

# DATA SHEET

## INDUCTOR

Multilayer Chip

BSCQ Series

RoHS compliant & Halogen Free



### BSCQ Series

BSCQ Series supports miniaturized devices. Its low inductance, high precision and high Q enables easy impedance matching at both RF and IF circuits and compact high frequency circuit designing.



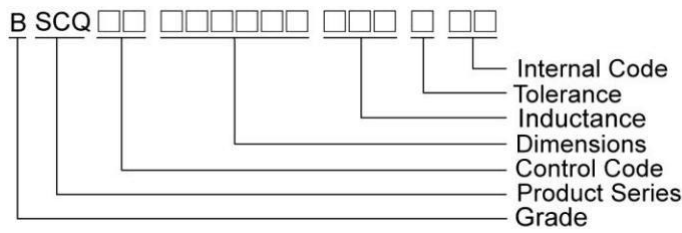
#### Features

- Excellent high frequency application
- High Q factor and SRF value
- Miniaturization
- Tight tolerance
- Wide inductance range

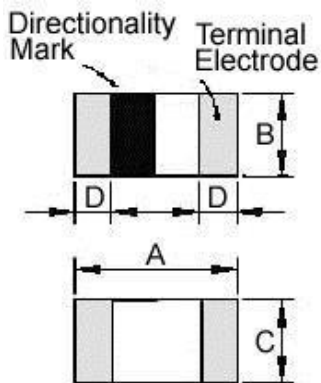
#### Applications

- RF matching circuit requiring Q value
- Bluetooth, WLAN, UWB, digital TV tuners and high-frequency circuit and module

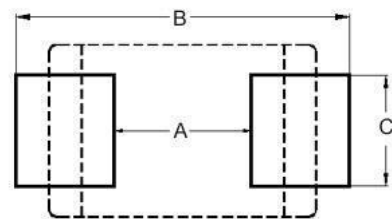
#### Product Identification



#### Shape and Dimensions



#### Recommended Pattern



Dimensions in mm

TYPE	A	B	C	D
BSCQ00060303	0.6±0.03	0.3±0.03	0.3±0.03	0.15±0.05

Dimensions in mm

TYPE	A	B	C
BSCQ00060303	0.3	0.75 ~ 1.05	0.3

## Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Q Min	Test Freq. (MHz)	Q Typical					SRF (MHz) Min	RDC (Ω) Max	IDC (mA) Max
					500 MHz	800 MHz	1.8 GHz	2.0 GHz	2.4 GHz			
BSCQ000603030N6□00	0.6	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N7□00	0.7	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N8□00	0.8	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N9□00	0.9	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603031N0□00	1.0	±0.1nH/±0.2nH/±0.3nH	14	500	23	32	54	57	65	10000	0.07	850
BSCQ000603031N1□00	1.1	±0.1nH/±0.2nH/±0.3nH	14	500	22	26	45	47	55	10000	0.07	850
BSCQ000603031N2□00	1.2	±0.1nH/±0.2nH/±0.3nH	14	500	22	25	43	44	52	10000	0.08	800
BSCQ000603031N3□00	1.3	±0.1nH/±0.2nH/±0.3nH	14	500	19	25	40	42	47	10000	0.09	760
BSCQ000603031N4□00	1.4	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	339	41	47	10000	0.12	640
BSCQ000603031N5□00	1.5	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.15	600
BSCQ000603031N6□00	1.6	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.19	510
BSCQ000603031N7□00	1.7	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.11	680
BSCQ000603031N8□00	1.8	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.12	640
BSCQ000603031N9□00	1.9	±0.1nH/±0.2nH/±0.3nH	14	500	18	24	38	40	45	10000	0.13	620
BSCQ000603032N0□00	2.0	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	38	39	44	10000	0.15	600
BSCQ000603032N1□00	2.1	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	37	39	44	10000	0.16	550
BSCQ000603032N2□00	2.2	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	38	40	43	10000	0.20	500
BSCQ000603032N3□00	2.3	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	37	39	43	10000	0.24	460
BSCQ000603032N4□00	2.4	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	36	38	42	10000	0.26	430
BSCQ000603032N5□00	2.5	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	35	36	40	10000	0.28	415
BSCQ000603032N6□00	2.6	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	10000	0.30	405
BSCQ000603032N7□00	2.7	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	10000	0.32	400
BSCQ000603032N8□00	2.8	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9500	0.20	500
BSCQ000603032N9□00	2.9	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9300	0.22	480
BSCQ000603033N0□00	3.0	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9100	0.24	460
BSCQ000603033N1□00	3.1	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	8900	0.25	450
BSCQ000603033N2□00	3.2	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	33	35	39	8700	0.28	415
BSCQ000603033N3□00	3.3	±0.1nH/±0.2nH/±0.3nH	14	500	18	23	34	36	40	8600	0.28	415
BSCQ000603033N4□00	3.4	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	33	35	39	8400	0.29	410
BSCQ000603033N5□00	3.5	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	33	35	39	8200	0.30	405
BSCQ000603033N6□00	3.6	±0.1nH/±0.2nH/±0.3nH	14	500	16	23	33	35	39	8100	0.32	400
BSCQ000603033N7□00	3.7	±0.1nH/±0.2nH/±0.3nH	14	500	16	23	33	35	38	8000	0.36	370
BSCQ000603033N8□00	3.8	±0.1nH/±0.2nH/±0.3nH	14	500	16	22	33	35	38	7800	0.40	355
BSCQ000603033N9□00	3.9	±0.1nH/±0.2nH/±0.3nH	14	500	16	22	33	35	38	7700	0.41	350

Note: When ordering, please specify tolerance code. Tolerance : B=±0.1nH , C=±0.2nH , S=±0.3nH , H=±3% , J=±5%

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- IDC : Applied the current to coils, the inductance shall be less than 10% initial value
- Residual impedance of short chip : 0.48nH
- Measure Equipment :

L & Q : Agilent E4991A+Agilent 16197A

SRF : Agilent E4991A or HP19196C RDC :

