

HEI Series



The HEI Series is designed specifically to enhance both PFM and PWM application performance. Q(Rac) value at light load and the RDC value at heavy load are both exceptional. Furthermore, the saturated current performance is also optimal, helping to reduce the ripple current and enhance the efficiency.

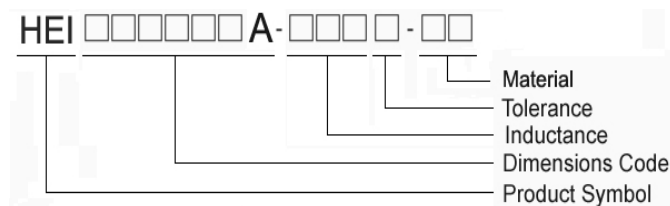
Features

- RoHS, Halogen Free and REACH Compliance
- High Efficiency
- Excellent Q, RDC and saturation current
- Low profile and miniature size down to 1.6*0.8*0.8mm

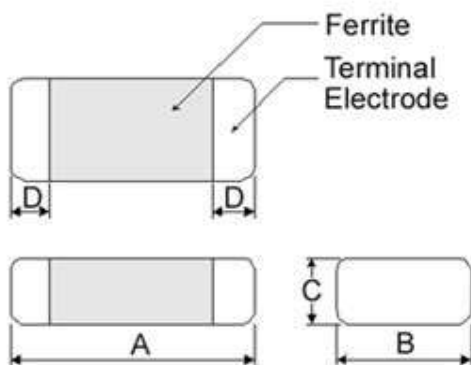
Applications

- Smartphones, tablets and wearable devices
- HDD, SSD and PC peripheral devices.
- DSC, camcoders
- PND
- DC/DC converters

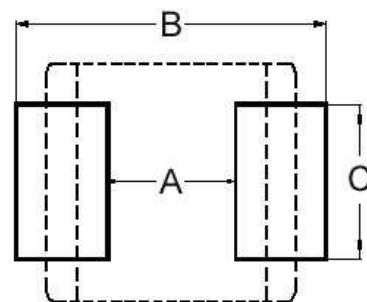
Product Identification



Shape and Dimensions



Recommended Pattern



Dimensions in mm

TYPE	A	B	C	D
201208A	2.0±0.2	1.25±0.2	0.8Max	0.5±0.3
201210A	2.0±0.2	1.25±0.2	1.0Max	0.5±0.3
201610A	2.0±0.2	1.60±0.2	1.0Max	0.5±0.3
252010A	2.5±0.3	2.00±0.3	1.0Max	0.6±0.3
252012A	2.5±0.3	2.00±0.3	1.2Max	0.6±0.3
322510A	3.2±0.3	2.50±0.3	1.0Max	0.5±0.3
322512A	3.2±0.3	2.50±0.3	1.2Max	0.5±0.3

