

Shielded SMD Power Inductor **multicomp** PRO

**RoHS
Compliant**



Features

- With magnetically shielded against radiation
- MCPS1608 can help to achieve longer battery life significantly in handheld communication devices.
- MCPS3316 / 5022 designed for the higher current requirements of portable computers.
- MCPS1608 used ceramic base with gold-plating
- MCPS3316 / 5022 used LCP plastic base

Applications

- Portable Telephones
- Personal Computers
- Other Various Electronic Appliances
- DC/DC Converters, etc.

Inductance and Rated Current Ranges

MCPS1608: 1 to 10000 μ H, 3 to 0.02A
 MCPS3316: 1 to 1000 μ H, 5 to 0.17A
 MCPS5022: 1 to 1000 μ H, 3.9 to 0.53A
 Electrical specifications at 25°C

Characteristics

- Saturation Rated Current (IDC): The DC current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Temperature Rise Current (I rms): The actual current when temperature of coil becomes $\Delta 40^\circ\text{C}$. (Ta=25°C)
- Operating Temperature Range: -40°C to 85°C

Electrical Characteristics

MCPS1608 Type

Codes	L (μ H)	Tolerance	Test Condition		DCR (Ω) max.	SRF ref (MHz)	Q min.	I rms (A) max.
			L	Q				
1R0	1	M	100kHz, 0.1V	200kHz, 0.1V	0.04	250	30	3
1R5	1.5	M	100kHz, 0.1V	200kHz, 0.1V	0.045	125	30	2.3
2R2	2.2	M	100kHz, 0.1V	200kHz, 0.1V	0.05	120	40	1.8
3R3	3.3	M	100kHz, 0.1V	200kHz, 0.1V	0.055	120	40	1.6
4R7	4.7	M	100kHz, 0.1V	200kHz, 0.1V	0.06	105	40	1.4
6R8	6.8	M	100kHz, 0.1V	200kHz, 0.1V	0.065	50	40	1.2
100	10	M	100kHz, 0.1V	200kHz, 0.1V	0.075	38	40	1
150	15	M	100kHz, 0.1V	100kHz, 0.1V	0.09	33	40	0.8
220	22	M	100kHz, 0.1V	100kHz, 0.1V	0.11	25	40	0.7
330	33	M	100kHz, 0.1V	100kHz, 0.1V	0.19	20	40	0.6
470	47	M	100kHz, 0.1V	100kHz, 0.1V	0.23	20	40	0.5
680	68	M	100kHz, 0.1V	100kHz, 0.1V	0.29	15	40	0.4
101	100	M	100kHz, 0.1V	100kHz, 0.1V	0.48	10	40	0.3
151	150	M	100kHz, 0.1V	100kHz, 0.1V	0.59	9	40	0.26
221	220	M	100kHz, 0.1V	100kHz, 0.1V	0.9	6	40	0.22
331	330	M	100kHz, 0.1V	100kHz, 0.1V	1.4	5	40	0.2
471	470	M	100kHz, 0.1V	100kHz, 0.1V	1.8	4	40	0.19

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Codes	L (µH)	Tolerance	Test Condition		DCR (Ω) max.	SRF ref (MHz)	Q min.	I rms (A) max.
			L	Q				
681	680	M	100kHz, 0.1V	100kHz, 0.1V	2.2	3	40	0.18
102	1000	M	100kHz, 0.1V	100kHz, 0.1V	3.4	2	40	0.15
152	1500	M	100kHz, 0.1V	100kHz, 0.1V	4.2	2	50	0.12
222	2200	M	100kHz, 0.1V	100kHz, 0.1V	8.5	2	50	0.1
332	3300	M	100kHz, 0.1V	100kHz, 0.1V	11	1	50	0.08
472	4700	M	100kHz, 0.1V	100kHz, 0.1V	13.9	1	50	0.06
682	6800	M	100kHz, 0.1V	100kHz, 0.1V	25	1	50	0.04
103	10000	M	100kHz, 0.1V	100kHz, 0.1V	32.8	0.8	50	0.02