HP4338B or CHEN HWA 502

Electrical Characteristics

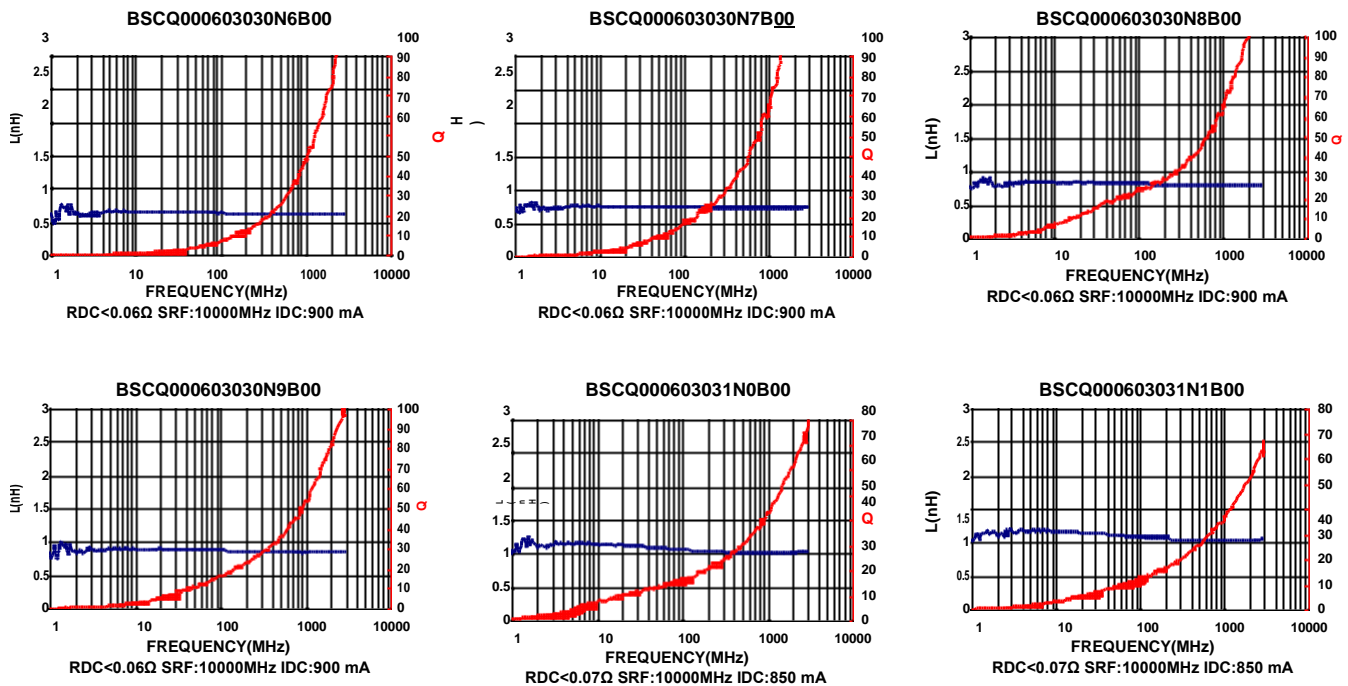
Part Number	Inductance (nH)	Tolerance (±%)	Q Min	Test Freq. (MHz)	Q Typical					SRF (MHz) Min	RDC (Ω) Max	IDC (mA) Max
					500 MHz	800 MHz	1.8 GHz	2.0 GHz	2.4 GHz			
BSCQ000603034N3□00	4.3	±0.2nH/±0.3nH	14	500	16	21	32	34	37	6500	0.48	320
BSCQ000603034N7□00	4.7	±0.2nH/±0.3nH	14	500	16	22	33	35	38	6400	0.42	350
BSCQ000603035N1□00	5.1	±0.2nH/±0.3nH	14	500	17	22	34	36	38	6100	0.45	330
BSCQ000603035N6□00	5.6	±0.2nH/±0.3nH	14	500	16	21	33	34	37	5500	0.47	325
BSCQ000603036N2□00	6.2	±0.2nH/±0.3nH	14	500	18	23	34	35	37	5100	0.52	305
BSCQ000603036N8□00	6.8	3 / 5	14	500	17	22	32	33	35	4800	0.55	305
BSCQ000603037N5□00	7.5	3 / 5	14	500	16	21	31	33	34	4600	0.55	305
BSCQ000603038N2□00	8.2	3 / 5	14	500	16	21	31	32	34	4300	0.57	290
BSCQ000603039N1□00	9.1	3 / 5	14	500	16	20	30	31	32	4000	0.65	270
BSCQ0006030310N□00	10	3 / 5	14	500	16	20	28	29	31	3800	0.85	230
BSCQ0006030312N□00	12	3 / 5	14	500	16	20	27	28	28	3300	0.85	230
BSCQ0006030315N□00	15	3 / 5	14	500	15	19	24	24	23	2600	0.89	220
BSCQ0006030318N□00	18	3 / 5	14	500	15	19	23	24	22	2300	1.05	205
BSCQ0006030322N□00	22	3 / 5	14	500	15	19	22	23	20	1900	1.29	190

Note: When ordering, please specify tolerance code. Tolerance : B=±0.1nH , C=±0.2nH , S=±0.3nH , H=±3% , J=±5%

