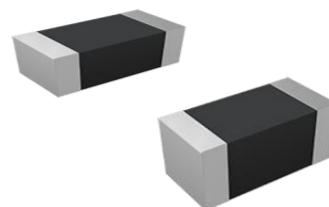


FEATURES 特征

- Can be used in a wide range of frequency to suppress EMI.
可在宽频率范围内用于抑制电磁干扰 (EMI)
- Internal silver printed layers and magnetic shielded structures to minimize crosstalk.
内部银浆印刷层及磁屏蔽结构, 以最大限度减少串扰.
- Monolithic structure for excellent reliability.
整体式结构, 可靠性优异.
- Smaller DC resistance and larger rated current than APBD series.
低直流电阻, 比APBD系列更大的额定电流.
- Operating Temp : -55°C~+125°C (Including self heating)
工作温度范围:-55~+125°C (包括自身温度上升)



APPLICATIONS 用途

- Noise suppression in power lines or extra-large current signal lines of electrical equipment such as communication equipment, computers and LCD TVs.
适用于通信设备、计算机、液晶电视等电气设备的电源线或超大电流信号线中的噪声抑制.

PART NUMBERING 产品型号

APBE	1608	-	221	W	T	D13
①	②		③	④	⑤	⑥

① Series Name	
APBE	Multilayer Chip Ferrite High Current Beads

③ Impedance	
Code (example)	Impedance [Ω]
900	90
221	220
102	1000

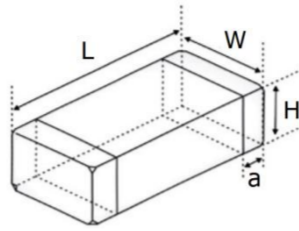
④ Characteristics Code	
Standard	W

② External Dimensions [inch]	(L×W) (mm)
0603 [0201]	0.6×0.3
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8
2012 [0805]	2.0×1.2
3216 [1206]	3.2×1.6
3225 [1210]	3.2×2.5
4516 [1806]	4.5×1.6
4532 [1812]	4.5×3.2

⑤ Packaging	
T	Tape & Reel

⑥ Special Material Code	
	D13

■ DIMENSIONS 尺寸



Unit: mm [inch]

Dimensions				
Series	L	W	H	a
APBE0603 [0201]	0.6±0.03 [0.020±0.003]	0.3±0.03 [0.010±0.003]	0.3±0.03 [0.010±0.003]	0.15±0.05 [0.010±0.002]
APBE1005 [0402]	1.0± 0.15 [0.040± 0.006]	0.5± 0.15 [0.020± 0.006]	0.5± 0.15 [0.020± 0.006]	0.25± 0.1 [0.010± 0.004]
APBE1608 [0603]	1.6± 0.20 [0.063± 0.008]	0.8± 0.20 [0.031± 0.008]	0.8± 0.20 [0.031± 0.008]	0.3± 0.2 [0.01± 0.008]
APBE2012 [0805]	2.0± 0.20 [0.079± 0.008]	1.2± 0.20 [0.047± 0.008]	0.9± 0.20 [0.035± 0.008]	0.5± 0.3 [0.020± 0.012]
APBE3216 [1206]	3.2± 0.20 [0.126±0.008]	1.6± 0.20 [0.063± 0.008]	0.9± 0.20 [0.035± 0.008]	0.5± 0.3 [0.020± 0.012]
APBE3225 [1210]	3.2± 0.20 [0.126± 0.008]	2.5±0.20 [0.098±0.008]	1.3±0.20 [0.051±0.008]	0.5± 0.3 [0.020± 0.012]
APBE4516 [1806]	4.5±0.20 [0.186±0.008]	1.6±0.20 [0.063±0.008]	1.6±0.20 [0.063±0.008]	0.5± 0.3 [0.020± 0.012]
APBE4532 [1812]	4.5±0.20 [0.186±0.008]	3.2±0.20 [0.126±0.008]	1.5±0.20 [0.060±0.008]	0.5± 0.3 [0.020± 0.012]

■ ELECTRICAL CHARACTERISTICS 特性规格表

● APBE0603 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE0603-100WTD13	10	± 5 Ω	0.05	1100
APBE0603-330WTD13	33	±25%	0.15	800
APBE0603-800WTD13	80	±25%	0.18	550
APBE0603-121WTD13	120	±25%	0.23	470
APBE0603-241WTD13	240	±25%	0.38	370
APBE0603-601WTD13	600	±25%	0.85	270
APBE0603-102WTD13	1000	±25%	1.25	220

ELECTRICAL CHARACTERISTICS 特性规格表

● APBE1005 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE1005-000WTD13	0	0~15 Ω	0.04	1900
APBE1005-050WTD13	5	0~15 Ω	0.04	1900
APBE1005-070WTD13	7	0~11 Ω	0.04	1900
APBE1005-090WTD13	9	5~13 Ω	0.04	1900
APBE1005-100WTD13	10	7~15 Ω	0.04	1900
APBE1005-110WTD13	11	7~15 Ω	0.04	1900
APBE1005-150WTD13	15	9~21 Ω	0.04	1900
APBE1005-190WTD13	19	12~25 Ω	0.06	1900
APBE1005-260WTD13	26	$\pm 25\%$	0.06	1900
APBE1005-300WTD13	30	$\pm 25\%$	0.08	1900
APBE1005-310WTD13	31	$\pm 25\%$	0.08	1900
APBE1005-360WTD13	36	$\pm 25\%$	0.13	1900
APBE1005-470WTD13	47	$\pm 25\%$	0.13	1100
APBE1005-600WTD13	60	$\pm 25\%$	0.13	1100
APBE1005-750WTD13	75	$\pm 25\%$	0.17	1100
APBE1005-800WTD13	80	$\pm 25\%$	0.17	1100
APBE1005-101WTD13	100	$\pm 25\%$	0.2	950
APBE1005-121WTD13	120	$\pm 25\%$	0.25	750
APBE1005-151WTD13	150	$\pm 25\%$	0.25	750
APBE1005-181WTD13	180	$\pm 25\%$	0.3	750
APBE1005-201WTD13	200	$\pm 25\%$	0.3	750
APBE1005-221WTD13	220	$\pm 25\%$	0.3	750
APBE1005-301WTD13	300	$\pm 25\%$	0.4	420
APBE1005-331WTD13	330	$\pm 25\%$	0.6	320
APBE1005-501WTD13	500	$\pm 25\%$	0.6	320
APBE1005-601WTD13	600	$\pm 25\%$	0.6	320
APBE1005-801WTD13	800	$\pm 25\%$	0.8	270
APBE1005-102WTD13	1000	$\pm 25\%$	0.9	270
APBE1005-122WTD13	1200	$\pm 25\%$	1.1	170

● APBE1608 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE1608-000WTD13	0	0~15 Ω	0.02	3100
APBE1608-050WTD13	5	0~15 Ω	0.02	3100
APBE1608-070WTD13	7	0~11 Ω	0.02	3100
APBE1608-090WTD13	9	5~13 Ω	0.02	3100
APBE1608-100WTD13	10	7~15 Ω	0.02	3100
APBE1608-110WTD13	11	7~15 Ω	0.02	3100
APBE1608-150WTD13	15	9~21 Ω	0.03	3100

■ ELECTRICAL CHARACTERISTICS 特性规格表

● APBE1608 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE1608-190WTD13	19	12~25 Ω	0.03	3100
APBE1608-220WTD13	22	$\pm 25\%$	0.03	3100
APBE1608-300WTD13	30	$\pm 25\%$	0.03	3100
APBE1608-310WTD13	31	$\pm 25\%$	0.03	3100
APBE1608-330WTD13	33	$\pm 25\%$	0.03	3100
APBE1608-400WTD13	40	$\pm 25\%$	0.1	1600
APBE1608-500WTD13	50	$\pm 25\%$	0.1	1600
APBE1608-600WTD13	60	$\pm 25\%$	0.1	1600
APBE1608-700WTD13	70	$\pm 25\%$	0.1	1600
APBE1608-750WTD13	75	$\pm 25\%$	0.1	1600
APBE1608-800WTD13	80	$\pm 25\%$	0.1	1600
APBE1608-900WTD13	90	$\pm 25\%$	0.12	1500
APBE1608-101WTD13	100	$\pm 25\%$	0.12	1500
APBE1608-121WTD13	120	$\pm 25\%$	0.14	1400
APBE1608-151WTD13	150	$\pm 25\%$	0.15	1300
APBE1608-181WTD13	180	$\pm 25\%$	0.15	1300
APBE1608-201WTD13	200	$\pm 25\%$	0.18	1300
APBE1608-221WTD13	220	$\pm 25\%$	0.18	1300
APBE1608-301WTD13	300	$\pm 25\%$	0.2	1300
APBE1608-331WTD13	330	$\pm 25\%$	0.3	1100
APBE1608-471WTD13	470	$\pm 25\%$	0.3	1100
APBE1608-501WTD13	500	$\pm 25\%$	0.3	1100
APBE1608-601WTD13	600	$\pm 25\%$	0.3	1100
APBE1608-801WTD13	800	$\pm 25\%$	0.35	550
APBE1608-102WTD13	1000	$\pm 25\%$	0.4	550
APBE1608-122WTD13	1200	$\pm 25\%$	0.45	550
APBE1608-152WTD13	1500	$\pm 25\%$	0.55	420
APBE1608-182WTD13	1800	$\pm 25\%$	0.55	420
APBE1608-202WTD13	2000	$\pm 25\%$	0.6	420
APBE1608-252WTD13	2500	$\pm 25\%$	0.65	420

● APBE2012 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE2012-000WTD13	0	0~15 Ω	0.02	3100
APBE2012-050WTD13	5	0~15 Ω	0.02	3100
APBE2012-070WTD13	7	0~11 Ω	0.02	3100
APBE2012-090WTD13	9	5~13 Ω	0.02	3100
APBE2012-100WTD13	10	7~15 Ω	0.02	3100
APBE2012-110WTD13	11	7~15 Ω	0.02	3100
APBE2012-150WTD13	15	9~21 Ω	0.02	3100

ELECTRICAL CHARACTERISTICS 特性规格表

● APBE2012 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE2012-190WTD13	19	12~25 Ω	0.02	3100
APBE2012-220WTD13	22	$\pm 25\%$	0.04	3100
APBE2012-260WTD13	26	$\pm 25\%$	0.04	3100
APBE2012-300WTD13	30	$\pm 25\%$	0.04	3100
APBE2012-310WTD13	31	$\pm 25\%$	0.04	3100
APBE2012-330WTD13	33	$\pm 25\%$	0.04	3100
APBE2012-400WTD13	40	$\pm 25\%$	0.05	3100
APBE2012-500WTD13	50	$\pm 25\%$	0.05	3100
APBE2012-600WTD13	60	$\pm 25\%$	0.05	3100
APBE2012-700WTD13	70	$\pm 25\%$	0.06	3100
APBE2012-800WTD13	80	$\pm 25\%$	0.06	3100
APBE2012-900WTD13	90	$\pm 25\%$	0.08	2600
APBE2012-101WTD13	100	$\pm 25\%$	0.08	2600
APBE2012-121WTD13	120	$\pm 25\%$	0.08	2600
APBE2012-151WTD13	150	$\pm 25\%$	0.1	2600
APBE2012-181WTD13	180	$\pm 25\%$	0.12	2100
APBE2012-201WTD13	200	$\pm 25\%$	0.12	2100
APBE2012-221WTD13	220	$\pm 25\%$	0.13	2100
APBE2012-301WTD13	300	$\pm 25\%$	0.13	2100
APBE2012-331WTD13	330	$\pm 25\%$	0.15	2100
APBE2012-391WTD13	390	$\pm 25\%$	0.22	1600
APBE2012-471WTD13	470	$\pm 25\%$	0.22	1600
APBE2012-501WTD13	500	$\pm 25\%$	0.22	1600
APBE2012-601WTD13	600	$\pm 25\%$	0.22	1600
APBE2012-801WTD13	800	$\pm 25\%$	0.25	1100
APBE2012-102WTD13	1000	$\pm 25\%$	0.25	1100
APBE2012-122WTD13	1200	$\pm 25\%$	0.28	850
APBE2012-152WTD13	1500	$\pm 25\%$	0.4	750
APBE2012-202WTD13	2000	$\pm 25\%$	0.4	750
APBE2012-222WTD13	2200	$\pm 25\%$	0.4	750
APBE2012-252WTD13	2500	$\pm 25\%$	0.45	650

