Multilayer Power Inductors

The MPx Series is a miniature type of multilayer power inductor constructed using low-loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC-DC converter applications in space-limited boards.

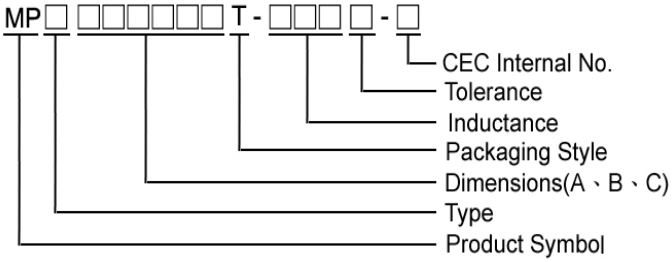
Features

- RoHS compliant
- Small size
- Low profile
- High current
- Magnetically shielded configuration allowing for high density mounting

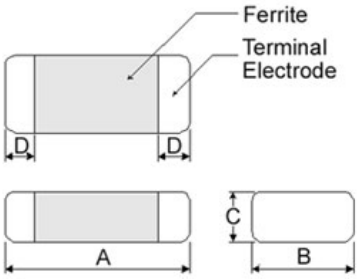
Applications

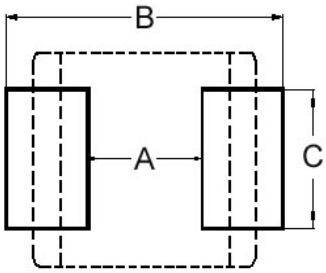
- DC-DC converters
- Power modules
- Cellular phones
- DSC, PND, DVD
- Wireless card and other electronic devices

Product Identification



- Product Symbol : MPA, MPB
- Type : A : General , B : Low RDC
- Packaging : T：Tape and Reel , B：Bulk
- Tolerance : M = ± 20% , T = ±30%





Dimensions in mm

TYPE	A	B	C	D
160808	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
201205	2.0±0.20	1.25±0.20	0.55 Max	0.5±0.3
201210	2.0±0.20	1.25±0.20	1.0 Max	0.5±0.3
201212	2.0±0.20	1.25±0.20	1.25±0.20	0.5±0.3
201610	2.0±0.20	1.6±0.20	1.0 Max	0.5±0.3
252010	2.5±0.20	2.0±0.20	1.0 Max	0.6±0.2
252012	2.5±0.20	2.0±0.20	1.2 Max	0.6±0.2

Dimensions in mm

TYPE	A	B	C
160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
201205	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201210	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201212	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201610	0.8 ~ 1.2	2.1 ~ 2.7	1.6 ~ 2.0
252010	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6
252012	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6

