

**Power Inductor AWVC Series**

**Automotive  
AEC-Q200**

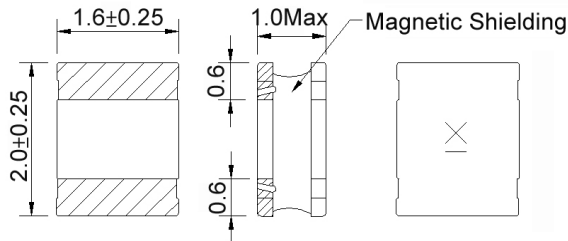
RoHS Compliant  
Halogen Free  
REACH Compliant



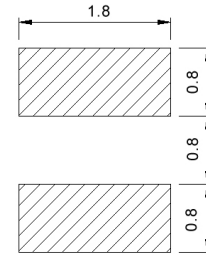
- Power Circuit
- Shield
- Magnetic Resin LVx
- Ferrite
- High Current

**Part Numbering**

A	WVC	00	252012	1R0	M	00
Grade	Series Name	Control Code	Dimensions Code (mm)	Inductance (uH)	Tolerance	Internal Code
			201610 2.0x1.6x1.0	R47 0.47	M ±20%	
			201612 2.0x1.6x1.2	1R0 1.0	T ±30%	
			252012 2.5x2.0x1.2	101 100		
			404018 4.0x4.0x1.9			
			505040 5.0x5.0x4.0			
			606028 6.0x6.0x2.8			
			606045 6.0x6.0x4.5			

**AWVC00201610 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC00201610R24□00	0.24	1MHz,200mV	0.026	3.20(2.80)	3.00(2.70)	20,30	M
AWVC002016101R0□00	1.0	1MHz,200mV	0.095	1.80(1.60)	1.80(1.60)	20,30	B
AWVC002016101R5□00	1.5	1MHz,200mV	0.14	1.60(1.40)	1.60(1.40)	20,30	C
AWVC002016102R2□00	2.2	1MHz,200mV	0.19	1.30(1.10)	1.30(1.10)	20,30	D
AWVC002016103R3□00	3.3	1MHz,200mV	0.295	0.96(0.86)	0.98(0.88)	20,30	E
AWVC002016104R7□00	4.7	1MHz,200mV	0.36	0.84(0.75)	0.90(0.81)	20,30	F
AWVC002016106R8□00	6.8	1MHz,200mV	0.64	0.66(0.59)	0.70(0.63)	20,30	G
AWVC00201610100□00	10	1MHz,200mV	1.0	0.54(0.48)	0.56(0.50)	20,30	H
AWVC00201610150□00	15	1MHz,200mV	1.5	0.39(0.35)	0.42(0.37)	20,30	K
AWVC00201610180□00	18	1MHz,200mV	1.6	0.39(0.35)	0.41(0.36)	20,30	J
AWVC00201610220□00	22	1MHz,200mV	1.7	0.38(0.34)	0.40(0.36)	20,30	I

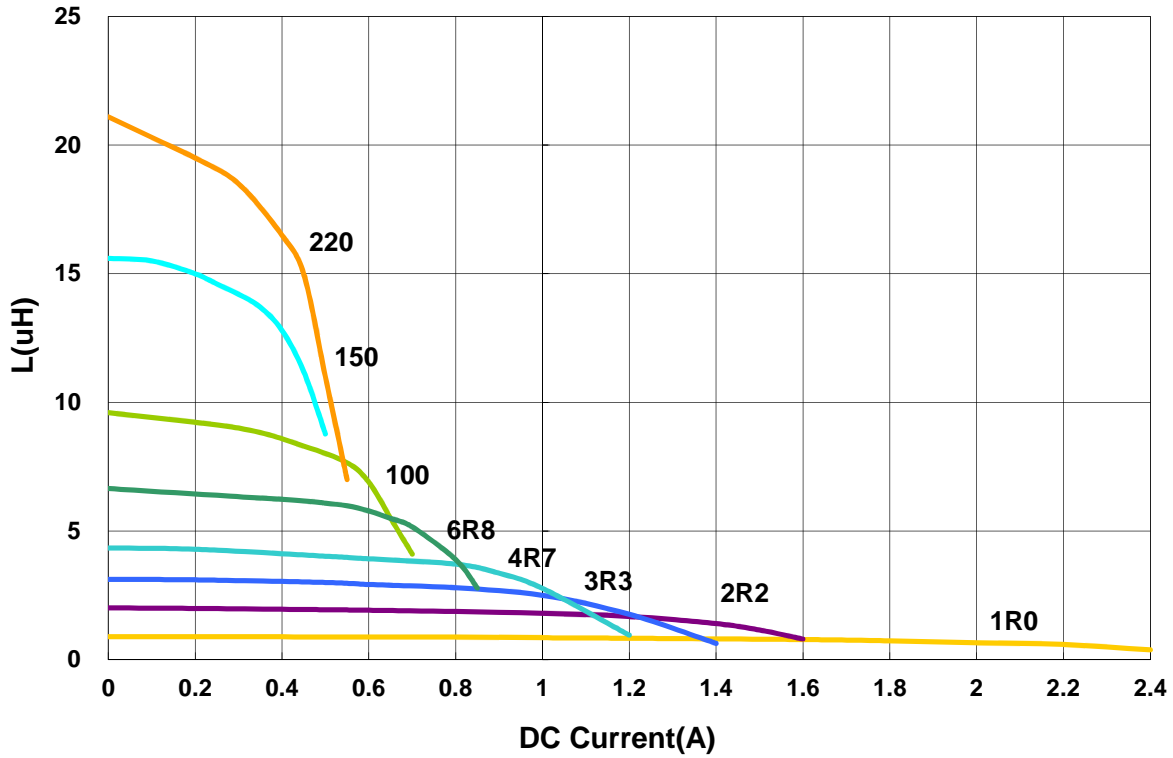
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

