

## Overview

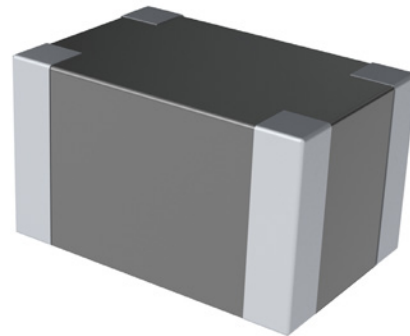
KEMET L-SWS ferrite-based Wire Wound Chip Inductors are designed for signal line EMI suppression. The bottom-surface electrode structure allows for high Q and narrow inductance tolerance. This small size wire wound inductor is suitable for module design of signal line applications.

## Applications

- PC, tablet, peripherals
- Portable equipment
- Optical storage, HDD
- Digital still camera
- Gaming
- Network equipment

## Benefits

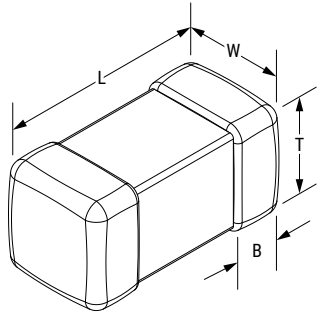
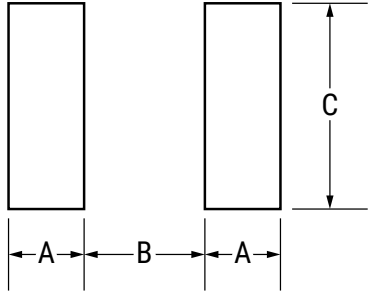
- High Q
- Narrow inductance tolerance  $\pm 5\%$
- Bottom surface electrode
- Inductance value from 0.12 to 100  $\mu\text{H}$
- Rated current range from 0.08 – 0.61 A
- Rated DC Resistance Range Typical 0.13 – 8  $\Omega$
- Operating temperature range from  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$
- Low profile 1.8 mm maximum



## Part Number System

L	0806	B	1R5	J	SWS	T
Inductor	EIA Case Size (L" x W")	Specification	Inductance Value ( $\mu\text{H}$ )	Inductance Tolerance	Series	Packaging
	0806 (2016 in mm)	B = Bottom Surface Electrode	R = decimal point Examples: 1R5 = 1.5 $\mu\text{H}$  The first two digits represent the inductance value. The third digit indicates the number of zeros to be added.  Examples: 100 = 10 $\mu\text{H}$ 101 = 100 $\mu\text{H}$	J = $\pm 5\%$	SWS = Signal line wire wound chip type	T = Tape & Reel

## Dimensions – Millimeters (Inches)

Dimensions - Millimeters (Inches)						Land Pattern - Millimeters		
								
EIA Size Code	Metric Size Code	L Length	W Width	T Thickness	B Bandwidth	A	B	C
0806	2016	2.00 (0.079) ±0.20 (0.008)	1.60 (0.063) ±0.20 (0.008)	1.60 (0.063) ±0.20 (0.008)	0.50 (0.020) ±0.2 (0.008)	0.6	1.0	1.8

## Performance Characteristics

Item	Performance Characteristics
Operating Temperature Range	-40°C to +105°C
Rated Inductance Range	0.12 – 100 µH
Inductance Tolerance	±5%
Rated Current Range	0.08 – 0.61 A
Rated DC Resistance Range Typical	0.13 – 8 Ω
Rated DC Resistance Range Maximum	0.169 – 10.4 Ω

## Environmental Compliance

All KEMET Chip Inductors are RoHS and REACH Compliant.

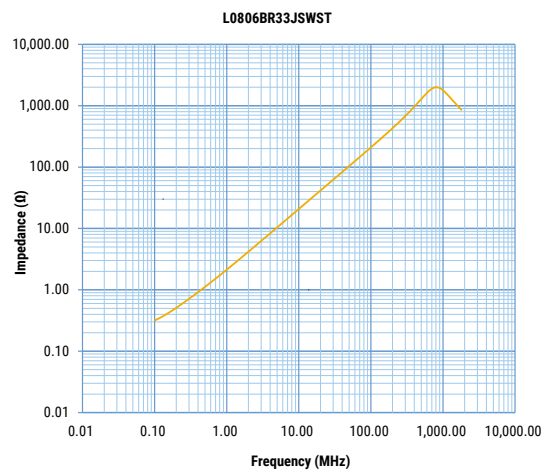
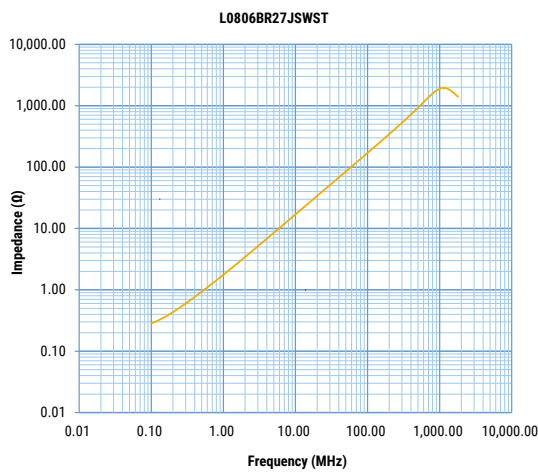
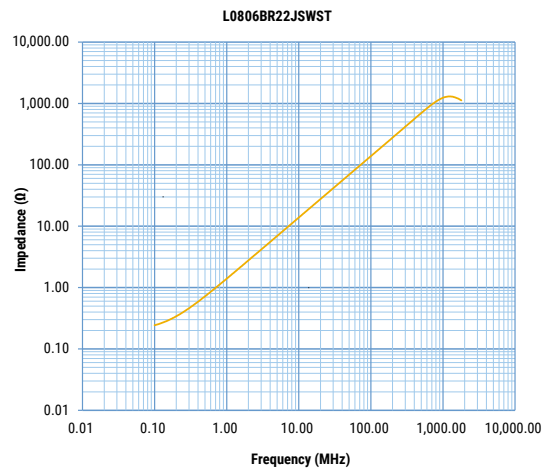
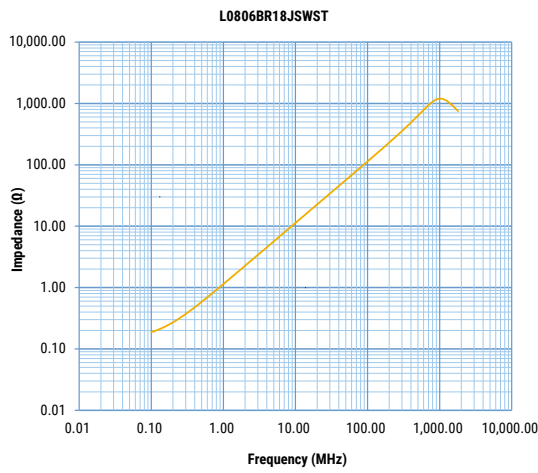
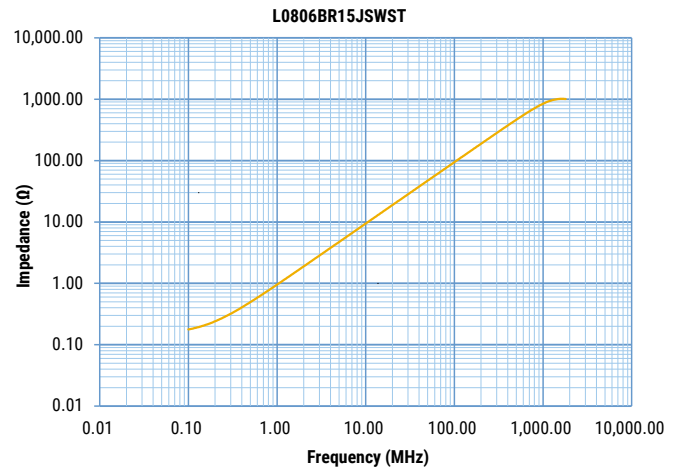
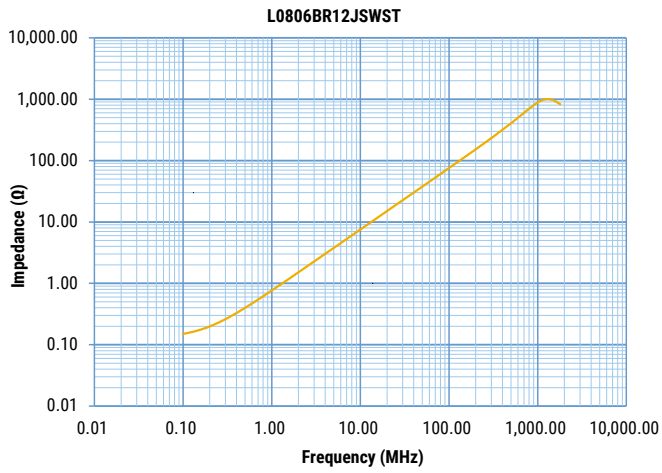