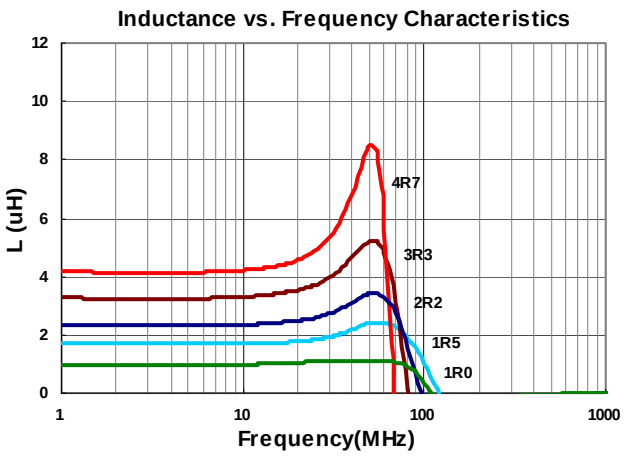
Electrical Characteristics

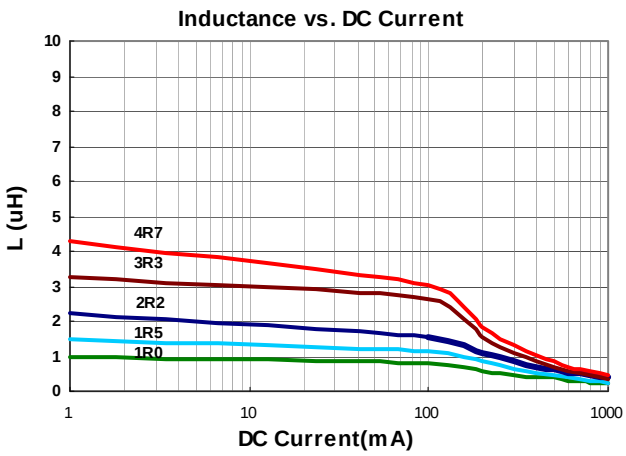
MPA : General Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPA201210T-1R0□-N	1.0	1	20, 30	0.18	1100
MPA201210T-1R5□-N	1.5	1	20, 30	0.19	1000
MPA201210T-2R2□-N	2.2	1	20, 30	0.22	900
MPA201210T-3R3□-N	3.3	1	20, 30	0.25	700
MPA201210T-4R7□-N	4.7	1	20, 30	0.35	600

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 1MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





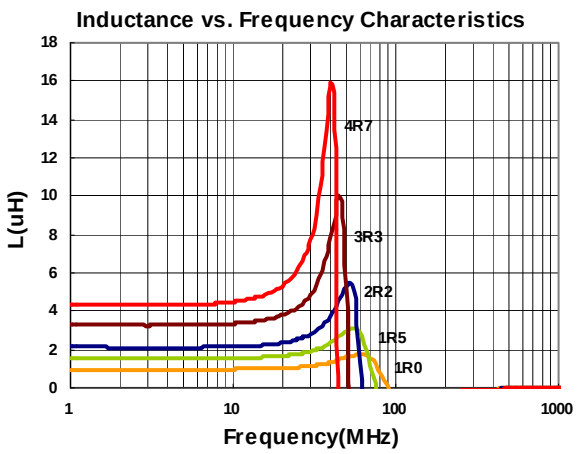
Electrical Characteristics

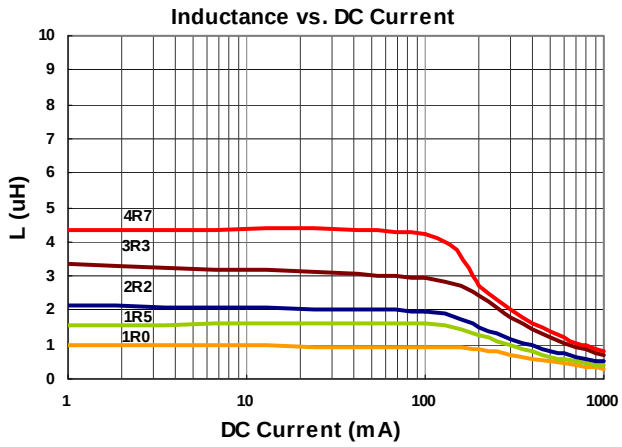
MPA : General Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPA252010T-1R0□-N	1.0	1	20, 30	0.11	1200
MPA252010T-1R5□-N	1.5	1	20, 30	0.13	1100
MPA252010T-2R2□-N	2.2	1	20, 30	0.15	1000
MPA252010T-3R3□-N	3.3	1	20, 30	0.18	1000
MPA252010T-4R7□-N	4.7	1	20, 30	0.25	900

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 1MHz 200mV
- RDC：HP 4118B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