1. Operating temperature range - 40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I rms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
  - L: Agilent HP4287A+Agilent HP16197A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - I rms: Agilent HP4284A

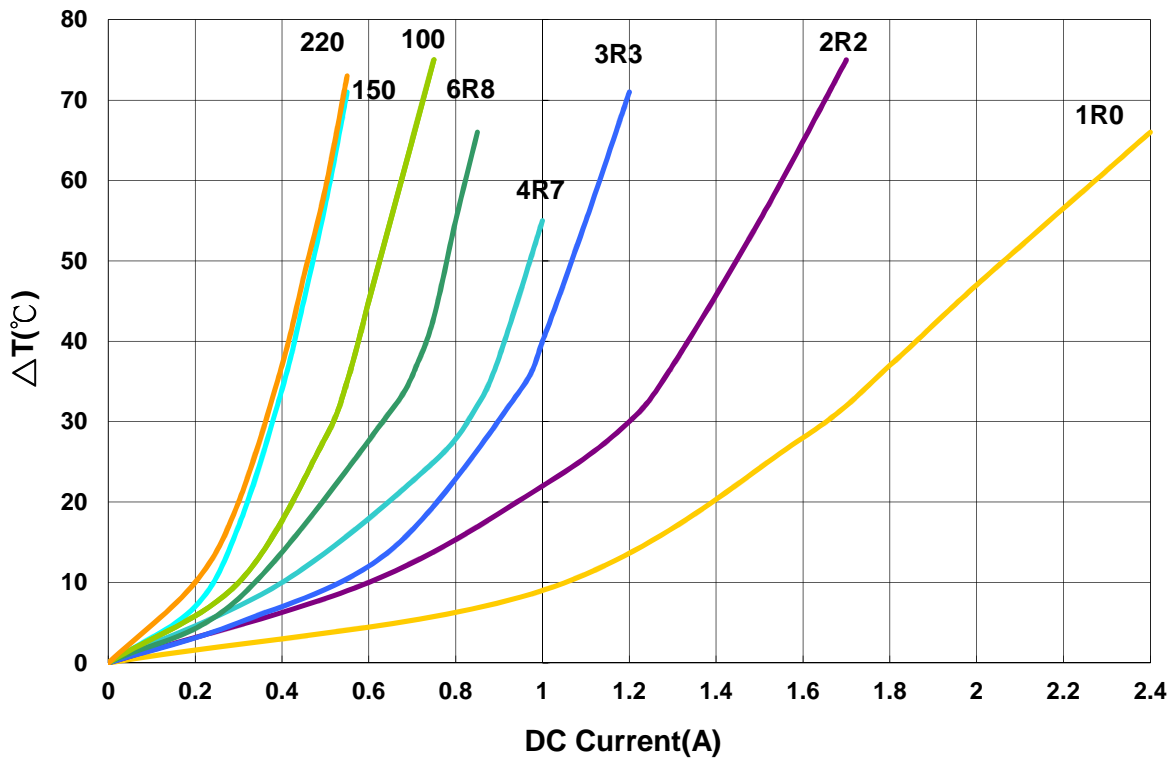
**AWVC00201610 Type**

**Characteristics Graph**

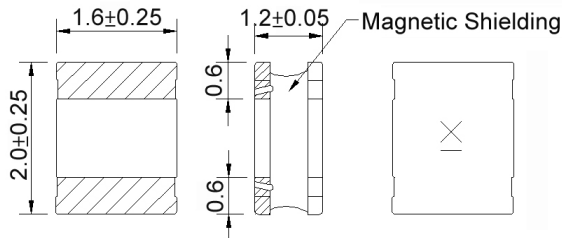
**Inductance vs. DC Current**



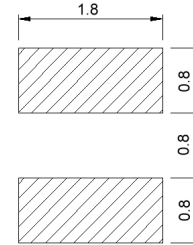
**Temperature Change vs. DC Current**



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**AWVC00201612 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC00201612R50□00	0.5	1MHz,200mV	0.051	2.60(2.30)	2.30(2.00)	20,30	B
AWVC002016121R0□00	1.0	1MHz,200mV	0.083	1.90(1.70)	1.80(1.60)	20,30	C
AWVC002016122R2□00	2.2	1MHz,200mV	0.159	1.30(1.20)	1.30(1.20)	20,30	E
AWVC002016123R3□00	3.3	1MHz,200mV	0.22	1.10(0.99)	1.00(0.95)	20,30	F
AWVC002016124R7□00	4.7	1MHz,200mV	0.33	0.92(0.82)	0.90(0.81)	20,30	G
AWVC00201612100□00	10	1MHz,200mV	0.58	0.62(0.55)	0.58(0.52)	20,30	I
AWVC00201612150□00	15	1MHz,200mV	0.9	0.48(0.43)	0.45(0.40)	20,30	J
AWVC00201612220□00	22	1MHz,200mV	1.4	0.40(0.36)	0.40(0.36)	20,30	K