● APBE3216 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE3216-000WTD13	0	0~15 Ω	0.04	4200
APBE3216-050WTD13	5	0~15 Ω	0.04	3100
APBE3216-070WTD13	7	0~11 Ω	0.04	3100
APBE3216-090WTD13	9	5~13 Ω	0.04	3100
APBE3216-100WTD13	10	7~15 Ω	0.04	3100
APBE3216-110WTD13	11	7~15 Ω	0.04	3100

ELECTRICAL CHARACTERISTICS 特性规格表

● APBE3216 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE3216-150WTD13	15	9~21 Ω	0.04	3100
APBE3216-190WTD13	19	12~25 Ω	0.04	3100
APBE3216-220WTD13	22	$\pm 25\%$	0.04	3100
APBE3216-260WTD13	26	$\pm 25\%$	0.04	3100
APBE3216-300WTD13	30	$\pm 25\%$	0.04	3100
APBE3216-310WTD13	31	$\pm 25\%$	0.04	3100
APBE3216-400WTD13	40	$\pm 25\%$	0.04	3100
APBE3216-500WTD13	50	$\pm 25\%$	0.04	3100
APBE3216-600WTD13	60	$\pm 25\%$	0.04	3100
APBE3216-700WTD13	70	$\pm 25\%$	0.07	3100
APBE3216-800WTD13	80	$\pm 25\%$	0.07	3100
APBE3216-900WTD13	90	$\pm 25\%$	0.07	3100
APBE3216-101WTD13	100	$\pm 25\%$	0.07	3100
APBE3216-121WTD13	120	$\pm 25\%$	0.07	3100
APBE3216-151WTD13	150	$\pm 25\%$	0.1	2600
APBE3216-181WTD13	180	$\pm 25\%$	0.1	2600
APBE3216-221WTD13	220	$\pm 25\%$	0.11	2600
APBE3216-301WTD13	300	$\pm 25\%$	0.15	2100
APBE3216-331WTD13	330	$\pm 25\%$	0.2	2100
APBE3216-391WTD13	390	$\pm 25\%$	0.2	2100
APBE3216-501WTD13	500	$\pm 25\%$	0.2	2100
APBE3216-601WTD13	600	$\pm 25\%$	0.2	2100
APBE3216-801WTD13	800	$\pm 25\%$	0.25	2100
APBE3216-102WTD13	1000	$\pm 25\%$	0.25	2100
APBE3216-122WTD13	1200	$\pm 25\%$	0.35	1600
APBE3216-152WTD13	1500	$\pm 25\%$	0.45	550
APBE3216-182WTD13	1800	$\pm 25\%$	0.6	550
APBE3216-202WTD13	2000	$\pm 25\%$	0.7	320
APBE3216-252WTD13	2500	$\pm 25\%$	0.9	220
APBE3216-302WTD13	3000	$\pm 25\%$	0.9	220

● APBE3225 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE3225-000WTD13	0	0~15 Ω	0.03	5200
APBE3225-100WTD13	10	7~15 Ω	0.03	5200
APBE3225-110WTD13	11	7~15 Ω	0.03	5200
APBE3225-190WTD13	19	12~25 Ω	0.03	5200
APBE3225-260WTD13	26	$\pm 25\%$	0.03	5200
APBE3225-300WTD13	30	$\pm 25\%$	0.03	5200
APBE3225-310WTD13	31	$\pm 25\%$	0.03	5200

■ ELECTRICAL CHARACTERISTICS 特性规格表

● APBE3225 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE3225-400WTD13	40	$\pm 25\%$	0.03	5200
APBE3225-500WTD13	50	$\pm 25\%$	0.03	5200
APBE3225-600WTD13	60	$\pm 25\%$	0.03	5200
APBE3225-700WTD13	70	$\pm 25\%$	0.03	5200
APBE3225-800WTD13	80	$\pm 25\%$	0.03	5200
APBE3225-900WTD13	90	$\pm 25\%$	0.04	4200
APBE3225-101WTD13	100	$\pm 25\%$	0.06	4200
APBE3225-121WTD13	120	$\pm 25\%$	0.06	4200
APBE3225-151WTD13	150	$\pm 25\%$	0.08	4200
APBE3225-181WTD13	180	$\pm 25\%$	0.08	3100
APBE3225-221WTD13	220	$\pm 25\%$	0.08	3100
APBE3225-301WTD13	300	$\pm 25\%$	0.08	3100
APBE3225-501WTD13	500	$\pm 25\%$	0.12	3100
APBE3225-601WTD13	600	$\pm 25\%$	0.18	2100
APBE3225-801WTD13	800	$\pm 25\%$	0.23	2100
APBE3225-102WTD13	1000	$\pm 25\%$	0.28	2100

● APBE4516 Series

Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE4516-190WTD13	19	15~25 Ω	0.015	6200
APBE4516-300WTD13	30	$\pm 25\%$	0.02	6200
APBE4516-310WTD13	31	$\pm 25\%$	0.02	6200
APBE4516-500WTD13	50	$\pm 25\%$	0.025	6200
APBE4516-600WTD13	60	$\pm 25\%$	0.025	6200
APBE4516-750WTD13	75	$\pm 25\%$	0.04	6200
APBE4516-800WTD13	80	$\pm 25\%$	0.05	3100
APBE4516-900WTD13	90	$\pm 25\%$	0.06	3100
APBE4516-101WTD13	100	$\pm 25\%$	0.06	3100
APBE4516-121WTD13	120	$\pm 25\%$	0.06	3100
APBE4516-151WTD13	150	$\pm 25\%$	0.06	3100
APBE4516-181WTD13	180	$\pm 25\%$	0.08	2100
APBE4516-221WTD13	220	$\pm 25\%$	0.08	2100
APBE4516-301WTD13	300	$\pm 25\%$	0.09	2100
APBE4516-501WTD13	500	$\pm 25\%$	0.2	1600
APBE4516-601WTD13	600	$\pm 25\%$	0.2	1600

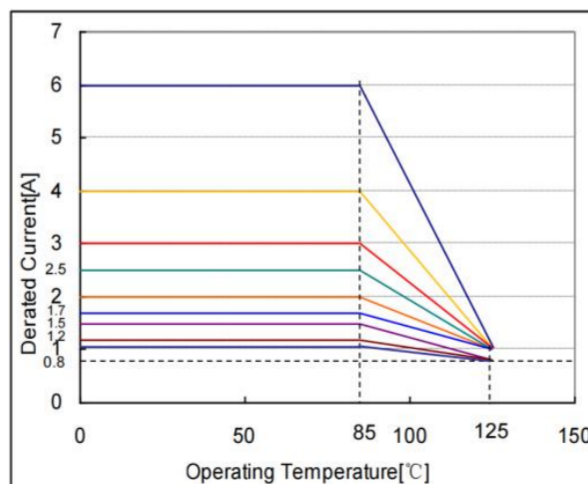
ELECTRICAL CHARACTERISTICS 特性规格表

● APBE4532 Series

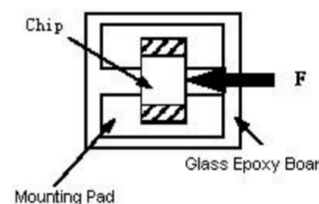
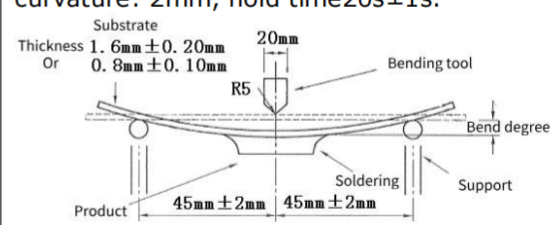
Part Number	Impedance @100MHz (Ω)	Tolerance	Max. DC Resistance (Ω)	Max. Rated Current(mA)
APBE4532-190WTD13	0	12~25 Ω	0.02	5200
APBE4532-260WTD13	26	$\pm 25\%$	0.02	5200
APBE4532-300WTD13	30	$\pm 25\%$	0.02	5200
APBE4532-310WTD13	31	$\pm 25\%$	0.02	5200
APBE4532-380WTD13	31	$\pm 25\%$	0.02	5200
APBE4532-500WTD13	50	$\pm 25\%$	0.02	4200
APBE4532-600WTD13	60	$\pm 25\%$	0.02	4200
APBE4532-700WTD13	70	$\pm 25\%$	0.02	4200
APBE4532-800WTD13	80	$\pm 25\%$	0.02	4200
APBE4532-900WTD13	90	$\pm 25\%$	0.02	4200
APBE4532-101WTD13	100	$\pm 25\%$	0.03	4200
APBE4532-121WTD13	120	$\pm 25\%$	0.03	4200
APBE4532-151WTD13	150	$\pm 25\%$	0.04	3700
APBE4532-181WTD13	180	$\pm 25\%$	0.06	3100
APBE4532-201WTD13	200	$\pm 25\%$	0.06	3100
APBE4532-221WTD13	220	$\pm 25\%$	0.06	2100
APBE4532-301WTD13	300	$\pm 25\%$	0.06	2100
APBE4532-501WTD13	500	$\pm 25\%$	0.1	1100
APBE4532-601WTD13	600	$\pm 25\%$	0.1	1100

- Impedance testing conditions: E4982A or equivalent, test voltage 50mV $\pm$ 5mV, Temperature 15°C~35°C, Humidity 25%~75%.
- Max. DC Resistance Testing conditions: RM3542A or equivalent, Temperature 15°C~35°C, Humidity 25%~75%.
- Rated current: Apply the rated current, and the surface temperature rise of the product shall not exceed 40°C.

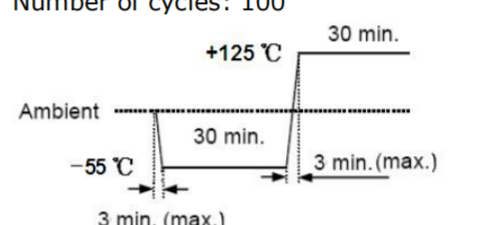
When operating temperatures exceed +85°C, derating of current is necessary for chip ferrite beads for which rated current is 1000mA and over. Please apply the derating curve shown in chart according to the operating temperature.