**Table 1 – Ratings & Part Number Reference**

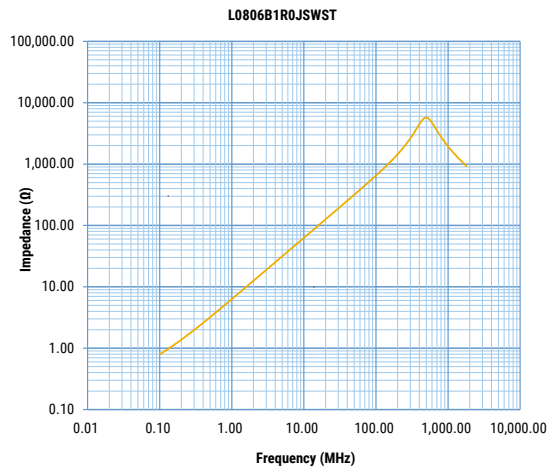
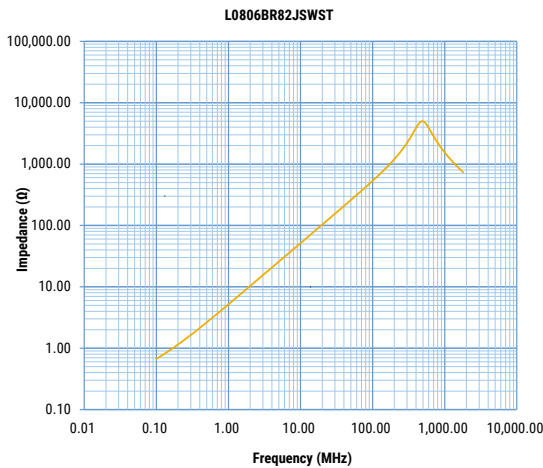
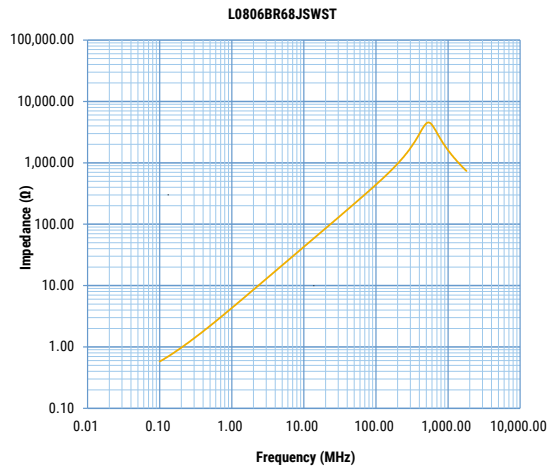
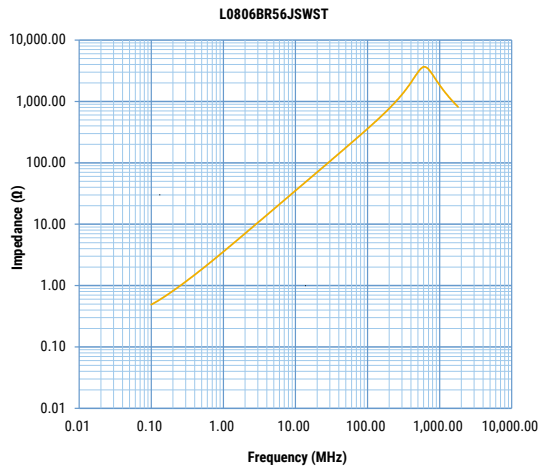
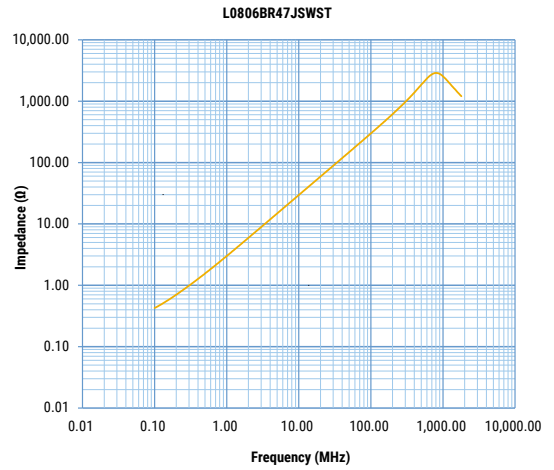
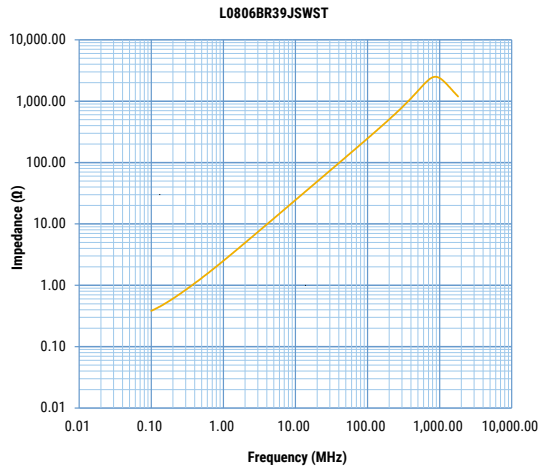
Part Number	Inductance (µH)	Inductance Tolerance	Rated Current (A) <sup>1</sup>	DC Resistance (Ω) Typical ±30%	Q Value Minimum	Self-Resonance Frequency (MHz) Minimum	Inductance Measuring Frequency (MHz)
L0806BR12JSWST	0.12	±5 %	0.61	0.13	30	600	25.2
L0806BR15JSWST	0.15	±5 %	0.57	0.15	30	550	25.2
L0806BR18JSWST	0.18	±5 %	0.56	0.15	30	500	25.2
L0806BR22JSWST	0.22	±5 %	0.52	0.2	30	450	25.2
L0806BR27JSWST	0.27	±5 %	0.51	0.21	30	425	25.2
L0806BR33JSWST	0.33	±5 %	0.49	0.21	30	400	25.2
L0806BR39JSWST	0.39	±5 %	0.44	0.26	30	375	25.2
L0806BR47JSWST	0.47	±5 %	0.43	0.26	30	350	25.2
L0806BR56JSWST	0.56	±5 %	0.41	0.29	30	300	25.2
L0806BR68JSWST	0.68	±5 %	0.4	0.32	30	270	25.2
L0806BR82JSWST	0.82	±5 %	0.39	0.34	30	250	25.2
L0806B1R0JSWST	1.0	±5 %	0.385	0.38	30	220	7.96
L0806B1R2JSWST	1.2	±5 %	0.37	0.41	30	180	7.96
L0806B1R5JSWST	1.5	±5 %	0.35	0.47	30	135	7.96
L0806B1R8JSWST	1.8	±5 %	0.345	0.48	30	100	7.96
L0806B2R2JSWST	2.2	±5 %	0.34	0.54	30	75	7.96
L0806B2R7JSWST	2.7	±5 %	0.31	0.59	30	55	7.96
L0806B3R3JSWST	3.3	±5 %	0.29	0.68	30	48	7.96
L0806B3R9JSWST	3.9	±5 %	0.275	0.74	30	43	7.96
L0806B4R7JSWST	4.7	±5 %	0.27	0.78	30	40	7.96
L0806B5R6JSWST	5.6	±5 %	0.255	0.88	25	36	7.96
L0806B6R8JSWST	6.8	±5 %	0.24	0.97	25	33	7.96
L0806B8R2JSWST	8.2	±5 %	0.225	1.1	25	30	7.96
L0806B100JSWST	10	±5 %	0.215	1.2	25	27	2.52
L0806B120JSWST	12	±5 %	0.2	1.4	25	23	2.52
L0806B150JSWST	15	±5 %	0.19	1.5	25	20	2.52
L0806B180JSWST	18	±5 %	0.15	2.5	25	18	2.52
L0806B220JSWST	22	±5 %	0.14	2.8	25	17	2.52
L0806B270JSWST	27	±5 %	0.13	3.2	25	16	2.52
L0806B330JSWST	33	±5 %	0.125	3.6	25	15	2.52
L0806B390JSWST	39	±5 %	0.12	3.9	20	14	2.52
L0806B470JSWST	47	±5 %	0.115	4.1	20	13	2.52
L0806B560JSWST	56	±5 %	0.095	5.9	20	12	2.52
L0806B680JSWST	68	±5 %	0.09	7	20	11	2.52
L0806B820JSWST	82	±5 %	0.085	7.7	20	10	2.52
L0806B101JSWST	100	±5 %	0.08	8	15	9	0.796
Part Number	Inductance (µH)	Inductance Tolerance	Rated Current (A) <sup>1</sup>	DC Resistance (Ω) Typical ±30%	Q Value Minimum	Self-Resonance Frequency (MHz) Minimum	Inductance Measuring Frequency (MHz)

<sup>1</sup> Inductance drop within 10% and temperature rise within 20°C at rated current