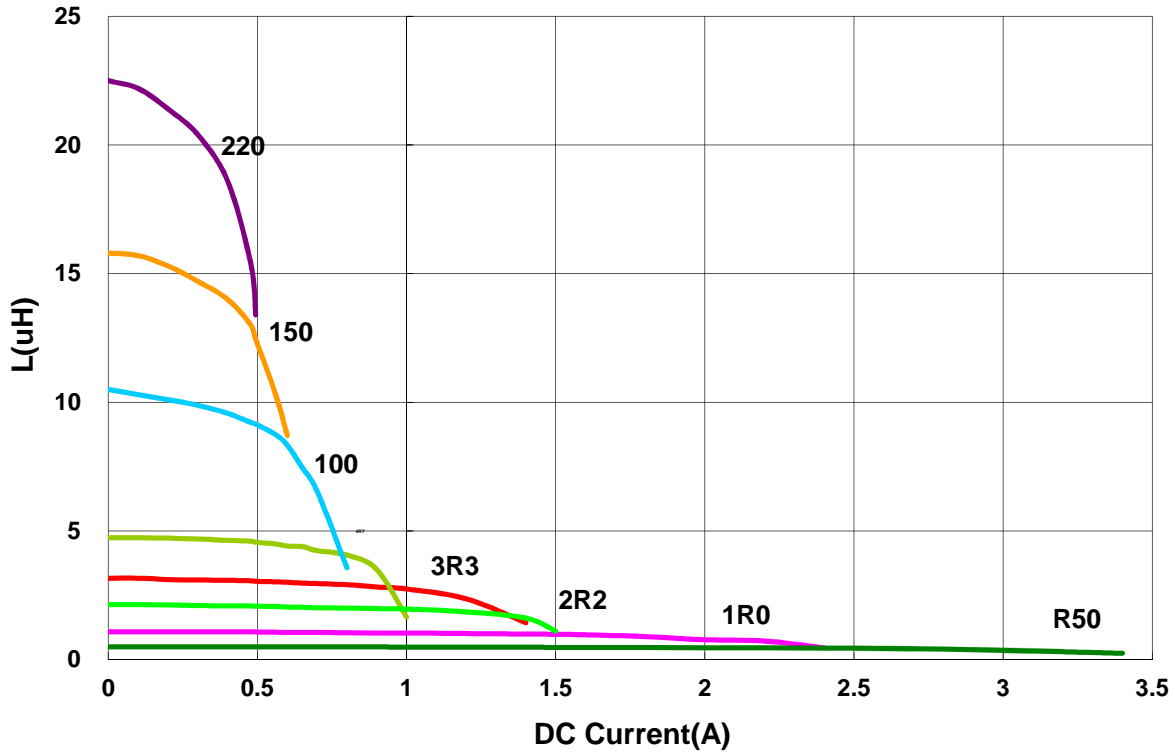
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

- Operating temperature range - 40°C ~ 125°C
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment:
  - L: Agilent HP4287A+Agilent HP16197A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - Irms: Agilent HP4284A

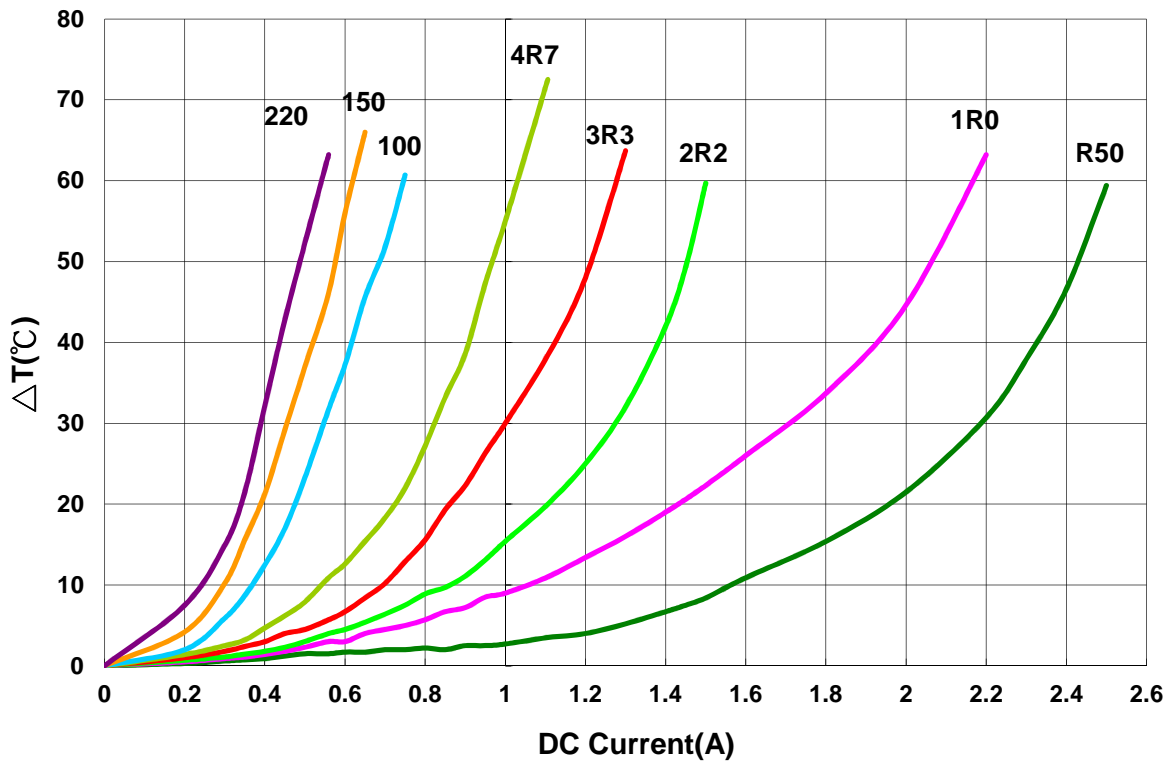
**AWVC00201612 Type**

**Characteristics Graph**

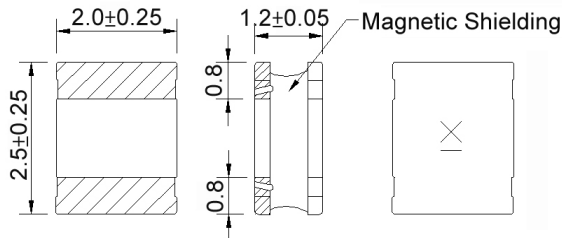
**Inductance vs. DC Current**



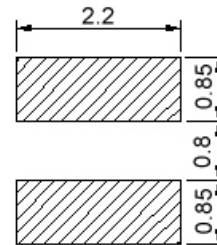
**Temperature Change vs. DC Current**



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**AWVC00252012 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC00252012R68□00	0.68	1MHz,200mV	0.035	2.80(2.50)	2.60(2.30)	20,30	N