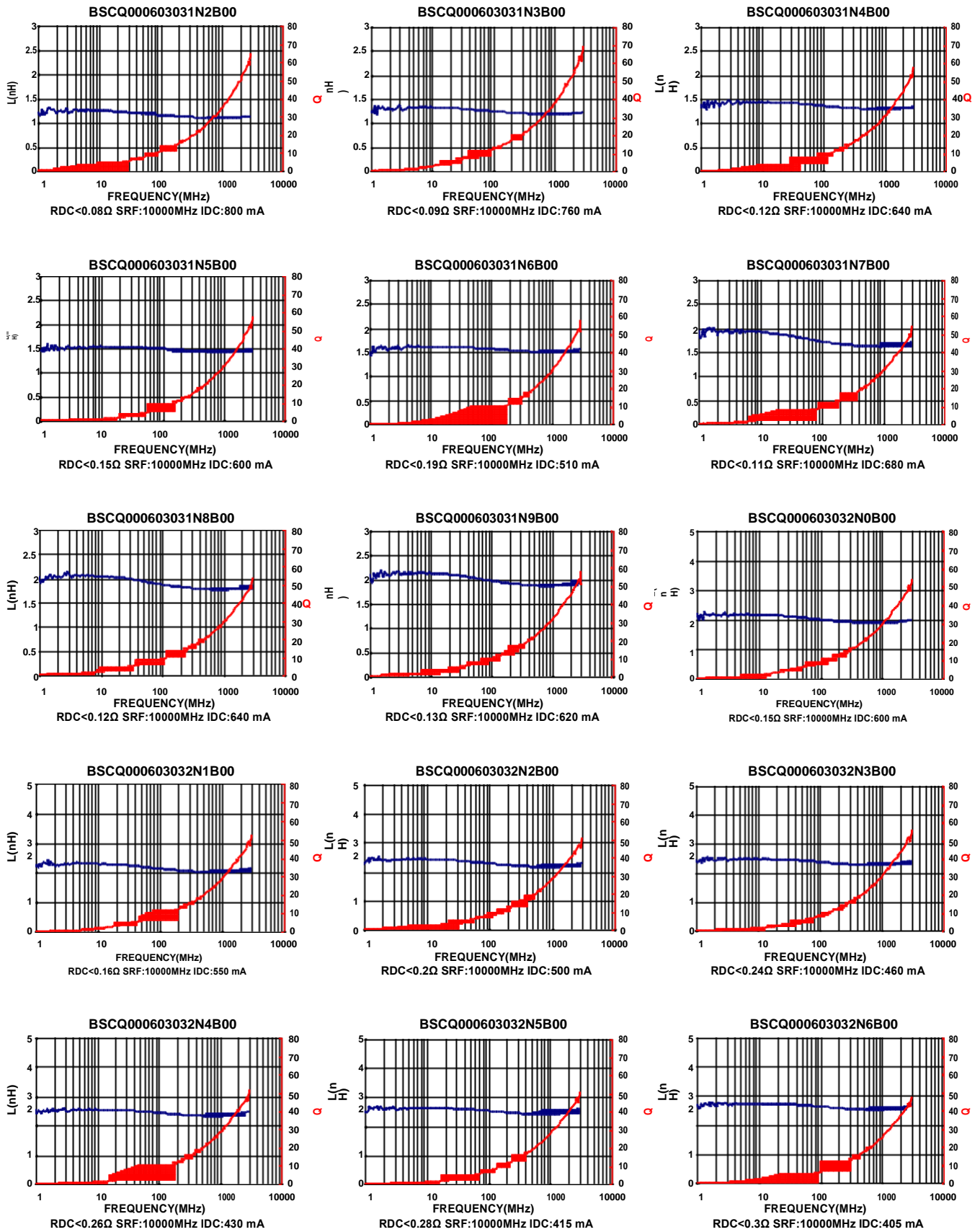
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 HP4338B or CHEN HWA 502

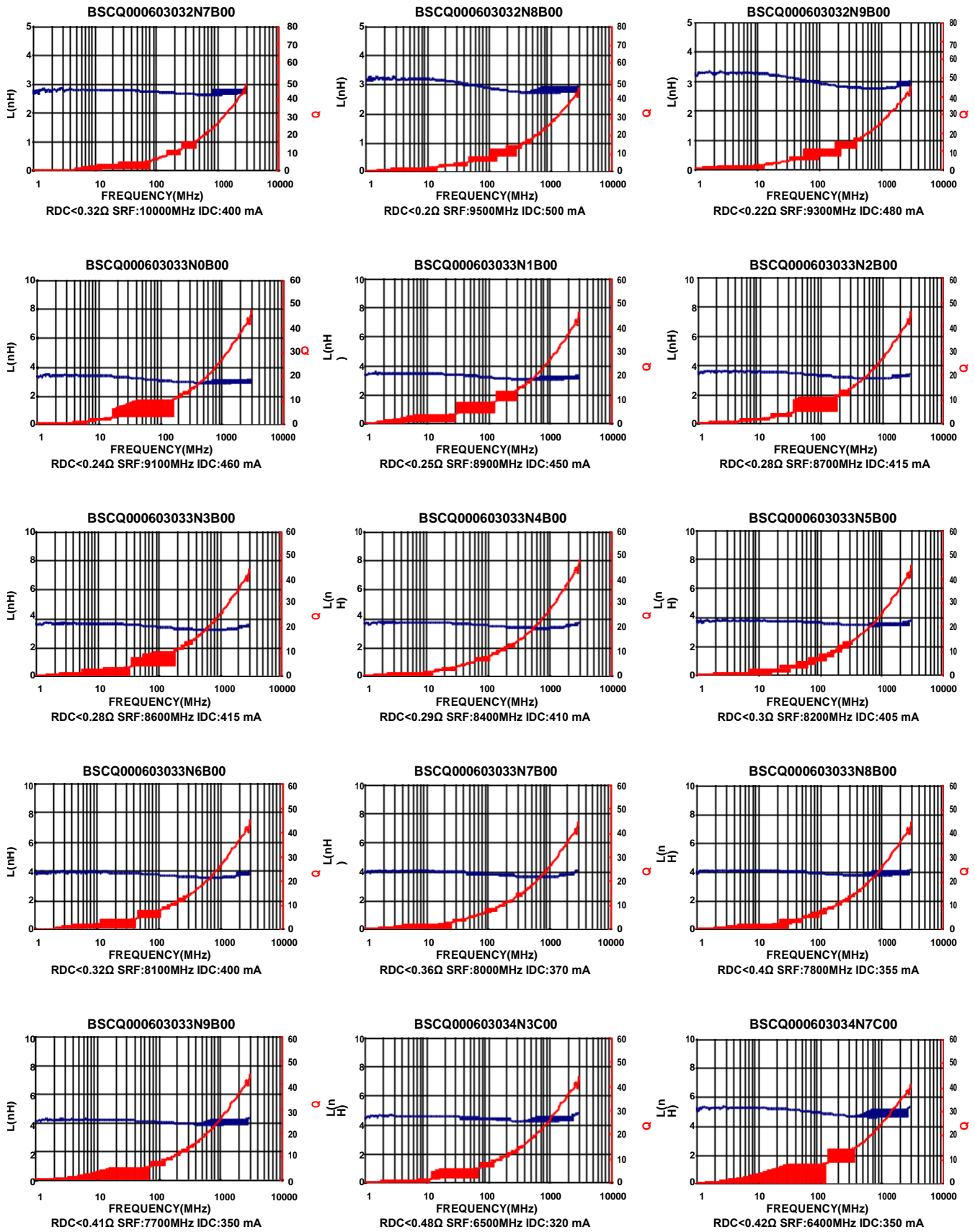
Test Instruments : Agilent E4991A Material/Impedance Analyzer