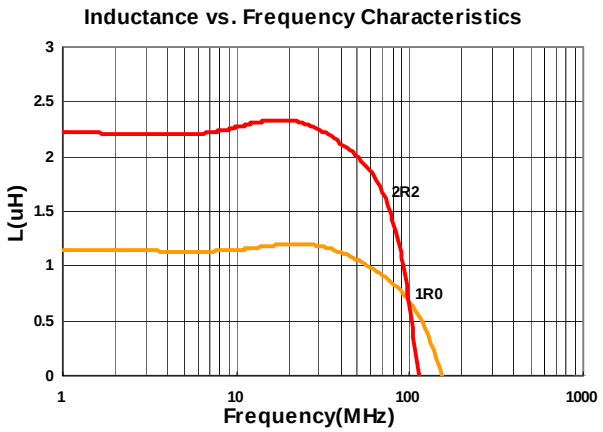
Electrical Characteristics

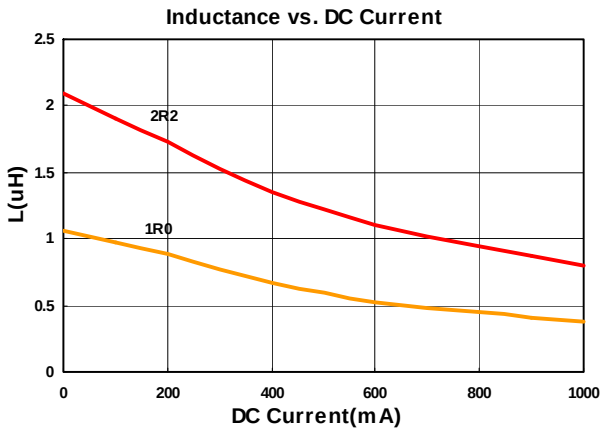
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB160808T-1R0□-NA2	1.0	3	20, 30	0.28	800
MPB160808T-2R2□-NA2	2.2	3	20, 30	0.40	600

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





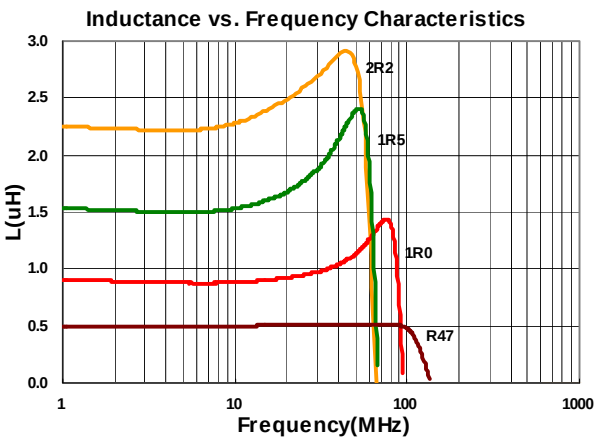
Electrical Characteristics

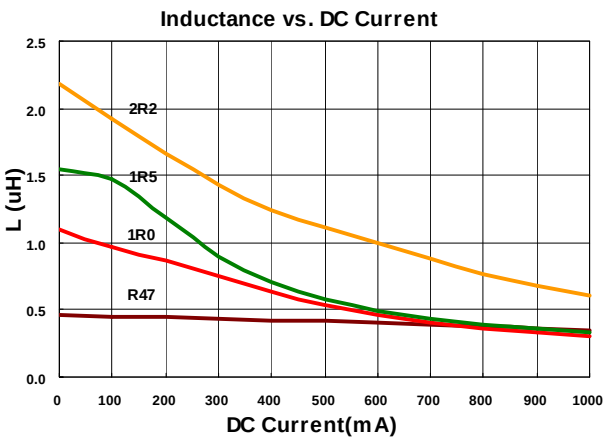
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB201205T-R47□-NA2	0.47	3	20, 30	0.11	1200
MPB201205T-1R0□-NA2	1.0	3	20, 30	0.16	900
MPB201205T-1R5□-NA2	1.5	3	20, 30	0.18	800
MPB201206T-2R2□-NA2	2.2	3	20, 30	0.29	600

