

Power Inductor

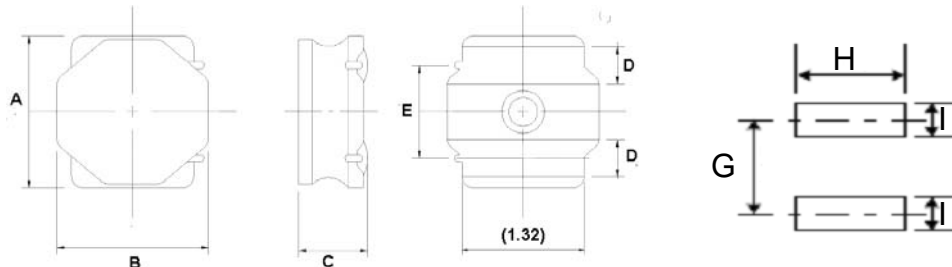
MDC1610E-Series

1. Features

1. This specification applies Low Profile Power Inductors.
2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.



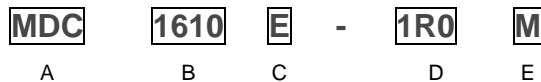
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC1610E	1.64±0.1	1.64±0.1	1.0 max.	0.4+0.2/-0.1	1.0±0.2	1.1 ref.	1.65 ref.	0.5 ref.

Units: mm

3. Part Numbering



- A: Series
 B: Dimension
 C: Control S/N
 D: Inductance 1R0=1.0 uH
 E: Inductance Tolerance M=±20%

4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC1610E-R47M	0.47	±20%	1V/1M	0.080	0.095	4.10	3.30	1.78	1.50
MDC1610E-1R0M	1.0	±20%	1V/1M	0.120	0.140	2.75	2.00	1.49	1.20
MDC1610E-1R5M	1.5	±20%	1V/1M	0.160	0.185	2.20	1.65	1.33	1.10
MDC1610E-2R2M	2.2	±20%	1V/1M	0.215	0.250	1.80	1.40	1.11	0.95
MDC1610E-3R3M	3.3	±20%	1V/1M	0.450	0.515	1.45	1.00	0.73	0.65
MDC1610E-4R7M	4.7	±20%	1V/1M	0.550	0.640	1.20	0.85	0.63	0.55
MDC1610E-150M	15	±20%	1V/1M	1.600	1.800	0.64	0.46	0.44	0.40

Note:

Isat : Based on inductance change (ΔL/L0 : ≤-30%) @ ambient temp. 25°C

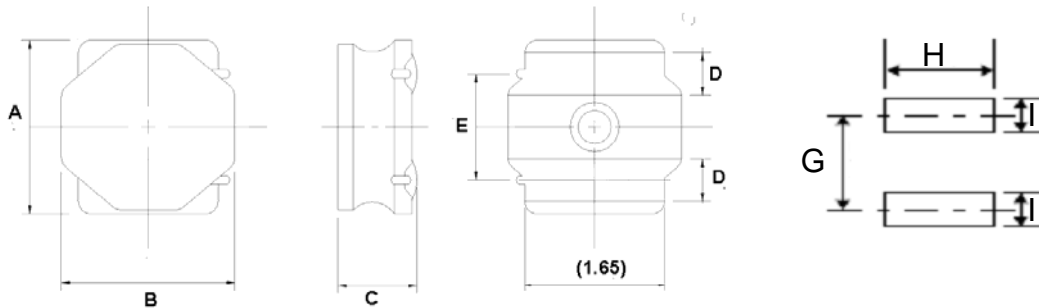
Irms : Based on temperature rise (ΔT : 40°C typ.)

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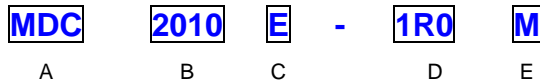
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC2010E	2.0±0.15	2.0±0.15	1.0 max.	0.5±0.20	1.25±0.2	1.35 ref.	2 ref.	0.65 ref.