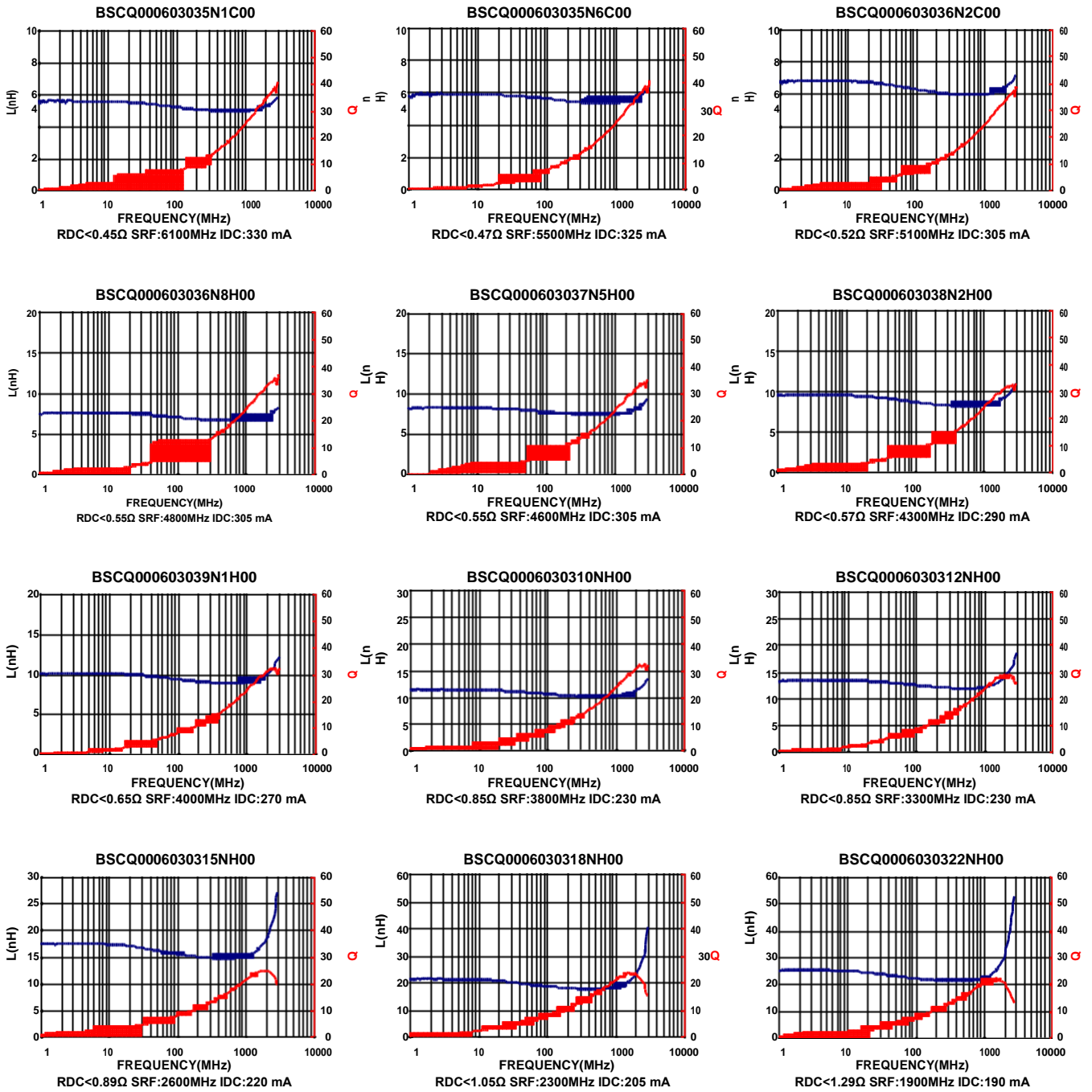
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**Test Instruments : Agilent E4991A Material/Impedance Analyzer**



