MHCD Series

MHCD Series provides high current in compact package size with magnetically shielded construction. This power
inductor is an excellent power solution for space-limited devices.

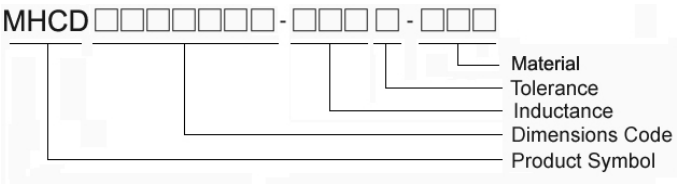
Features

- RoHS, Halogen Free and REACH Compliance
- Monolithic, magnetically shielded
- Capable for large current

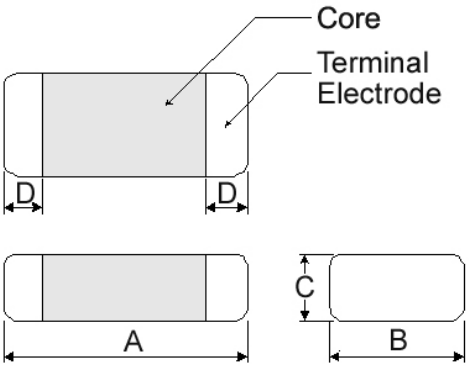
Applications

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

Product Identification



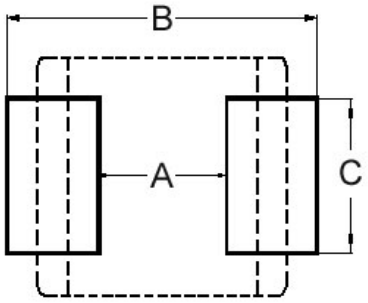
Shape and Dimensions



Dimensions in mm

TYPE	A	B	C	D
201610	2.0±0.2	1.6±0.2	1.0Max	0.5±0.3
201612	2.0±0.2	1.6±0.2	1.2Max	0.5±0.3
252010	2.5±0.2	2.0±0.2	1.0Max	0.6±0.3
252012	2.5±0.2	2.0±0.2	1.2Max	0.6±0.3
322510	3.2±0.3	2.5±0.3	1.0Max	0.5±0.3
322512	3.2±0.3	2.5±0.3	1.2Max	0.5±0.3

Recommended Pattern



Dimensions in mm

TYPE	A	B	C
201610	0.7	2.3	1.8
201612	0.7	2.3	1.8
252010	1.2	2.8	2.0
252012	1.2	2.8	2.0
322510	1.7	3.2	2.5
322512	1.7	3.2	2.5

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD201610A-R24M-A8S	0.24	20	2	40(28)	4.2(6.0)	4.0(4.5)
MHCD201610A-R33M-A8S	0.33	20	2	48(40)	4.0(5.5)	3.5(3.8)
MHCD201610A-R47M-A8S	0.47	20	2	54(44)	3.2(5.0)	3.0(3.6)
MHCD201610A-R56M-A8S	0.56	20	2	59(46)	2.8(4.6)	2.8(3.3)
MHCD201610A-R68M-A8S	0.68	20	2	72(55)	2.7(4.2)	2.4(3.0)
MHCD201610A-1R0M-A8S	1.0	20	2	96(81)	2.2(3.4)	2.0(2.3)
MHCD201610A-1R5M-A8S	1.5	20	2	150(122)	2.1(2.8)	1.6(2.0)
MHCD201610A-2R2M-A8S	2.2	20	2	204(170)	2.0(2.4)	1.3(1.6)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

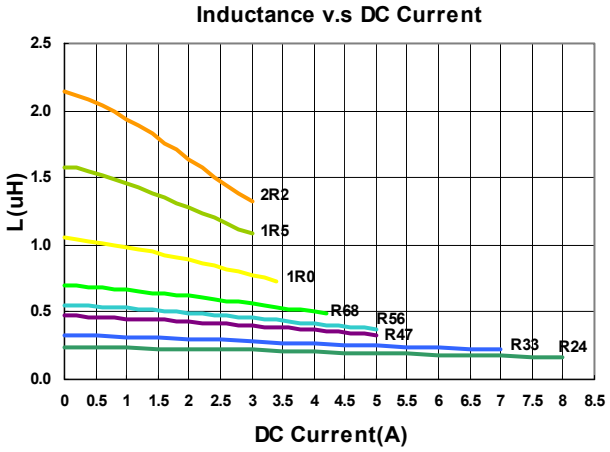
  L：Agilent E4991AHP4287A+16197A, 2MHz 0.2V