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





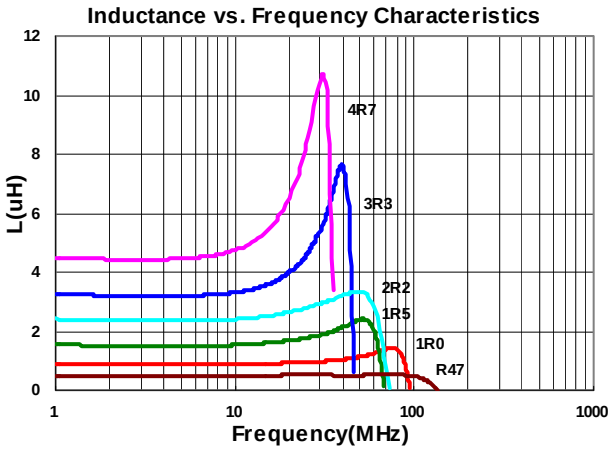
Electrical Characteristics

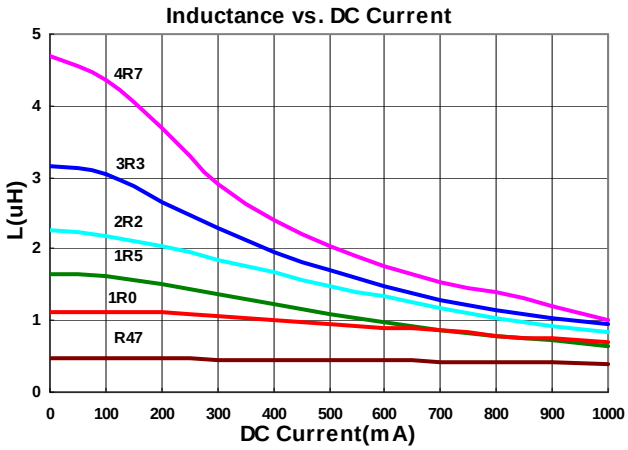
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB201210T-R47□-NA2	0.47	3	20, 30	0.09	1300
MPB201210T-1R0□-NA2	1.0	3	20, 30	0.12	1200
MPB201210T-1R5□-NA2	1.5	3	20, 30	0.15	1100
MPB201210T-2R2□-NA2	2.2	3	20, 30	0.19	1100
MPB201210T-3R3□-NA2	3.3	3	20, 30	0.24	800
MPB201210T-4R7□-NA2	4.7	3	20, 30	0.26	700