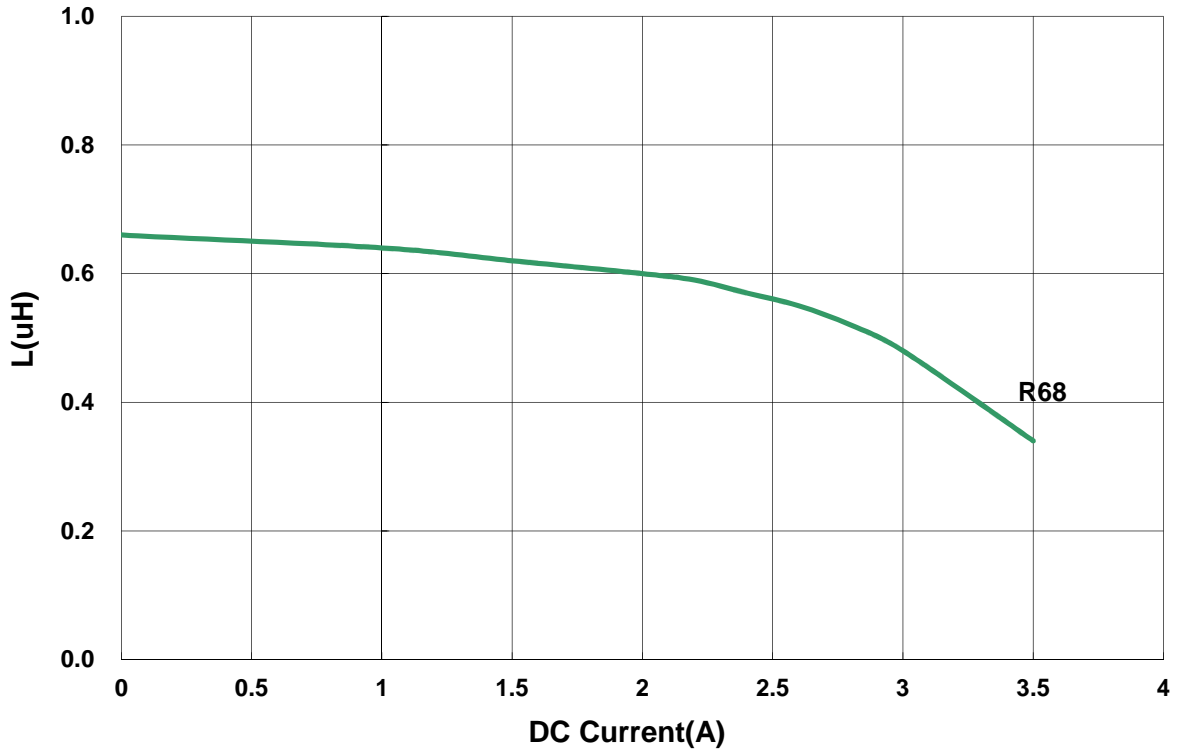
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

- Operating temperature range - 40°C ~ 125°C
- Isat for Inductance drop 30% from its value without current.
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment:
  - L: Agilent HP4287A+Agilent .HP16197A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - Irms: Agilent HP4284A