**Electrical Characteristics**

Part Number	Inductance (nH)	Tolerance (±%)	Q Min	Test Freq. (MHz)	Q Typical					SRF (MHz) Min	RDC (Ω) Max	IDC (mA) Max
					500 MHz	800 MHz	1.8 GHz	2.0 GHz	2.4 GHz			
BSCQ000603030N1□HR	0.1	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N2□HR	0.2	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N3□HR	0.3	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N4□HR	0.4	±0.1nH/±0.2nH/±0.3nH	14	500	>24	>32	>54	>57	>65	10000	0.06	900
BSCQ000603030N5□HR	0.5	±0.1nH/±0.2nH/±0.3nH	14	500	23	32	54	57	65	10000	0.07	850
BSCQ000603030N6□HR	0.6	±0.1nH/±0.2nH/±0.3nH	14	500	22	26	45	47	55	10000	0.07	850
BSCQ000603030N7□HR	0.7	±0.1nH/±0.2nH/±0.3nH	14	500	22	25	43	44	52	10000	0.08	800
BSCQ000603030N8□HR	0.8	±0.1nH/±0.2nH/±0.3nH	14	500	19	25	40	42	47	10000	0.09	760
BSCQ000603030N9□HR	0.9	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	339	41	47	10000	0.12	640
BSCQ000603031N0□HR	1.0	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.15	600
BSCQ000603031N1□HR	1.1	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.19	510
BSCQ000603031N2□HR	1.2	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.11	680
BSCQ000603031N3□HR	1.3	±0.1nH/±0.2nH/±0.3nH	14	500	19	24	39	41	46	10000	0.12	640
BSCQ000603031N4□HR	1.4	±0.1nH/±0.2nH/±0.3nH	14	500	18	24	38	40	45	10000	0.13	620
BSCQ000603031N5□HR	1.5	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	38	39	44	10000	0.15	600
BSCQ000603031N6□HR	1.6	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	37	39	44	10000	0.16	550
BSCQ000603031N7□HR	1.7	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	38	40	43	10000	0.20	500
BSCQ000603031N8□HR	1.8	±0.1nH/±0.2nH/±0.3nH	14	500	17	24	37	39	43	10000	0.24	460
BSCQ000603031N9□HR	1.9	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	36	38	42	10000	0.26	430
BSCQ000603032N0□HR	2.0	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	35	36	40	10000	0.28	415
BSCQ000603032N1□HR	2.1	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	10000	0.30	405
BSCQ000603032N2□HR	2.2	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	10000	0.32	400
BSCQ000603032N3□HR	2.3	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9500	0.20	500
BSCQ000603032N4□HR	2.4	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9300	0.22	480
BSCQ000603032N5□HR	2.5	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	9100	0.24	460
BSCQ000603032N6□HR	2.6	±0.1nH/±0.2nH/±0.3nH	14	500	17	22	34	35	39	8900	0.25	450
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BSCQ000603032N8□HR	2.8	±0.1nH/±0.2nH/±0.3nH	14	500	18	23	34	36	40	8600	0.28	415
BSCQ000603032N9□HR	2.9	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	33	35	39	8400	0.29	410
BSCQ000603033N0□HR	3.0	±0.1nH/±0.2nH/±0.3nH	14	500	17	23	33	35	39	8200	0.30	405
BSCQ000603033N1□HR	3.1	±0.1nH/±0.2nH/±0.3nH	14	500	16	23	33	35	39	8100	0.32	400
BSCQ000603033N2□HR	3.2	±0.1nH/±0.2nH/±0.3nH	14	500	16	23	33	35	38	8000	0.36	370

**Note: When ordering, please specify tolerance code. Tolerance : B=±0.1nH , C=±0.2nH , S=±0.3nH , H=±3% , J=±5%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- IDC : Applied the current to coils, the inductance shall be less than 10% initial value
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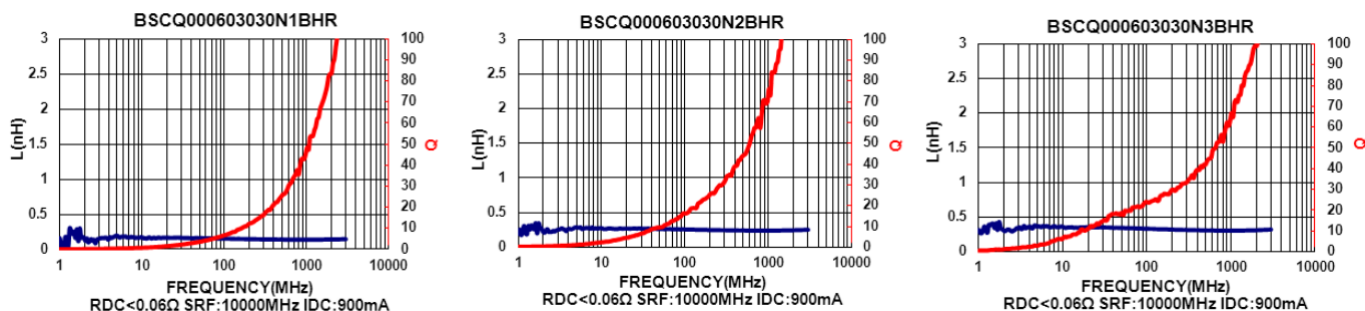
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BSCQ000603033N3□HR	3.3	±0.1nH/±0.2nH/±0.3nH	14	500	16	22	33	35	38	7800	0.40	355
BSCQ000603033N4□HR	3.4	±0.1nH/±0.2nH/±0.3nH	14	500	16	22	33	35	38	7700	0.41	350
BSCQ000603033N5□HR	3.5	±0.1nH/±0.2nH/±0.3nH	14	500	16	22	33	35	38	7700	0.41	350
BSCQ000603033N6□HR	3.6	±0.1nH/±0.2nH/±0.3nH	14	500	16	21	32	34	37	6500	0.48	320
BSCQ000603033N7□HR	3.7	±0.1nH/±0.2nH/±0.3nH	14	500	16	21	32	34	37	6500	0.48	320
BSCQ000603033N8□HR	3.8	±0.1nH/±0.2nH/±0.3nH	14	500	16	21	32	34	37	6500	0.48	320
BSCQ000603033N9□HR	3.9	±0.1nH/±0.2nH/±0.3nH	14	500	16	21	32	34	37	6500	0.48	320
BSCQ000603034N3□HR	4.3	±0.2nH/±0.3nH	14	500	16	22	33	35	38	6400	0.42	350
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BSCQ000603035N1□HR	5.1	±0.2nH/±0.3nH	14	500	16	21	33	34	37	5500	0.47	325
BSCQ000603035N6□HR	5.6	±0.2nH/±0.3nH	14	500	18	23	34	35	37	5100	0.52	305
BSCQ000603036N2□HR	6.2	±0.2nH/±0.3nH	14	500	17	22	32	33	35	4800	0.55	305
BSCQ000603036N8□HR	6.8	3 / 5	14	500	16	21	31	33	34	4600	0.55	305
BSCQ000603037N5□HR	7.5	3 / 5	14	500	16	21	31	32	34	4300	0.57	290
BSCQ000603038N2□HR	8.2	3 / 5	14	500	16	20	30	31	32	4000	0.65	270
BSCQ000603039N1□HR	9.1	3 / 5	14	500	16	20	28	29	31	3800	0.85	230
BSCQ0006030310N□HR	10	3 / 5	14	500	16	20	28	29	31	3800	0.85	230
BSCQ0006030312N□HR	12	3 / 5	14	500	16	20	27	28	28	3300	0.85	230
BSCQ0006030315N□HR	15	3 / 5	14	500	15	19	24	24	23	2600	0.89	220
BSCQ0006030318N□HR	18	3 / 5	14	500	15	19	23	24	22	2300	1.05	205
BSCQ0006030322N□HR	22	3 / 5	14	500	15	19	22	23	20	1900	1.29	190