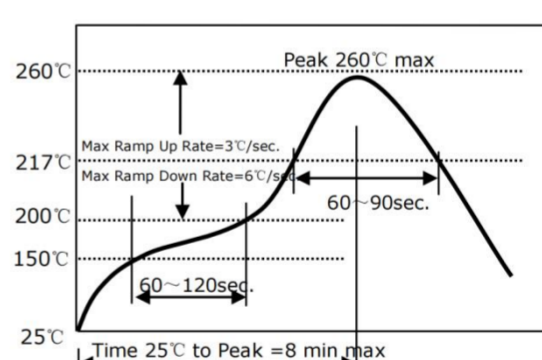
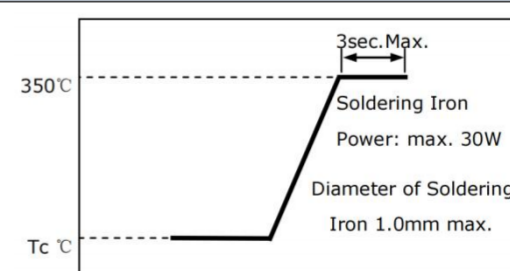
RELIABILITY TEST 可靠性测试

Items	Requirements	Test Methods and Remarks
1. Operating Temperature Range	-55℃~+ 125℃	Includes product surface temperature rise
2. Solder ability	No mechanical damage. 95% (75% for 0603 series) or more of electrode area shall be coated by new solder.	Preheating temperature: 120℃ to 150℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 245±3℃ Immersion tin depth: 10mm Duration : 3±0.3s Dip performance to a flux of about: 3 ~ 5 s
3. Resistance to Soldering Heat	No mechanical damage. Inductance : Impedance change: within ±30%	Preheating temperature: 120℃ to 150℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 260℃±5℃ Immersion tin depth: 10mm Duration : 10±1s Dip performance to a flux of about: 3~5 s
4. Adhesion of electrode	The termination and body should be no damage.	Applied force: 2N force for 0603 series ; 5N force for 1005 series ; 7N force for 1608 series ; 10N force for 2012 、 3216 series. 15N force for 3225 、 4532 series. Keep time : 10±1s 
5. Low temperature resistance	No mechanical damage. Impedance change: within ±30%	Temperature: -55±2℃ Testing time: 1000 h (+24h)
6. Bending strength	No mechanical damage.	Testing board: glass epoxy-resin substrate For (1±0.5) mm/s compression speed, curvature: 2mm, hold time 20s±1s. 
7. Vibration	No mechanical damage. Impedance change: within ±30%	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.

RELIABILITY TEST 可靠性测试

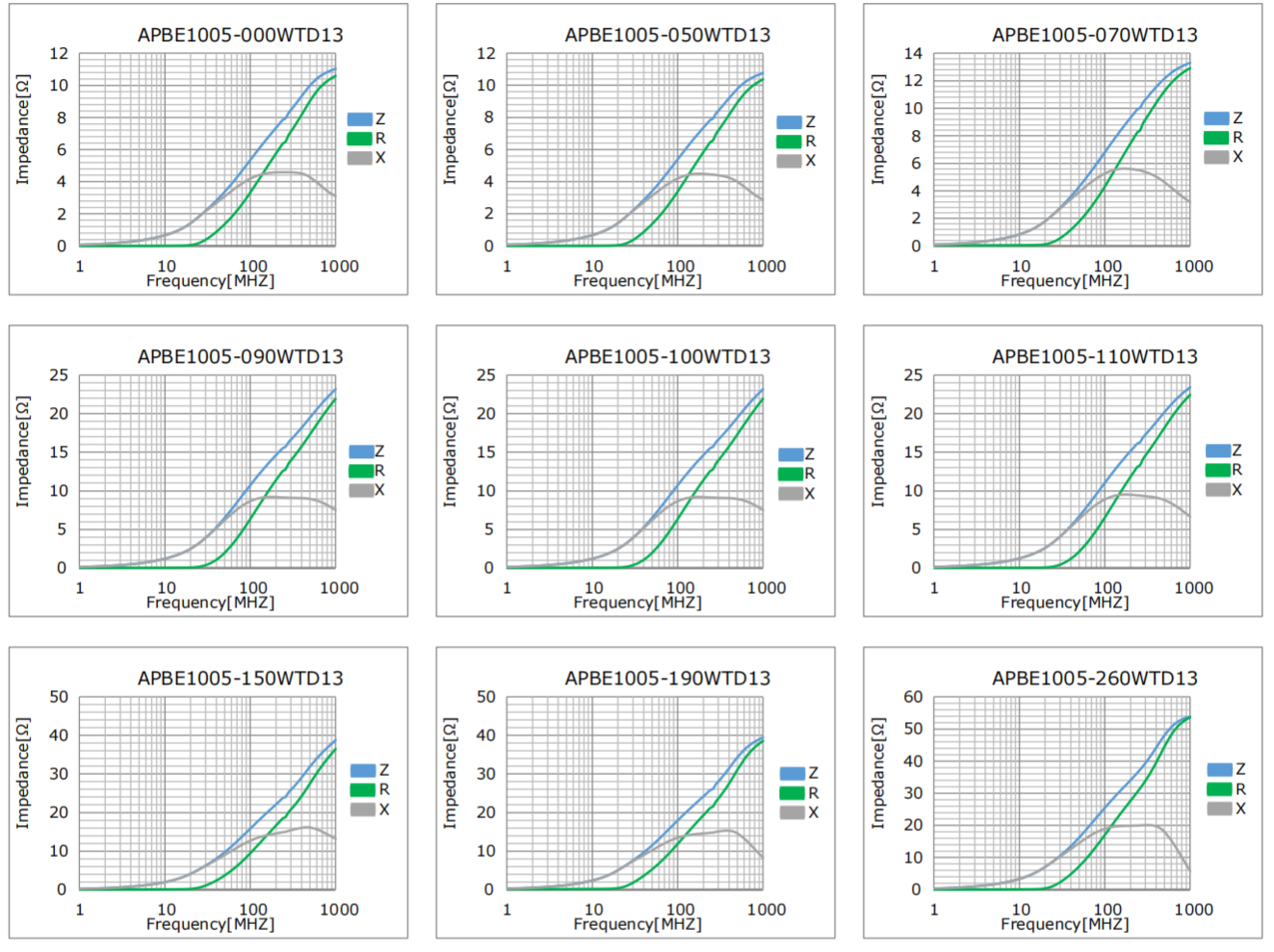
Items	Requirements	Test Methods and Remarks
8. High temperature resistance	No mechanical damage. Impedance change: within $\pm 30\%$	Testing time: 1000 h (+24h) Temperature: $125 \pm 2^\circ\text{C}$
9. Static Humidity	No mechanical damage. Impedance change: within $\pm 30\%$	Humidity: 90% to 95% RH Temperature: $60^\circ\text{C} \pm 2^\circ\text{C}$ Testing time: 1000 h (+24h)
10. High temperature load	No mechanical damage. Impedance change: within $\pm 30\%$	impose current: at room Testing time: 1000 h (+24h) Temperature: $85 \pm 2^\circ\text{C}$
11. Temperature Shock	No mechanical damage. Impedance change: within $\pm 30\%$	Temperature: -55°C for $30 \pm 3\text{min}$ + 125°C for $30 \pm 3\text{min}$ Number of cycles: 100 

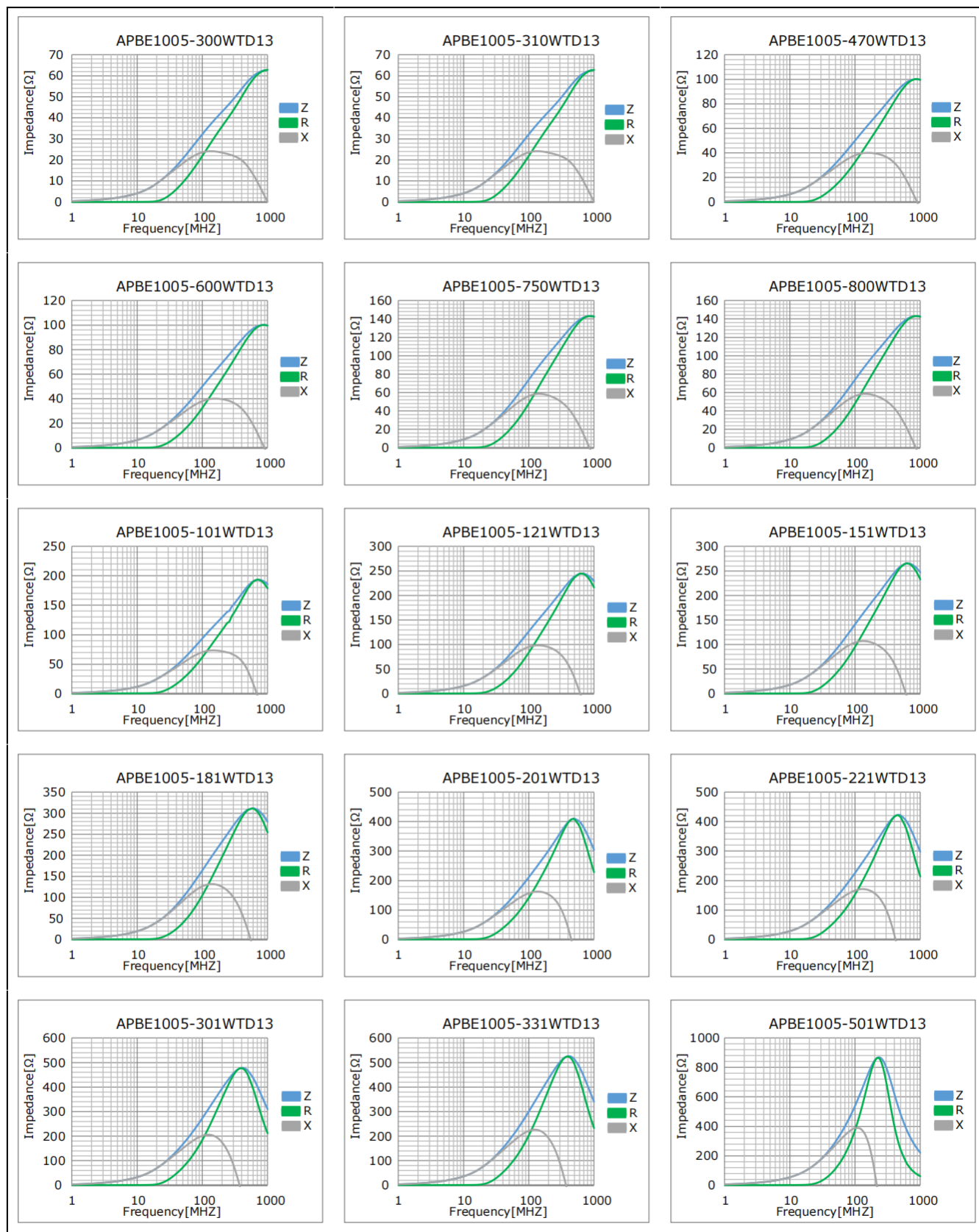
Recommended Soldering Technologies 回流焊建议

