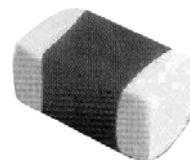


Multilayer Chip Power Inductor – MPH Series

Operating Temp. : -40℃~+85℃



FEATURES

- Higher DC bias current and lower DC resistance due to Trench Technology
- Low profile and thin thickness
- Monolithic structure for high reliability
- Excellent solderability and high heat resistance
- No cross coupling due to magnetic shield

APPLICATIONS

- DC-DC converter circuits for mobile phones, DSCs, DVCs, HDDs, PDAs, etc.

PRODUCT IDENTIFICATION

MPH

201210

S

R47

M

T

①

②

③

④

⑤

⑥

①

Type	
MPH	Chip Power Inductor

②

External Dimensions (L×W×H) (mm)	
160805	1.6×0.8×0.55
160809	1.6×0.8×0.95
201205	2.0×1.25×0.55
201206	2.0×1.25×0.6
201210	2.0×1.25×1.0
201214	2.0×1.25×1.45
201610	2.0×1.6×1.0
252010	2.5×2.0×1.0
252012	2.5×2.0×1.2

③

Feature Type	
S	Standard
U	Ultra Low Rdc
H	High Saturation Current

④

Nominal Inductance	
Example	Nominal Value
R47	0.47μH
4R7	4.7μH

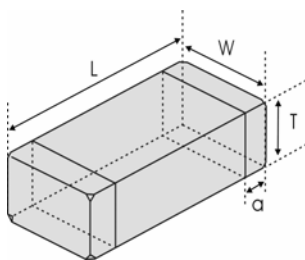
⑤

Inductance Tolerance	
M	±20%
N	±30%

⑥

Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
160805	1.60±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.5±0.05 [.020±.002]	0.3±0.2 [.012±.008]
160809	1.60±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
201205	2.0(+0.3, -0.1) [.079(+.012, -.004)]	1.25±0.2 [.049±.008]	0.5±0.05 [.020±.004]	0.5±0.3 [.020±.012]

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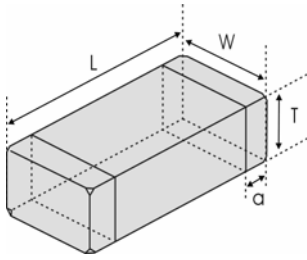
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SHAPE AND DIMENSIONS

Unit: mm [inch]



Type	L	W	T	a
201206	2.0(+0.3,-0.1) [.079(+.012, -.004)]	1.25±0.2 [.049±.008]	0.5±0.1 [.020±.004]	0.5±0.3 [.020±.012]
201210	2.0 (+0.3,-0.1) [.079(+.012, -.004)]	1.25±0.2 [.049±.008]	0.9±0.1 [.035±.004]	0.5±0.3 [.020±.012]
201214	2.0(+0.3,-0.1) [.079(+.012, -.004)]	1.25±0.2 [.049±.008]	1.25±0.2 [.049±.008]	0.5±0.3 [.020±.012]
201610	2.0(+0.3,-0.1) [.079(+.012, -.004)]	1.6±0.2 [.063±.008]	0.9±0.1 [.035±.004]	0.5±0.3 [.020±.012]
252010	2.5±0.2 [.098±.008]	2.0(+0.3,-0.1) [.079(+.012, -.004)]	0.9±0.1 [.035±.004]	0.5±0.3 [.020±.012]
252012	2.5±0.2 [.098±.008]	2.0(+0.3,-0.1) [.079(+.012, -.004)]	1.1±0.1 [0.43±.004]	0.5±0.3 [.020±.012]

