

FEATURES

- Alloy iron powder material core provides large saturation current.
- Low DCR to achieve high conversion efficiency.
- Molding construction reduces buzz noise to ultra-low levels.
- Closed magnetic circuit design reduces leakage flux and EMI.
- Miniaturization and excellent temperature characteristics.
- Operating temperature: -40°C ~ +125°C.



APPLICATIONS

- Smart phone, Pad.
- Notebooks, VR, AR.
- Portable gaming devices, Smart wear, Wi-Fi module.

PRODUCT IDENTIFICATION

MCP	201610	S	1R0	M	T
(1)	(2)	(3)	(4)	(5)	(6)

- (1) Series name
- (2) Product dimensions
- (3) Feature Type
- (4) Inductance Value (1R0:1.0uH, 100:10uH, 101:100uH)
- (5) Inductance Tolerance(K:10%, M:20%, N:30%)
- (6) Package(T:Tape&Reel)

SHAPE AND DIMENSIONS

Fig.1

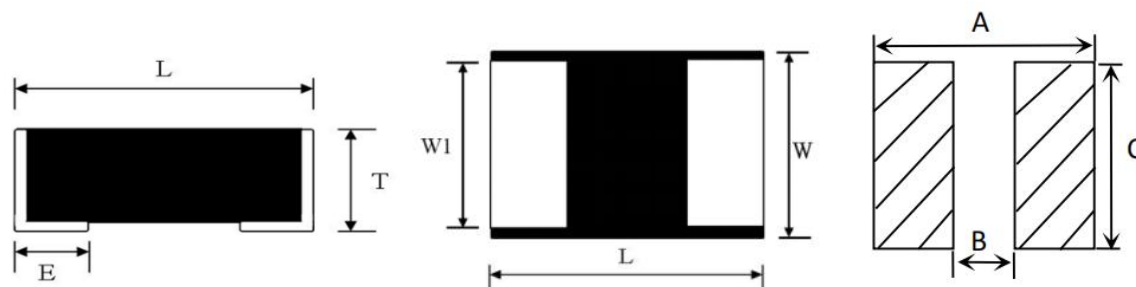
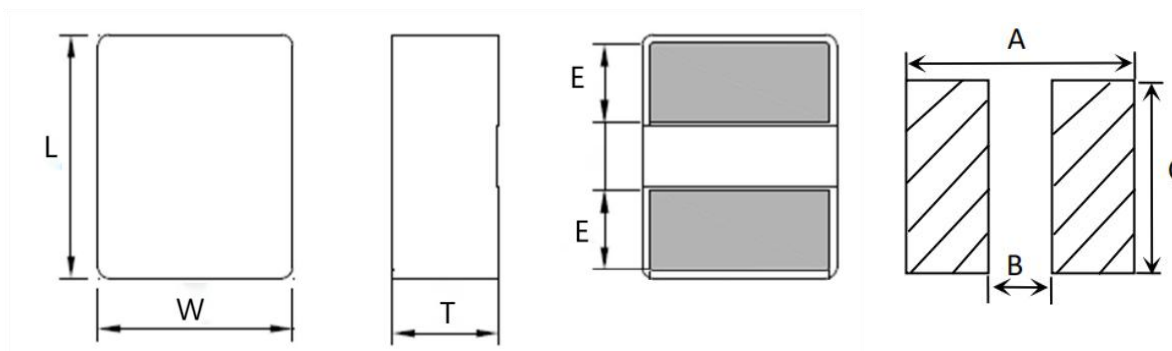


Fig.2



Unit:mm

Series	Shape	L	W	T Max	E	A Ref	B Ref	C Ref
MCP201610*T01	Fig.1	2.0±0.2	1.6±0.2	1.0	0.6±0.3	2.0	0.9	1.6
MCP252010*T01	Fig.1	2.5±0.2	2.0±0.2	1.0	0.6±0.3	2.8	1.2	2.0
MCP252012*T01	Fig.1	2.5±0.2	2.0±0.2	1.2	0.6±0.2	2.8	1.2	2.0
MCP201208	Fig.2	2.0±0.2	1.2±0.2	0.8	0.5 Ref	2.0	0.5	1.2
MCP201610	Fig.2	2.0±0.2	1.6±0.2	1.0	0.5 Ref	2.0	0.5	1.6
MCP252010	Fig.2	2.5±0.2	2.0±0.2	1.0	0.7 Ref	2.8	0.6	2.0
MCP252012	Fig.2	2.5±0.2	2.0±0.2	1.2	0.7 Ref	2.8	0.6	2.0
MCP322512	Fig.2	3.2±0.2	2.5±0.2	1.2	1.0 Ref	3.2	0.9	2.5
MCP3020	Fig.2	3.0±0.1	3.0±0.1	2.0	1.0 Ref	3.0	0.9	3.0