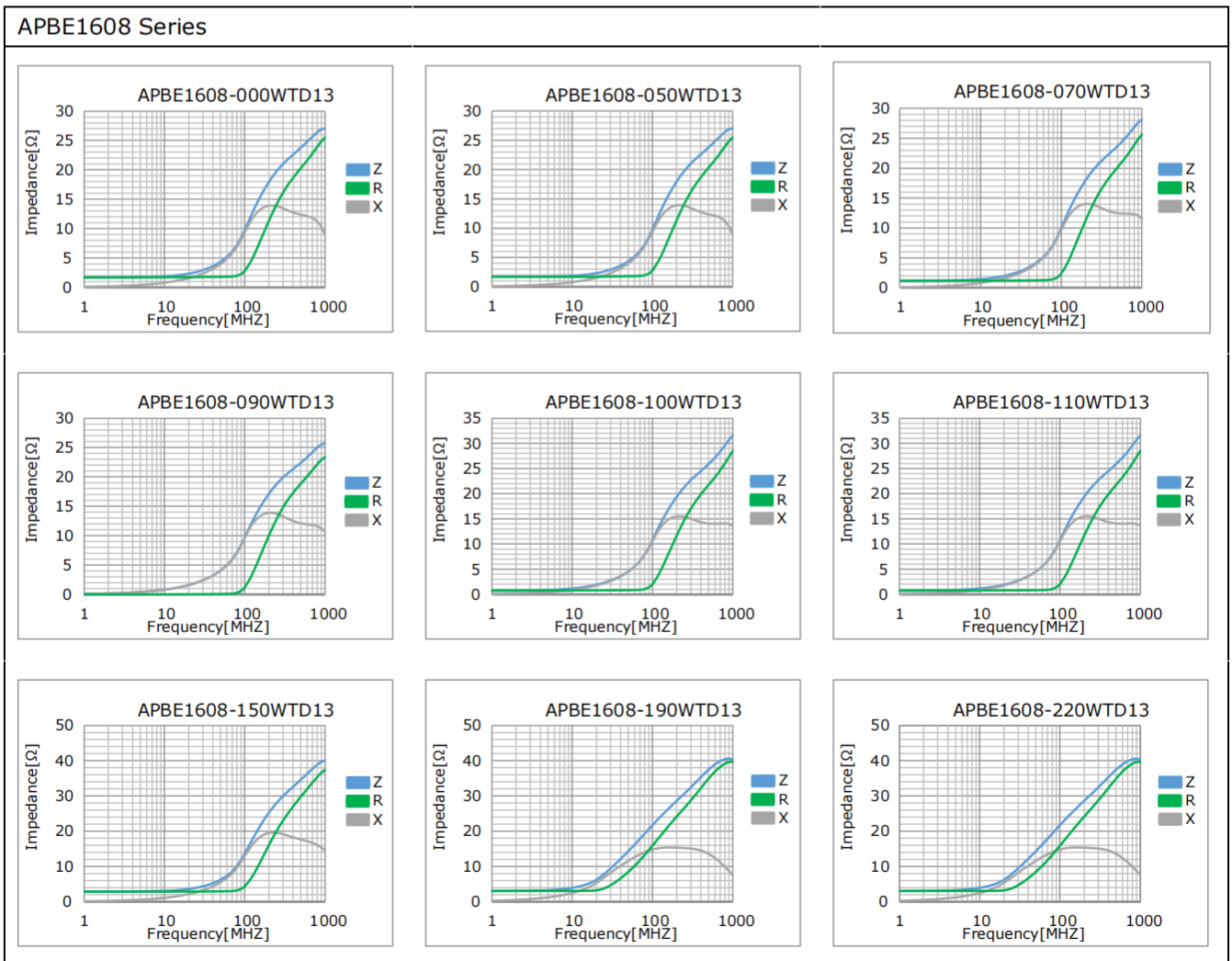
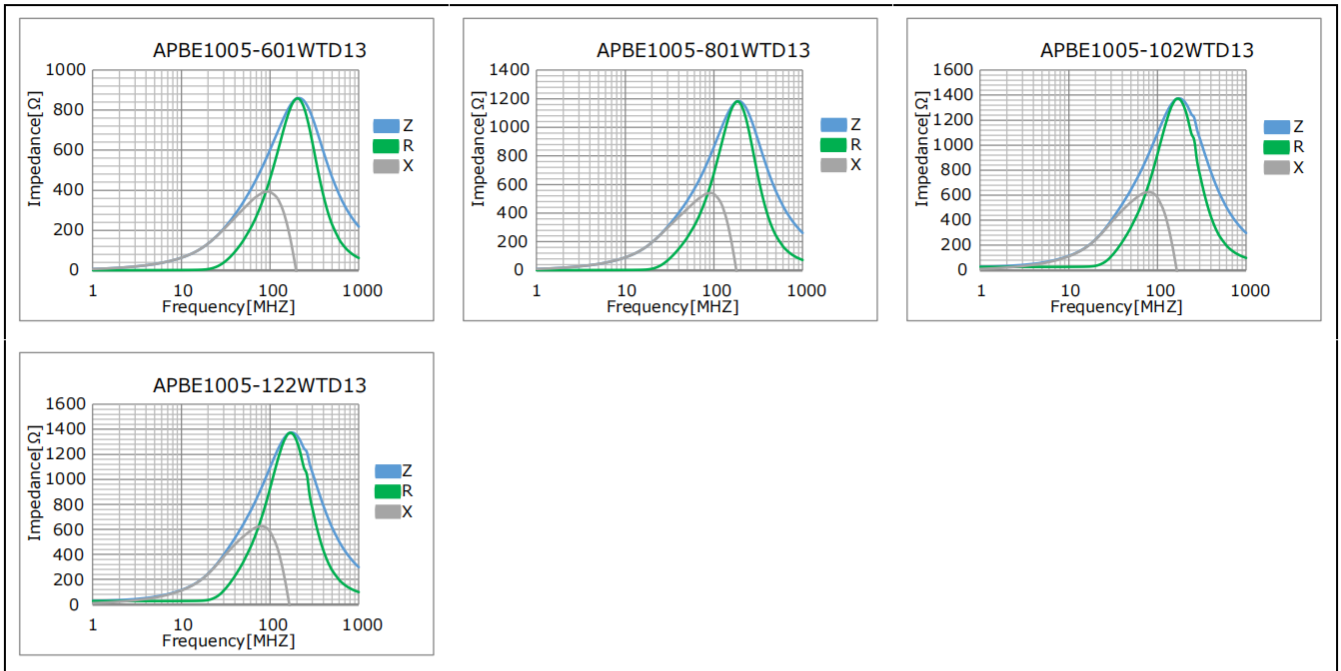
Reflowing Profile ◆ Preheat condition: $150 \sim 200^\circ\text{C} / 60 \sim 120\text{sec.}$ ◆ Allowed time above 217°C: $60 \sim 90\text{sec.}$ ◆ Max temp: 260°C ◆ Max time at max temp: 10sec. ◆ Solder paste: Sn/3.0Ag/0.5Cu ◆ Allowed Reflow time: 2x max Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.	
	
Iron Soldering Profile ◆ Iron soldering power: Max.30W ◆ Pre-heating: $150^\circ\text{C} / 60\text{sec.}$ ◆ Soldering Tip temperature: 350°C Max. ◆ Soldering time: 3sec Max. ◆ Solder paste: Sn/3.0Ag/0.5Cu ◆ Max.1 times for iron soldering Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.	
	