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





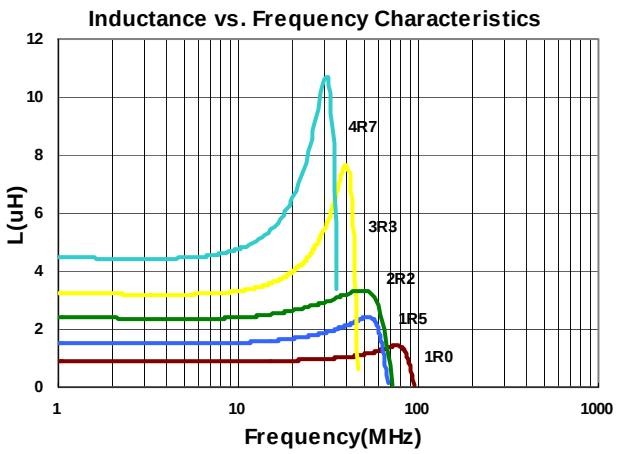
Electrical Characteristics

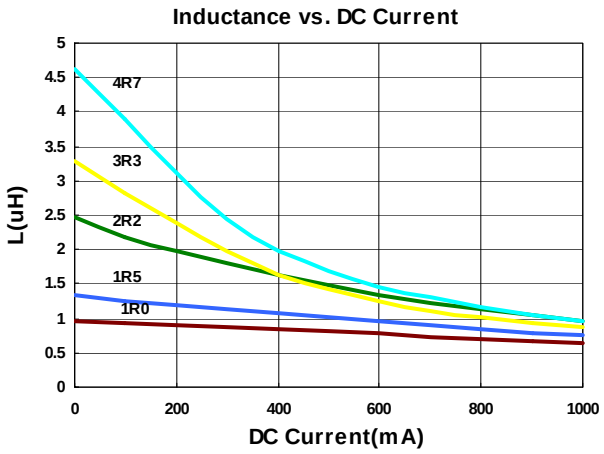
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB201212T-1R0□-NA2	1.0	3	20, 30	0.13	1200
MPB201212T-1R5□-NA2	1.5	3	20, 30	0.16	1100
MPB201212T-2R2□-NA2	2.2	3	20, 30	0.23	900
MPB201212T-3R3□-NA2	3.3	3	20, 30	0.23	900
MPB201212T-4R7□-NA2	4.7	3	20, 30	0.27	700

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





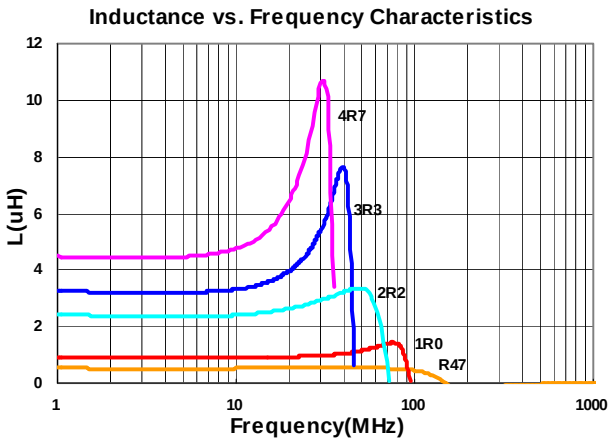
Electrical Characteristics

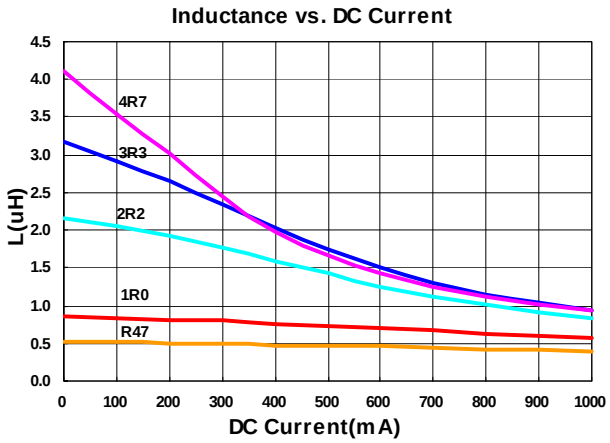
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB201610T-R47□-NA2	0.47	3	20, 30	0.06	1600
MPB201610T-1R0□-NA2	1.0	3	20, 30	0.09	1300
MPB201610T-2R2□-NA2	2.2	3	20, 30	0.13	1000
MPB201610T-3R3□-NA2	3.3	3	20, 30	0.17	850
MPB201610T-4R7□-NA2	4.7	3	20, 30	0.21	800