Dimensions in mm

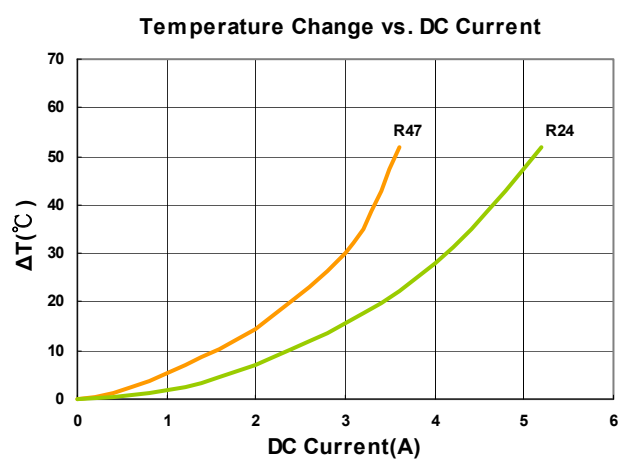
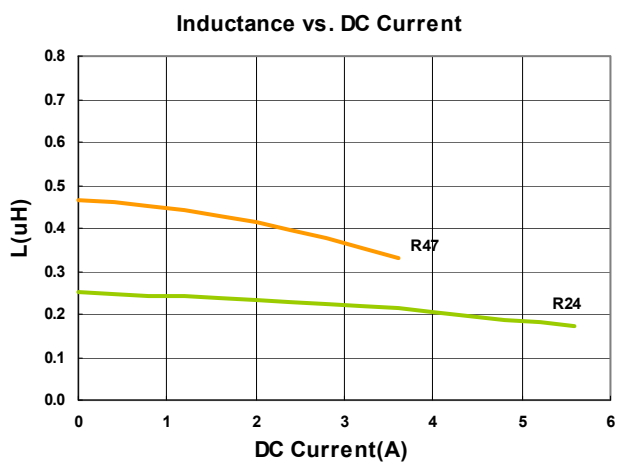
TYPE	A	B	C
201208A	0.8~1.2	2.3~2.9	1.0~1.4
201210A	0.8~1.2	2.3~2.9	1.0~1.4
201610A	0.9	2.0	1.6
252010A	1.2	2.8	2.0
252012A	1.2	2.8	2.0
322510A	1.7	3.2	2.5
322512A	1.7	3.2	2.5

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	I _{rms} (A)	I _{sat} (A)	RDC(mΩ)
	(μH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI201208A-R24M-Q8	0.24	20	2	4.2(4.8)	4.8(5.4)	25(19)
HEI201208A-R47M-Q8	0.47	20	2	3.0(3.4)	3.2(3.6)	48(40)

- I_{rms} DC current (A) that will cause an approximate ΔT of 40°C.
- I_{sat} DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- R_{dc} : CHEN HWA502
- I_{sat} : Agilent E4980A+HP42841A
- I_{rms} : Agilent 6641 SYSTEM DC POWER SUPPLY
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

Test Instruments : E4991A Impedance / Material Analyzer



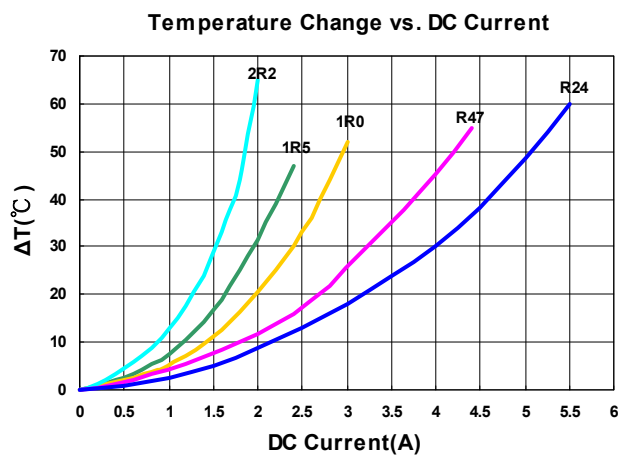
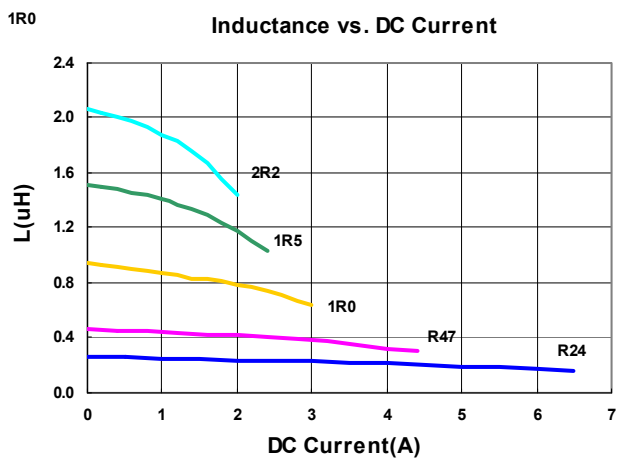
Molding Power Inductors – HEI Series

