

Multilayer Chip Power Inductor – MCL – A Series



Operating Temp ◆ $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$

Features

- ◆ Monolithic structure for high reliability
- ◆ Excellent solderability and high heat resistance
- ◆ No cross coupling due to magnetic shield
- ◆ High DC bias current due to developed material
- ◆ Low DC resistance

Applications

- ◆ Mobile phones, mobile PC, wearable devices, security monitoring DC-DC converter for other

Product Identification

1

MCL

2

2012

3

A

4

2R2

5

M

6

T

1

Type

MCL

Chip Power Inductor

2

External Dimensions (L×W) (mm)

2012 [0805]

2.0×1.25

2016 [0806]

2.0×1.6

2520 [1008]

2.5×2.0

3

Feature Type

A

Inner Code

4

Nominal Inductance

Example

Nominal Value

2R2

2.2μH

※R=decimal point

5

Inductance Tolerance

M

±20%

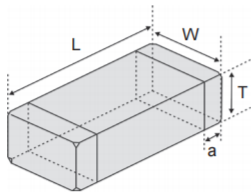
6

Packing

T

Tape & Reel

Shape and Dimensions



Unit mm [inch]				
Type	L	W	T	a
MCL2012-A [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
MCL2016-A [0806]	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]
MCL2520-A [1008]	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]

Specifications

MCL2012A TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	μH	MHz	Ω		MHz	A	A
Symbol	L	Freq.	DCR		S.R.F	Isat	Irms
			Max.	Typ.			
MCL2012A1R0MT	1.0	1	0.150	0.120	120	0.45	1.45
MCL2012A1R5MT	1.5	1	0.187	0.150	90	0.35	1.35
MCL2012A2R2MT	2.2	1	0.225	0.180	70	0.30	1.30
MCL2012A3R3MT	3.3	1	0.312	0.250	55	0.21	0.90
MCL2012A4R7MT	4.7	1	0.375	0.300	50	0.18	0.85
MCL2012A100MT	10	1	0.500	0.400	35	0.15	0.40

MCL2016A TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	μH	MHz	Ω		MHz	A	A
Symbol	L	Freq.	DCR		S.R.F	Isat	Irms
			Max.	Typ.			
MCL2016A1R0MT	1.0	1	0.175	0.140	120	0.90	1.10
MCL2016A1R5MT	1.5	1	0.200	0.160	100	0.55	1.00
MCL2016A2R2MT	2.2	1	0.275	0.220	70	0.60	0.85
MCL2016A4R7MT	4.7	1	0.200	0.160	50	0.10	1.20

MCL2520A TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	μH	MHz	Ω		MHz	A	A
Symbol	L	Freq.	DCR		S.R.F	Isat	Irms
			Max.	Typ.			
MCL2520A1R0MT	1.0	1	0.100	0.080	100	0.75	1.15
MCL2520A1R5MT	1.5	1	0.137	0.110	85	0.60	1.00
MCL2520A2R2MT	2.2	1	0.162	0.130	70	0.50	1.40
MCL2520A4R7MT	4.7	1	0.350	0.280	45	0.25	0.95

※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.