SPECIFICATIONS

MCP201208 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP201208S2R2MT	2.2	20	1MHz/1V	/	185	2.6	2.3	2.2	1.8

MCP201610 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP201610SR10MT01	0.10	20	1MHz/1V	10	12	9.0	8.1	6.0	5.4
MCP201610SR24MT01	0.24	20	1MHz/1V	17	20	6.8	6.3	5.8	5.3
MCP201610SR33MT01	0.33	20	1MHz/1V	21	26	6.7	6.1	4.7	4.2
MCP201610SR47MT01	0.47	20	1MHz/1V	23	30	6.1	5.3	4.5	4.1
MCP201610SR68MT01	0.68	20	1MHz/1V	40	47	4.7	4.2	4.0	3.5
MCP201610S1R0MT01	1.0	20	1MHz/1V	48	60	3.9	3.3	3.2	3.0
MCP201610S1R5MT01	1.5	20	1MHz/1V	86	100	3.4	3.1	2.4	2.2
MCP201610S2R2MT01	2.2	20	1MHz/1V	117	140	2.6	2.45	2.2	2.0
MCP201610S4R7MT01	4.7	20	1MHz/1V	240	288	1.8	1.6	1.3	1.1
MCP201610PR24MT01	0.24	20	1MHz/1V	17	21	5.60	5.05	5.00	4.50
MCP201610PR33MT01	0.33	20	1MHz/1V	24	29	5.00	4.50	4.10	3.69
MCP201610PR47MT01	0.47	20	1MHz/1V	33	40	4.40	4.00	3.50	3.15
MCP201610PR68MT01	0.68	20	1MHz/1V	41	49	3.70	3.33	3.40	3.06
MCP201610P1R0MT01	1.0	20	1MHz/1V	60	69	2.90	2.61	2.60	2.26
MCP201610P1R5MT01	1.5	20	1MHz/1V	114	137	2.50	2.25	1.90	1.65
MCP201610P2R2MT01	2.2	20	1MHz/1V	135	150	1.90	1.71	1.70	1.50
MCP201610SR10MT	0.10	20	1MHz/1V	/	12	9.0	8.4	8.5	8.0
MCP201610SR15MT	0.15	20	1MHz/1V	/	14	8.7	8.0	7.6	7.0
MCP201610SR22MT	0.22	20	1MHz/1V	/	18	8.2	7.5	6.9	6.3
MCP201610SR24MT	0.24	20	1MHz/1V	/	19	8.0	7.4	6.8	6.2
MCP201610SR33MT	0.33	20	1MHz/1V	/	22	7.0	6.5	5.7	5.3
MCP201610SR47MT	0.47	20	1MHz/1V	/	25	6.3	5.5	5.5	5.0
MCP201610SR68MT	0.68	20	1MHz/1V	/	32	5.2	4.7	4.6	4.3
MCP201610S1R0MT	1.0	20	1MHz/1V	/	43	4.6	4.2	4.5	4.1
MCP201610S1R5MT	1.5	20	1MHz/1V	/	100	3.2	2.9	2.6	2.3
MCP201610S2R2MT	2.2	20	1MHz/1V	/	130	3.0	2.8	2.5	2.1
MCP201610S3R3MT	3.3	20	1MHz/1V	/	170	2.3	2.0	1.7	1.5
MCP201610S4R7MT	4.7	20	1MHz/1V	/	220	2.0	1.8	1.6	1.4
MCP201610S100MT	10	20	1MHz/1V	/	580	1.4	1.1	1.0	0.7