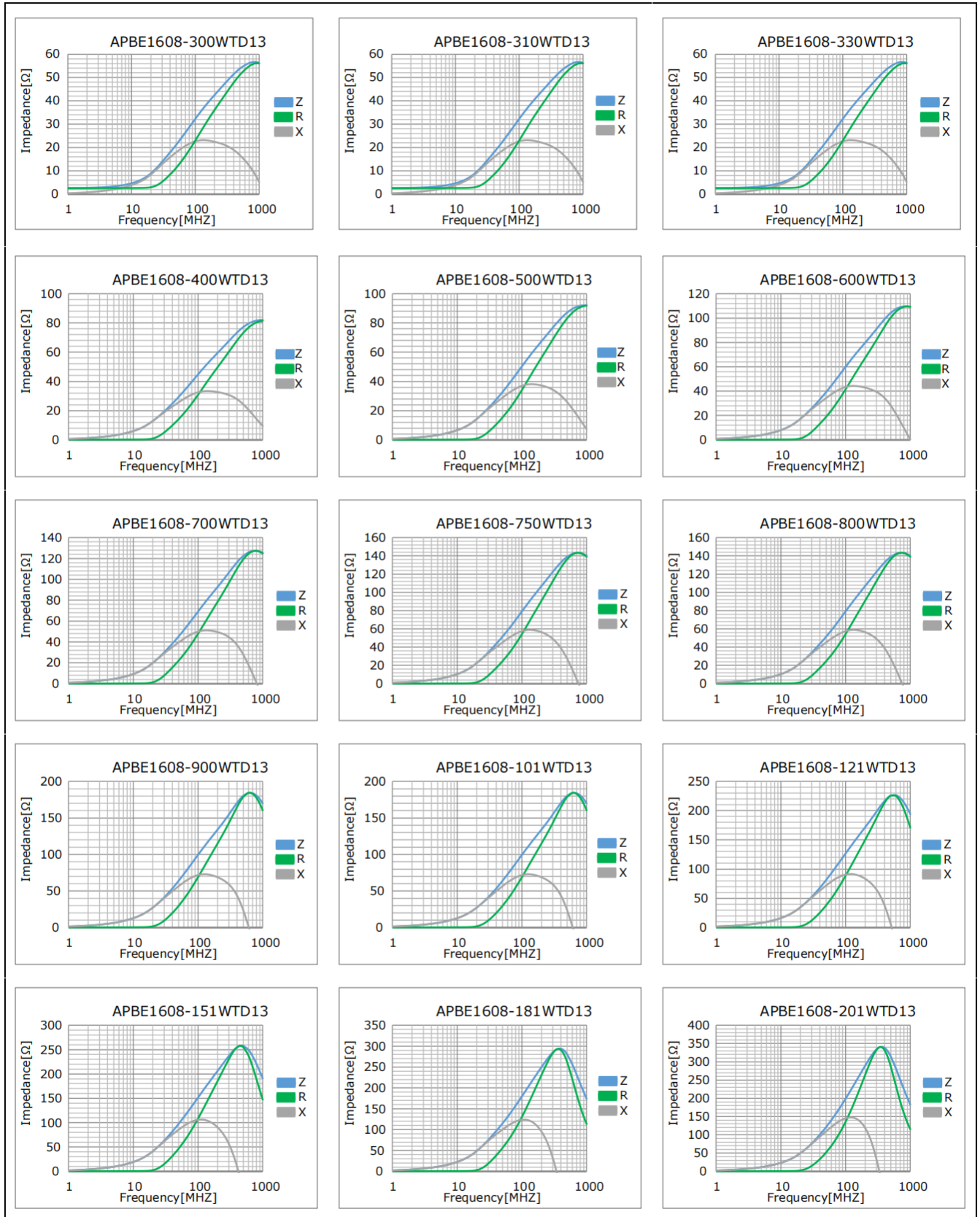
PRODUCT CHARACTERISTIC CURVE 电气特性

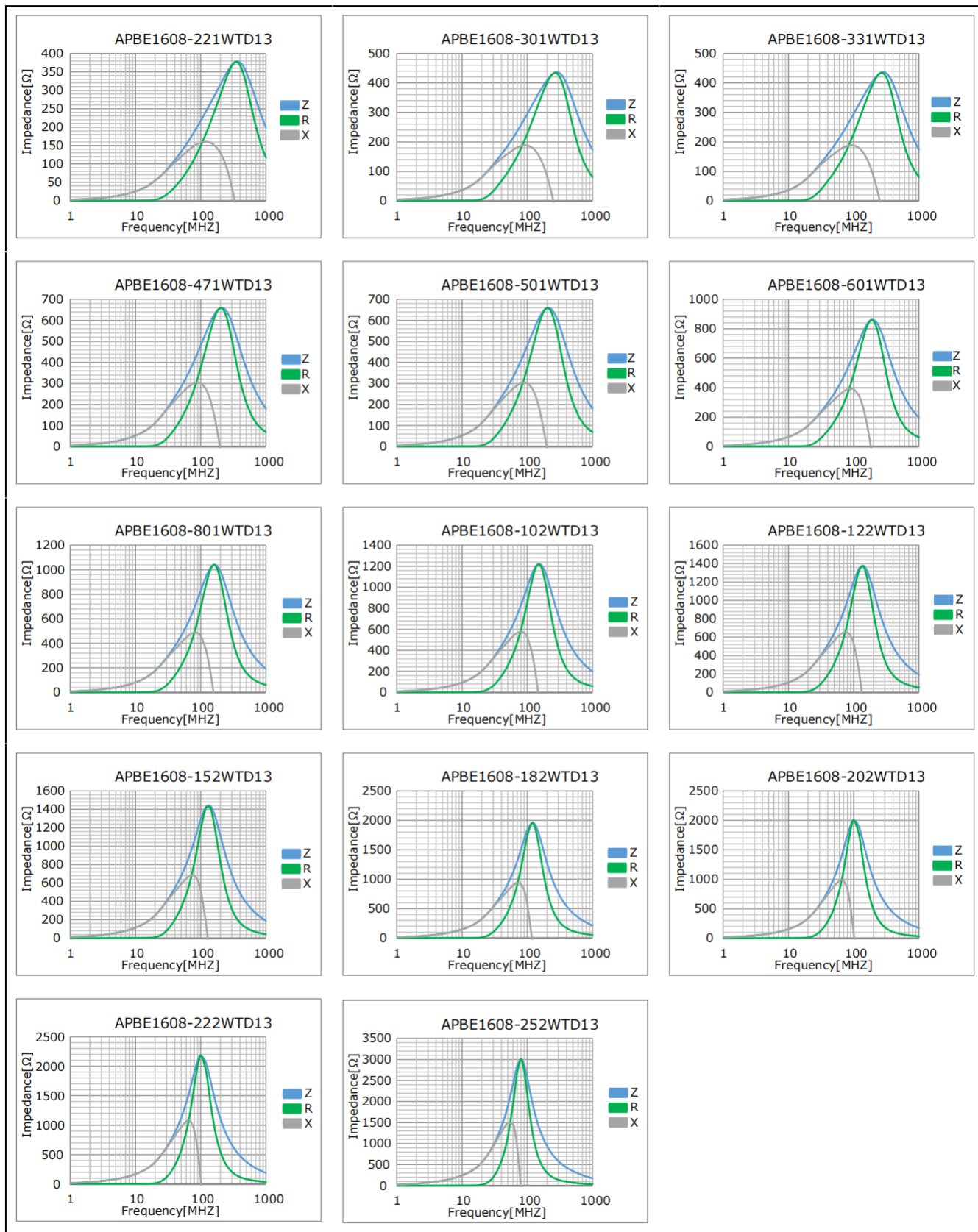
APBE1005 Series