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	Irms(A)	Isat(A)	RDC(mΩ)
	(uH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI201210A-R24M-Q8	0.24	20	2	3.7(4.6)	4.5(5.7)	28(22)
HEI201210A-R47M-Q8	0.47	20	2	3.0(3.7)	3.3(4.2)	42(33)
HEI201210A-1R0M-Q8	1.0	20	2	2.2(2.7)	2.3(2.8)	78(69)
HEI201210A-1R5M-Q8	1.5	20	2	1.8(2.2)	1.9(2.3)	112(94)
HEI201210A-2R2M-Q8	2.2	20	2	1.5(1.8)	1.6(2.0)	168(153)

- **Irms** DC current (A) that will cause an approximate ΔT of 40°C.
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- Rdc : CHEN HWA502
- Isat : Agilent E4980A+HP42841A
- Irms : Agilent 6641 SYSTEM DC POWER SUPPLY
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

Test Instruments : E4991A Impedance / Material Analyzer



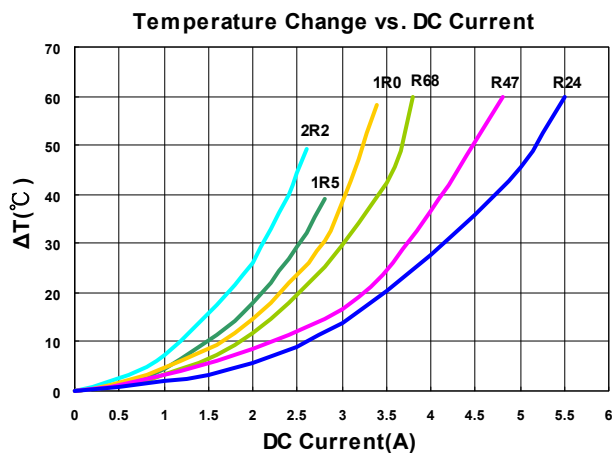
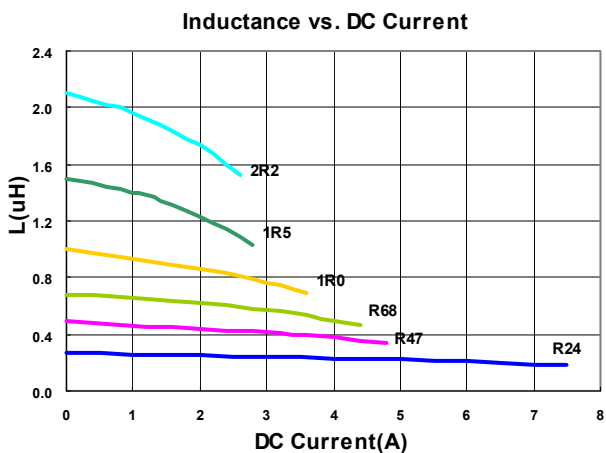
Molding Power Inductors – HEI Series

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	Irms(A)	Isat(A)	RDC(mΩ)
	(uH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI201610A-R24M-Q8	0.24	20	2	3.9(4.8)	5.6(7.0)	27(21)
HEI201610A-R47M-Q8	0.47	20	2	3.5(4.2)	3.9(4.8)	42(33)
HEI201610A-R68M-Q8	0.68	20	2	2.7(3.4)	3.2(4.0)	56(43)
HEI201610A-1R0M-Q8	1.0	20	2	2.5(3.1)	2.9(3.6)	65(53)
HEI201610A-1R5M-Q8	1.5	20	2	2.3(2.7)	2.5(2.8)	85(75)
HEI201610A-2R2M-Q8	2.2	20	2	1.8(2.2)	2.4(2.7)	135(112)

- Irms DC current (A) that will cause an approximate ΔT of 40°C.
- Isat DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- Rdc : CHEN HWA502
- Isat : Agilent E4980A+HP42841A
- Irms : Agilent 6641 SYSTEM DC POWER SUPPLY
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