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





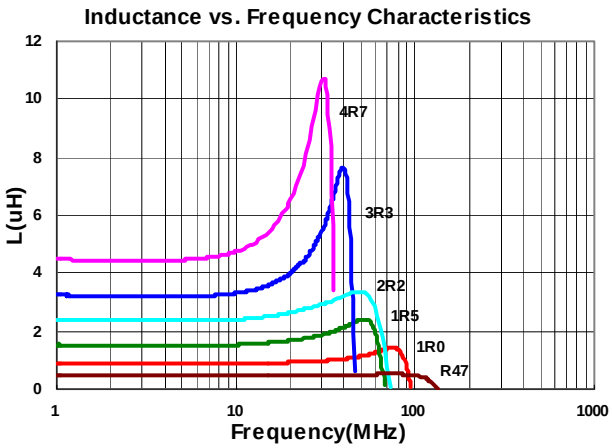
Electrical Characteristics

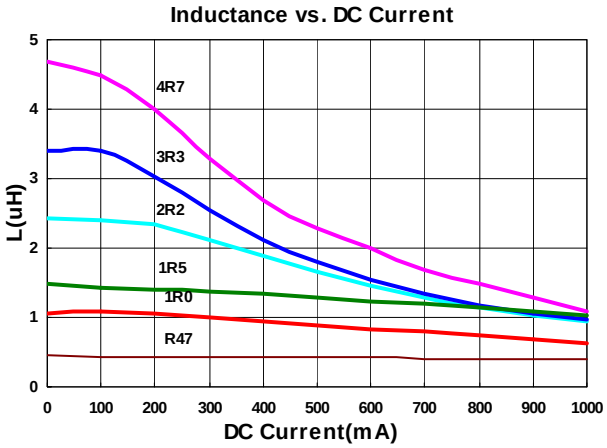
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB252010T-R47□-NA2	0.47	3	20, 30	0.04	1800
MPB252010T-1R0□-NA2	1.0	3	20, 30	0.06	1500
MPB252010T-1R5□-NA2	1.5	3	20, 30	0.07	1400
MPB252010T-2R2□-NA2	2.2	3	20, 30	0.10	1200
MPB252010T-3R3□-NA2	3.3	3	20, 30	0.12	1100
MPB252010T-4R7□-NA2	4.7	3	20, 30	0.14	1000

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

Test Instruments：HP4287A Inductance / Material Analyzer





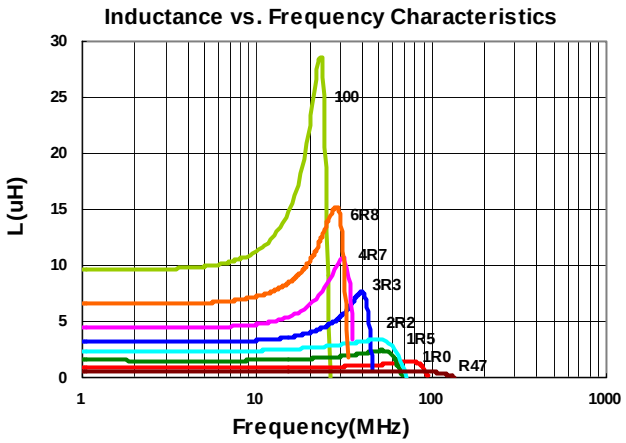
Electrical Characteristics

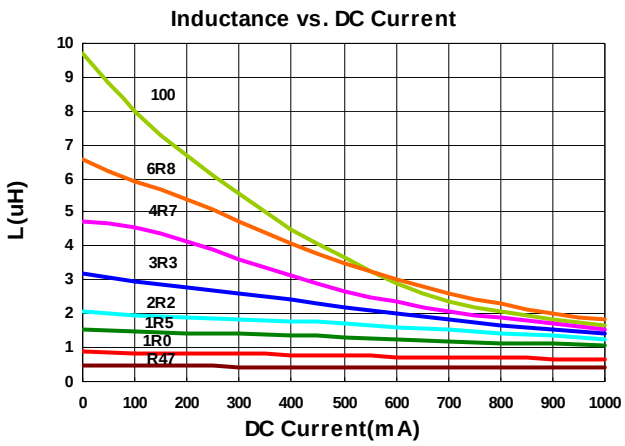
MPB : Low RDC Series

Part Number	Inductance (uH)	Test Frequency (MHz)	Tolerance (±%)	RDC (Ω) ±30%	Rated current (mA) Max
MPB252012T-R47□-NA2	0.47	3	20, 30	0.04	1800
MPB252012T-1R0□-NA2	1.0	3	20, 30	0.05	1600
MPB252012T-1R5□-NA2	1.5	3	20, 30	0.07	1400
MPB252012T-2R2□-NA2	2.2	3	20, 30	0.10	1200
MPB252012T-3R3□-NA2	3.3	3	20, 30	0.12	1100
MPB252012T-4R7□-NA2	4.7	3	20, 30	0.14	1000
MPB252012T-6R8□-NA2	6.8	3	20, 30	0.16	900
MPB252012T-100□-NA2	10	3	20, 30	0.20	500