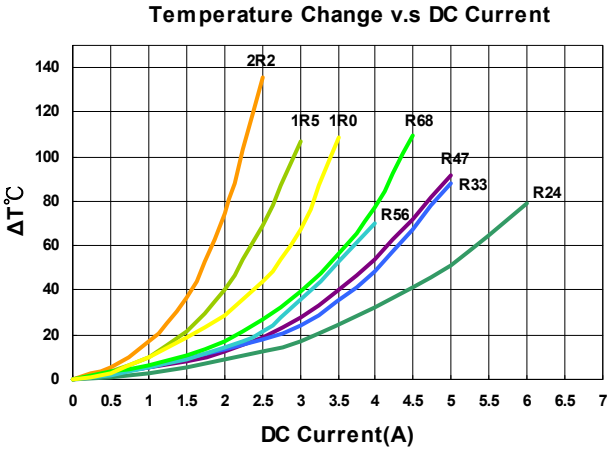
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





CHILISIN ELECTRONICS CORP.

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD201610B-R24M-A8L	0.24	20	2	30(23)	5.0(6.0)	3.8(4.4)
MHCD201610B-R47M-A8L	0.47	20	2	41(34)	4.0(4.5)	2.9(3.3)
MHCD201610B-R68M-A8L	0.68	20	2	53(44)	3.3(3.6)	2.5(2.9)
MHCD201610B-1R0M-A8L	1.0	20	2	72(60)	2.8(3.2)	2.2(2.5)
MHCD201610B-2R2M-A8L	2.2	20	2	170(142)	1.8(2.1)	1.5(1.7)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

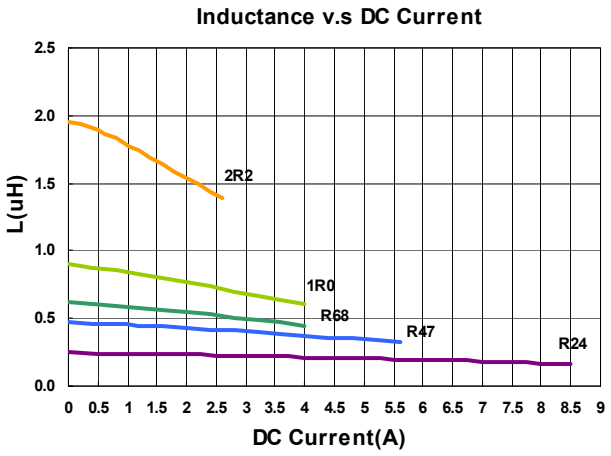
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

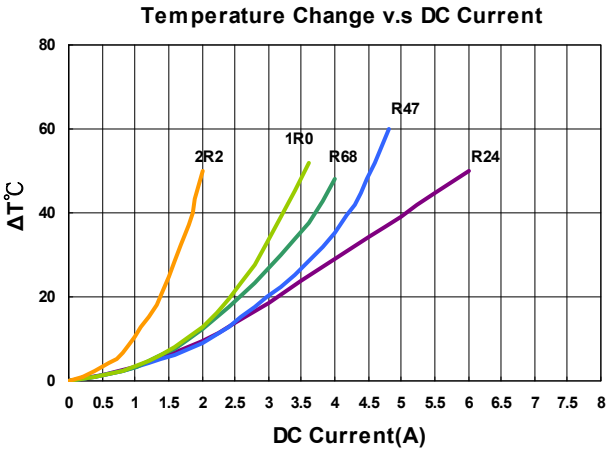
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD201612A-R24M-A8S	0.24	20	2	35(25)	5.5(6.5)	4.2(4.8)
MHCD201612A-R47M-A8S	0.47	20	2	52(40)	3.8(5.1)	3.2(3.8)
MHCD201612A-R68M-A8S	0.68	20	2	70(53)	3.3(4.8)	2.6(3.2)
MHCD201612A-1R0M-A8S	1.0	20	2	82(67)	3.1(3.9)	2.3(2.7)
MHCD201612A-1R5M-A8S	1.5	20	2	120(95)	2.6(3.2)	2.2(2.6)
MHCD201612A-2R2M-A8S	2.2	20	2	195(165)	2.0(2.6)	1.3(1.7)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃~125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