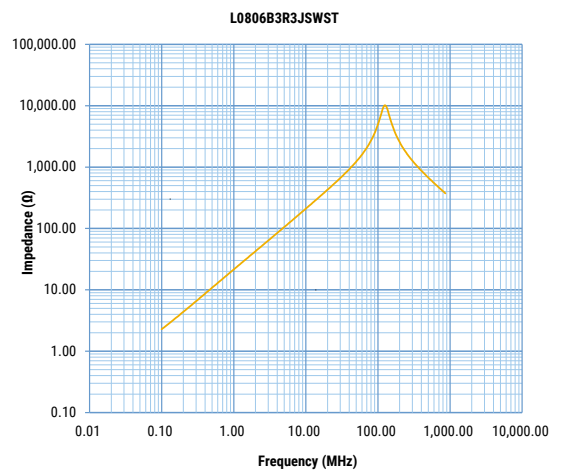
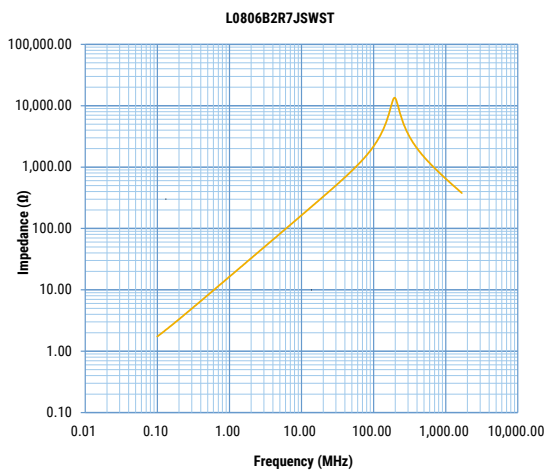
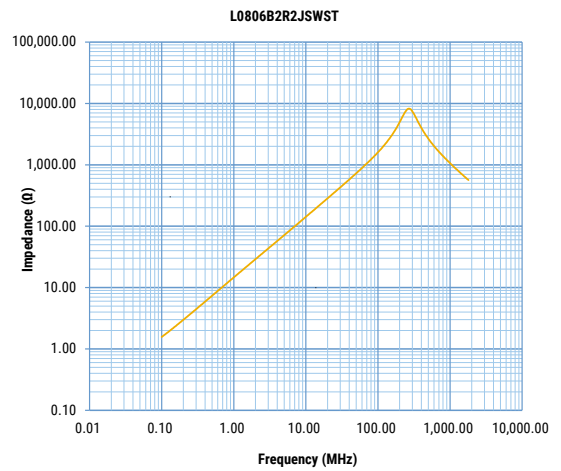
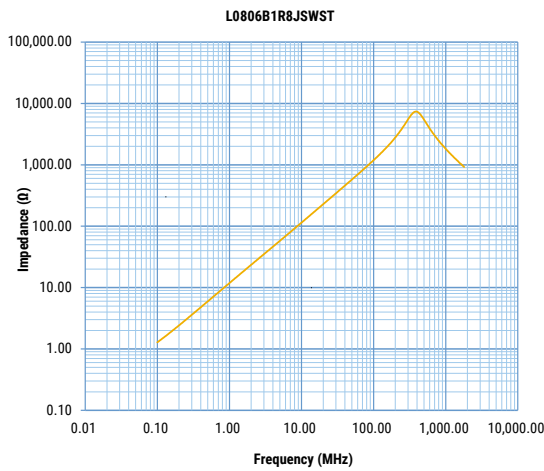
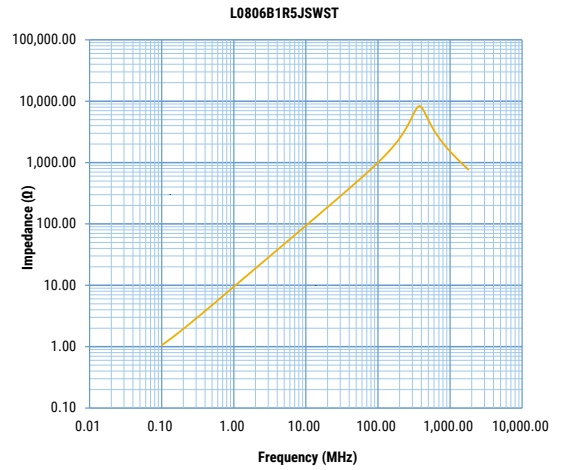
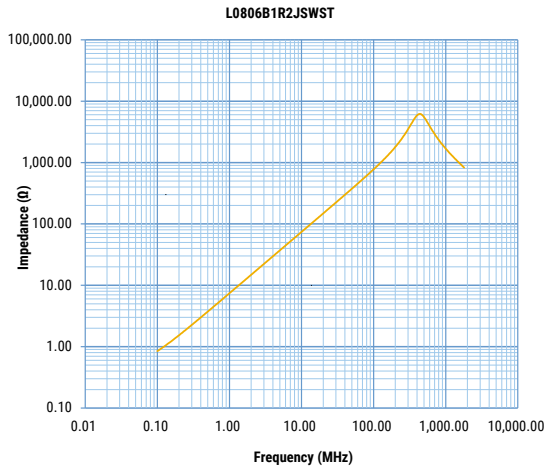
## Impedance versus Frequency Characteristics