SPECIFICATION

MPH1608 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.	Thickness
Units	μH	MHz	Ω	MHz	mA	mA	mm [inch]
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms	T
MPH160805SR22□T	0.22	1	0.12±25%	180	1450	1200	0.5±0.05 [.020±.002]
MPH160805SR33□T	0.33	1	0.16±25%	140	1350	1100	
MPH160805SR47□T	0.47	1	0.18±25%	120	1050	1150	
MPH160805SR68□T	0.68	1	0.22±25%	100	800	900	
MPH160805S1R0□T	1.0	1	0.32±25%	90	700	800	
MPH160805S1R5□T	1.5	1	0.38±25%	80	400	650	
MPH160805S2R2□T	2.2	1	0.42±25%	60	250	600	0.8±0.15 [.031±.006]
MPH160809SR22□T	0.22	1	0.10±25%	200	1600	1250	
MPH160809SR33□T	0.33	1	0.13±25%	190	1500	1200	
MPH160809SR47□T	0.47	1	0.15±25%	180	1200	1100	
MPH160809SR68□T	0.68	1	0.18±25%	160	1100	1150	
MPH160809S1R0□T	1.0	1	0.20±25%	125	800	1000	
MPH160809S1R5□T	1.5	1	0.23±25%	100	500	900	0.9±0.1 [.035±.004]
MPH160809S2R2□T	2.2	1	0.30±25%	80	300	850	
MPH160809SR47□T B01	0.47	1	0.09±25%	190	1700	1400	

MPH2012 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.	Thickness
Units	μH	MHz	Ω	MHz	mA	mA	mm [inch]
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms	T
MPH201205SR54□T	0.54	1	0.12±25%	120	1100	1200	0.5±0.05 [.020±.002]
MPH201206SR47□T	0.47	1	0.12±25%	80	1300	1100	0.5±0.1
MPH201206S1R0□T	1.0	1	0.19±25%	40	700	800	[.020±.004]

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SPECIFICATIONS

MPH2012 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.	Thickness
Units	μH	MHz	Ω	MHz	mA	mA	mm [inch]
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms	T
MPH201206S1R5□T	1.5	1	0.26±25%	35	500	700	0.5±0.1 [.020±.004]
MPH201206S2R2□T	2.2	1	0.32±25%	30	350	600	
MPH201210SR47□T	0.47	1	0.08±25%	100	1200	1500	0.9±0.1 [.035±.004]
MPH201210S1R0□T	1.0	1	0.11±25%	60	1150	1300	
MPH201210S1R5□T	1.5	1	0.16±25%	50	800	1100	
MPH201210S2R2□T	2.2	1	0.20±25%	40	500	900	
MPH201210H2R2□T	2.2	1	0.20±25%	40	600	900	
MPH201210S3R3□T	3.3	1	0.20±25%	30	350	900	
MPH201210S4R7□T	4.7	1	0.25±25%	30	280	800	
MPH201214S4R7□T	4.7	1	0.40±25%	20	630	750	1.25±0.2 [.049±.008]

MPH2016 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.	Thickness
Units	μH	MHz	Ω	MHz	mA	mA	mm [inch]
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms	T
MPH201610SR47□T	0.47	1	0.08±25%	100	1600	1500	0.9±0.1 [.035±.004]
MPH201610S1R0□T	1.0	1	0.09±25%	70	1200	1400	
MPH201610S1R5□T	1.5	1	0.11±25%	60	700	1200	
MPH201610S2R2□T	2.2	1	0.11±25%	50	500	1200	
MPH201610S3R3□T	3.3	1	0.12±25%	40	330	1200	
MPH201610S4R7□T	4.7	1	0.14±25%	30	220	1100	
MPH201610UR47□T	0.47	1	0.04±25%	90	2500	2300	
MPH201610UR68□T	0.68	1	0.06±25%	80	2000	1800	
MPH201610U1R0□T	1.0	1	0.07±25%	60	1800	1500	