Test Instruments : E4991A Impedance / Material Analyzer



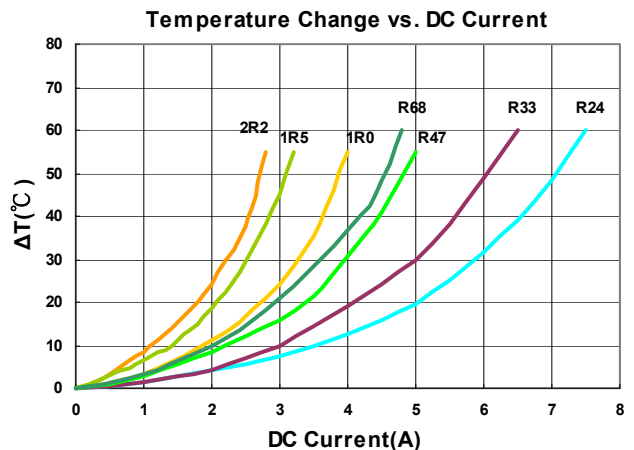
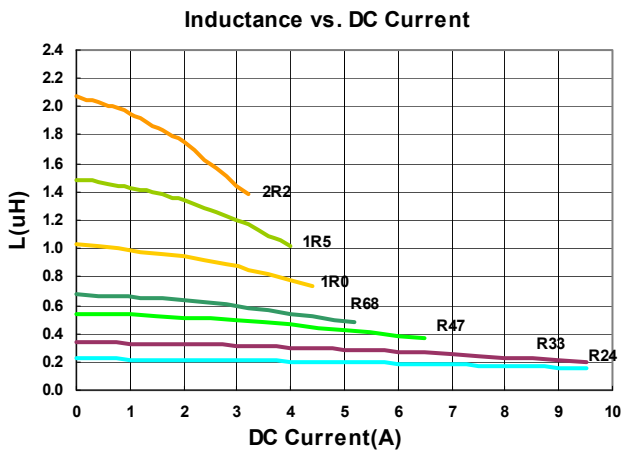
Molding Power Inductors – HEI Series

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	I _{rms} (A)	I _{sat} (A)	RDC(mΩ)
	(μH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI252010A-R24M-Q8	0.24	20	2	5.5(6.5)	8.0(9.5)	18(13)
HEI252010A-R33M-Q8	0.33	20	2	4.8(5.5)	6.5(8.0)	24(18)
HEI252010A-R47M-Q8	0.47	20	2	3.9(4.5)	5.0(6.2)	35(27)
HEI252010A-R68M-Q8	0.68	20	2	3.7(4.2)	4.5(5.6)	40(32)
HEI252010A-1R0M-Q8	1.0	20	2	3.0(3.5)	3.7(4.6)	53(45)
HEI252010A-1R5M-Q8	1.5	20	2	2.4(2.8)	3.1(3.8)	75(68)
HEI252010A-2R2M-Q8	2.2	20	2	2.2(2.5)	2.5(3.0)	97(87)

- I_{rms} DC current (A) that will cause an approximate ΔT of 40°C.
- I_{sat} DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- R_{dc} : CHEN HWA502
- I_{sat} : Agilent E4980A+HP42841A
- I_{rms} : Agilent 6641 SYSTEM DC POWER SUPPLY
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