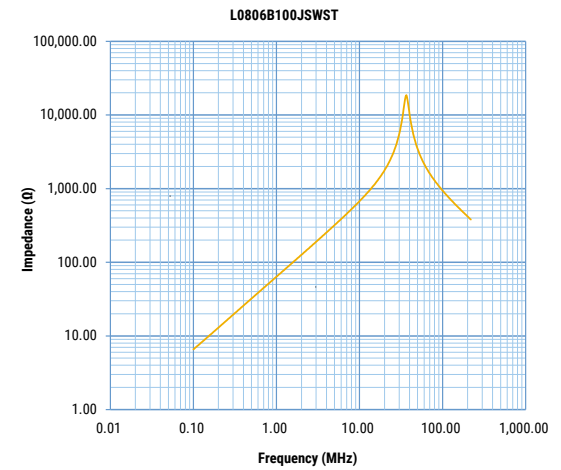
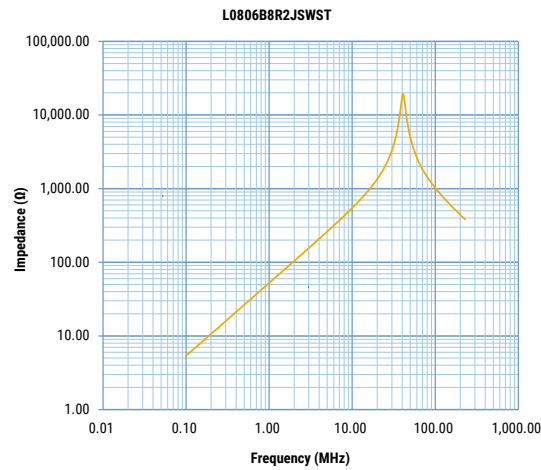
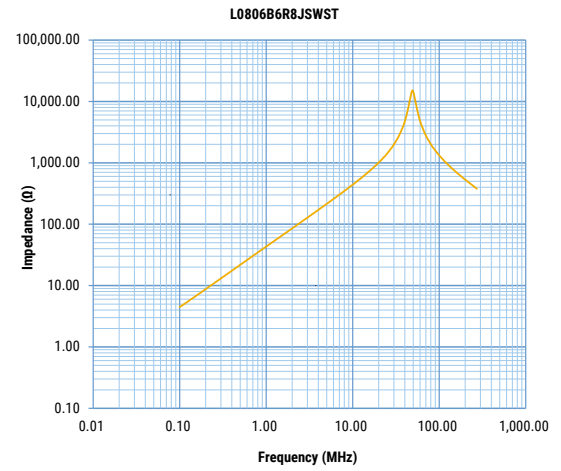
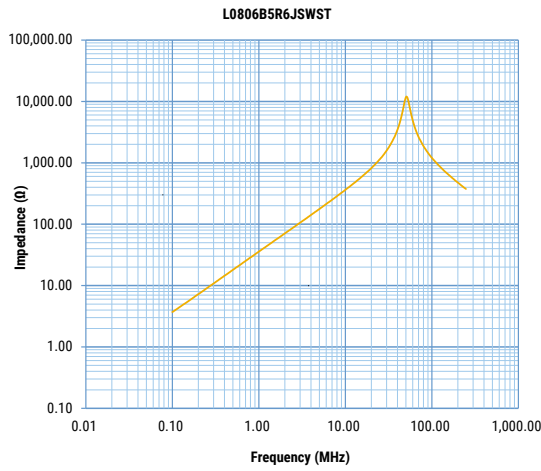
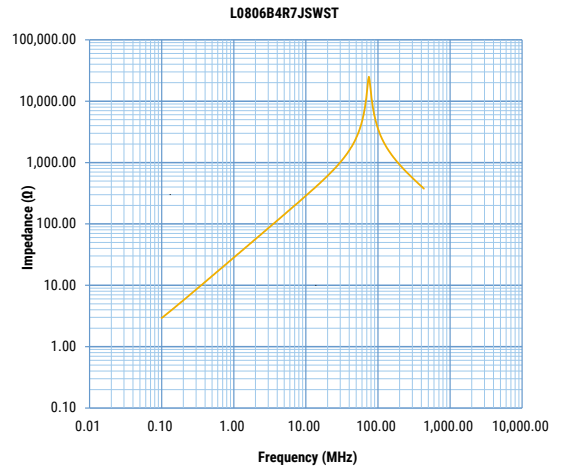
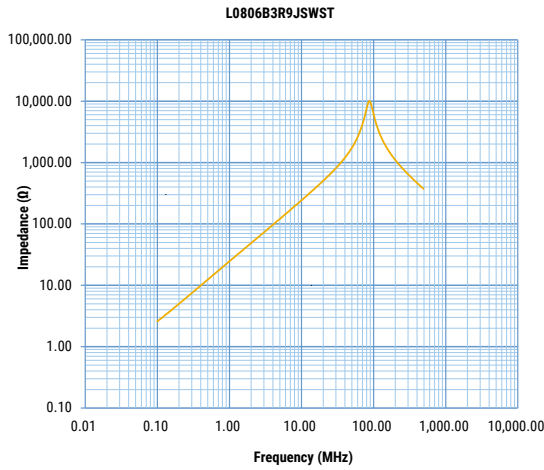
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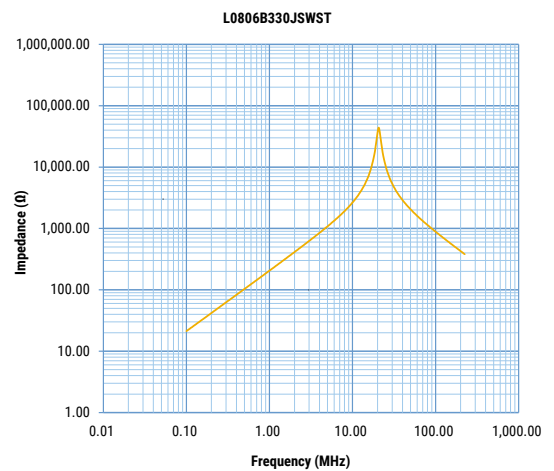
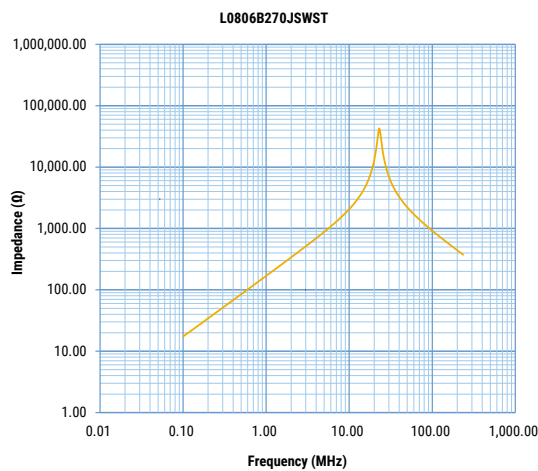
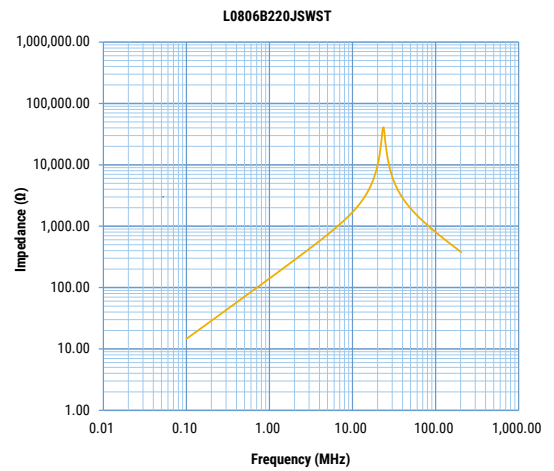
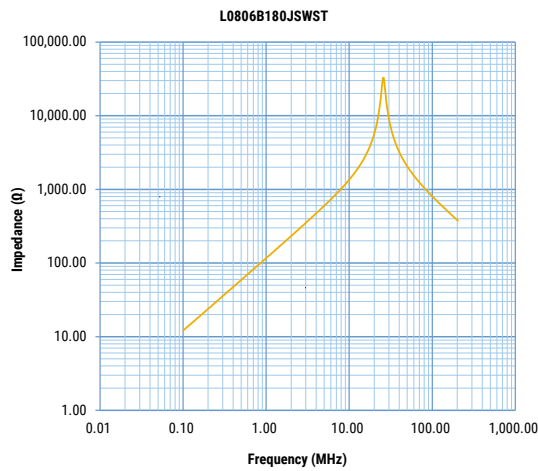
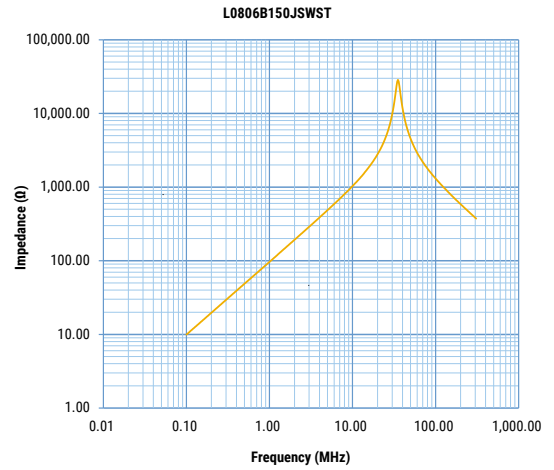
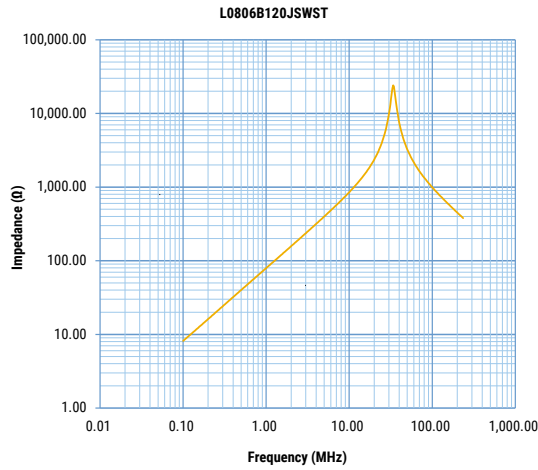
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## Impedance versus Frequency Characteristics cont.

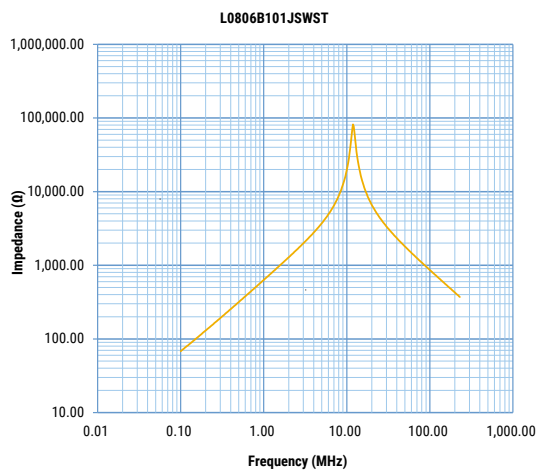
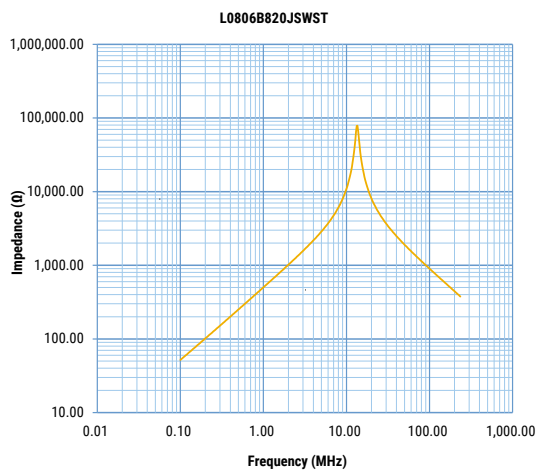
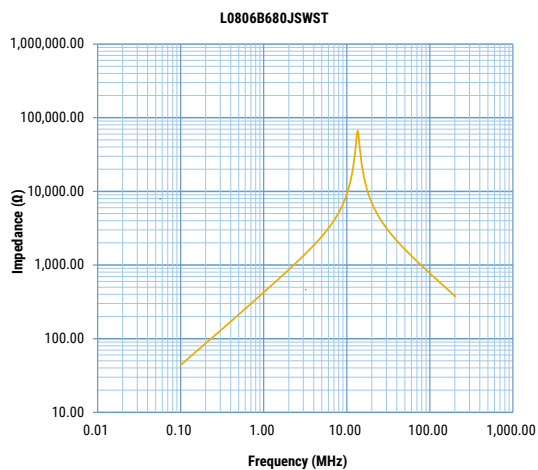
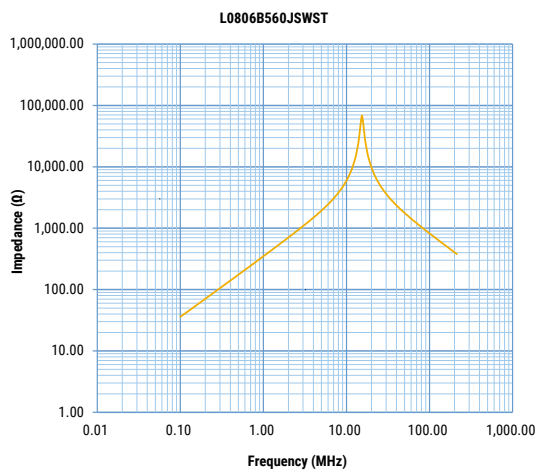
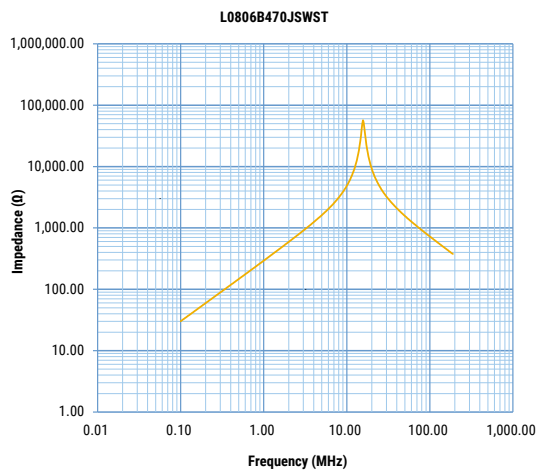
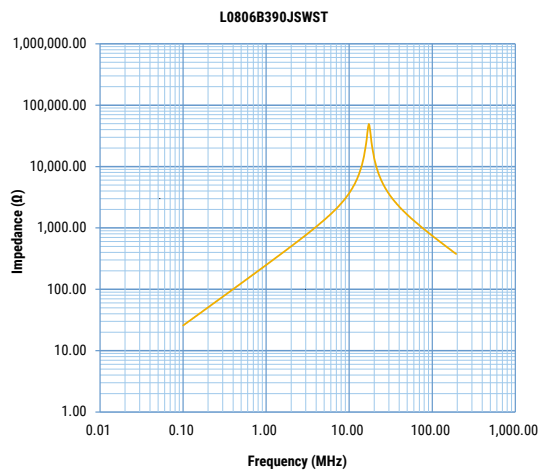


