



Features

- ◆ Higher DC bias current and lower DC resistance due to Metal Material and Trench Technology
- ◆ Low profile and thin thickness
- ◆ Excellent solderability and high heat resistance
- ◆ No cross coupling due to magnetic shield

Applications

- ◆ DC-DC converter circuits for mobile phones wearbale devices, DVCs,HDDs, etc.

Description Of Part Name

HPCL - M S 201610 T R47 M F XX
 A B C D E F G H I

A

Type	
HPCL	Metal Alloy Multilayer Power Inductor

B

M
M= Metal alloy

C

Feature code
S

D

External Dimensions (L×W) (mm)	
201206	2.0×1.25×0.6
201210	2.0×1.25×1.0
201606	2.0×1.6×0.6
201608	2.0×1.6×0.8
201610	2.0×1.6×1.0
252007	2.5×2.0×0.7

E

Packing	
T	Tape & Reel

F

Nominal Inductance	
Example	Nominal Value
R47	0.47μH
1R0	1.0μH

G

Inductance Tolerance	
M	±20%
N	±30%

H

Hazardous Substance Free Products
F

I

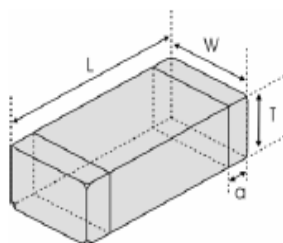
Internal code
XX

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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 [.047±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 [.047±008]	0.9±0.1 [.035±004]	0.5±0.3 [.020±.012]
201606	2.0(+0.3, -0.1) [.079(+.012, -.004)]	1.6±0.2 [.063±008]	0.5±0.1 [.020±004]	0.5±0.3 [.020±.012]
201608	2.0(+0.3, -0.1) [.079(+.012, -.004)]	1.6±0.2 [.063±008]	0.7±0.1 [.028±004]	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]
252007	2.5±0.2 [.098±008]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	0.6±0.1 [.024±004]	0.5±0.3 [.020±.012]

SPECIFICATIONS

HPCL-MS 2012 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current		Heat Rating Current		Thickness
Units	μH	MHz	Ω		MHz	A		A		mm [inch]
Symbol	L	Freq.	DCR		S.R.F	Isat		Irms		T
			Max.	Typ.		Max.	Typ.	Max.	Typ.	
HPCL-MS201206TR33□FXX	0.33	3	0.069	0.055	25	2.2	2.7	1.7	2.0	0.5±0.1 [.020±004]
HPCL-MS201206TR47□FXX	0.47	3	0.086	0.068	23	2	2.4	1.6	1.8	
HPCL-MS201206TR56□FXX	0.56	3	0.100	0.080	21	1.8	2.2	1.4	1.6	
HPCL-MS201210TR33□FXX	0.33	3	0.037	0.031	24	3.6	4.0	2.4	2.7	0.9±0.1 [.035±004]
HPCL-MS201210TR47□FXX	0.47	3	0.044	0.037	20	3.3	3.6	2.2	2.4	
HPCL-MS201210TR56□FXX	0.56	3	0.054	0.045	18	3.0	3.3	2.0	2.2	
HPCL-MS201210TR68□FXX	0.68	3	0.064	0.054	16	2.4	2.8	1.7	2.0	

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SPECIFICATIONS

HPCL-MS 2016 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current		Heat Rating Current		Thickness
Units	μH	MHz	Ω		MHz	A		A		mm [inch]
Symbol	L	Freq.	DCR		S.R.F	Isat		Irms		T
			Max.	Typ.		Max.	Typ.	Max.	Typ.	
HPCL-MS201606TR24□FXX	0.24	3	0.043	0.035	36	2.8	3.5	2.9	3.3	0.5±0.1 [.020±004]
HPCL-MS201606TR33□FXX	0.33	3	0.056	0.045	28	2.3	3.0	2.7	3.1	
HPCL-MS201606TR47□FXX	0.47	3	0.065	0.055	26	2.0	2.5	1.9	2.4	
HPCL-MS201606TR56□FXX	0.56	3	0.080	0.065	24	1.8	2.3	1.8	2.1	
HPCL-MS201606TR82□FXX	0.82	3	0.112	0.090	20	1.5	2.0	1.7	1.8	
HPCL-MS201608TR24□FXX	0.24	3	0.043	0.035	34	3.0	3.7	2.9	3.3	0.7±0.1 [.028±004]
HPCL-MS201608TR47□FXX	0.47	3	0.056	0.045	21	2.5	3.2	2.7	3.1	
HPCL-MS201608TR56□FXX	0.56	3	0.065	0.055	19	2.2	2.7	1.9	2.4	
HPCL-MS201608TR82□FXX	0.82	3	0.080	0.065	17	1.8	2.3	1.8	2.1	
HPCL-MS201610TR24□FXX	0.24	3	0.018	0.015	30	3.4	4.0	4.7	5.3	0.9±0.1 [.035±004]
HPCL-MS201610TR33□FXX	0.33	3	0.023	0.018	21	3.2	3.7	3.8	4.4	
HPCL-MS201610TR47□FXX	0.47	3	0.030	0.024	18	3.0	3.5	3.3	3.7	
HPCL-MS201610TR56□FXX	0.56	3	0.035	0.028	17	2.4	3.0	3.0	3.4	