Units: mm

3. Part Numbering



- A: Series
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4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC2010E-R47M	0.47	±20%	1V/1M	0.040	0.046	4.15	3.00	2.50	2.20
MDC2010E-R68M	0.68	±20%	1V/1M	0.052	0.060	3.65	2.50	2.10	2.00
MDC2010E-1R0M	1.0	±20%	1V/1M	0.074	0.085	3.40	2.40	1.90	1.70
MDC2010E-1R5M	1.5	±20%	1V/1M	0.115	0.133	2.25	1.60	1.50	1.35
MDC2010E-2R2M	2.2	±20%	1V/1M	0.139	0.165	1.95	1.40	1.35	1.20
MDC2010E-3R3M	3.3	±20%	1V/1M	0.240	0.275	1.55	1.10	1.05	0.94
MDC2010E-4R7M	4.7	±20%	1V/1M	0.375	0.435	1.25	0.90	0.85	0.75
MDC2010E-100M	10	±20%	1V/1M	0.600	0.690	0.90	0.60	0.68	0.63
MDC2010E-150M	15	±20%	1V/1M	1.020	1.18	0.75	0.50	0.55	0.48

Note:

Isat : Based on inductance change ($\Delta L/L0$: $\leq -30\%$) @ ambient temp. 25°C

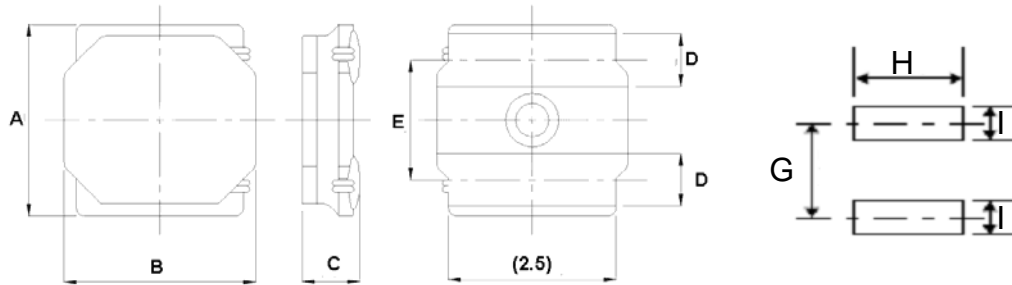
Irms : Based on temperature rise (ΔT : 40°C typ.)

1. Features

1. This specification applies Low Profile Power Inductors.
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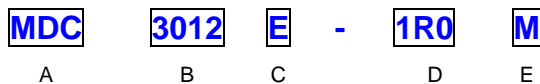
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC3012E	3.0±0.2	3.0±0.2	1.2 max.	0.9±0.2	1.9±0.2	2.2 ref.	2.7 ref.	0.8 ref.

Units: mm

3. Part Numbering



- A: Series
 B: Dimension
 C: Control S/N
 D: Inductance 1R0=1.0 uH
 E: Inductance Tolerance M=±20%

4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC3012E-R30M	0.30	±20%	1V/1M	0.017	0.02	9.2	7.0	6.4	4.8
MDC3012E-R47M	0.47	±20%	1V/1M	0.023	0.027	7.5	5.6	5.5	4.2
MDC3012E-1R0M	1.0	±20%	1V/1M	0.043	0.05	5.1	3.7	3.9	3.1
MDC3012E-1R5M	1.5	±20%	1V/1M	0.064	0.074	4.1	3.15	3.0	2.5
MDC3012E-2R2M	2.2	±20%	1V/1M	0.097	0.112	3.6	2.8	2.2	2.0
MDC3012E-3R3M	3.3	±20%	1V/1M	0.150	0.173	2.7	2.0	1.9	1.6
MDC3012E-4R7M	4.7	±20%	1V/1M	0.228	0.263	2.3	1.8	1.5	1.3

Note:

Isat : Based on inductance change ($\Delta L/L0 : \leq -30\%$) @ ambient temp. 25°CIrms : Based on temperature rise ($\Delta T : 40^\circ\text{C}$ typ.)