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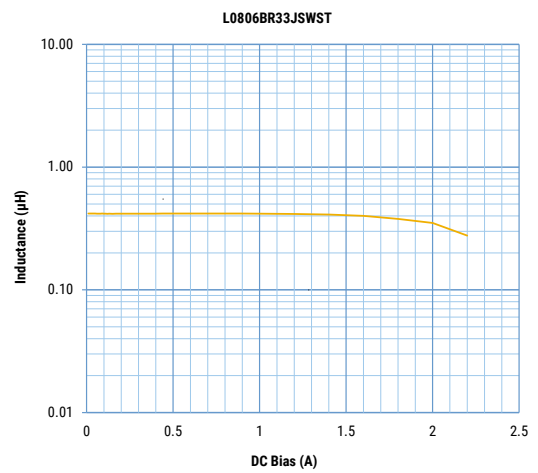
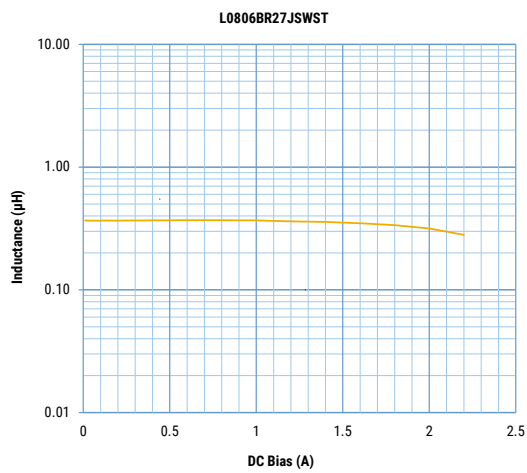
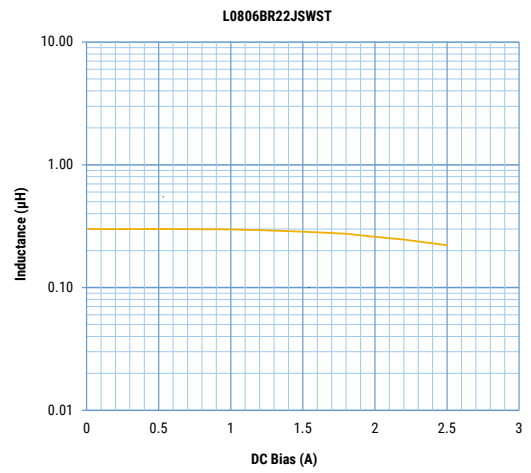
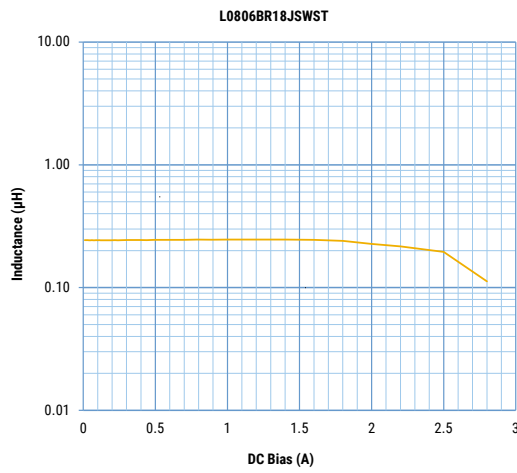
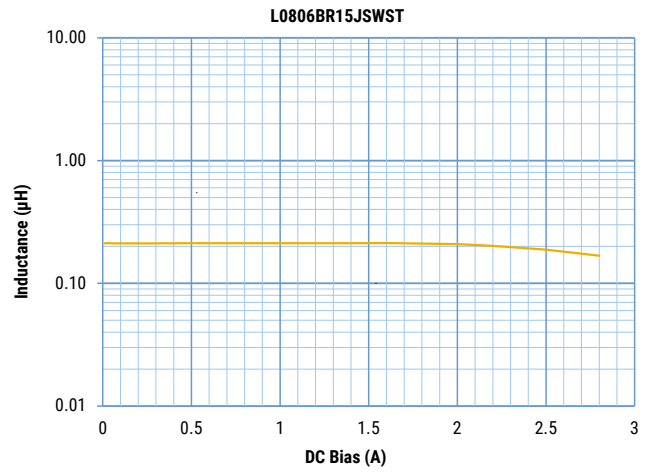
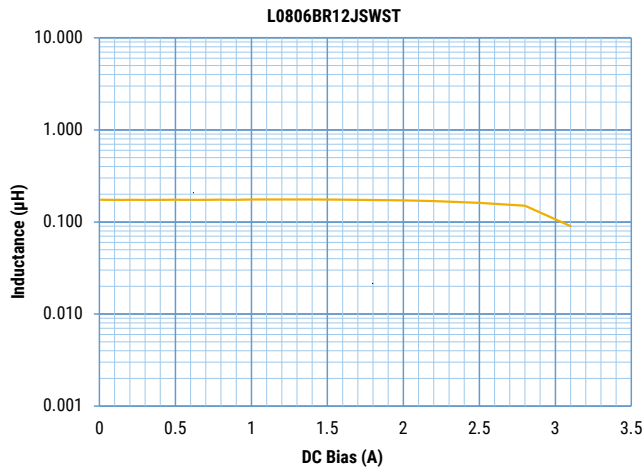