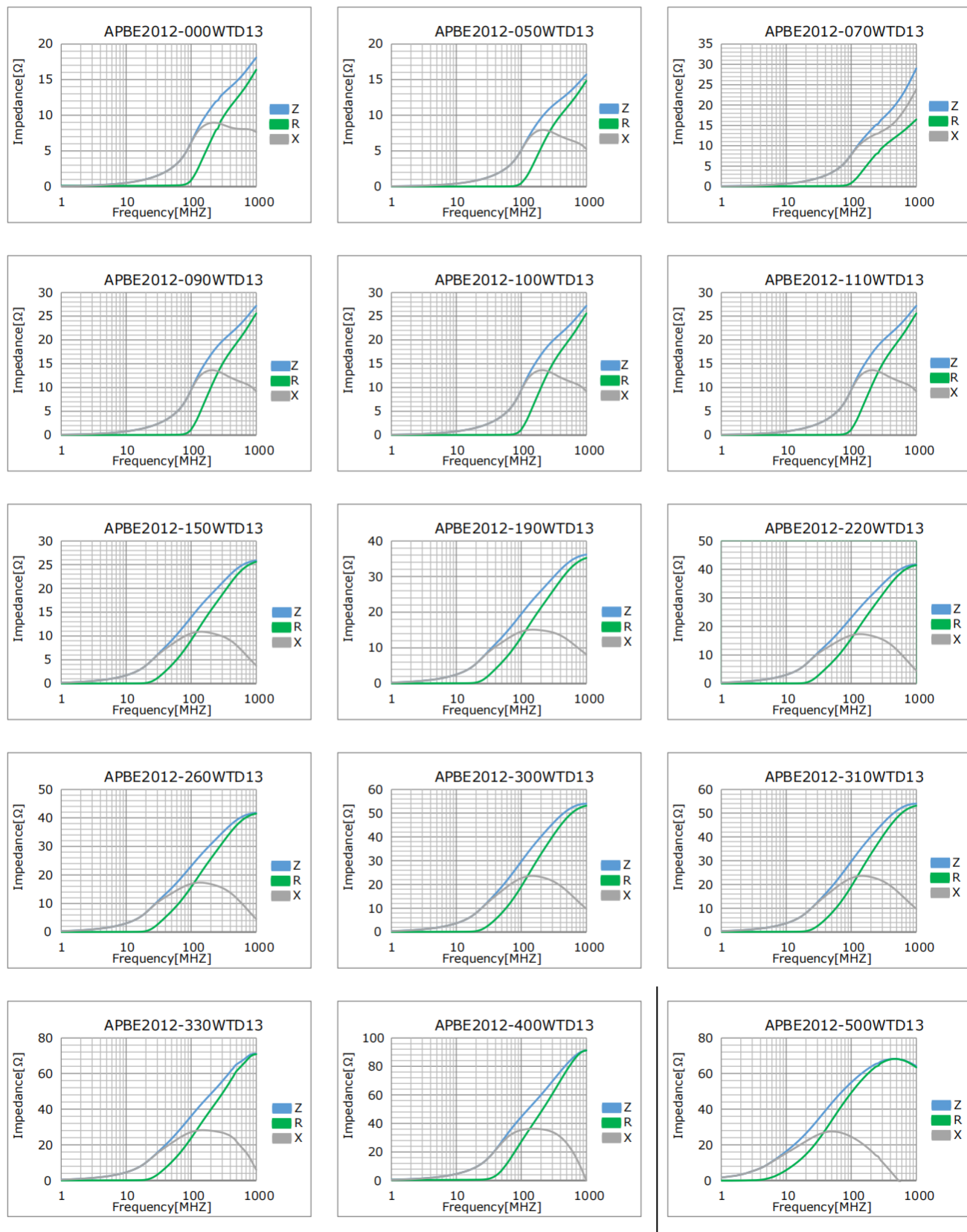


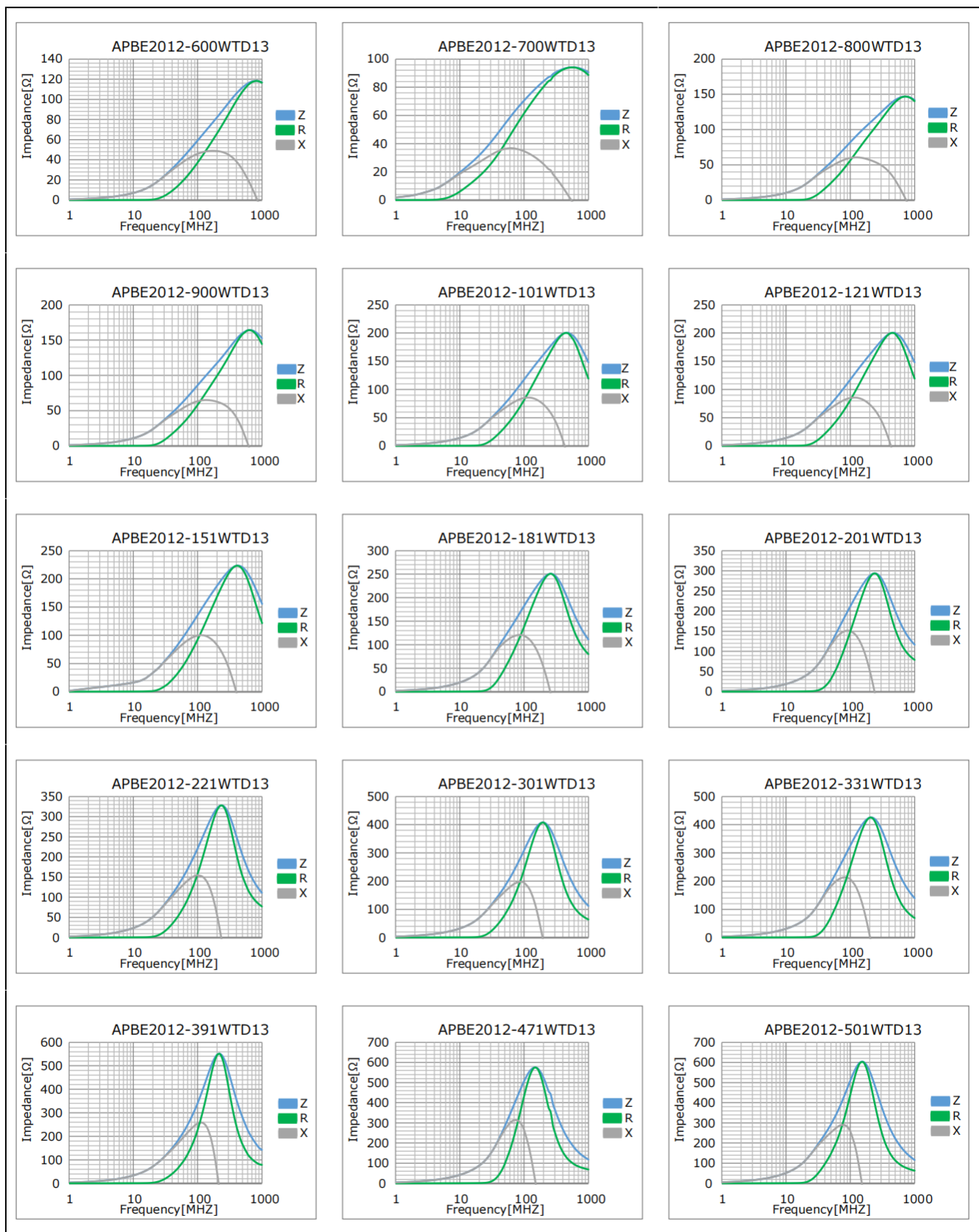


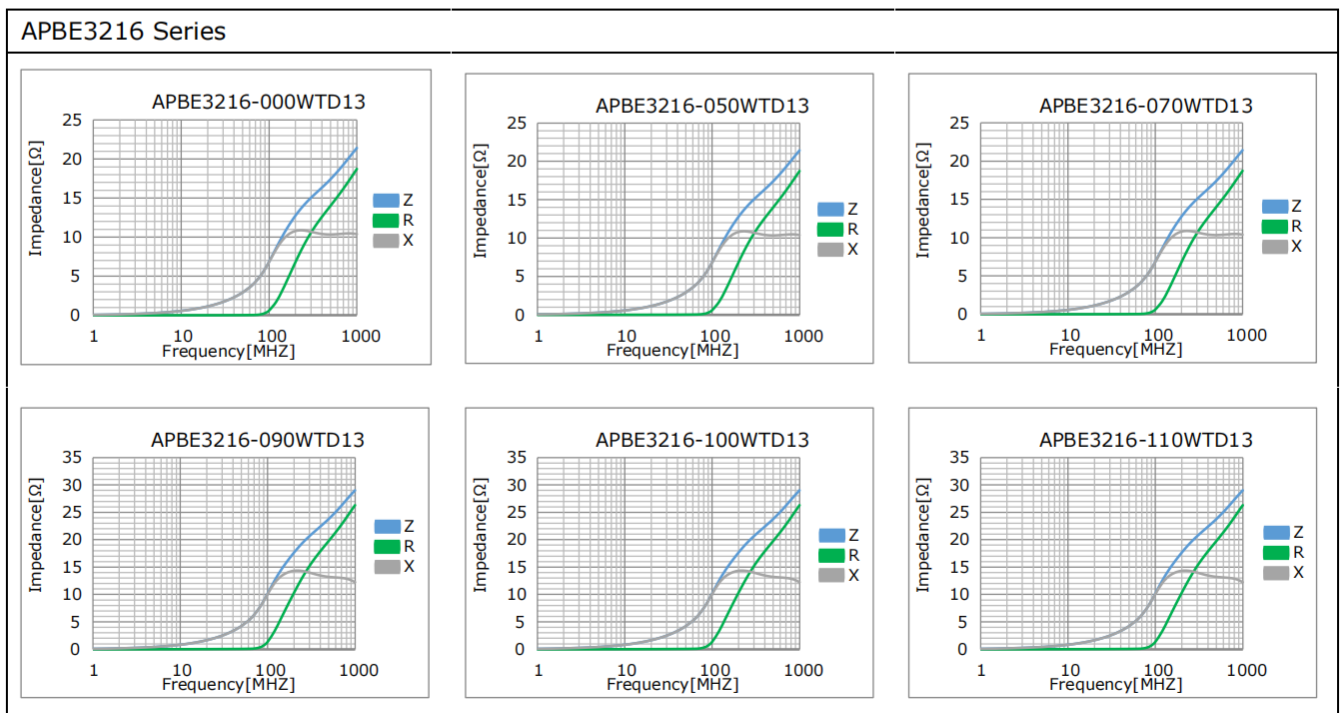
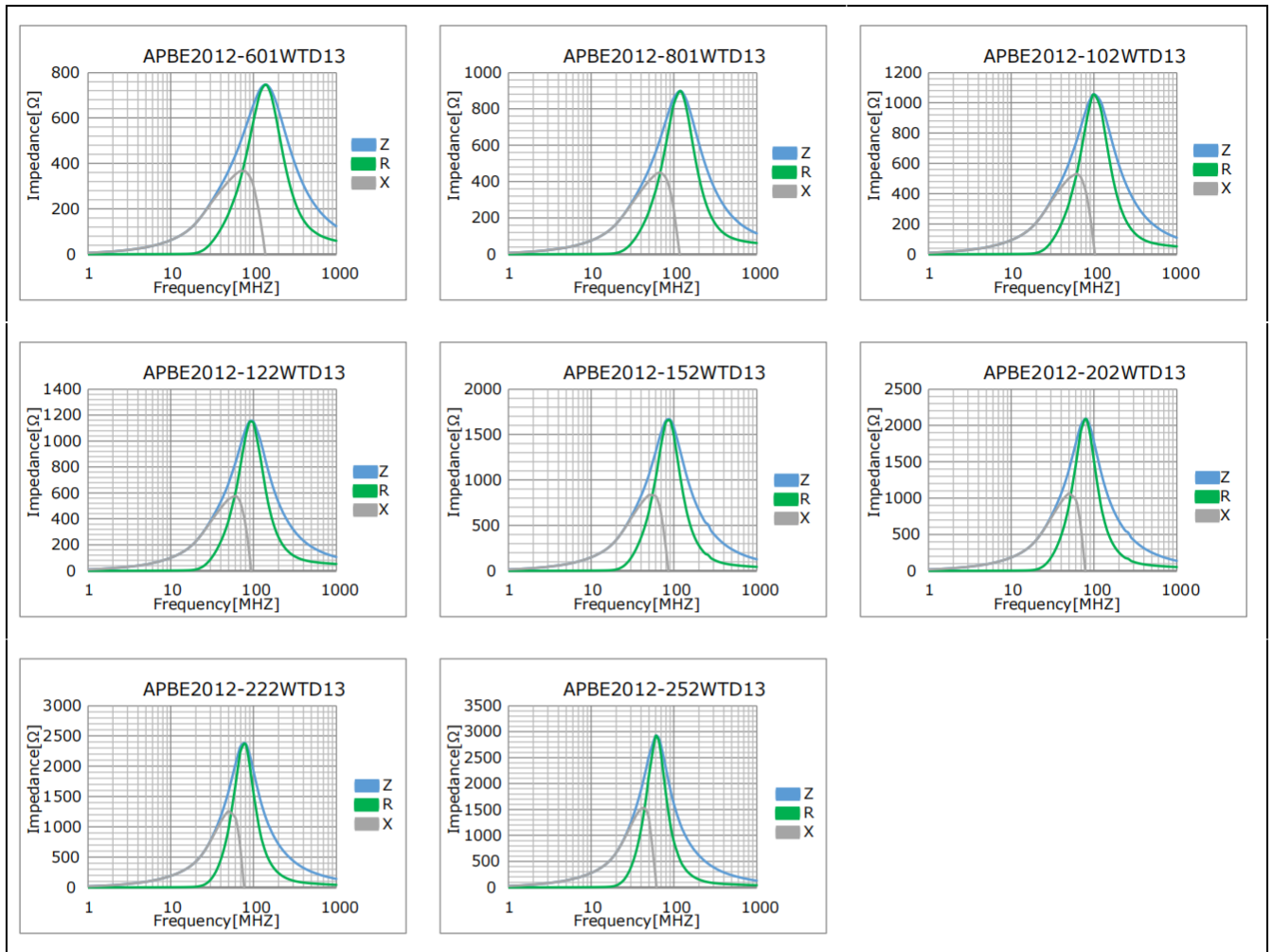