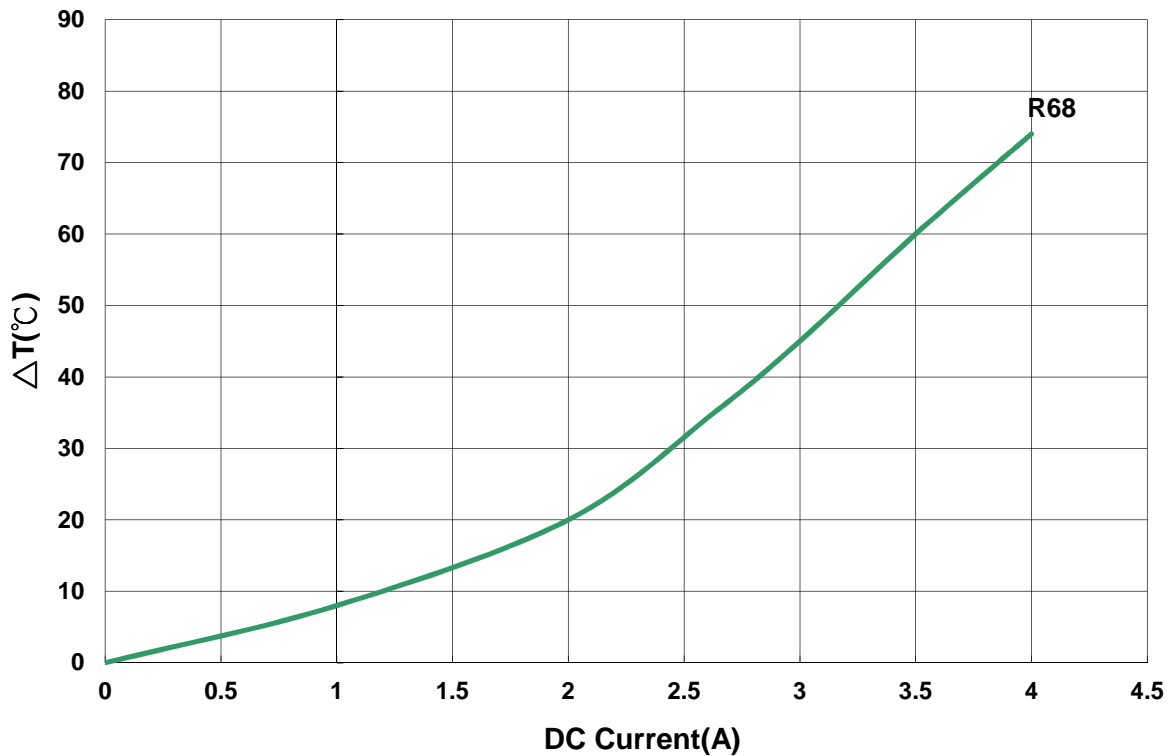
**AWVC00252012 Type**

**■ Characteristics Graph**

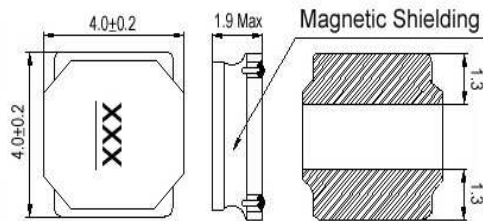
**Inductance vs. DC Current**



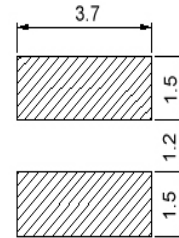
**Temperature Change vs. DC Current**



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**AWVC00404018 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC004040181R2□00	1.2	100kHz,1V	0.027	3.70(3.30)	3.60(3.20)	20,30	1R2
AWVC004040184R7□00	4.7	100kHz,1V	0.077	2.00(1.80)	1.80(1.60)	20,30	4R7
AWVC004040186R8□00	6.8	100kHz,1V	0.105	1.50(1.30)	1.35(1.20)	20,30	6R8
AWVC00404018100□00	10	100kHz,1V	0.160	1.40(1.20)	1.20(1.00)	20,30	100
AWVC00404018150□00	15	100kHz,1V	0.245	1.05(0.94)	0.95(0.85)	20,30	150
AWVC00404018220□00	22	100kHz,1V	0.335	0.90(0.81)	0.88(0.79)	20,30	220

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

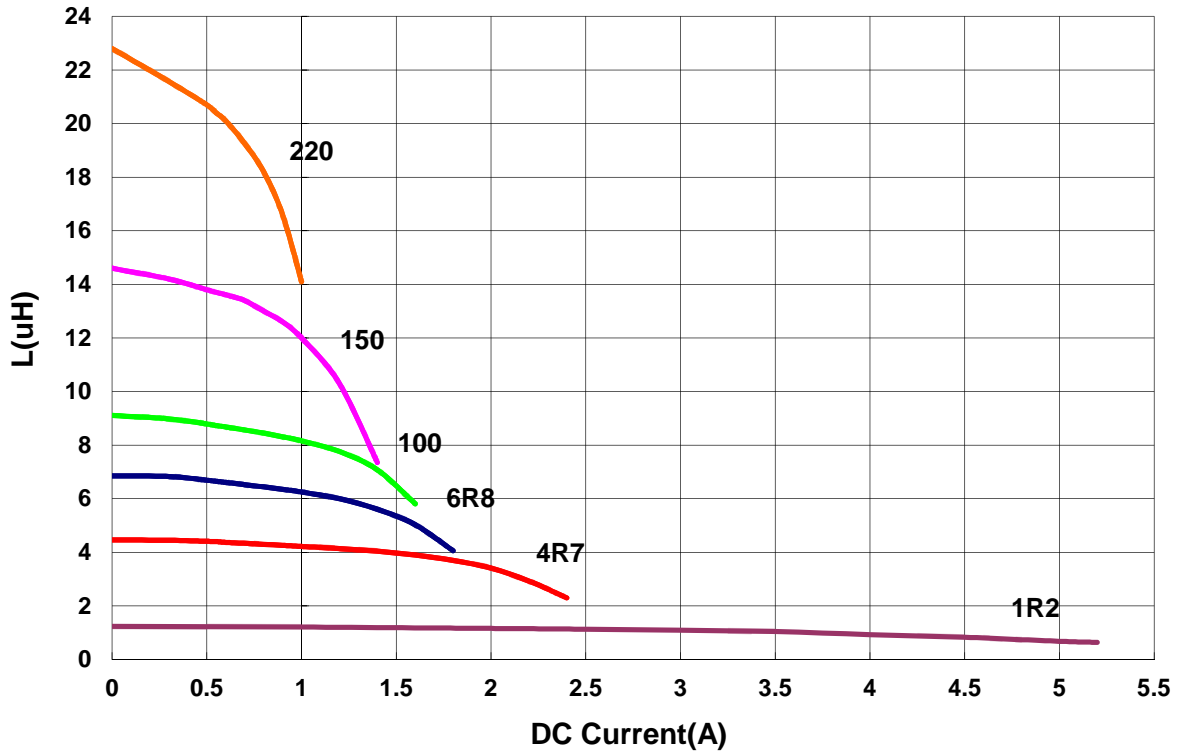
1. Operating temperature range - 40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I rms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
  - L: Agilent HP4284A+Agilent HP42841A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - I rms: Agilent HP4284A