MCPS3316 Type

Codes	L (µH)	Tolerance	Test Condition	DCR (Ω) max.	SRF ref (MHz)	Q min.	I rms (A) max.
1R0	1	M	100kHz, 0.1V	0.021	140	5.6	5
1R5	1.5	M	100kHz, 0.1V	0.022	120	5.2	4.5
2R2	2.2	M	100kHz, 0.1V	0.032	80	5	3.8
3R3	3.3	M	100kHz, 0.1V	0.039	70	3.9	3.3
4R7	4.7	M	100kHz, 0.1V	0.054	40	3.2	2.7
6R8	6.8	M	100kHz, 0.1V	0.075	38	2.8	2.2
100	10	M	100kHz, 0.1V	0.101	35	2.4	2.0
150	15	M	100kHz, 0.1V	0.15	25	2	1.5
220	22	M	100kHz, 0.1V	0.207	19	1.6	1.3
330	33	M	100kHz, 0.1V	0.334	15	1.4	1.1
470	47	M	100kHz, 0.1V	0.472	13	1.0	0.8
680	68	M	100kHz, 0.1V	0.66	10	0.9	0.7
101	100	M	100kHz, 0.1V	1.11	7	0.8	0.6
151	150	M	100kHz, 0.1V	1.55	6	0.6	0.5
221	220	M	100kHz, 0.1V	2	5	0.5	0.37
102	1000	M	100kHz, 0.1V	8.3	2	0.32	0.17

MCPS5022 Type

Codes	L (µH)	Tolerance	Test Condition	DCR (Ω) max.	SRF ref (MHz)	Q min.	I rms (A) max.
100	10	M	100kHz, 0.1V	0.04	30	8	3.9
150	15	M	100kHz, 0.1V	0.048	20	7	3.4
220	22	M	100kHz, 0.1V	0.059	18	6	3.1
330	33	M	100kHz, 0.1V	0.075	14	5	2.8
470	47	M	100kHz, 0.1V	0.097	10	4	2.4
680	68	M	100kHz, 0.1V	0.138	9	3	2

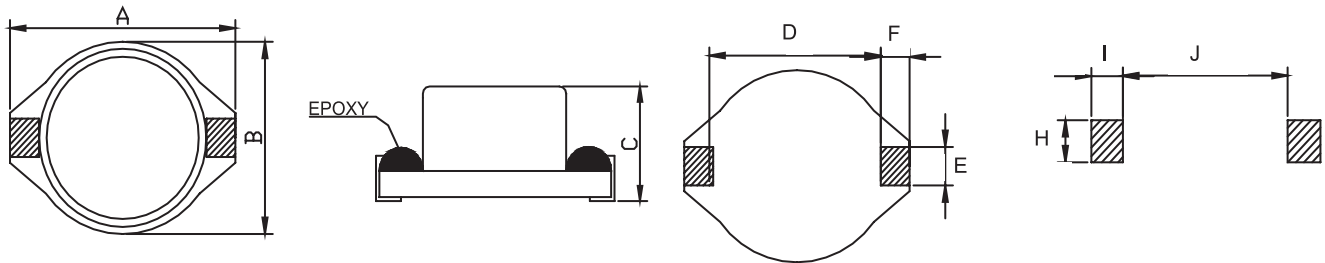
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Codes	L (µH)	Tolerance	Test Condition	DCR (Ω) max.	SRF ref (MHz)	Q min.	I rms (A) max.
101	100	M	100kHz, 0.1V	0.207	7	2.4	1.7
151	150	M	100kHz, 0.1V	0.293	6	2.1	1.3
221	220	M	100kHz, 0.1V	0.47	5	1.9	1.1
331	330	M	100kHz, 0.1V	0.78	4	1.1	0.86
471	470	M	100kHz, 0.1V	1.08	3	1.1	0.73
681	680	M	100kHz, 0.1V	1.4	2.5	0.96	0.64
102	1000	M	100kHz, 0.1V	2.01	2	0.8	0.53

Diagram



Product Type	A (max.)	B (max.)	C (max.)	D	E	F	H	I	J
MCPS1608	6.6	4.45	2.92	4.32	1.27	1.02	3.56	1.4	4.06
MCPS3316	12.95	9.4	5.21	7.62	2.54	2.54	2.79	2.92	7.37
MCPS5022	18.54	15.24	7.62	12.70	2.54	2.54	2.79	2.92	12.45

Dimensions : Millimetres

Part Number Explanation

MCPS	1608	M	T	1R5
Product Type	Dimensions (A×B×C) 1608: 6.6×4.45×2.92 3316: 12.95×9.4×5.21 5022: 18.54×15.24×7.62	Inductor Tolerance K: ±10% M: ±20%	Packaging Style T: Tape and Reel	Inductance 1R5: 1.5µH

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