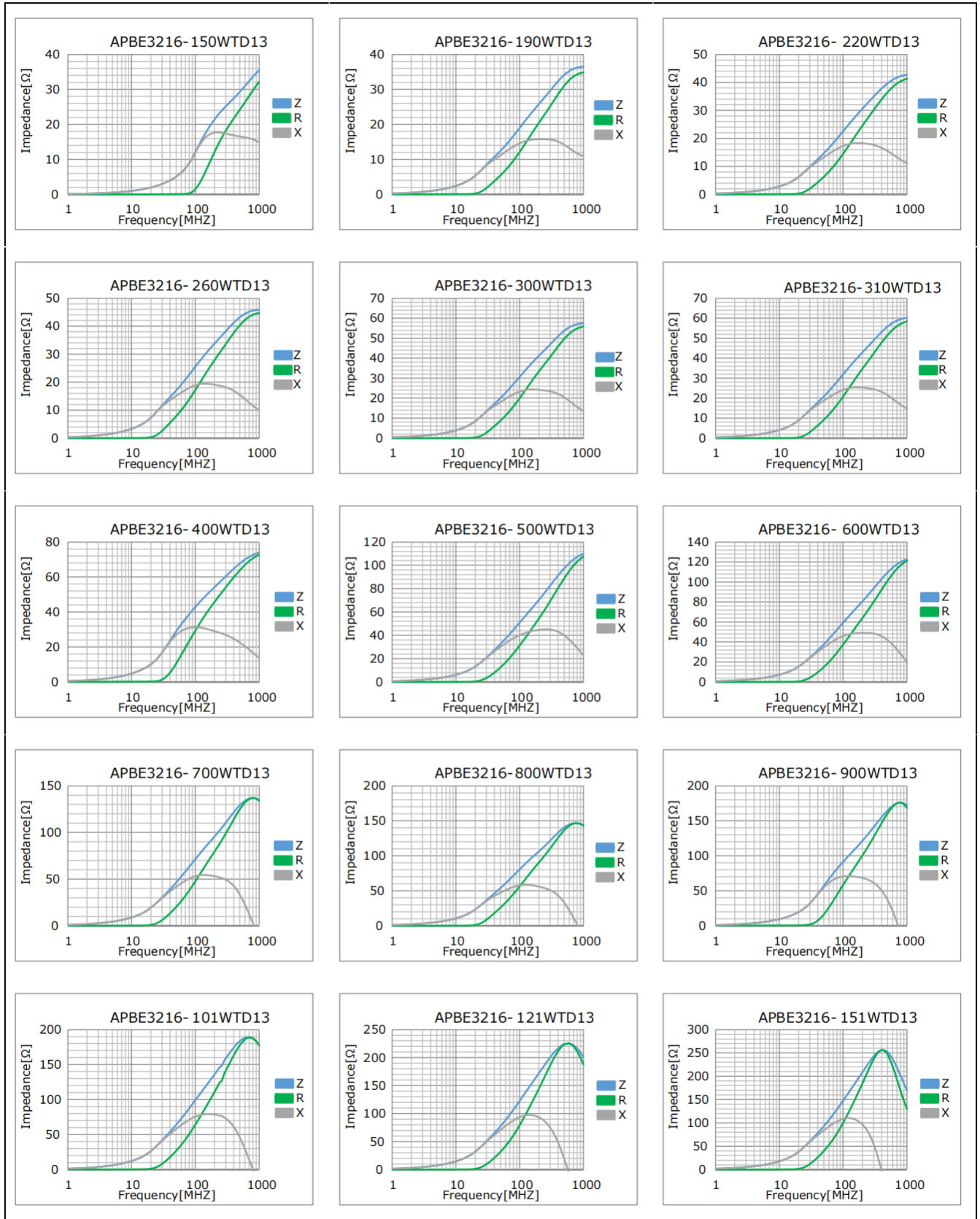


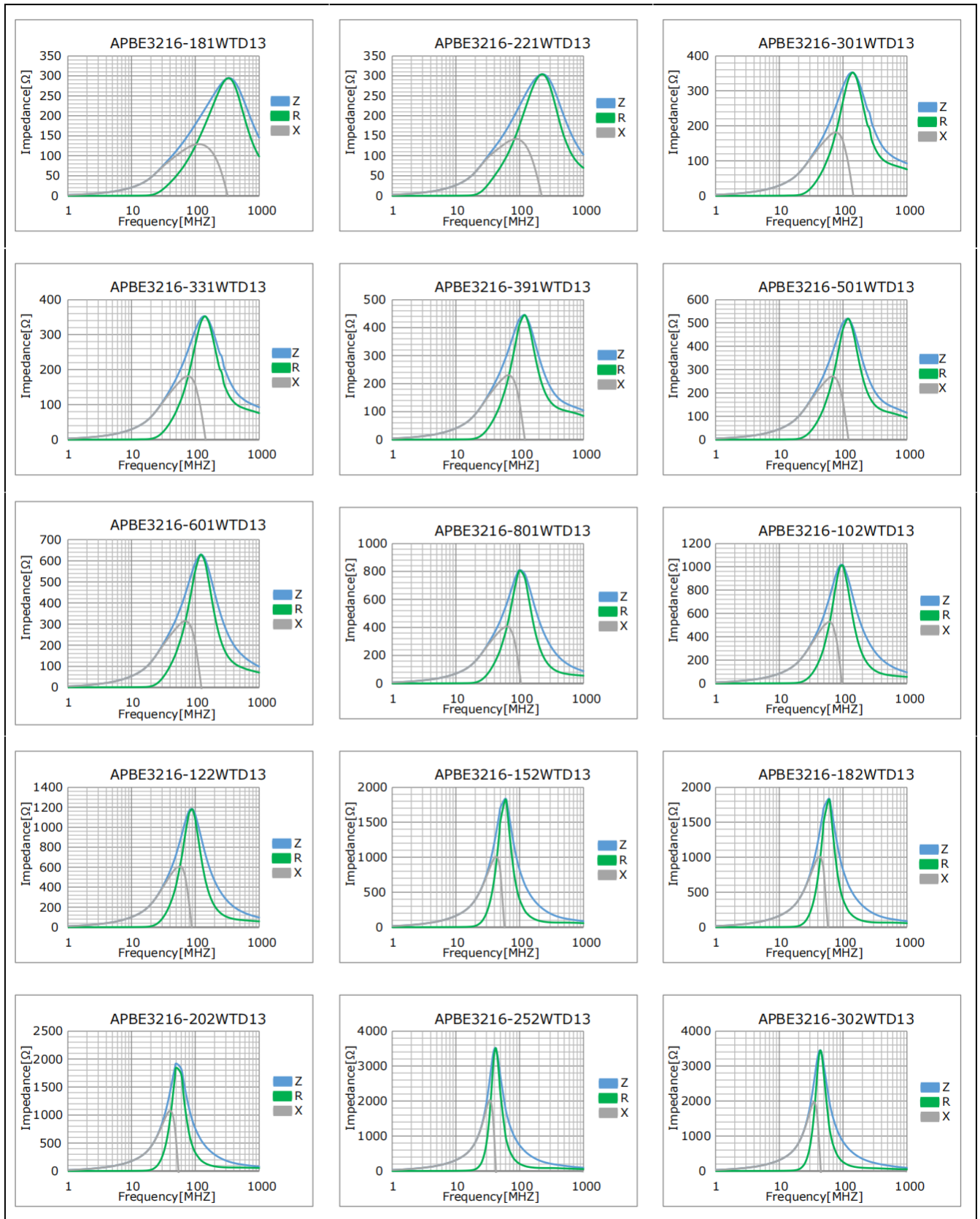
APBE2012 Series



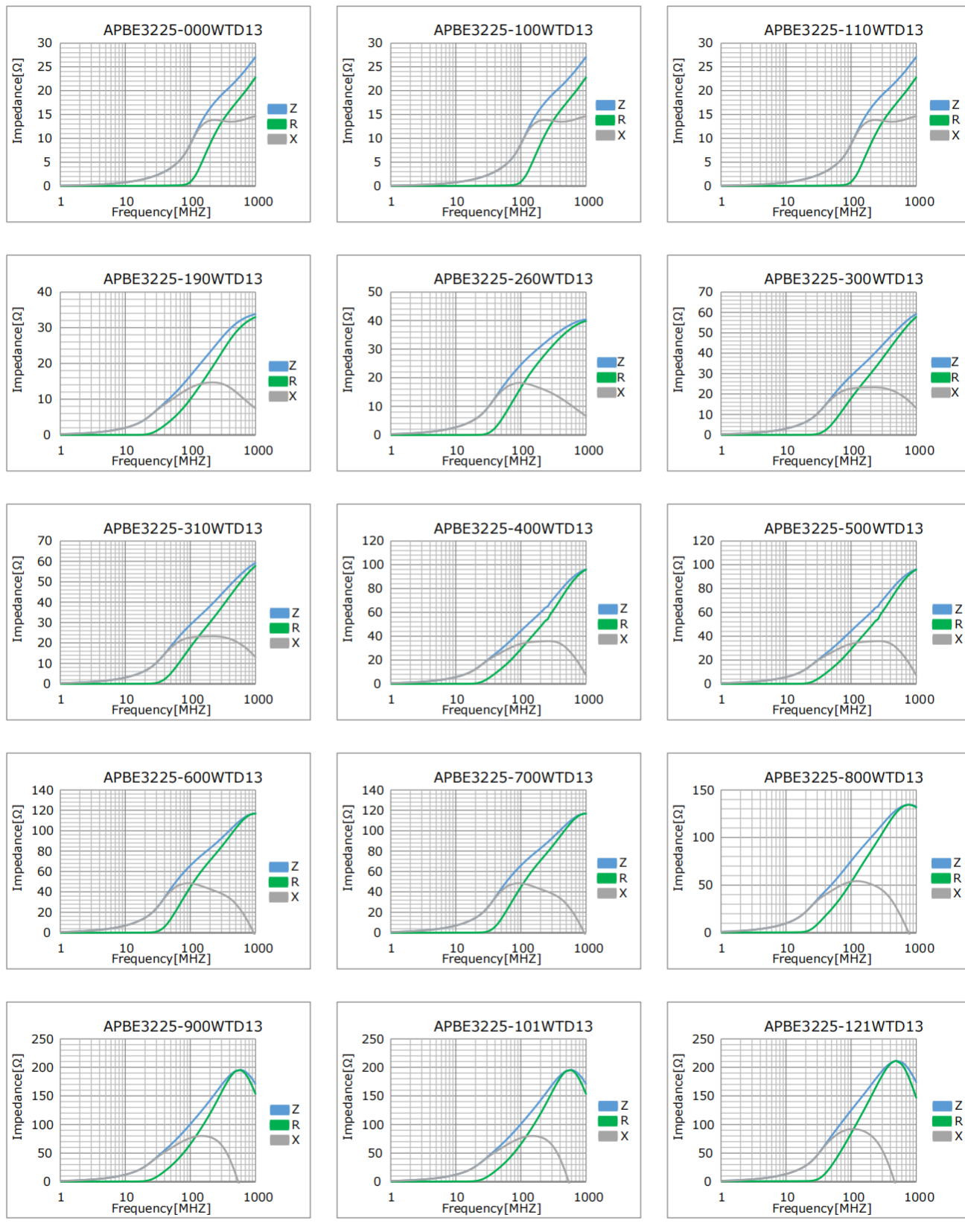


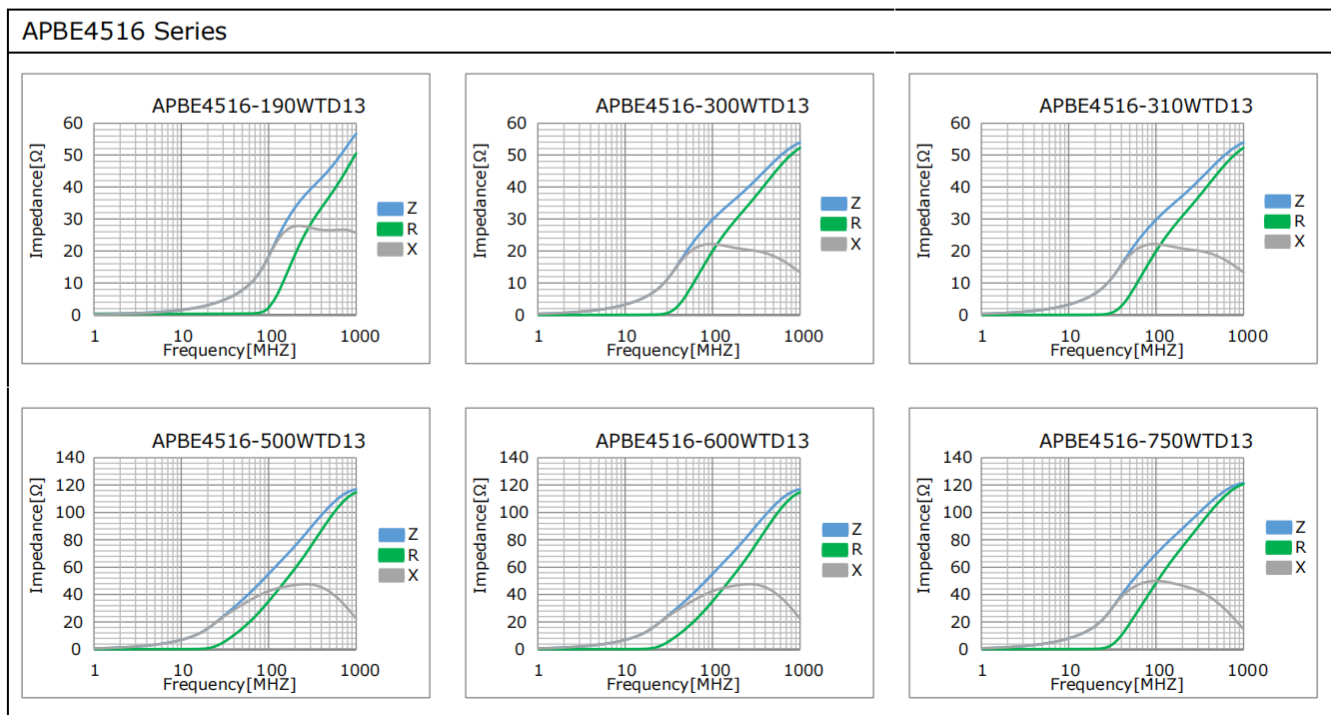
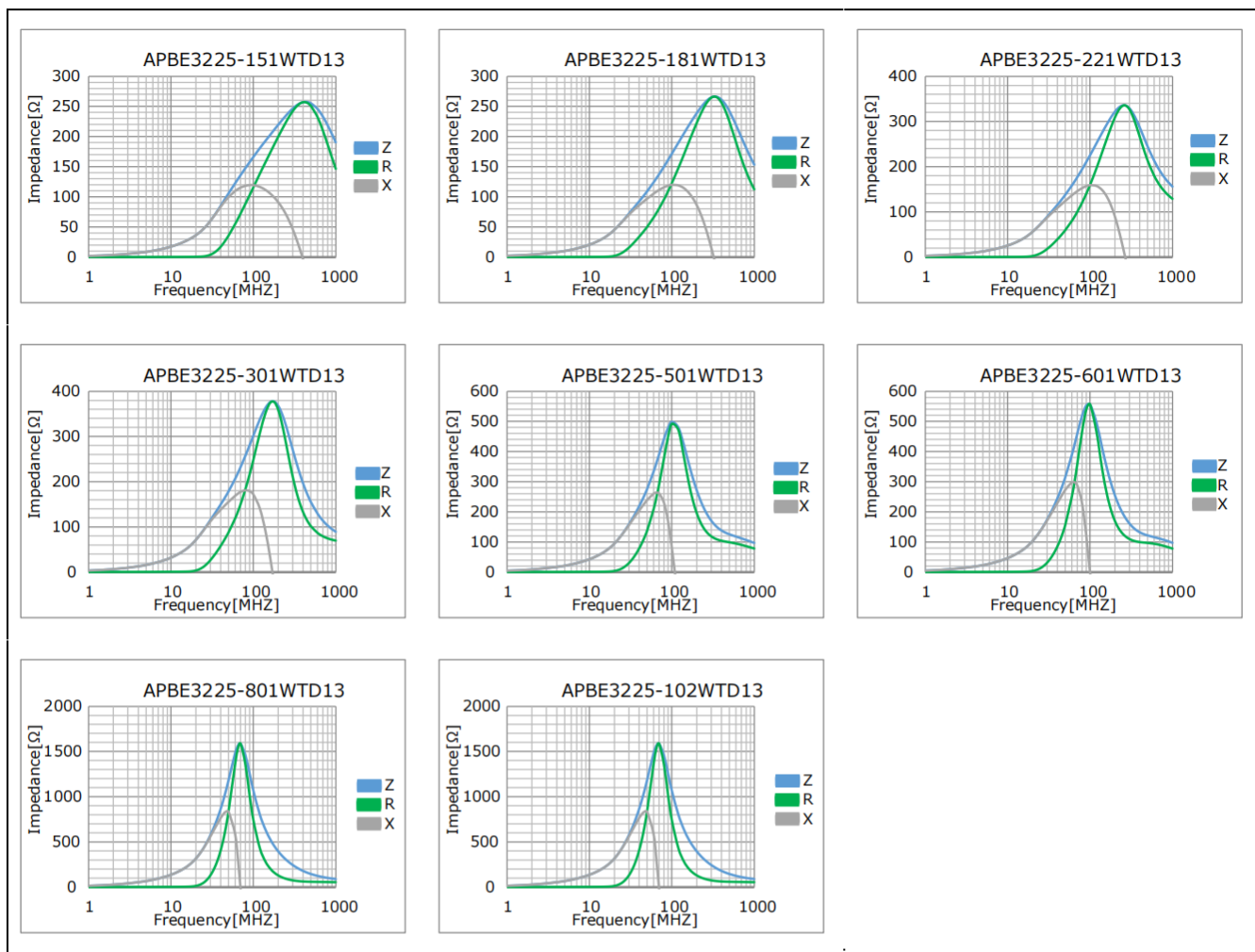