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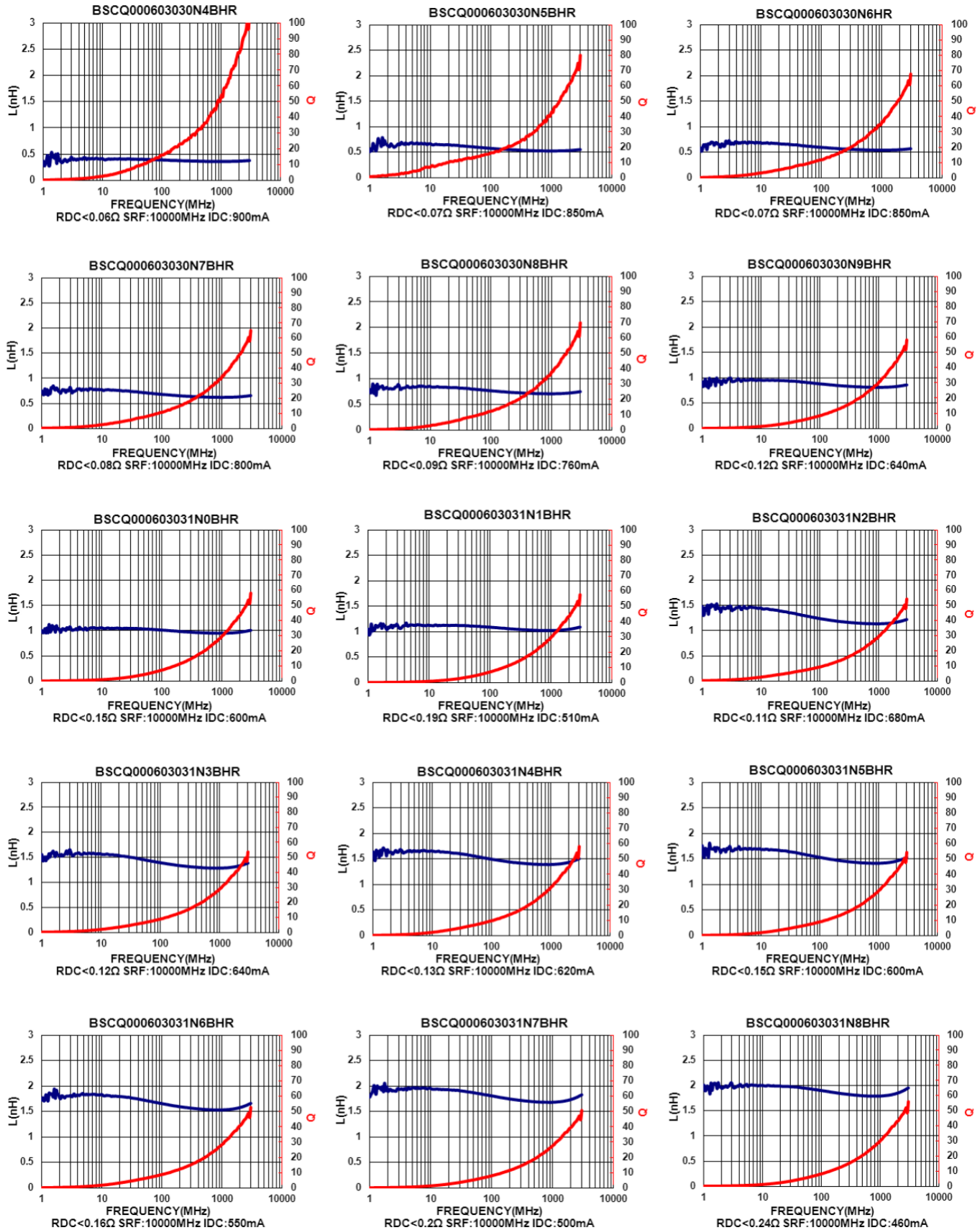
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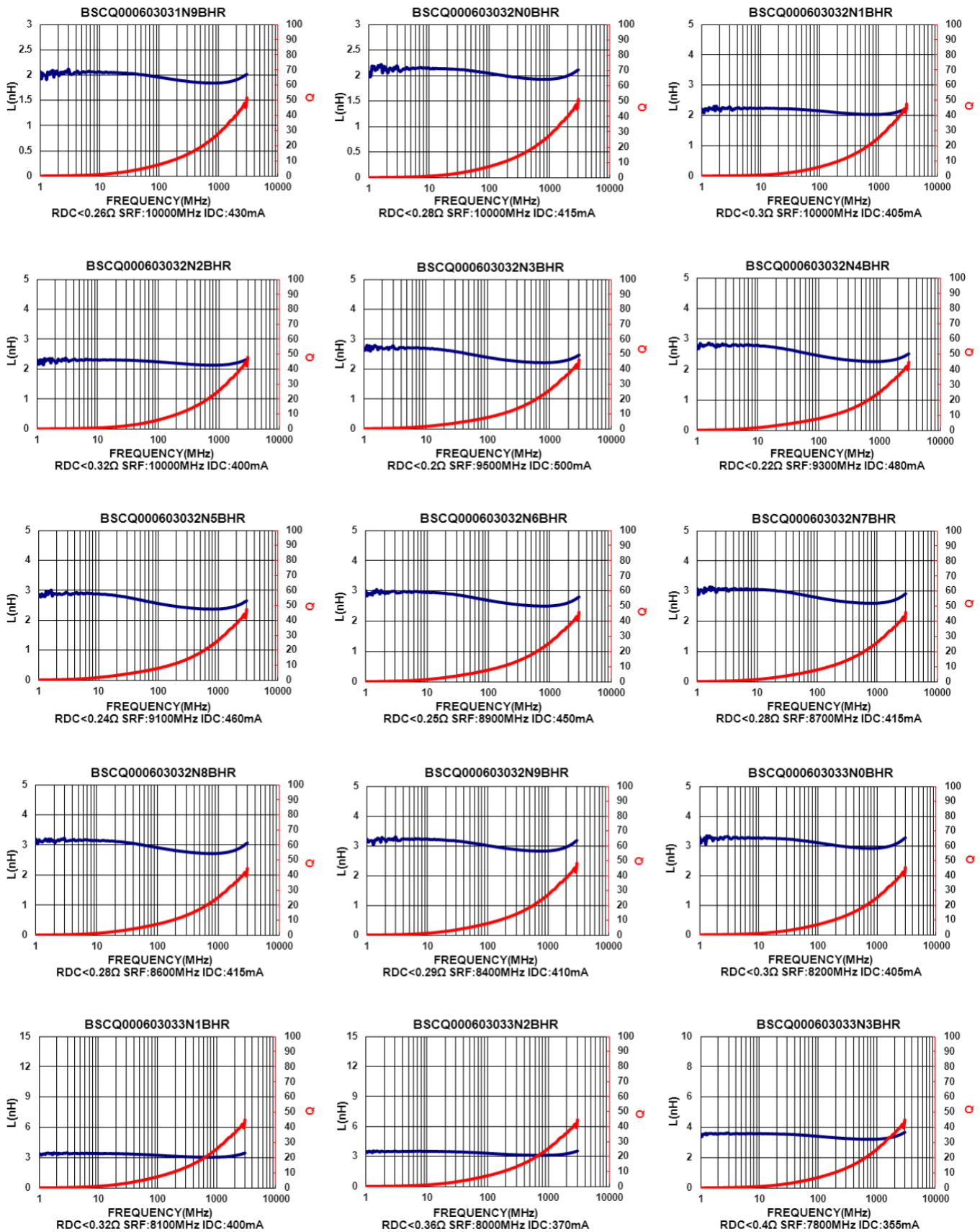
**Test Instruments : Agilent E4991A Material/Impedance Analyzer**