Test Instruments : E4991A Impedance / Material Analyzer

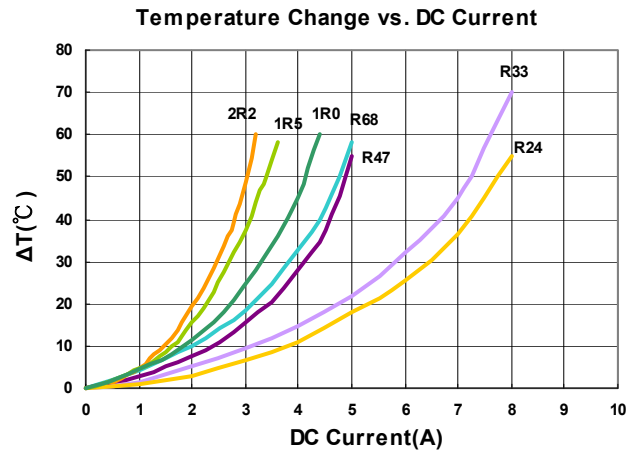
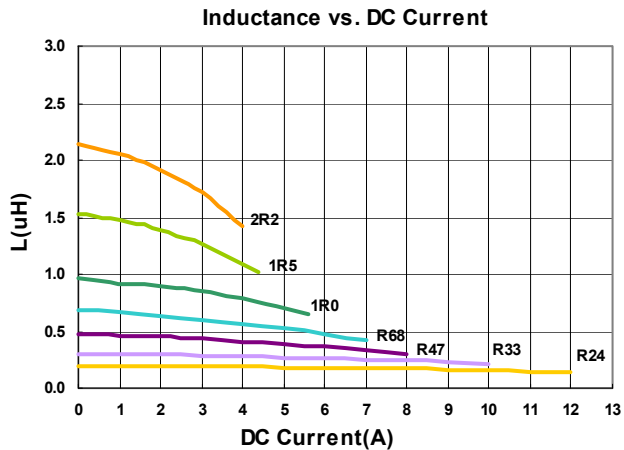


Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	Irms(A)	Isat(A)	RDC(mΩ)
	(uH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI252012A-R24M-Q8	0.24	20	2	6.2(7.3)	9.5(12)	15(11.5)
HEI252012A-R33M-Q8	0.33	20	2	5.8(6.4)	8.5(10)	18(14.5)
HEI252012A-R47M-Q8	0.47	20	2	3.8(4.5)	5.6(7.0)	33(28)
HEI252012A-R68M-Q8	0.68	20	2	3.8(4.4)	5.0(6.2)	36(30)
HEI252012A-1R0M-Q8	1.0	20	2	3.6(4.1)	4.4(5.5)	42(35)
HEI252012A-1R5M-Q8	1.5	20	2	2.7(3.1)	3.4(4.2)	65(57)
HEI252012A-2R2M-Q8	2.2	20	2	2.5(2.9)	3.0(3.7)	83(74)

- Irms DC current (A) that will cause an approximate ΔT of 40°C.
- Isat DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- Rdc : CHEN HWA502
- Isat : Agilent E4980A+HP42841A
- Irms : Agilent 6641 SYSTEM DC POWER SUPPLY
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

Test Instruments : E4991A Impedance / Material Analyzer



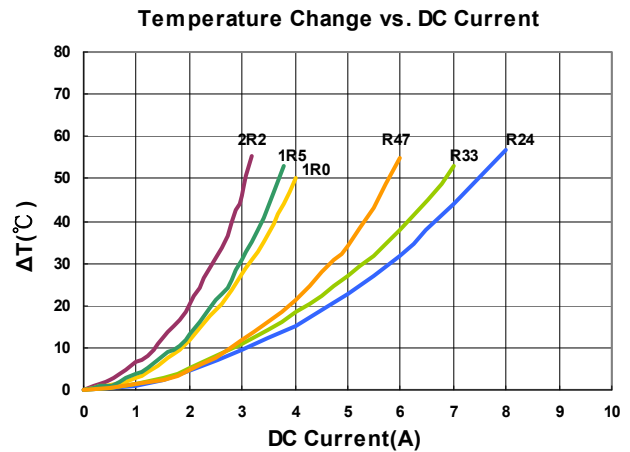
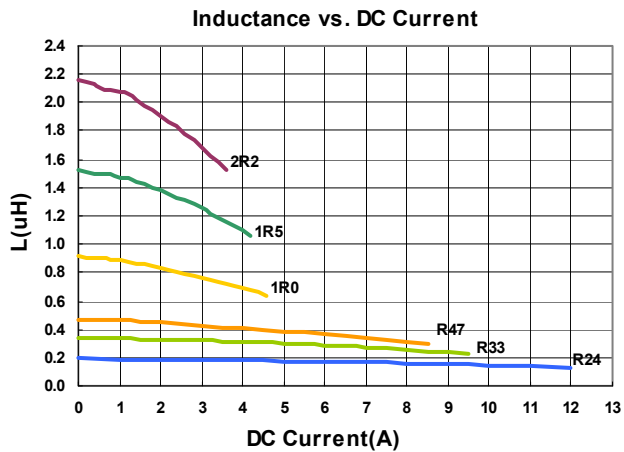
Molding Power Inductors – HEI Series