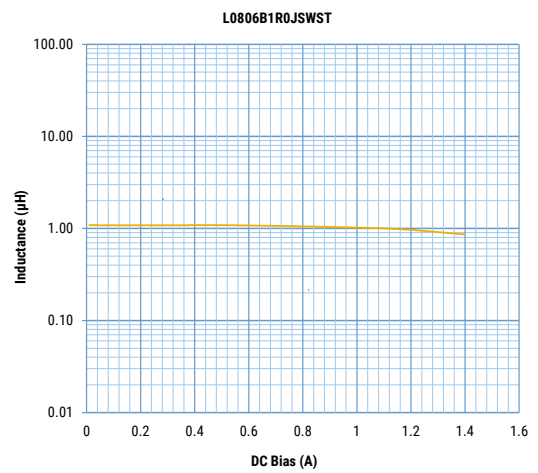
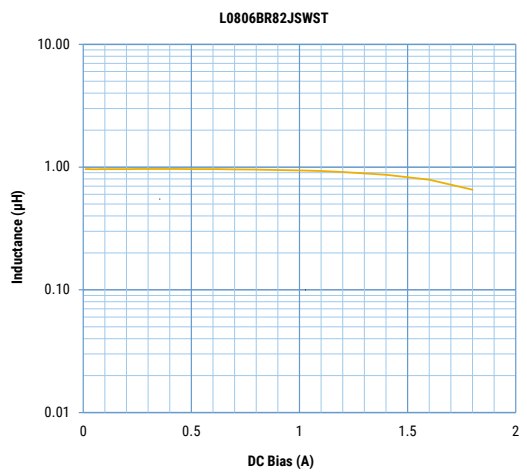
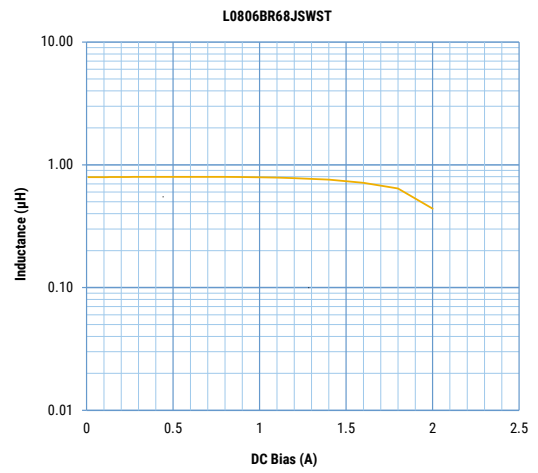
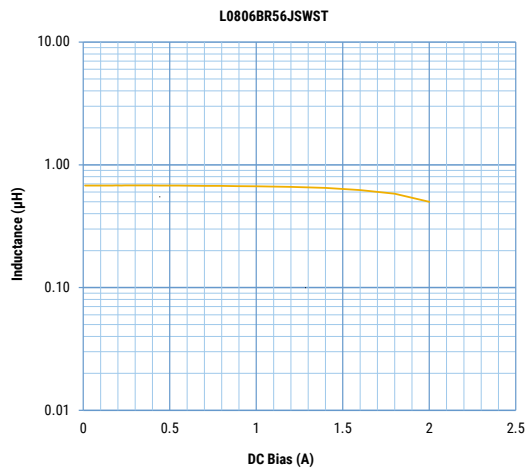
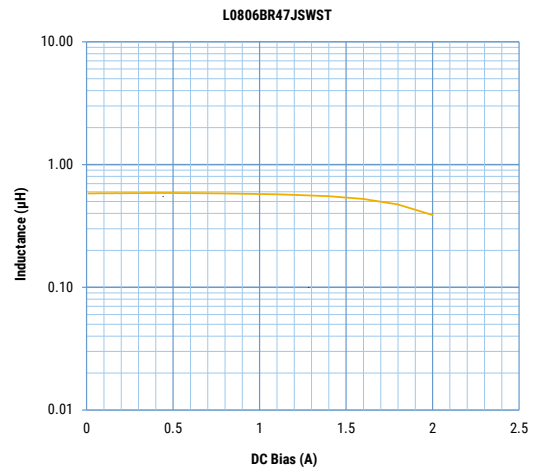
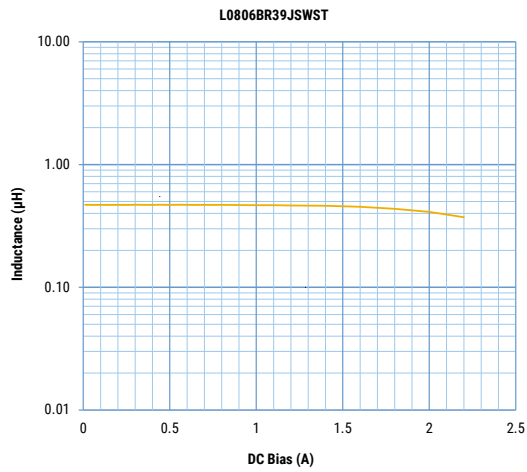
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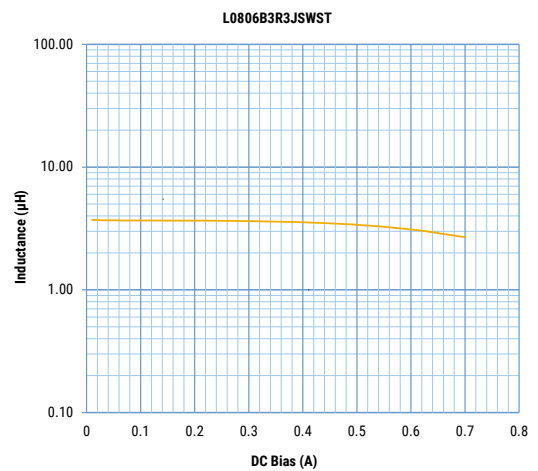
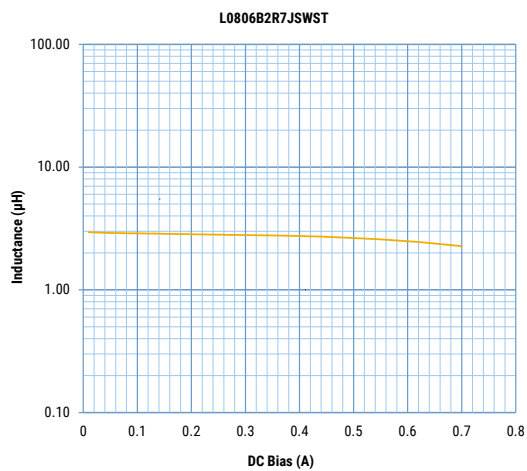
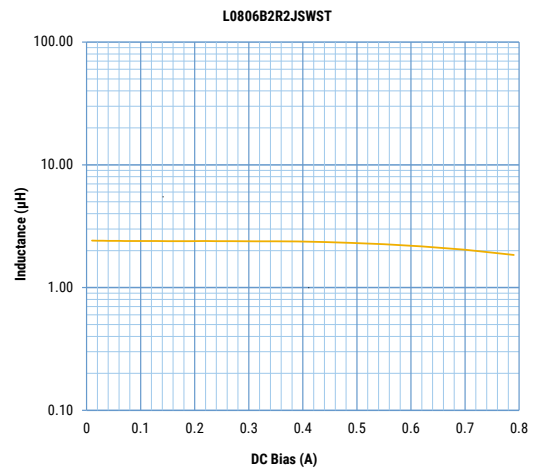
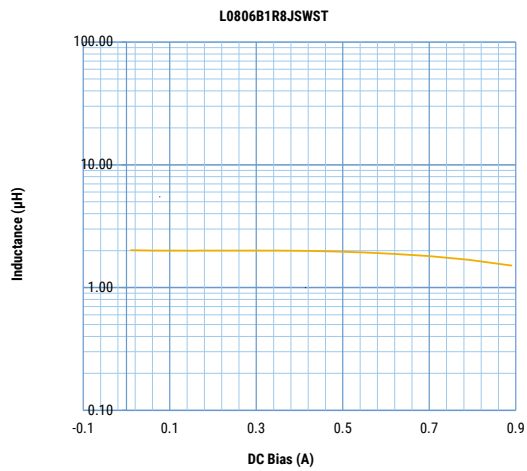
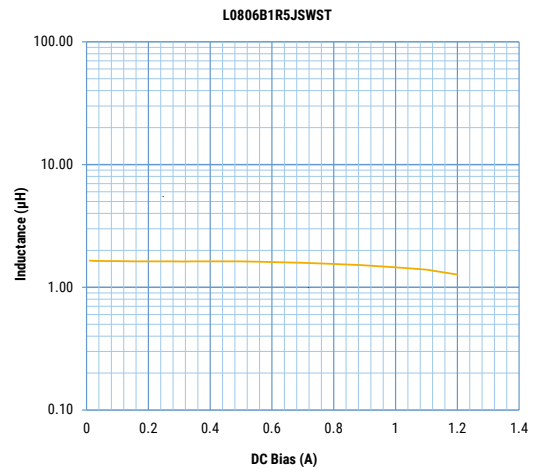
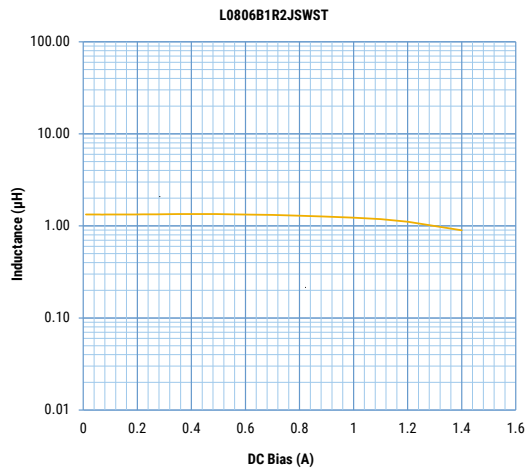
## DC-Superposed Characteristics