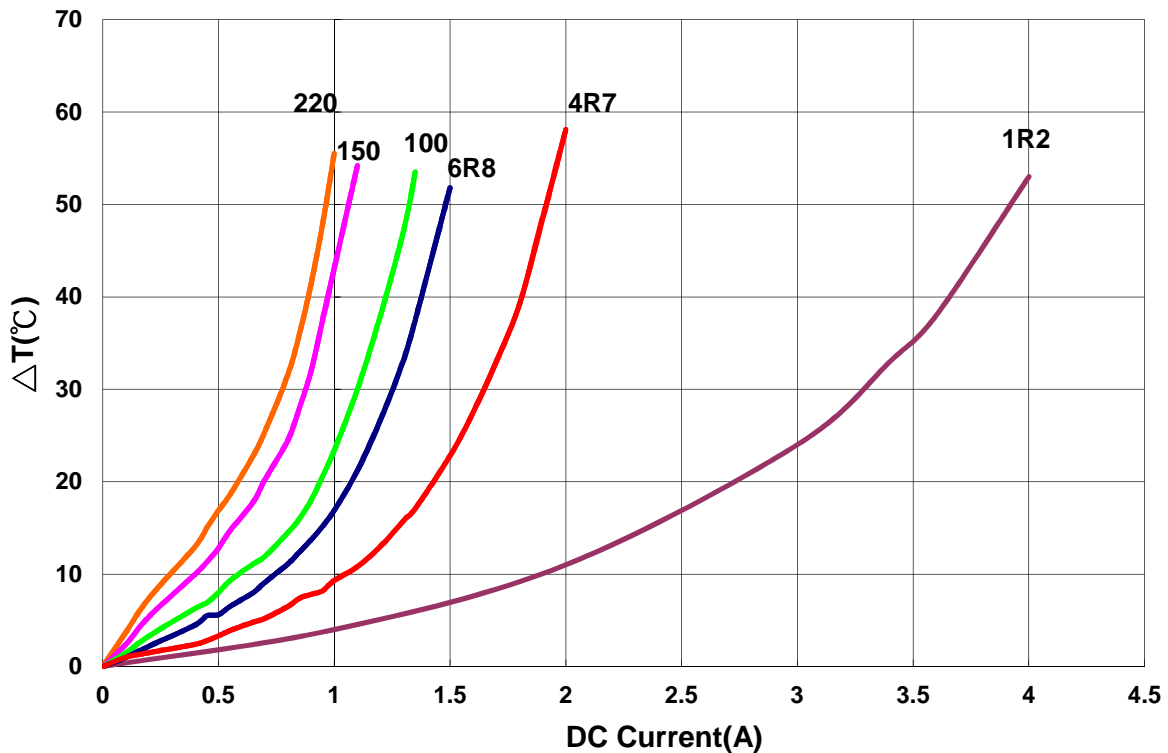
**AWVC00404018 Type**

**Characteristics Graph**

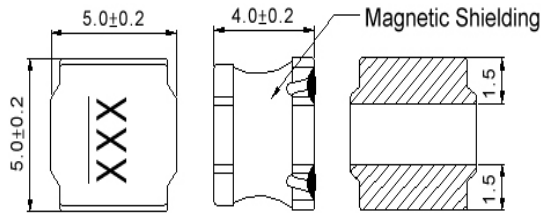
**Inductance vs. DC Current**



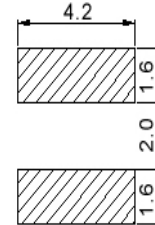
**Temperature Change vs. DC Current**



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**AWVC00505040 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC005050401R0□00	1.0	100kHz,1V	0.012	8.8(7.9)	5.9(5.3)	20,30	1R0
AWVC005050401R5□00	1.5	100kHz,1V	0.014	7.9(7.1)	5.4(4.8)	20,30	1R5
AWVC005050402R2□00	2.2	100kHz,1V	0.020	6.8(6.1)	4.5(4.0)	20,30	2R2
AWVC005050402R7□00	2.7	100kHz,1V	0.026	6.0(5.4)	4.2(3.7)	20,30	2R7
AWVC005050403R3□00	3.3	100kHz,1V	0.026	5.3(4.7)	4.2(3.7)	20,30	3R3
AWVC005050404R7□00	4.7	100kHz,1V	0.032	4.4(3.9)	3.2(2.8)	20,30	4R7
AWVC005050406R8□00	6.8	100kHz,1V	0.050	3.8(3.4)	3.0(2.7)	20,30	6R8
AWVC005050408R2□00	8.2	100kHz,1V	0.065	3.3(2.9)	2.4(2.1)	20,30	8R2
AWVC00505040100□00	10	100kHz,1V	0.070	3.0(2.70)	2.3(2.0)	20,30	100
AWVC00505040150□00	15	100kHz,1V	0.115	2.4(2.1)	1.8(1.6)	20,30	150
AWVC00505040220□00	22	100kHz,1V	0.160	2.0(1.80)	1.6(1.4)	20,30	220
AWVC00505040151□00	150	100kHz,1V	1.180	0.74(0.66)	0.58(0.52)	20,30	151
AWVC00505040181□00	180	100kHz,1V	1.250	0.67(0.60)	0.54(0.48)	20,30	181
AWVC00505040221□00	220	100kHz,1V	1.450	0.65(0.58)	0.50(0.45)	20,30	221

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

1. Operating temperature range - 40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I rms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:

L: Agilent HP4284A+Agilent HP42841A

RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent

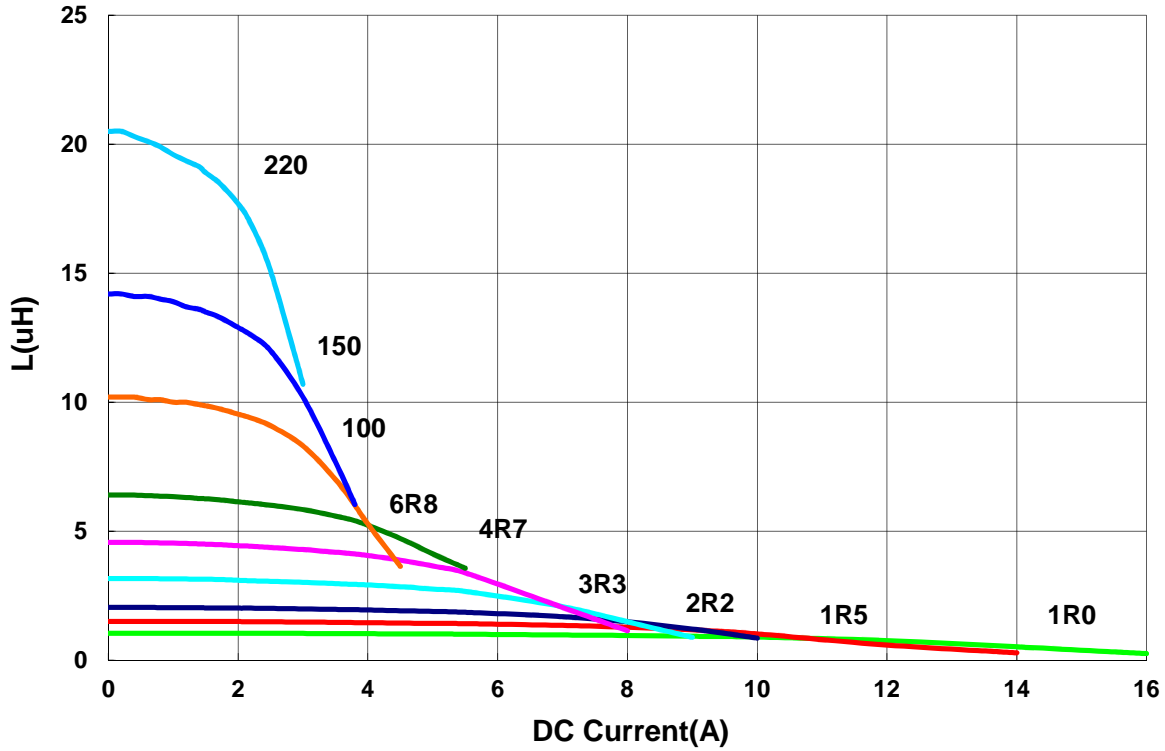
Isat: Agilent HP4284A

I rms: Agilent HP4284A

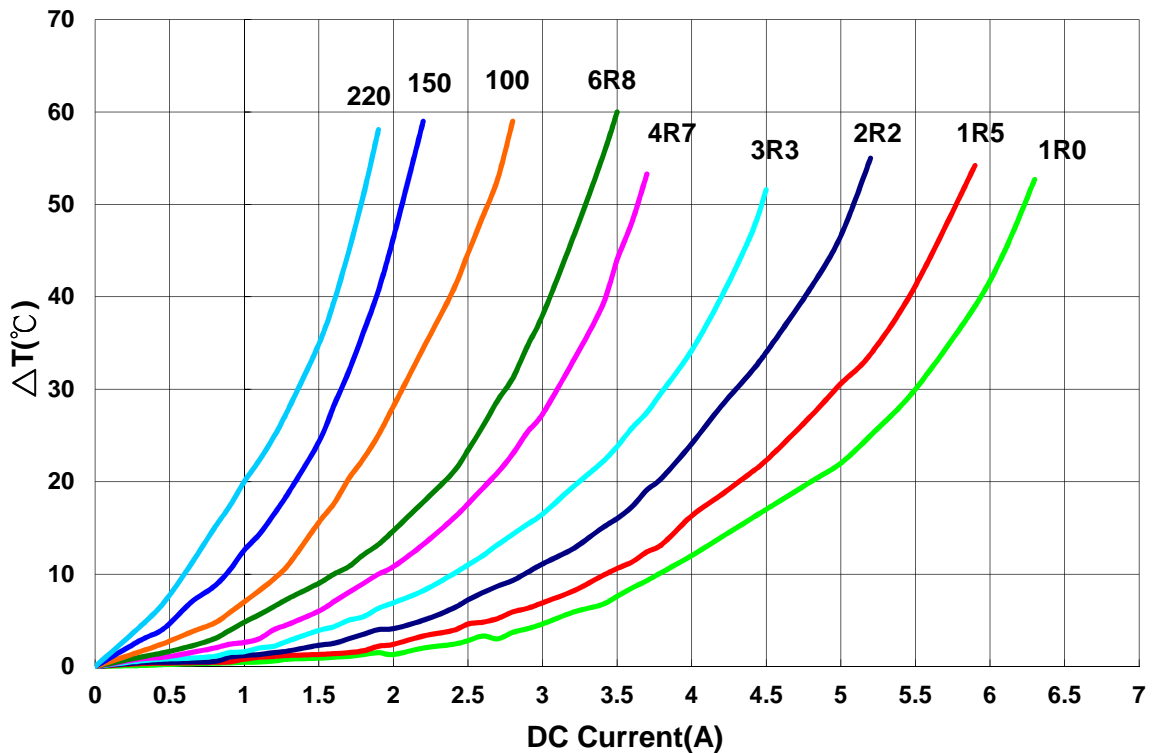
**AWVC00505040 Type**

**Characteristics Graph**

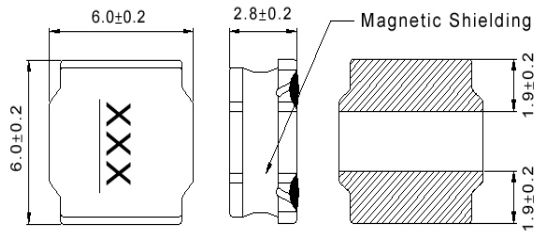
**Inductance vs. DC Current**



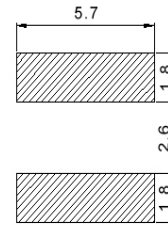
**Temperature Change vs. DC Current**



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**AWVC00606028 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC006060283R3□00	3.3	100kHz,1V	0.027	4.5(4.00)	4.0(3.60)	20,30	3R3
AWVC00606028100□00	10	100kHz,1V	0.065	2.6(2.30)	2.5(2.20)	20,30	100
AWVC00606028150□00	15	100kHz,1V	0.093	2.1(1.80)	2.0(1.80)	20,30	150
AWVC00606028220□00	22	100kHz,1V	0.135	1.7(1.50)	1.65(1.40)	20,30	220