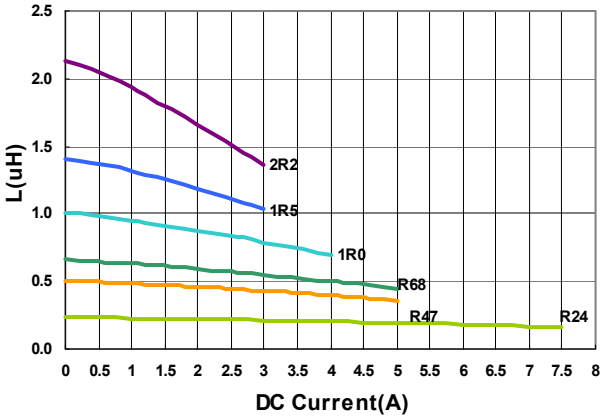
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

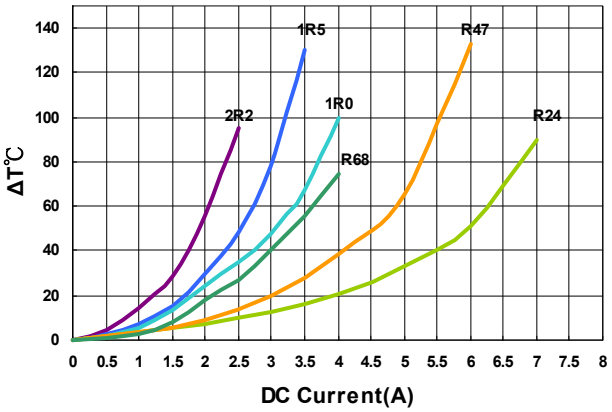
  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer

Inductance v.s DC Current



Temperature Change v.s DC Current



CHILISIN ELECTRONICS CORP.

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD252010A-R24M-A8S	0.24	20	2	40(24)	7.5(9.5)	4.5(5.0)
MHCD252010A-R47M-A8S	0.47	20	2	46(36)	5.2(6.5)	3.1(3.6)
MHCD252010A-R68M-A8S	0.68	20	2	65(49)	3.8(5.0)	2.9(3.3)
MHCD252010A-1R0M-A8S	1.0	20	2	78(60)	3.4(4.3)	2.5(3.0)
MHCD252010A-1R5M-A8S	1.5	20	2	105(82)	3.2(4.0)	2.2(2.9)
MHCD252010A-2R2M-A8S	2.2	20	2	156(130)	2.6(3.2)	1.4(1.8)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

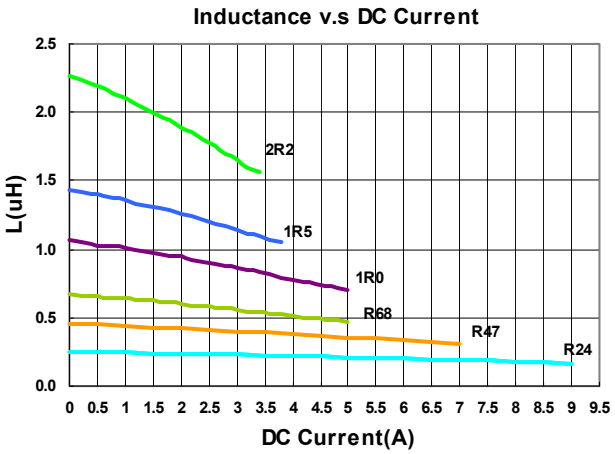
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

