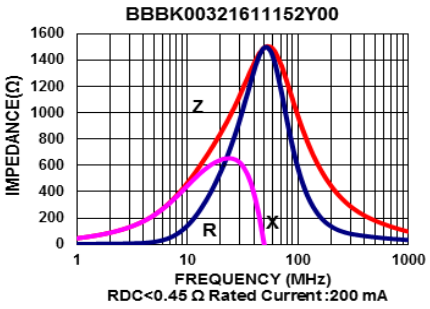


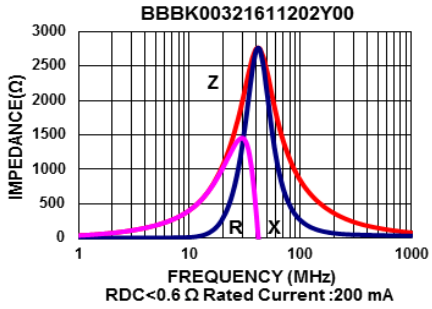





BBBK00321611102Y00
IMPEDANCE(Ω)
1200
1000
800
600
400
200
0
Z
R
X
1
10
100
1000
FREQUENCY (MHz)
RDC<0.4 Ω Rated Current :200 mA


BBBK00321611122Y00
IMPEDANCE(Ω)
1600
1400
1200
1000
800
600
400
200
0
Z
R
X
1
10
100
1000
FREQUENCY (MHz)
RDC<0.4 Ω Rated Current :200 mA


BBBK00321611152Y00
IMPEDANCE(Ω)
1600
1400
1200
1000
800
600
400
200
0
Z
R
X
1
10
100
1000
FREQUENCY (MHz)
RDC<0.45 Ω Rated Current :200 mA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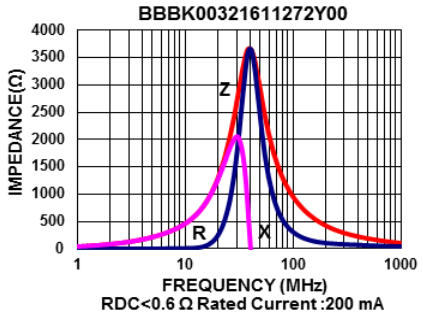
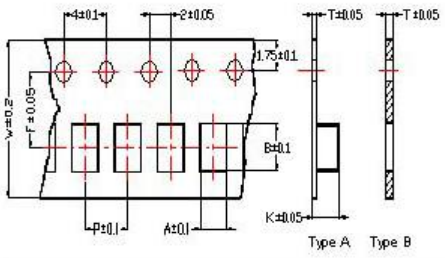
IMPEDANCE(Ω)
3000
2500
2000
1500
1000
500
0
Z
R
X
1
10
100
1000
FREQUENCY (MHz)
RDC<0.6 Ω Rated Current :200 mA

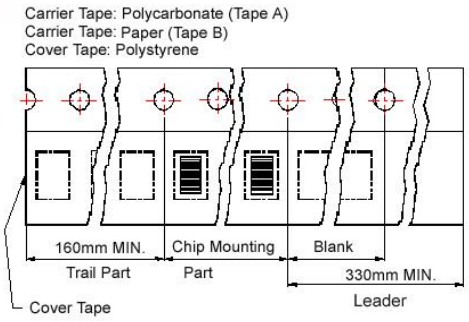

BBBK00321611272Y00
IMPEDANCE(Ω)
4000
3500
3000
2500
2000
1500
1000
500
0
Z
R
X
1
10
100
1000
FREQUENCY (MHz)
RDC<0.6 Ω Rated Current :200 mA

Packaging Specifications

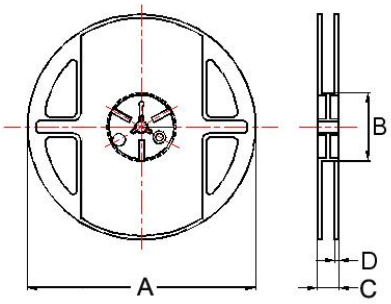
Tape Dimensions



Tape Material



Reel Dimensions



① : BBSY/BBSJ/BBNQ/BBPY ③ : BBUP
② : BBSY/BBSJ/BBNQ/BBPY/BBUP/BBFY/BBFJ
④ : BBBK/BBSJ/BBGK/BBPY/BBNQ/BBUP/BBHV
⑤ : BBBK/BBGK/BBPY/BBUP
⑥ : BBSY/BBBK/BBPY/BBUP
⑦ : BBPY/BBUP

Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape	A	B	C	D	PCS / REEL
①060303	0.37	0.67	0.42	8.0	2.0	3.5	-	B	178	60	10	2	15000
②100505	0.62	1.12	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
③160805	1.05	1.85	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
④160808	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑤201209	1.50	2.30	0.97	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑥321611	1.88	3.50	0.22	8.0	4.0	3.5	1.27	A	178	60	12	2	3000
⑦453215	3.66	4.95	0.24	12	8.0	5.5	1.85	A	178	60	14	2	1000

For More Information:

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