Power Inductor

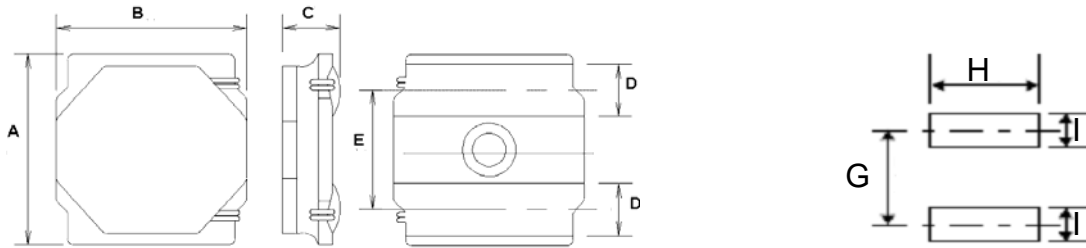
MDC4012E-Series

1. Features

1. This specification applies Low Profile Power Inductors.
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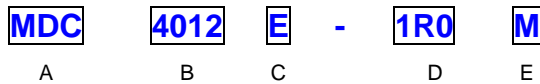
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC4012E	4.0±0.2	4.0±0.2	1.2 max.	1.1±0.2	2.5±0.2	2.8 ref.	3.7 ref.	1.2 ref.

Units: mm

3. Part Numbering



- A: Series
- B: Dimension
- C: Control S/N
- D: Inductance 1R0=1.0 uH
- E: Inductance Tolerance M=±20%

4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC4012E-R68M	0.68	±20%	1V/1M	0.025	0.029	7.8	6.3	5.7	5.0
MDC4012E-1R0M	1.0	±20%	1V/1M	0.031	0.036	6.2	4.9	5.1	4.5
MDC4012E-1R5M	1.5	±20%	1V/1M	0.056	0.065	5.6	4.5	3.6	3.2
MDC4012E-2R2M	2.2	±20%	1V/1M	0.069	0.079	4.5	3.2	3.2	2.8
MDC4012E-3R3M	3.3	±20%	1V/1M	0.113	0.130	4.0	3.05	2.5	2.2
MDC4012E-4R7M	4.7	±20%	1V/1M	0.140	0.160	3.0	2.3	2.2	1.9
MDC4012E-6R8M	6.8	±20%	1V/1M	0.200	0.230	2.2	1.9	1.8	1.6
MDC4012E-100M	10	±20%	1V/1M	0.280	0.330	2.0	1.5	1.6	1.4

Note:

I_{sat} : Based on inductance change (ΔL/L0 : ≤-30%) @ ambient temp. 25°C

I_{rms} : Based on temperature rise (ΔT : 40°C typ.)

Power Inductor

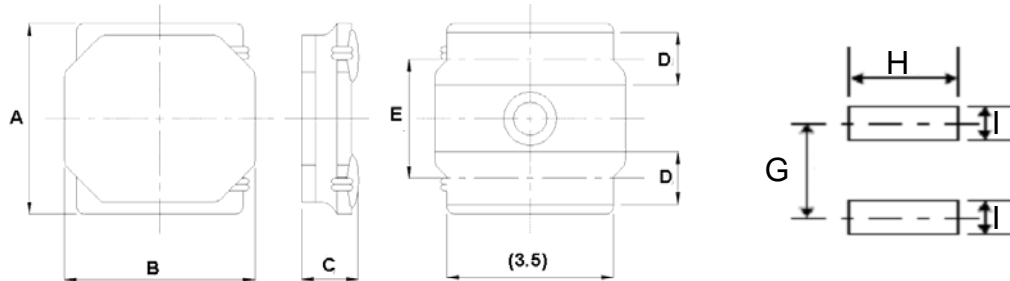
MDC4012FE-Series

1. Features

1. This specification applies Low Profile Power Inductors.
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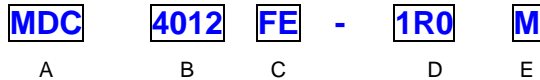
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC4012FE	4.0±0.2	4.0±0.2	1.2 max.	1.1±0.2	2.5±0.2	2.8 ref.	3.7 ref.	1.2 ref.