MCP252010 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP252010SR22MT01	0.22	20	1MHz/1V	10	13.5	10.5	9.0	6.9	6.3
MCP252010SR24MT01	0.24	20	1MHz/1V	11.5	14.5	8.8	8.0	6.6	6.0
MCP252010SR33MT01	0.33	20	1MHz/1V	17	22	7.80	7.00	5.60	4.80
MCP252010SR47MT01	0.47	20	1MHz/1V	23	29	6.60	6.00	5.20	4.40
MCP252010SR68MT01	0.68	20	1MHz/1V	30	36	5.5	5.0	4.3	3.7
MCP252010S1R0MT01	1.0	20	1MHz/1V	41	52	4.40	4.00	3.40	3.10
MCP252010S1R5MT01	1.5	20	1MHz/1V	62	72	3.80	3.40	2.90	2.50
MCP252010S2R2MT01	2.2	20	1MHz/1V	88	110	3.30	3.00	2.40	2.10
MCP252010S3R3MT01	3.3	20	1MHz/1V	140	160	2.50	2.20	1.90	1.60
MCP252010S4R7MT01	4.7	20	1MHz/1V	200	240	2.20	1.90	1.60	1.40
MCP252010PR22MT01	0.22	20	1MHz/1V	9	12.5	7.90	7.20	5.90	5.30
MCP252010PR33MT01	0.33	20	1MHz/1V	21	26	6.60	6.00	4.40	4.00
MCP252010PR47MT01	0.47	20	1MHz/1V	27	32	5.00	4.50	3.90	3.51
MCP252010PR68MT01	0.68	20	1MHz/1V	37	44	4.30	3.87	3.30	2.97
MCP252010P1R0MT01	1.0	20	1MHz/1V	45	54	3.50	3.15	3.00	2.70
MCP252010P1R5MT01	1.5	20	1MHz/1V	76	91	2.60	2.34	2.50	2.25
MCP252010P2R2MT01	2.2	20	1MHz/1V	99	119	2.40	2.16	2.30	2.07
MCP252010P4R7MT01	4.7	20	1MHz/1V	220	262	1.80	1.62	1.36	1.22
MCP252010SR22MT	0.22	20	1MHz/1V	/	17.0	8.6	7.9	6.8	6.5
MCP252010SR24MT	0.24	20	1MHz/1V	/	17.5	8.5	7.8	6.7	6.4
MCP252010SR33MT	0.33	20	1MHz/1V	/	19.0	7.6	7.2	6.5	6.2
MCP252010SR47MT	0.47	20	1MHz/1V	/	22.0	6.9	6.5	6.1	5.6
MCP252010SR68MT	0.68	20	1MHz/1V	/	27.0	5.9	5.5	5.6	5.0
MCP252010S1R0MT	1.0	20	1MHz/1V	/	30.0	5.3	4.8	4.5	4.1
MCP252010S1R5MT	1.5	20	1MHz/1V	/	55.0	4.3	3.9	3.4	3.0
MCP252010S2R2MT	2.2	20	1MHz/1V	/	70.0	3.3	3.0	2.4	2.1
MCP252010S3R3MT	3.3	20	1MHz/1V	/	100	2.8	2.5	2.5	2.1
MCP252010S4R7MT	4.7	20	1MHz/1V	/	180	2.6	2.0	2.0	1.6
MCP252010S6R8MT	6.8	20	1MHz/1V	/	320	2.4	1.9	1.6	1.4
MCP252010S100MT	10	20	1MHz/1V	/	560	1.55	1.4	1.05	0.95
MCP252010S220MT	22	20	1MHz/1V	/	1300	1.10	0.9	0.85	0.60

MCP252012 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP252012SR47MT01	0.47	20	1MHz/1V	16	22	6.80	6.20	5.80	4.90
MCP252012S1R0MT01	1.0	20	1MHz/1V	36	44	4.80	4.30	3.90	3.30
MCP252012S1R5MT01	1.5	20	1MHz/1V	54	63	4.00	3.50	2.90	2.50
MCP252012S2R2MT01	2.2	20	1MHz/1V	74	89	3.50	3.20	2.50	2.20
MCP252012S4R7MT01	4.7	20	1MHz/1V	160	180	2.20	2.20	1.80	1.50
MCP252012PR47MT01	0.47	20	1MHz/1V	21	25	5.30	4.95	4.60	4.18
MCP252012PR68MT01	0.68	20	1MHz/1V	29	35	5.00	4.63	3.70	3.36
MCP252012P1R0MT01	1	20	1MHz/1V	41	49	4.40	4.04	3.50	3.18
MCP252012P1R5MT01	1.5	20	1MHz/1V	64	77	3.20	2.91	2.50	2.27
MCP252012P2R2MT01	2.2	20	1MHz/1V	85	98	3.00	2.73	2.27	2.06
MCP252012P3R3MT01	3.3	20	1MHz/1V	125	150	2.10	1.80	2.00	1.80
MCP252012P4R7MT01	4.7	20	1MHz/1V	196	235	1.90	1.58	1.55	1.40
MCP252012SR10MT	0.10	20	1MHz/1V	/	10	13.5	12.5	12.0	10.5
MCP252012SR15MT	0.15	20	1MHz/1V	/	11	13.0	12.0	11.5	10.0
MCP252012SR22MT	0.22	20	1MHz/1V	/	14	9.6	9.0	8.2	7.6
MCP252012SR24MT	0.24	20	1MHz/1V	/	15	9.3	8.8	8.0	7.5
MCP252012SR33MT	0.33	20	1MHz/1V	/	17	8.3	7.8	6.8	6.4
MCP252012SR47MT	0.47	20	1MHz/1V	/	19	7.5	7.0	6.5	6.0
MCP252012SR68MT	0.68	20	1MHz/1V	/	23	6.5	6.0	6.3	5.5
MCP252012SR82MT	0.82	20	1MHz/1V	/	24	6.5	5.8	5.8	5.3
MCP252012S1R0MT	1.0	20	1MHz/1V	/	42	5.6	5.0	4.0	3.6
MCP252012S1R5MT	1.5	20	1MHz/1V	/	50	4.5	4.1	3.7	3.2
MCP252012S2R2MT	2.2	20	1MHz/1V	/	65	3.8	3.3	3.0	2.7
MCP252012S3R3MT	3.3	20	1MHz/1V	/	97	3.0	2.7	2.3	1.8
MCP252012S4R7MT	4.7	20	1MHz/1V	/	170	2.4	2.1	1.8	1.5
MCP252012S6R8MT	6.8	20	1MHz/1V	/	270	2.0	1.7	1.6	1.4
MCP252012S100MT	10	20	1MHz/1V	/	400	1.6	1.45	1.2	1.05