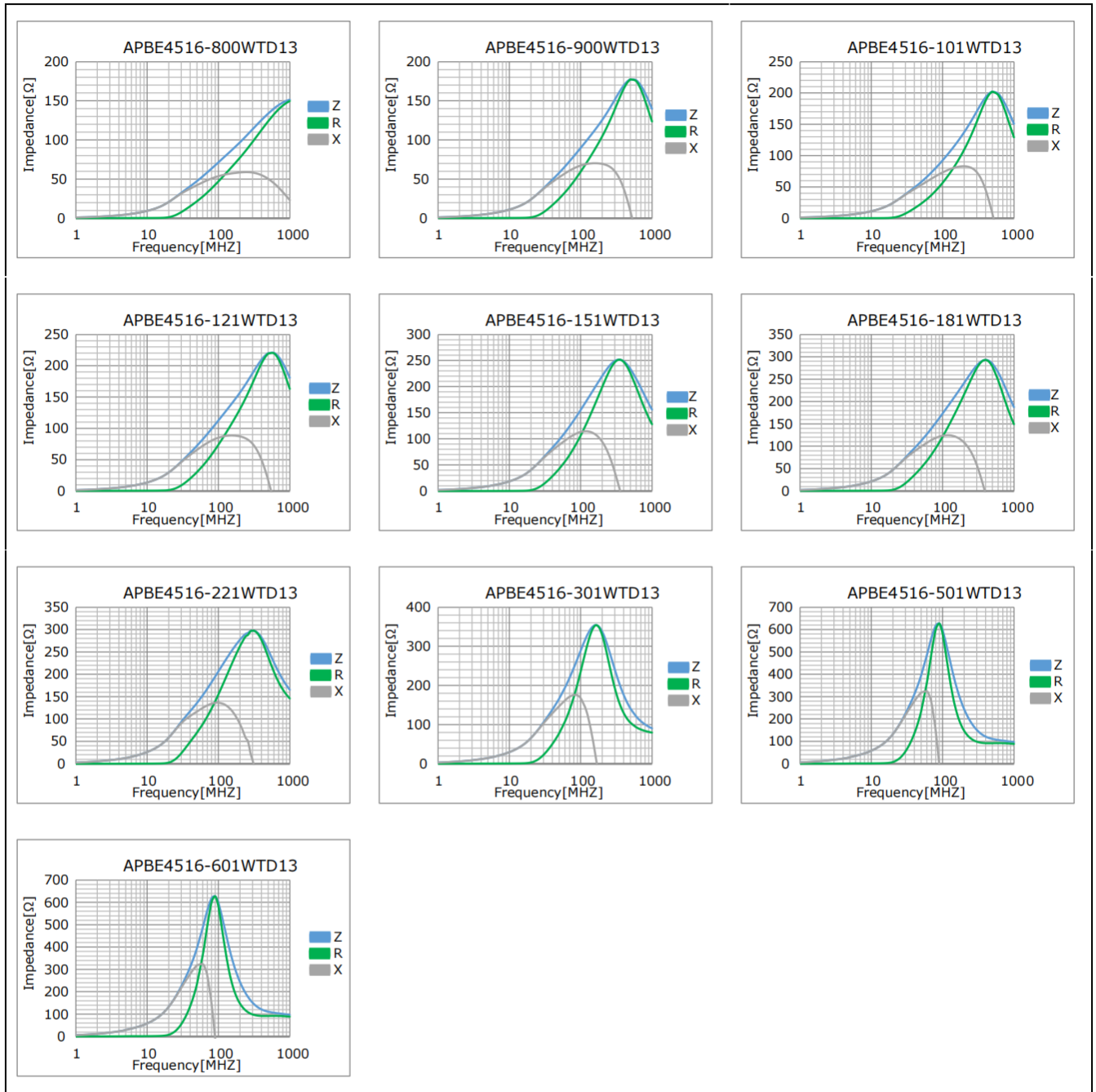




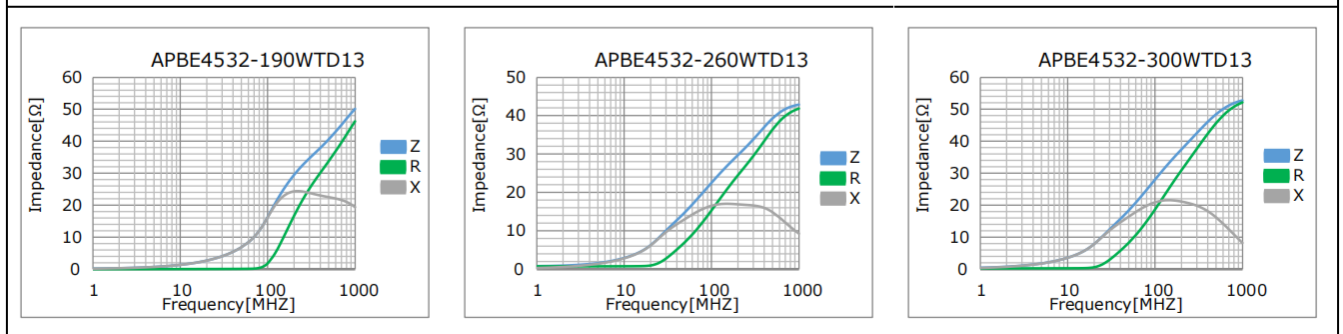
APBE3225 Series

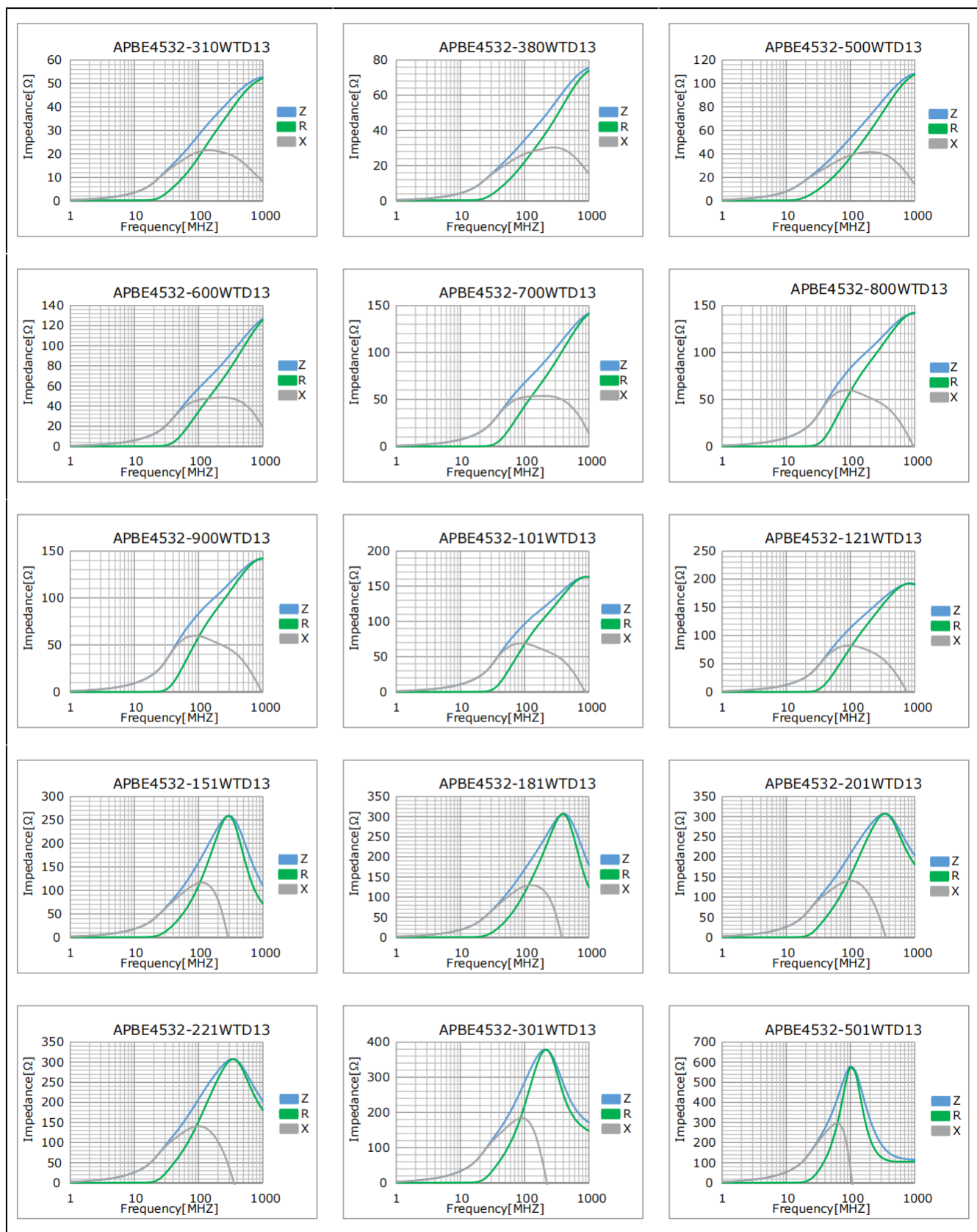


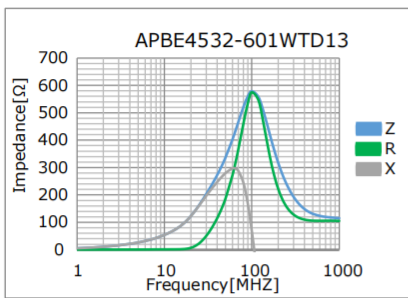




APBE4532Type







■ Safety Reminders 注意事项

SAFETY REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 15 to 35℃, humidity: 75% RH or less). If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- This product is not designed for production processes involving ultrasonic welding, as high-frequency vibration may cause application issues such as product detachment and breakage.
- Carefully layout the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment, under a normal operation and use condition.

The Company shall not guarantee the suitability, performance, or quality for the following applications that require a high level of safety and reliability, or where equipment failure, malfunction, or abnormal operation may cause damage to human life, physical well-being, or property, and may have significant social impacts (hereinafter referred to as "specific applications"). If you intend to use this product in the application scenarios listed below, or if you have special requirements exceeding the scope or conditions specified in each product catalog, please contact us.

- (1) Aerospace/aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment
- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.