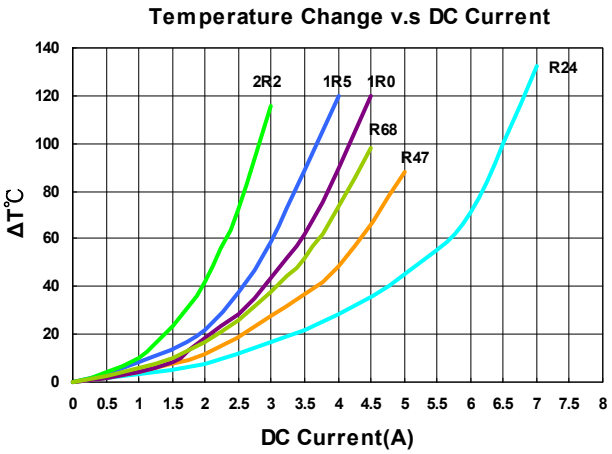
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD252010B-R33M-A8L	0.33	20	2	31(25)	5.0(6.0)	3.8(4.4)
MHCD252010B-R47M-A8L	0.47	20	2	35(29)	4.2(4.7)	3.4(3.9)
MHCD252010B-R68M-A8L	0.68	20	2	48(40)	3.7(4.0)	3.0(3.5)
MHCD252010B-1R0M-A8L	1.0	20	2	65(54)	3.2(3.6)	2.6(3.0)
MHCD252010B-1R5M-A8L	1.5	20	2	94(78)	2.9(3.3)	2.1(2.4)
MHCD252010B-2R2M-A8L	2.2	20	2	120(100)	2.3(2.7)	1.8(2.1)
MHCD252010B-4R7M-A8L	4.7	20	2	250(208)	1.8(2.1)	1.1(1.3)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

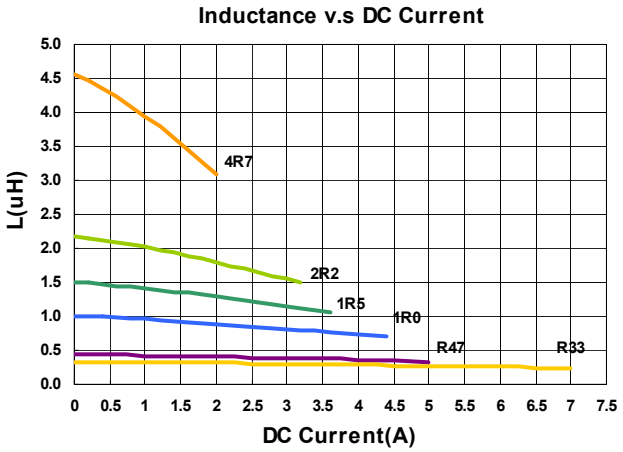
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

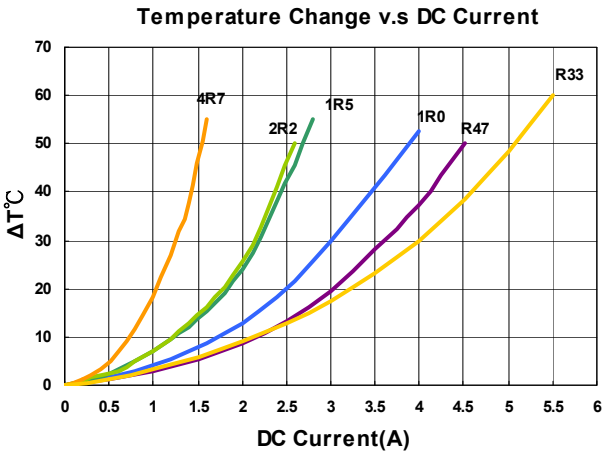
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD252012A-R33M-A8S	0.33	20	2	35(27)	6.8(8.5)	4.0(4.6)
MHCD252012A-R47M-A8S	0.47	20	2	39(29)	6.2(7.8)	3.7(4.4)
MHCD252012A-R68M-A8S	0.68	20	2	46(40)	5.5(6.5)	3.3(3.7)
MHCD252012A-1R0M-A8S	1.0	20	2	59(45)	4.0(5.0)	3.0(3.5)
MHCD252012A-1R5M-A8S	1.5	20	2	70(62)	3.4(4.0)	2.5(2.7)
MHCD252012A-2R2M-A8S	2.2	20	2	115(102)	3.3(3.8)	2.0(2.3)
MHCD252012A-3R3M-A8S	3.3	20	2	158(143)	2.5(2.8)	1.8(2.1)
MHCD252012A-4R7M-A8S	4.7	20	2	240(200)	2.1(2.7)	1.7(2.1)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