HPCL-MS 2520 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current		Heat Rating Current		Thickness
Units	μH	MHz	Ω		MHz	A		A		mm [inch]
Symbol	L	Freq.	DCR		S.R.F	Isat		Irms		T
			Max.	Typ.		Max.	Typ.	Max.	Typ.	
HPCL-MS252007TR47MFXX	0.47	3	0.035	0.042	20	3.2	2.7	2.6	2.3	0.6±0.1 [.024±004]

- ※ □: 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.

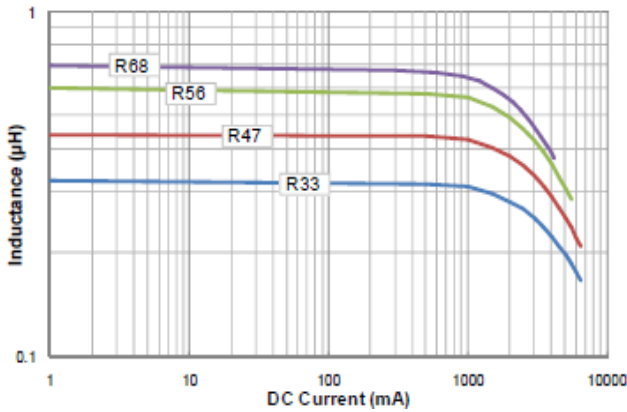
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TYPICAL ELECTRICAL CHARACTERISTICS

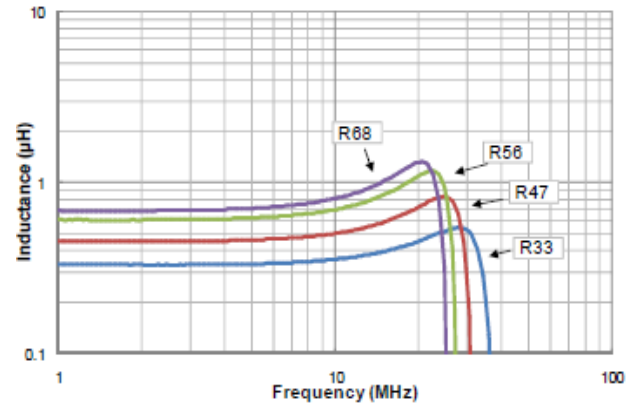
Inductance vs. Frequency Characteristics