Units: mm

3. Part Numbering



- A: Series
- B: Dimension
- C: Control S/N
- D: Inductance 1R0=1.0 uH
- E: Inductance Tolerance M=±20%

4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC4012FE-R47M	0.47	±20%	1V/100K	0.025	0.029	10.0	7.5	5.4	4.6
MDC4012FE-1R0M	1.0	±20%	1V/100K	0.041	0.047	7.5	5.2	4.2	3.5
MDC4012FE-1R2M	1.2	±20%	1V/100K	0.041	0.047	6.2	3.6	4.2	3.5
MDC4012FE-1R5M	1.5	±20%	1V/100K	0.056	0.065	5.4	3.3	3.6	3.3
MDC4012FE-2R2M	2.2	±20%	1V/100K	0.080	0.092	4.5	3.0	2.9	2.5

I_{sat} : Based on inductance change (ΔL/L0 : ≤ -30%) @ ambient temp. 25°C

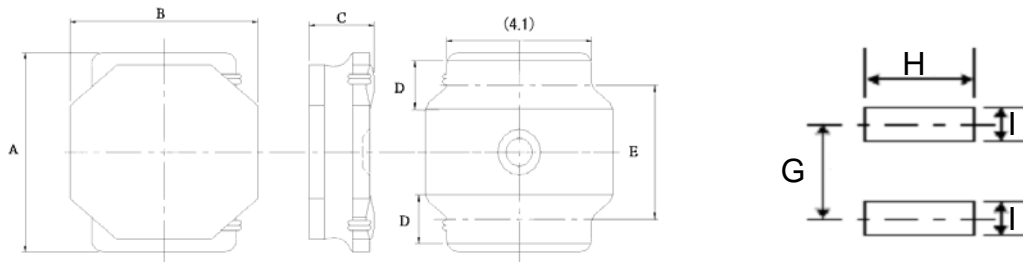
I_{rms} : Based on temperature rise (ΔT : 40°C typ.)

1. Features

1. This specification applies Low Profile Power Inductors.
2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.



2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	G(mm)	H(mm)	I(mm)
MDC5014E	4.9±0.2	4.9±0.2	1.4 max.	1.2±0.2	3.3±0.2	3.6 ref.	4.2 ref.	1.5 ref.

Units: mm

3. Part Numbering

MDC
5014
E
-
1R0
M

- A: Series
 B: Dimension
 C: Control S/N
 D: Inductance 1R0=1.0 uH
 E: Inductance Tolerance M=±20%

4. Specification

TAI-TECH Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	DCR (Ω) typ.	DCR (Ω) max.	I sat (A) typ.	I sat (A) max.	I rms (A) typ.	I rms (A) max.
MDC5014E-1R0M	1.0	±20%	1V/1M	0.034	0.040	10	7.4	4.7	4.3
MDC5014E-2R2M	2.2	±20%	1V/1M	0.047	0.055	5	3.9	4.2	3.6
MDC5014E-3R3M	3.3	±20%	1V/1M	0.073	0.086	4.5	3.4	3.4	2.9
MDC5014E-4R7M	4.7	±20%	1V/1M	0.088	0.102	4.2	2.8	3.0	2.5
MDC5014E-6R8M	6.8	±20%	1V/1M	0.120	0.138	3.2	2.0	2.5	2.2
MDC5014E-100M	10	±20%	1V/1M	0.190	0.225	2.6	1.95	2.2	2.0

Note:

Isat : Based on inductance change ($\Delta L/L0 : \leq -30\%$) @ ambient temp. 25°CIrms : Based on temperature rise ($\Delta T : 40^\circ\text{C}$ typ.)