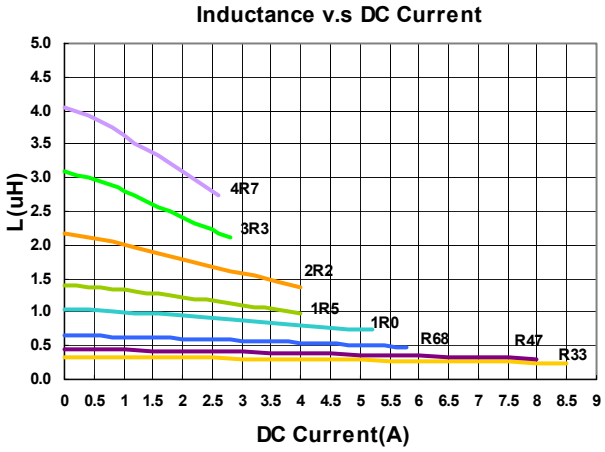
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

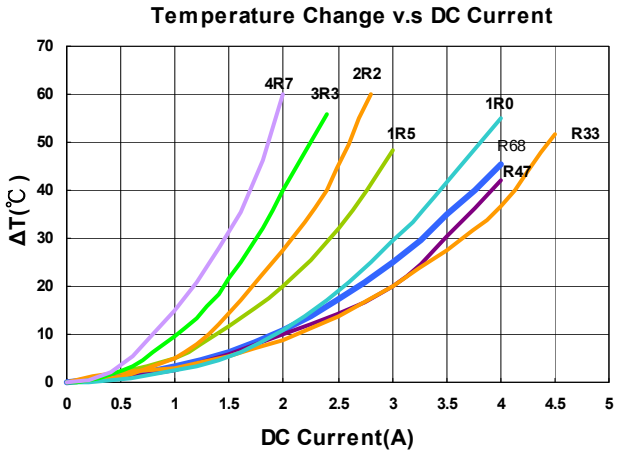
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD252012B-R47M-A8L	0.47	20	2	34(30)	5.2(6.0)	4.1(4.7)
MHCD252012B-1R0M-A8L	1.0	20	2	56(45)	3.6(4.5)	3.2(3.7)
MHCD252012B-2R2M-A8L	2.2	20	2	102(80)	2.5(3.0)	2.2(2.6)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

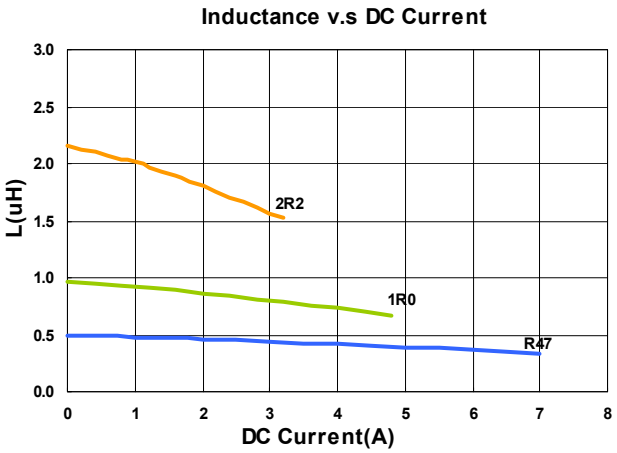
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

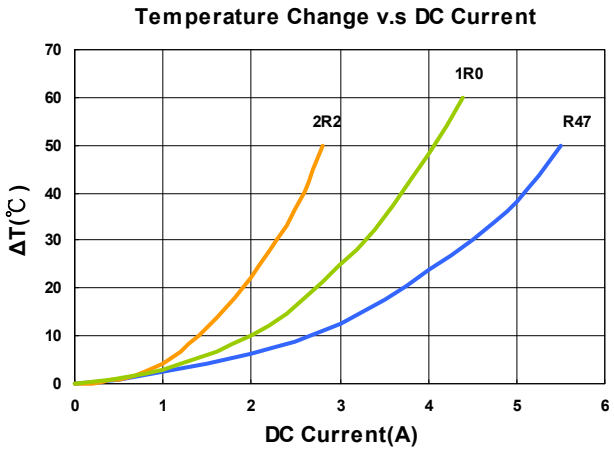
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





CHILISIN ELECTRONICS CORP.