HPCL-MS 201210 Series

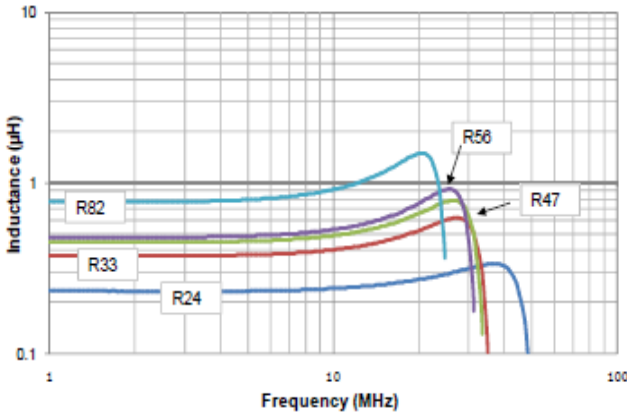


Inductance vs. DC Current Characteristics

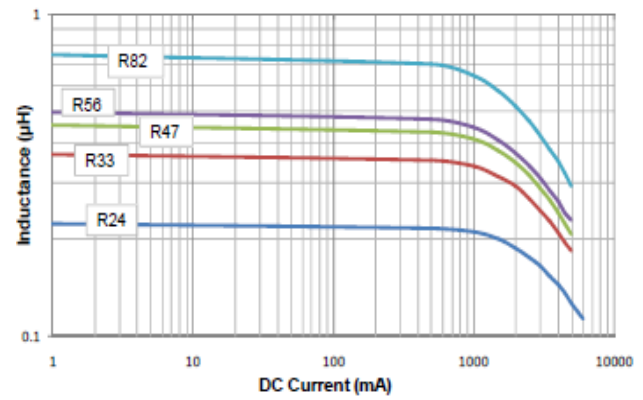
HPCL-MS 201210 Series



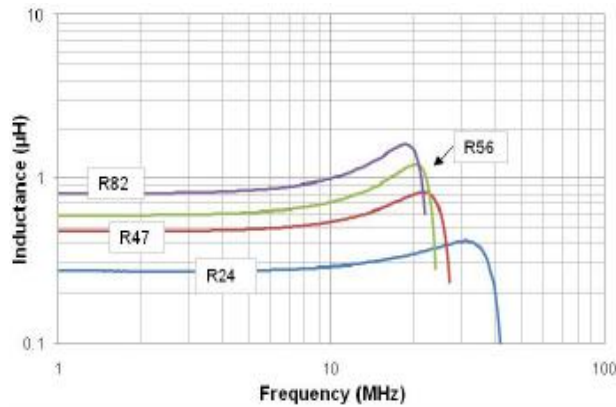
HPCL-MS 201606 Series



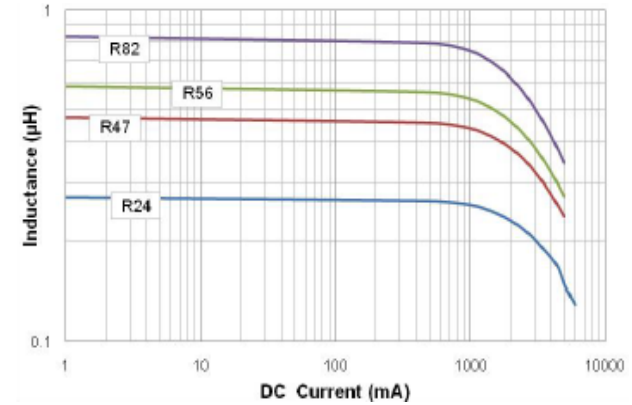
HPCL-MS 201606 Series



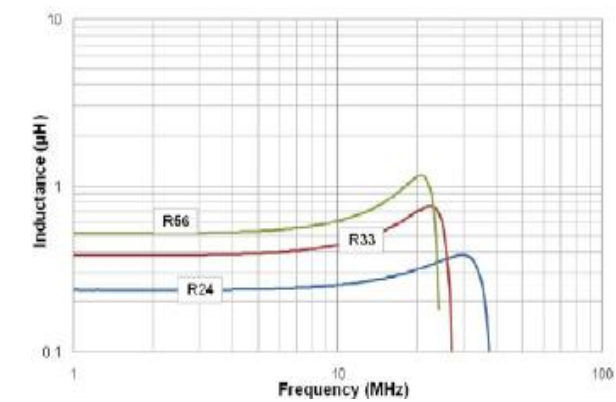
HPCL-MS 201608 Series



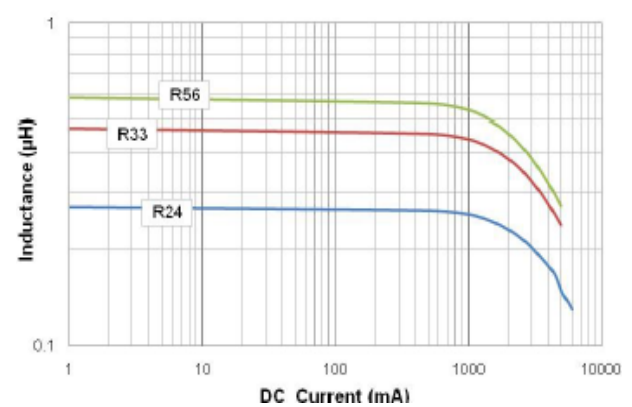
HPCL-MS 201608 Series



HPCL-MS 201610 Series



HPCL-MS 201610 Series



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