MCP322512 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP322512SR10MT	0.10	20	1MHz/1V	/	7.0	18.0	16.5	12.0	11.0
MCP322512SR22MT	0.22	20	1MHz/1V	/	10	11.5	11.0	9.2	8.7
MCP322512SR24MT	0.24	20	1MHz/1V	/	12	11.0	10.5	9.0	8.5
MCP322512SR33MT	0.33	20	1MHz/1V	/	14	10.0	9.5	8.4	8.1
MCP322512SR47MT	0.47	20	1MHz/1V	/	19	8.6	8.2	7.5	7.2
MCP322512SR68MT	0.68	20	1MHz/1V	/	23	8.1	7.7	7.3	6.8
MCP322512S1R0MT	1.0	20	1MHz/1V	/	30	6.6	5.8	5.3	4.8
MCP322512S1R5MT	1.5	20	1MHz/1V	/	44	5.1	4.7	4.7	4.3
MCP322512S2R2MT	2.2	20	1MHz/1V	/	70	4.6	4.2	3.6	3.0
MCP322512S3R3MT	3.3	20	1MHz/1V	/	95	3.7	3.2	2.9	2.5
MCP322512S4R7MT	4.7	20	1MHz/1V	/	135	2.9	2.6	2.3	2.0
MCP322512S6R8MT	6.8	20	1MHz/1V	/	210	2.8	2.4	2.1	1.9
MCP322512S100MT	10	20	1MHz/1V	/	230	2.3	1.9	2.0	1.8

MCP3020 Series

Part Number	Inductance (μ H)	Tolerance (%)	Test Condition	DCR (m Ω)		Isat(A)		Irms(A)	
				Typ.	Max.	Typ.	Max.	Typ.	Max.
MCP3020SR33MT	0.33	20	1MHz/1V	7.5	9	17.0	15.0	10.0	9.0
MCP3020SR50MT	0.5	20	1MHz/1V	9	12	15.0	13.0	9.0	8.0
MCP3020SR68MT	0.68	20	1MHz/1V	13	16	13.0	11.0	8.5	7.8
MCP3020S1R0MT	1.0	20	1MHz/1V	14	20	8.0	7.3	6.5	6.0
MCP3020S1R5MT	1.5	20	1MHz/1V	19	25	7.0	6.5	6.3	5.8
MCP3020S2R2MT	2.2	20	1MHz/1V	37	45	6.0	5.5	4.7	4.3
MCP3020S3R3MT	3.3	20	1MHz/1V	52	63	5.9	5.4	4.5	4.0
MCP3020S4R7MT	4.7	20	1MHz/1V	60	73	4.8	4.0	4.2	3.8
MCP3020S6R8MT	6.8	20	1MHz/1V	107	135	4.5	3.8	3.2	3.0
MCP3020S100MT	10	20	1MHz/1V	135	160	3.8	3.3	2.5	2.2

Note:

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($\Delta T=40^{\circ}\text{C}$) from 25°C ambient.

Absolute maximum voltage: DC 20V.