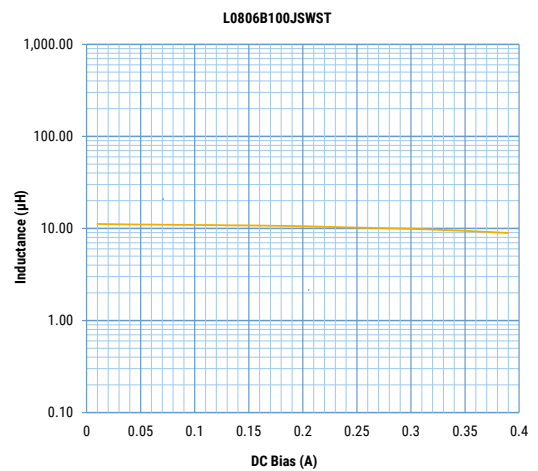
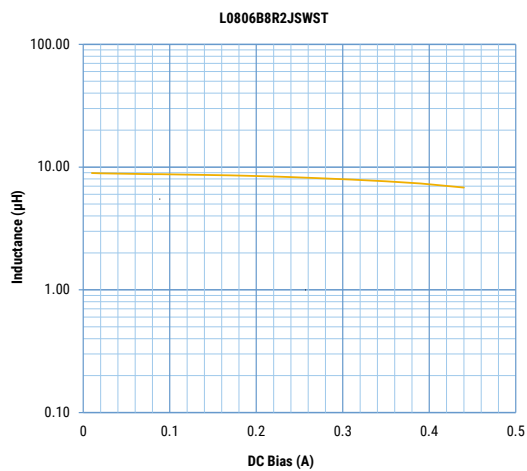
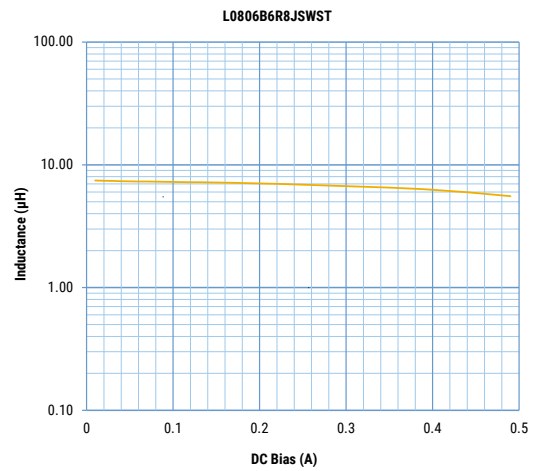
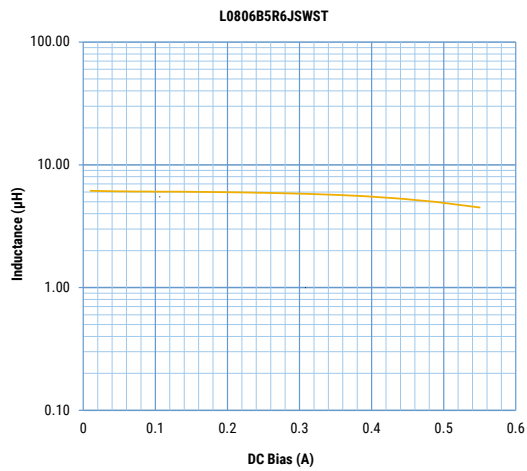
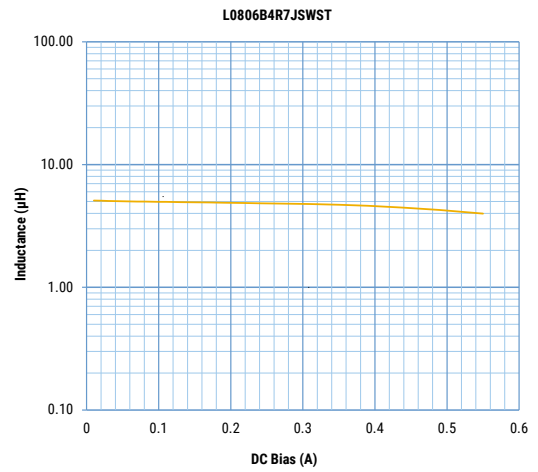
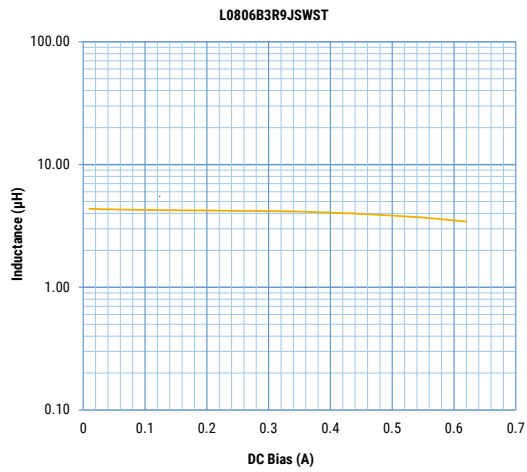
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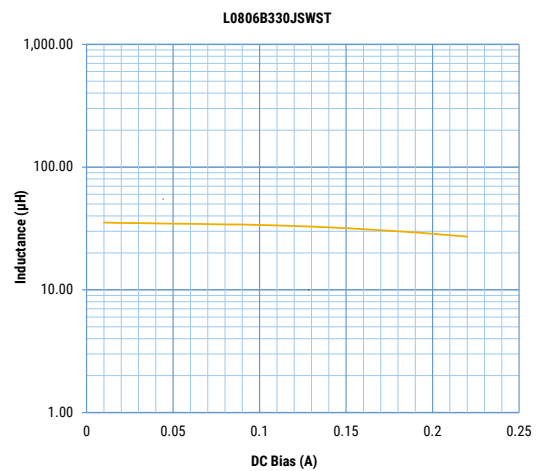
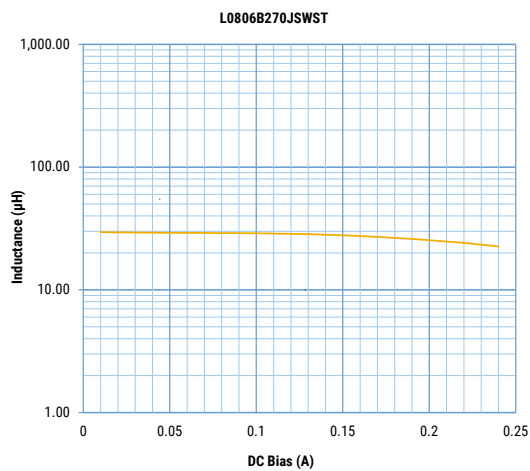
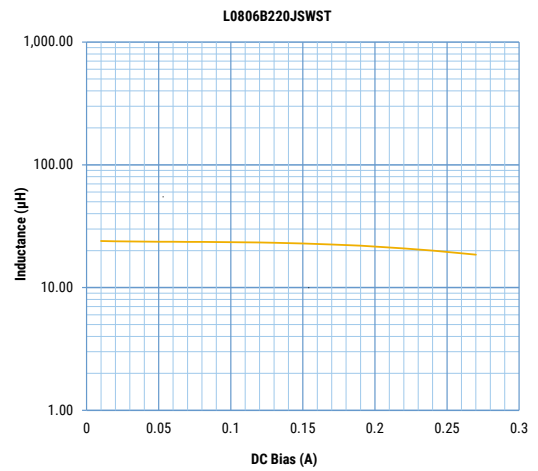
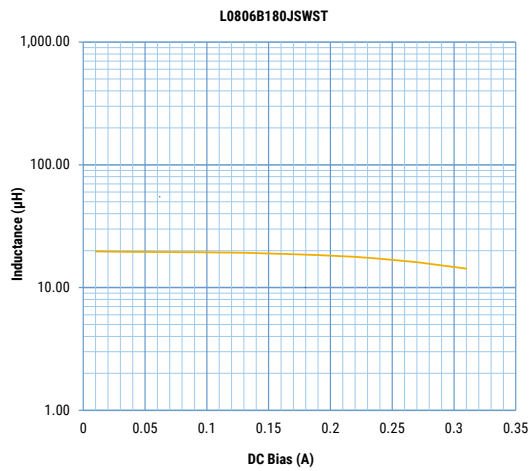
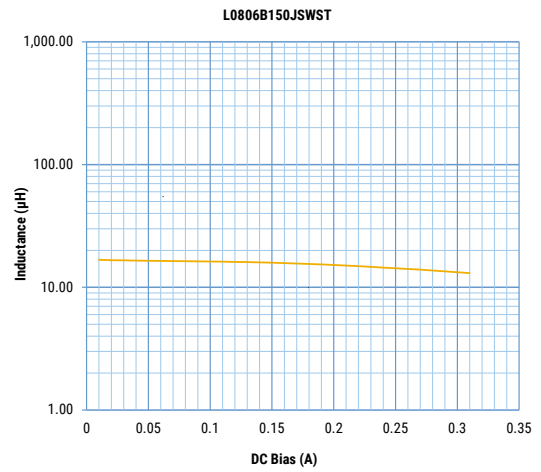
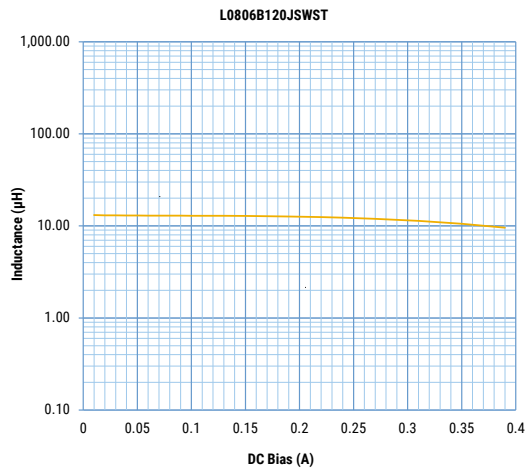
## DC-Superposed Characteristics cont.