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD322510A-R47M-A8S	0.47	20	2	37(30)	5.8(6.6)	3.6(4.2)
MHCD322510A-1R0M-A8S	1.0	20	2	56(49)	4.0(4.6)	3.0(3.3)
MHCD322510A-1R5M-A8S	1.5	20	2	75(66)	3.4(4.0)	2.6(3.0)
MHCD322510A-2R2M-A8S	2.2	20	2	108(95)	2.7(3.2)	2.2(2.5)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

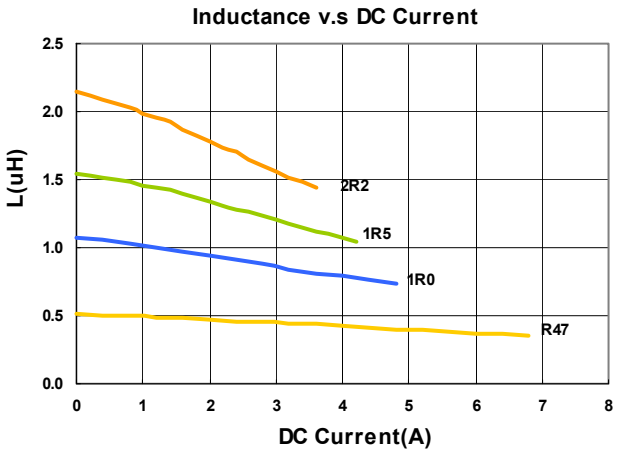
  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

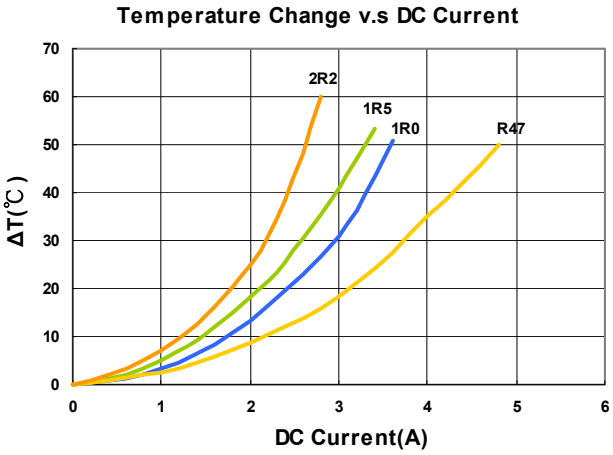
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

  Irms：Agilent 6641 SYSTEM DC POWER SUPPLY

Test Instruments：E4991A Impedance / Material Analyzer





CHILISIN ELECTRONICS CORP.

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC(mΩ) Max(Typ.)	Isat(A) Max(Typ.)	Irms(A) Max(Typ.)
MHCD322512A-R47M-A8S	0.47	20	2	27(21)	8.0(9.0)	5.0(5.8)
MHCD322512A-1R0M-A8S	1.0	20	2	42(34)	5.8(6.3)	3.8(4.2)
MHCD322512A-1R5M-A8S	1.5	20	2	68(58)	4.0(4.5)	2.8(3.2)
MHCD322512A-2R2M-A8S	2.2	20	2	85(75)	3.6(4.0)	2.4(2.7)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value with current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