- Tolerance：M = ±20% ,T = ±30%
- Packaging: Clear tape and reel {standard}.
- L：Agilent/HP4287A+16197A, 3MHz 200mV
- RDC：HP 4338B, or equivalent
- Rated Current：Applied the current to coils, the temperature rise shall not be more than 40℃
- Operating temperature range from -55℃ to 125℃. (Including self - temperature rise)

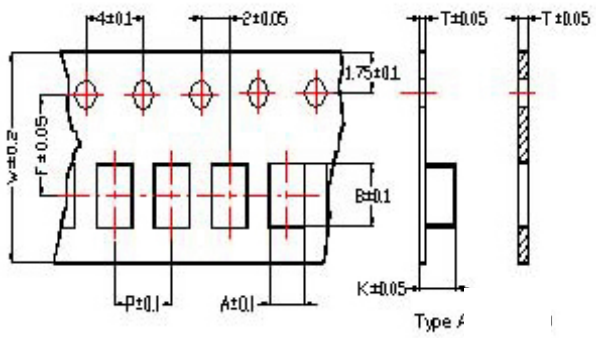
Test Instruments：HP4287A Inductance / Material Analyzer



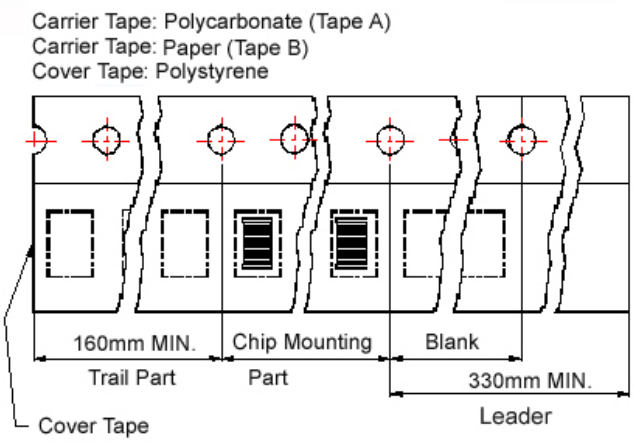


Packaging Specifications

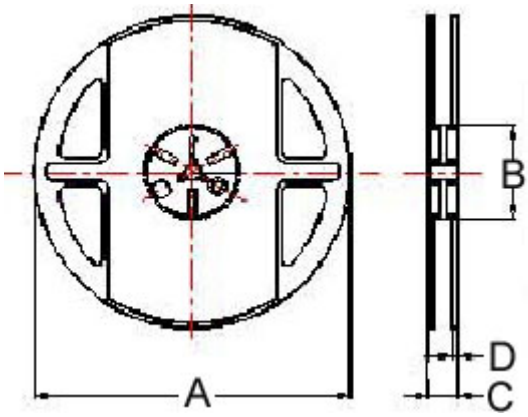
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape Type	A	B	C	D	PCS / REEL
160808	1.05	1.85	0.95	8.0	4.0	3.5	0.80	B	178	60	12	1.5	4000
201205	1.42	2.25	0.22	8.0	4.0	3.5	0.80	A	178	60	12	1.5	4000
201210	1.45	2.25	0.22	8.0	4.0	3.5	1.04	A	178	60	12	1.5	3000
201212	1.35	2.25	0.22	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000
201610	1.80	2.20	0.22	8.0	4.0	3.5	1.15	A	178	60	12	1.5	3000
252010	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000
252012	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000