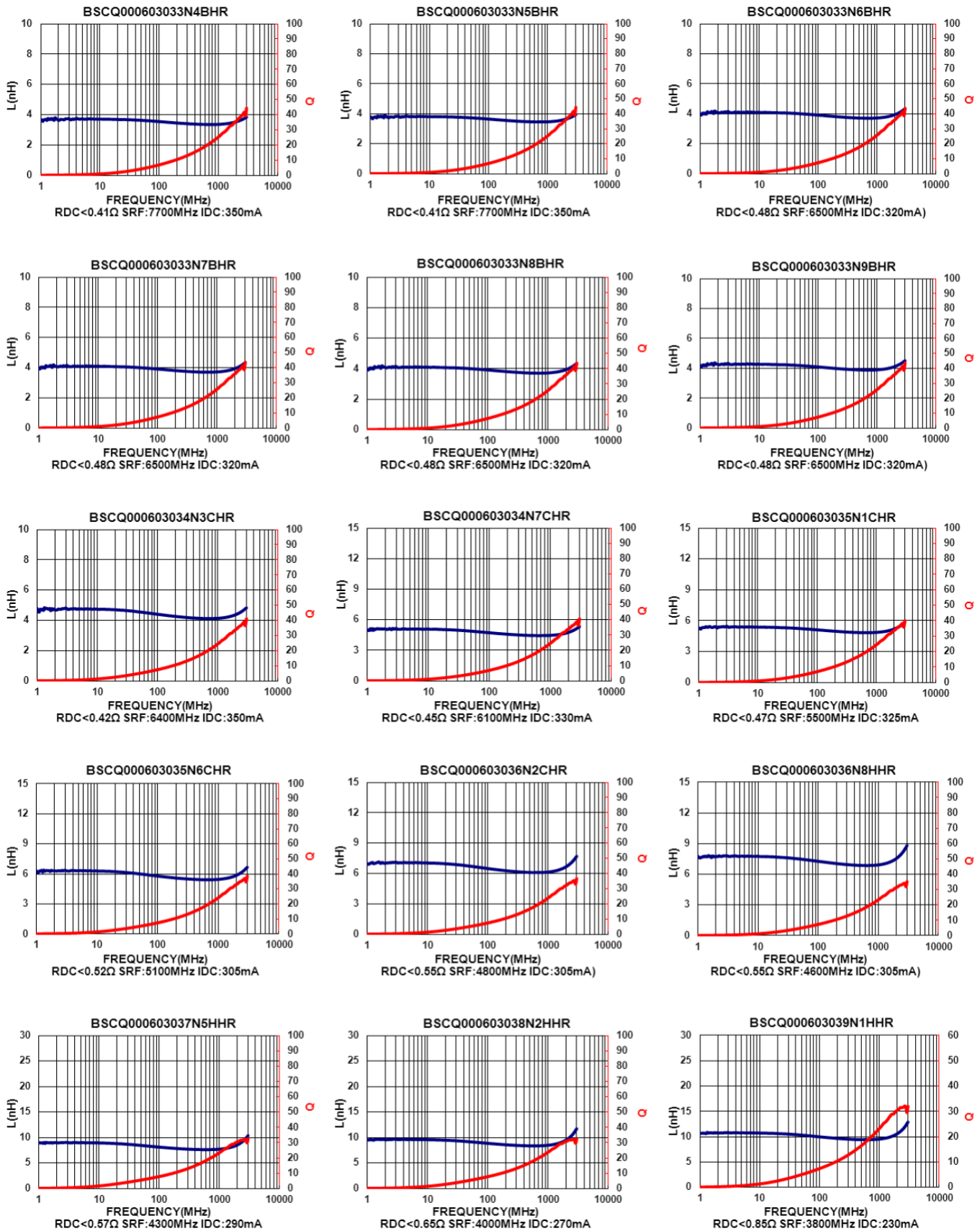
**Test Instruments : Agilent E4991A Material/Impedance Analyzer**