  L：Agilent E4991A/HP4287A+16197A, 2MHz 0.2V

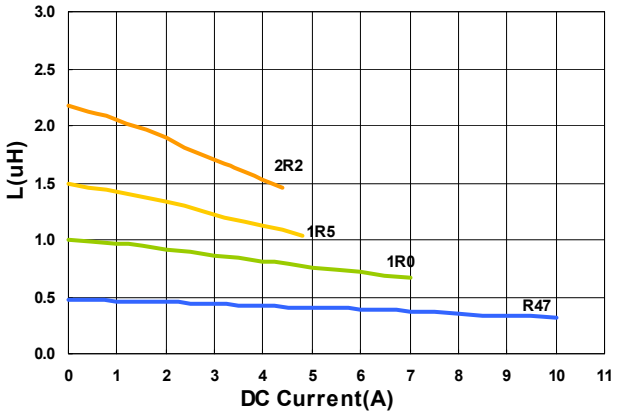
  RDC：CHEN HWA502

  Isat：Agilent E4980A+HP42841A

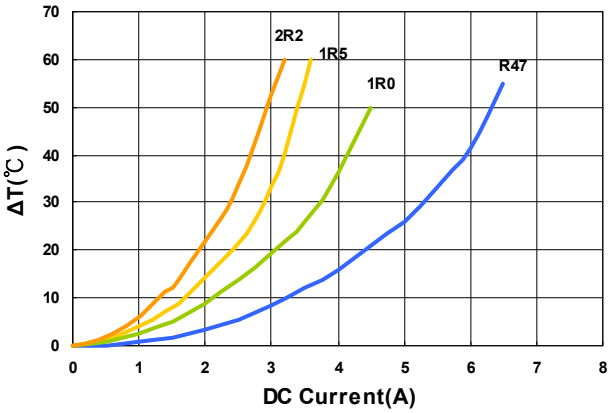
  Irms：Agilent 6641 SYSTEM DC POWER SUPPLYC

Test Instruments：E4991A Impedance / Material Analyzer

Inductance v.s DC Current



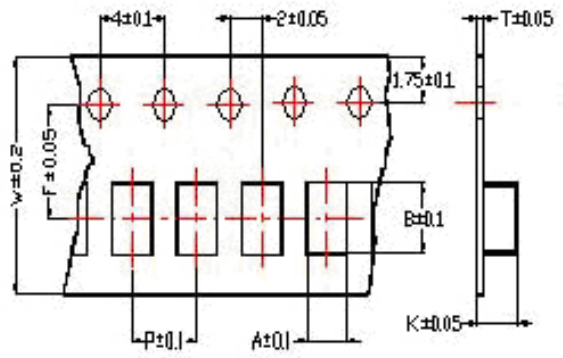
Temperature Change v.s DC Current



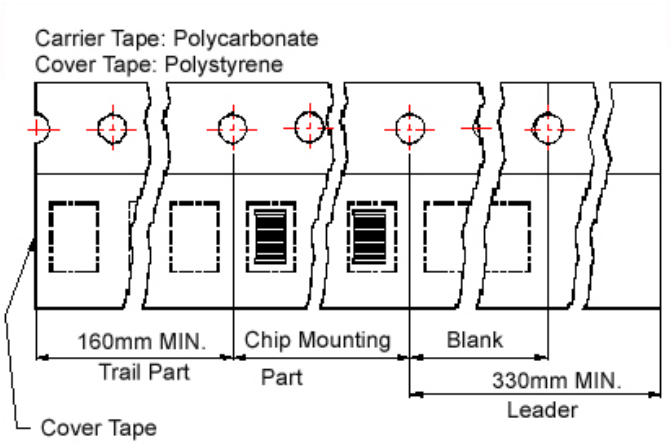
CHILISIN ELECTRONICS CORP.

Packaging Specifications

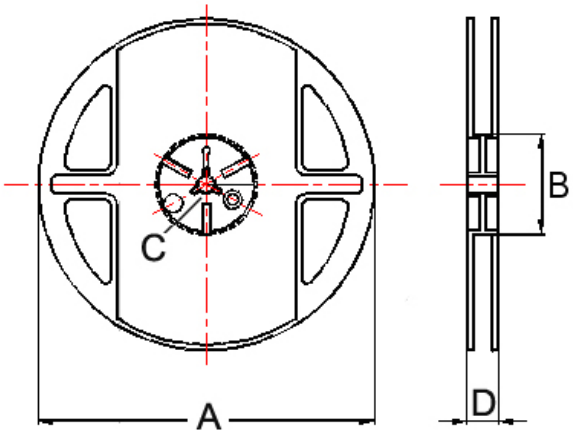
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Quantity
	A	B	T	W	P	F	K	A	B	C	D	PCS / REEL
201610	1.80	2.20	0.22	8	4	3.5	1.15	178	60	12	1.5	3000
201612	1.80	2.20	0.22	8	4	3.5	1.35	178	60	12	1.5	3000
252010	2.25	2.80	0.22	8	4	3.5	1.15	178	60	12	1.5	3000
252012	2.25	2.80	0.22	8	4	3.5	1.35	178	60	12	1.5	3000
322510	2.80	3.55	0.23	8	4	3.5	1.20	178	60	12	1.5	3000
322512	2.80	3.50	0.23	8	4	3.5	1.34	178	60	12	1.5	3000