MPH2520 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.	Thickness
Units	μH	MHz	Ω	MHz	mA	mA	mm [inch]
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms	T
MPH252010SR47□T	0.47	1	0.04±25%	105	1500	1800	0.9±0.1 [.035±.004]
MPH252010S1R0□T	1.0	1	0.06±25%	70	1400	1600	
MPH252010S1R5□T	1.5	1	0.07±25%	65	1200	1500	
MPH252010S2R2□T	2.2	1	0.08±25%	55	850	1300	
MPH252010S3R3□T	3.3	1	0.10±25%	30	450	1200	
MPH252010S4R7□T	4.7	1	0.11±25%	25	320	1100	1.1±0.1 [0.43±.004]
MPH252012S4R7□T	4.7	1	0.18±25%	30	750	1000	

※□: Please specify the inductance tolerance code (M=±20%, N=±30%);

※Rated current: Isat or Irms, whichever is smaller;

※Isat: DC current at which the inductance drops approximate 30% from its value without current;

※Irms: DC current that causes the temperature rise (ΔT =40°C) from 20°C ambient.

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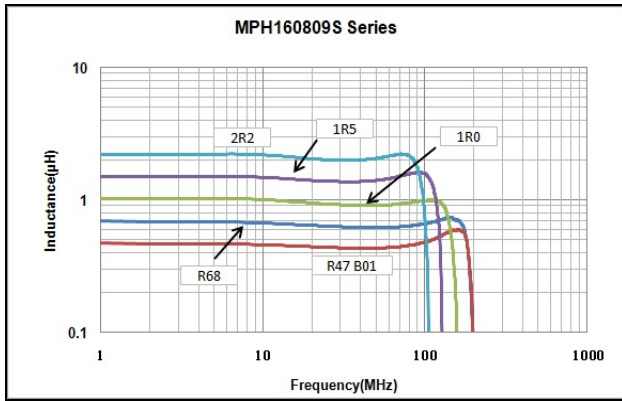
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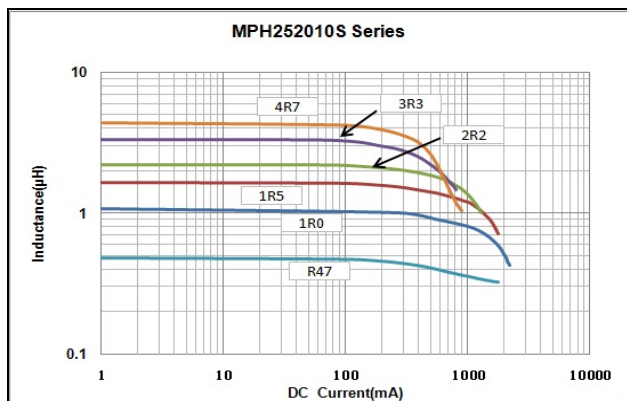
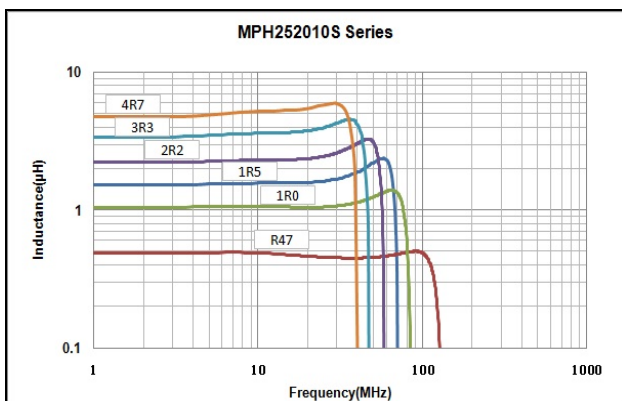
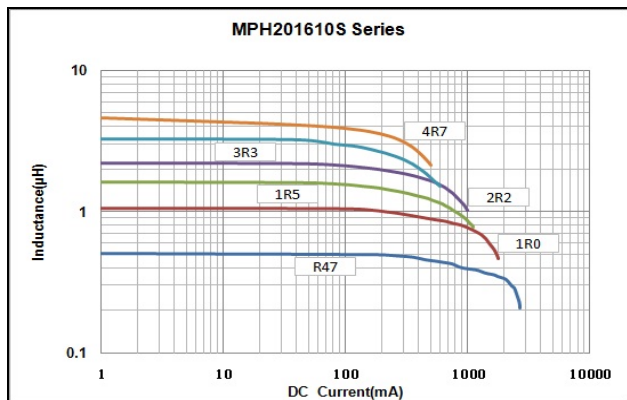
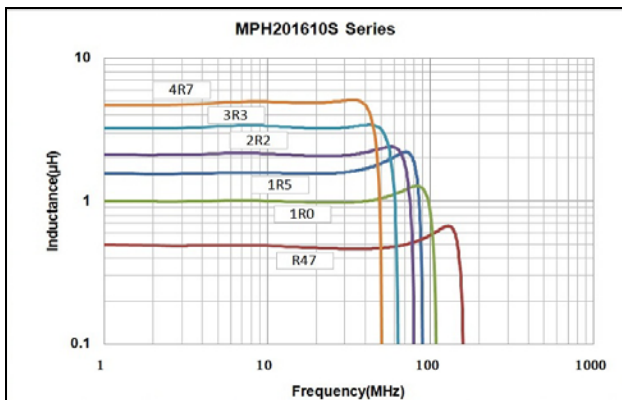
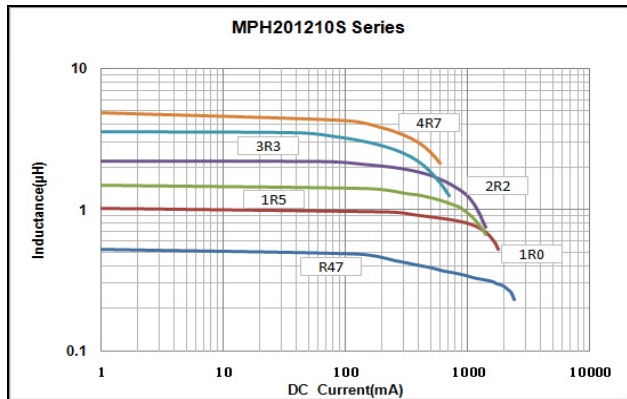
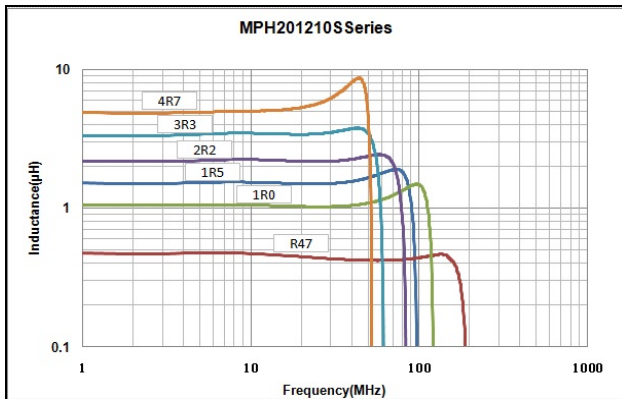
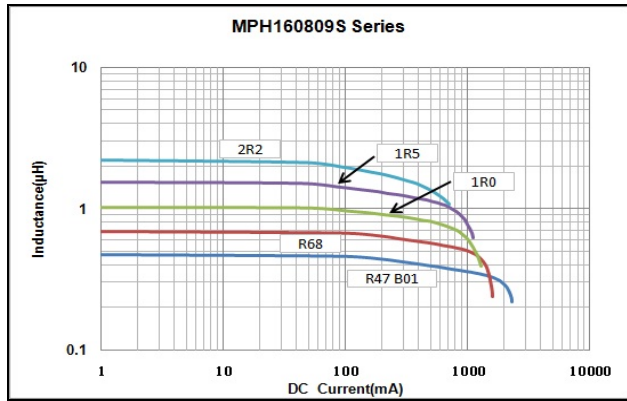
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TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics



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