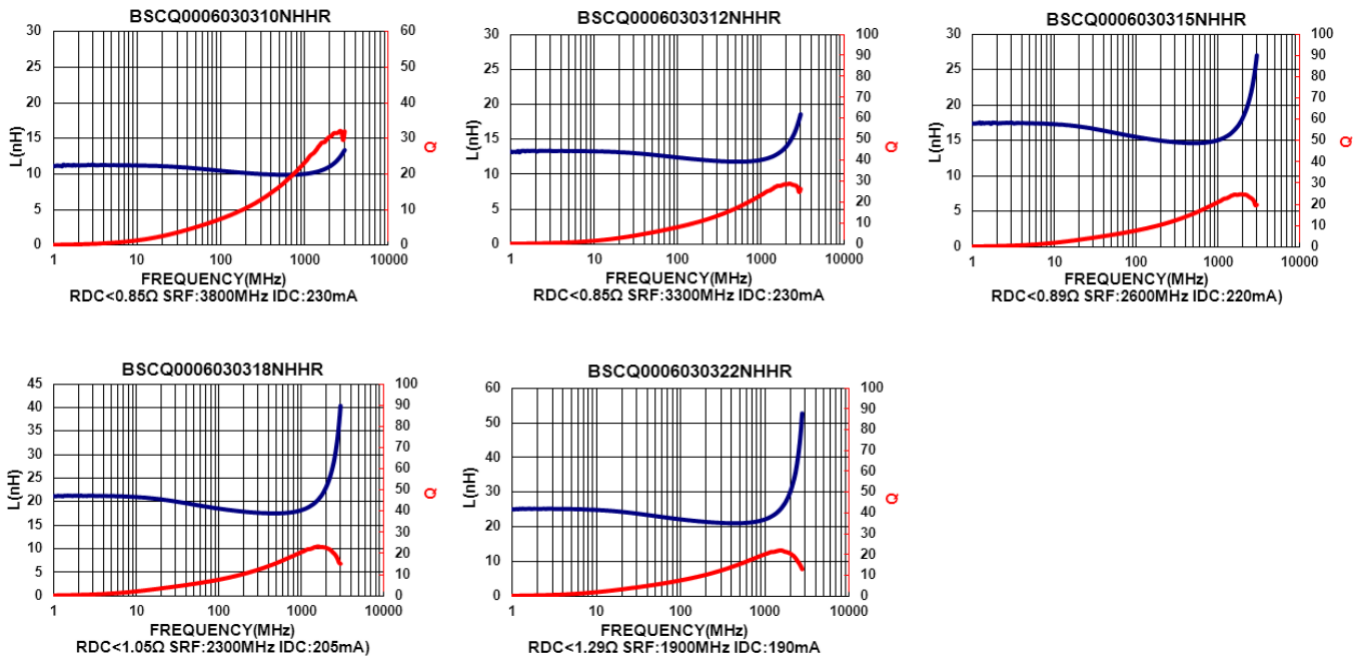
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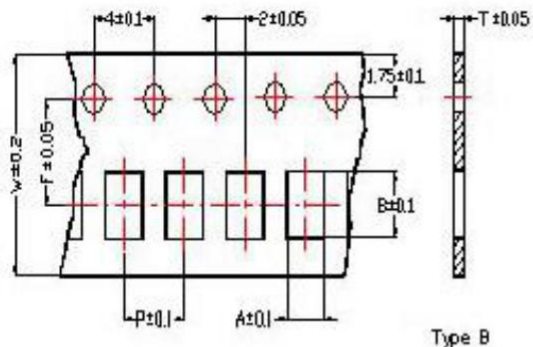
**Test Instruments** : Agilent E4991A Material/Impedance Analyzer



Packaging Specifications

Tape Dimensions

Figure A



Tape Material

Figure A

Carrier Tape: Polycarbonate (Tape A)  
Carrier Tape: Paper (Tape B)  
Cover Tape: Polystyrene

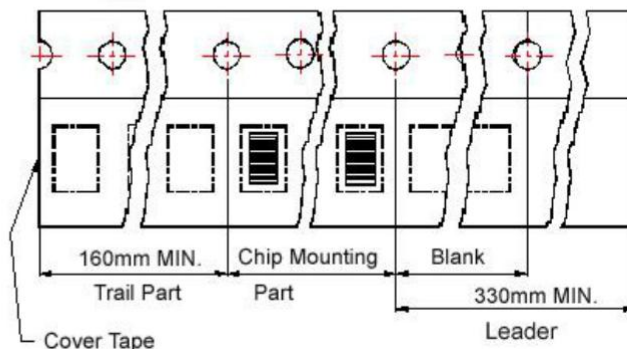
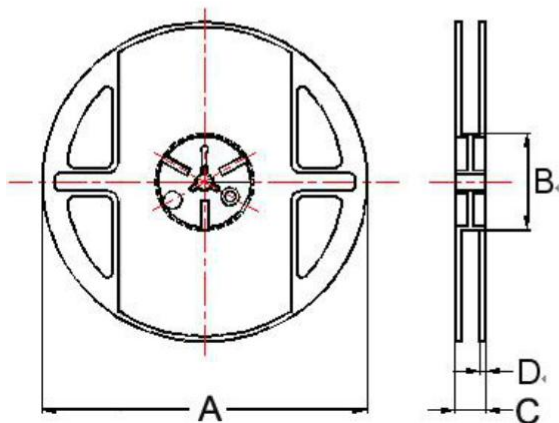
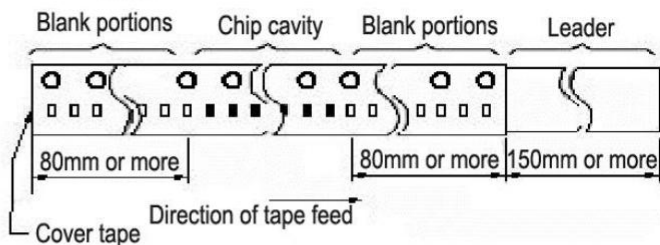


Figure B

Carrier tape : Paper  
Cover tape : Polyethylene



Dimensions in mm

TYPE	Tape Dimensions							Tape Material	Reel Dimensions				Quantity PCS / Reel
	A	B	T	W	P	F	A		B	C	D		
BSCQ00060303	0.37	0.67	0.42	8	2	3.5	A	B	180	60	13	1.5	15000