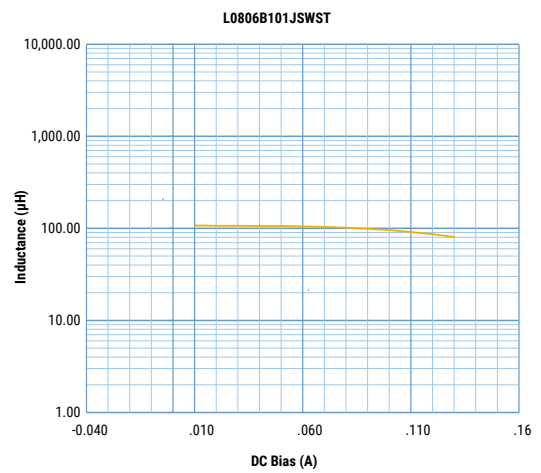
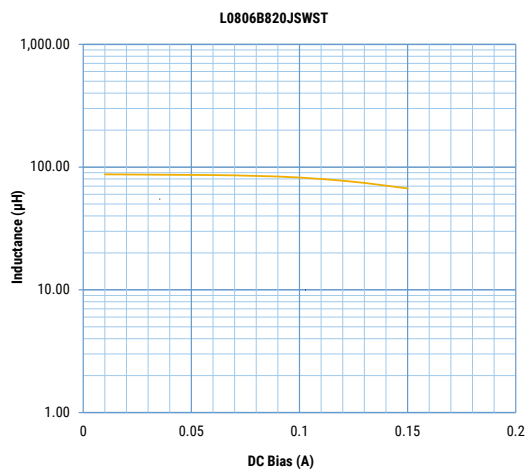
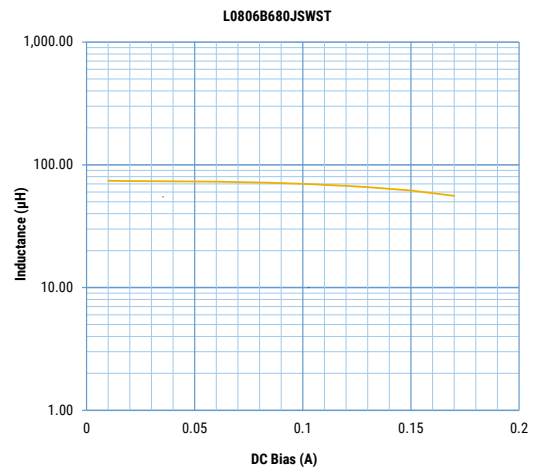
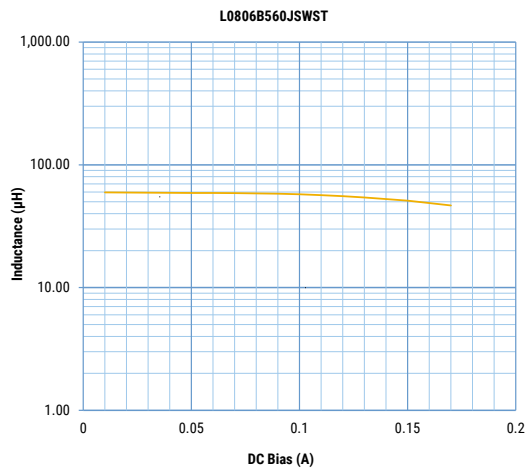
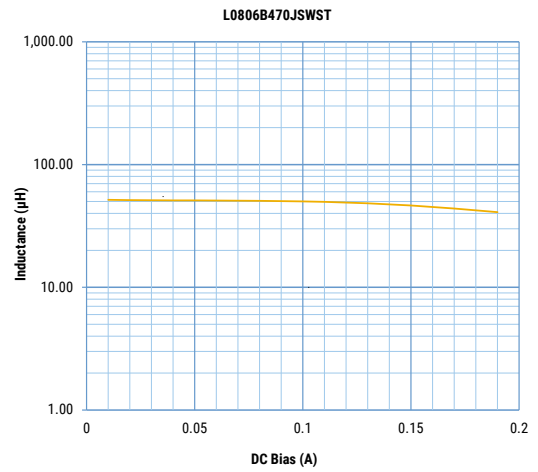
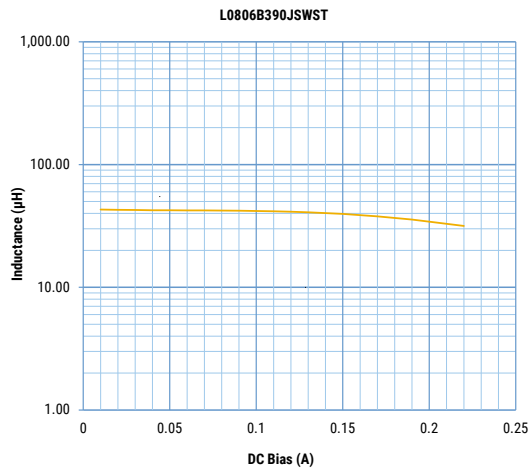
## DC-Superposed Characteristics cont.



## DC-Superposed Characteristics cont.

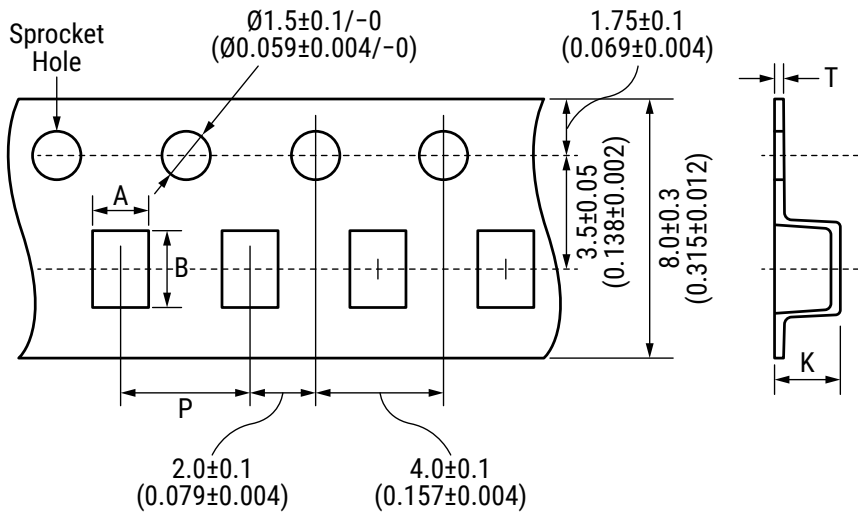


## DC-Superposed Characteristics cont.



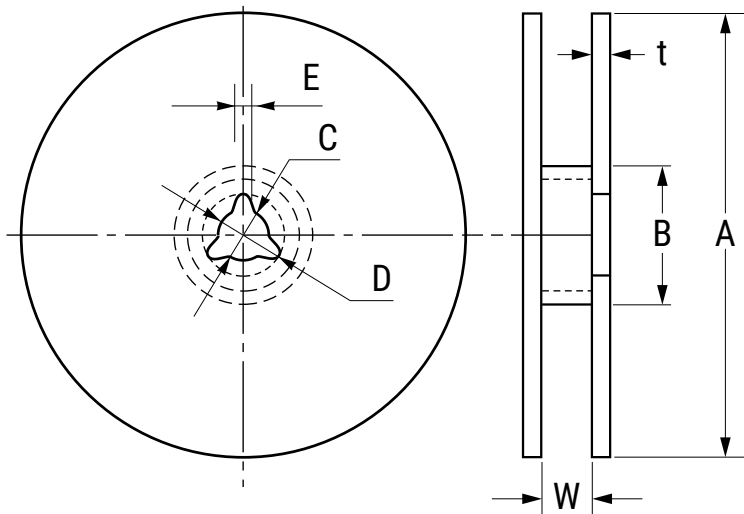
## Taping Specifications - Millimeters (Inches)

### 0806 Embossed (Plastic) Tape 8mm Width



EIA Case Size	Metric Case Size	Height	Reel Quantity		Cavity		Pitch	Thickness	
					A	B	P	T	K
0806	2016	1.6	2,000	Nominal	1.75	2.10	4.00	0.30	1.90
				Tolerance	±0.1	±0.1	±0.1	±0.05	Maximum

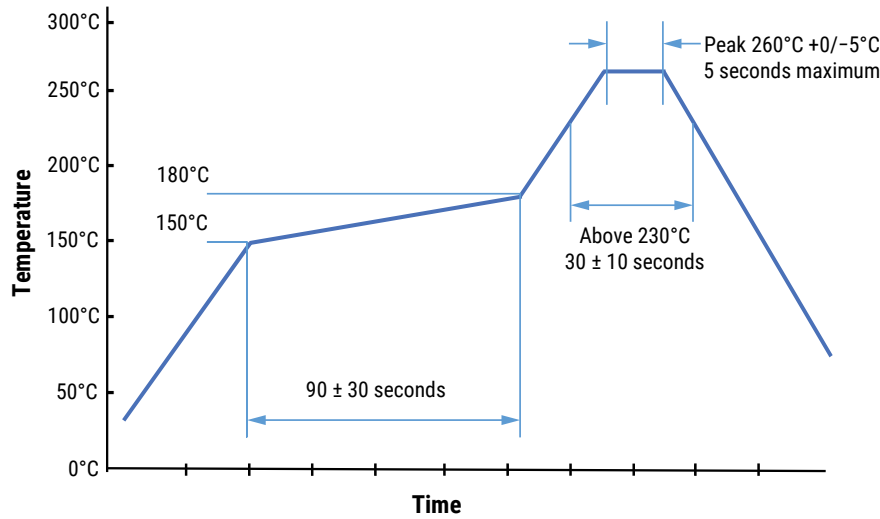
## Reel Specifications - Millimeters



Series		Dimensions - Millimeters						
		A	B	C	D	E	t	W
L-SWS	Nominal	ø180.0	ø60.0	ø13.0	ø21.0	2.0	2.5	10.0
	Tolerance	Maximum	Minimum	±0.5	±0.8	±0.5	Maximum	±1.5



## Recommended Reflow Soldering Profile



## Handling Precautions

Inductors should be stored in normal working environments. While the inductors themselves are quite robust in other environments, exposure to high temperatures, high humidity, corrosive atmospheres, and long-term storage degrades solderability.

KEMET recommends that maximum storage temperature not exceed  $40^\circ\text{C}$  and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine-bearing and sulfur-bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts.

For optimized solderability, inductor stock should be used promptly, preferably within six months of receipt.

## KEMET Electronics Corporation Sales Offices

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