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	Irms(A)	Isat(A)	RDC(mΩ)
	(uH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI322510A-R24M-Q8	0.24	20	2	6.0(6.8)	9.0(11.5)	16(12)
HEI322510A-R33M-Q8	0.33	20	2	5.8(6.5)	8.0(9.5)	17(12.5)
HEI322510A-R47M-Q8	0.47	20	2	4.5(5.4)	6.0(7.3)	24(19)
HEI322510A-1R0M-Q8	1.0	20	2	3.3(3.7)	4.1(4.7)	46(39)
HEI322510A-1R5M-Q8	1.5	20	2	3.2(3.5)	3.5(4.0)	58(50)
HEI322510A-2R2M-Q8	2.2	20	2	2.5(2.8)	3.0(3.5)	85(73)

- **Irms** DC current (A) that will cause an approximate ΔT of 40°C.
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M = ±20%
- L : Agilent E4991/HP4287A+16197A, 2MHz 0.2V
- Rdc : CHEN HWA502
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- Irms : Agilent 6641 SYSTEM DC POWER SUPPLY
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Test Instruments : E4991A Impedance / Material Analyzer



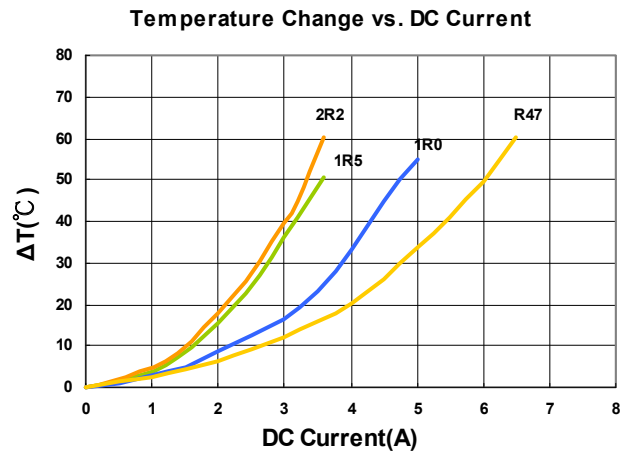
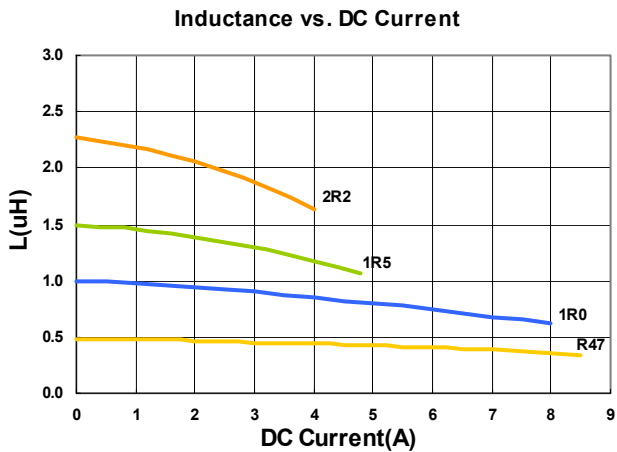
Molding Power Inductors – HEI Series

Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	Irms(A)	Isat(A)	RDC(mΩ)
	(uH)	(±%)	(MHz)	Max(Typ)	Max(Typ)	Max(Typ)
HEI322512A-R47M-Q8	0.47	20	2	4.6(5.2)	7.0(8.2)	25(19)
HEI322512A-1R0M-Q8	1.0	20	2	3.7(4.2)	5.7(6.5)	34(27.5)
HEI322512A-1R5M-Q8	1.5	20	2	2.8(3.2)	4.0(4.6)	59(51)
HEI322512A-2R2M-Q8	2.2	20	2	2.7(3.0)	3.5(4.0)	73(64)

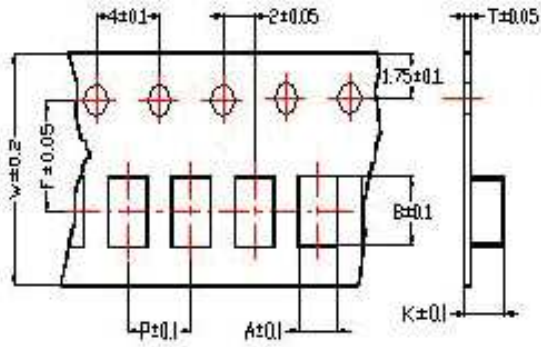
- **Irms** DC current (A) that will cause an approximate ΔT of 40°C.
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- Tolerance : M = $\pm 20\%$
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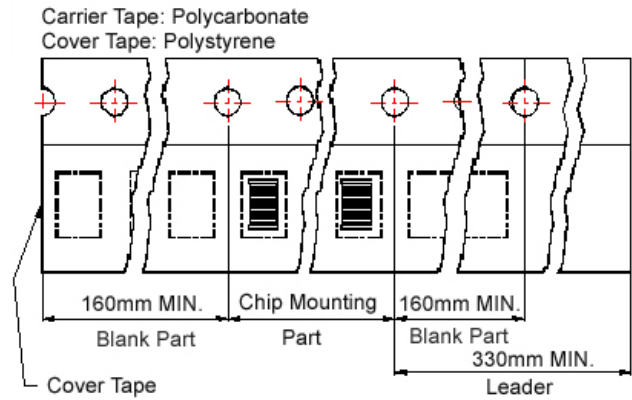


Packaging Specifications

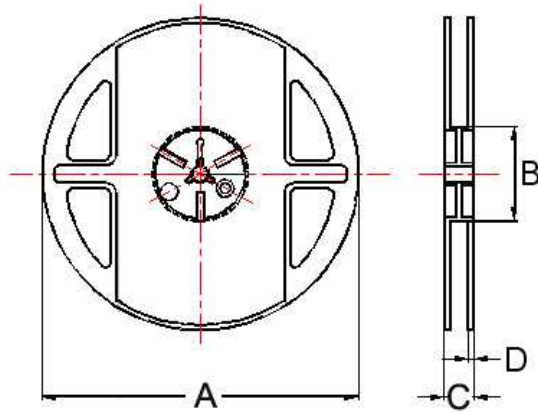
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Quantity PCS / REEL
	A	B	T	W	P	F	K	A	B	C	D	
201208A	1.45	2.25	0.22	8	4	3.5	1.04	178	60	12	1.5	3000
201210A	1.50	2.25	0.22	8	4	3.5	1.15	178	60	12	1.5	3000
201610A	1.80	2.20	0.22	8	4	3.5	1.15	178	60	12	1.5	3000
252010A	2.25	2.80	0.22	8	4	3.5	1.35	178	60	12	1.5	3000
252012A	2.25	2.80	0.22	8	4	3.5	1.35	178	60	12	1.5	3000
322510A	2.80	3.55	0.23	8	4	3.5	1.20	178	60	12	1.5	3000
322512A	2.80	3.50	0.23	8	4	3.5	1.34	178	60	12	1.5	3000