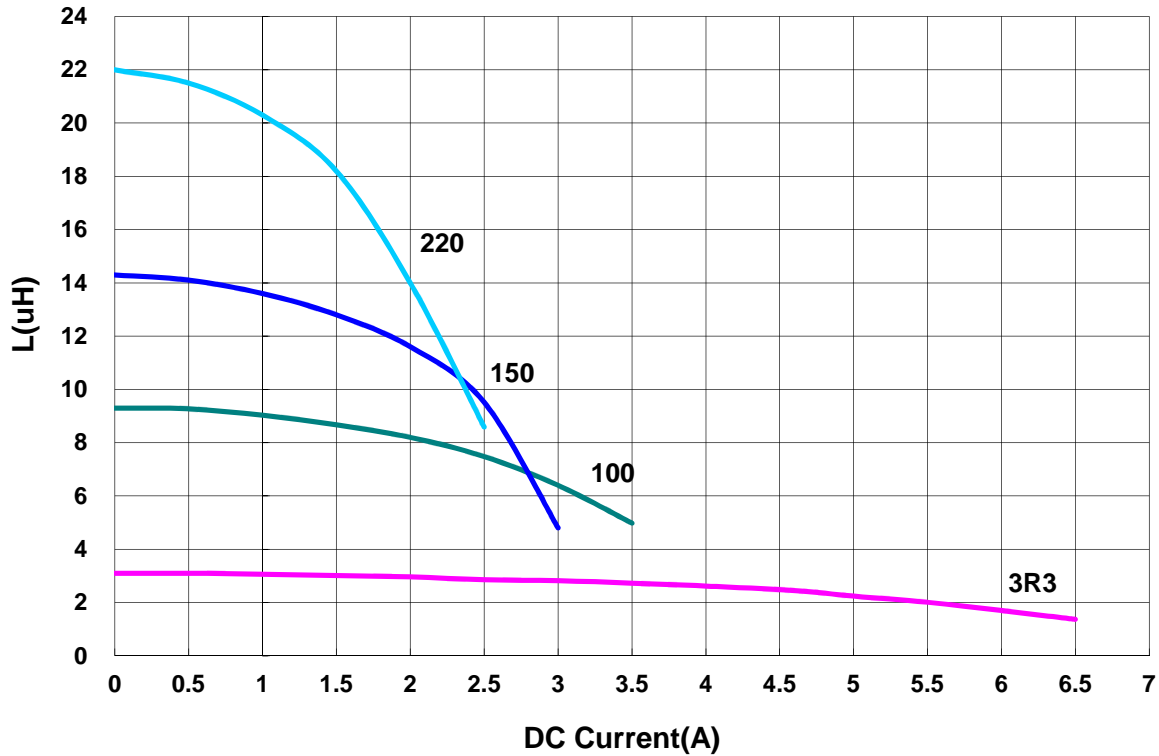
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

1. Operating temperature range - 40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I<sub>rms</sub> for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
  - L: Agilent HP4284A+Agilent HP42841A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - I<sub>rms</sub>: Agilent HP4284A

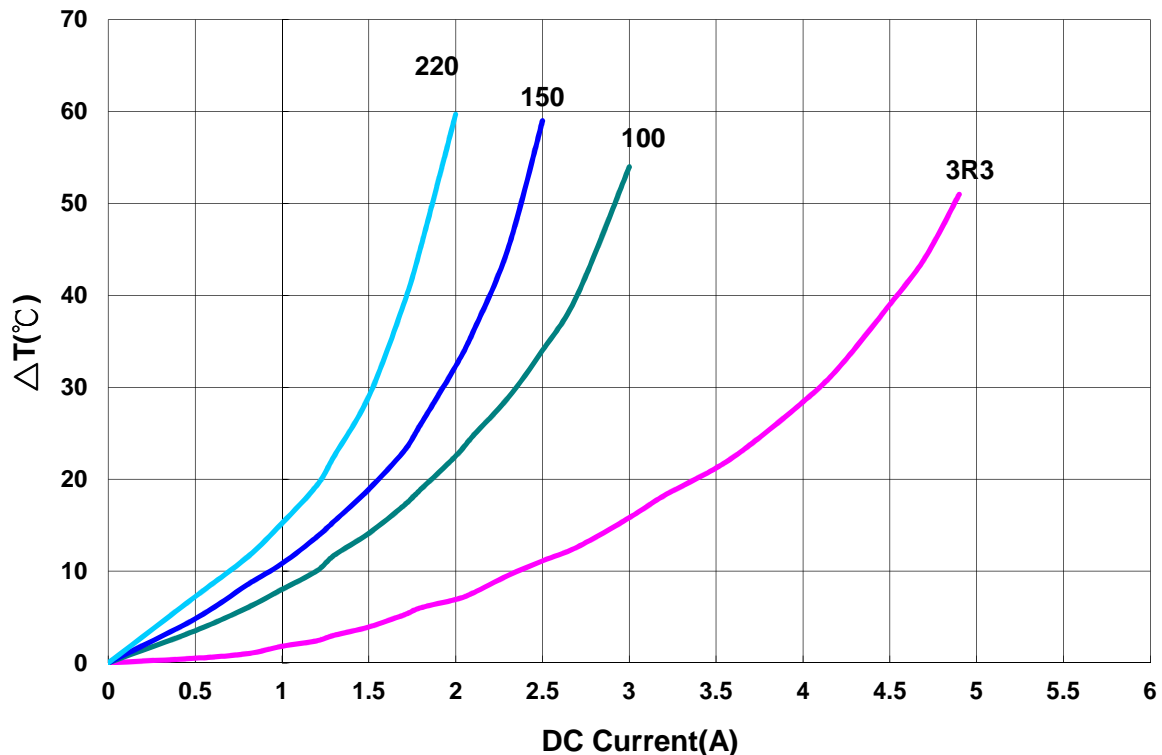
**AWVC00606028 Type**

**Characteristics Graph**

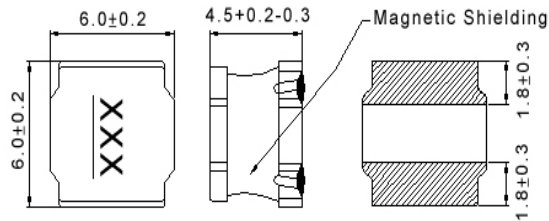
**Inductance vs. DC Current**



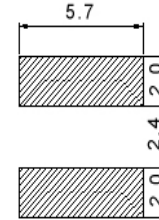
**Temperature Change vs. DC Current**



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**AWVC00606045 Type**
**■ Dimensions**


unit:mm

**■ Recommended Land Pattern**


unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVC006060451R0□00	1	100kHz,1V	0.010	13(11.50)	7.3(6.50)	20,30	1R0
AWVC006060451R5□00	1.5	100kHz,1V	0.012	12(10.50)	6.6(5.90)	20,30	1R5
AWVC006060452R2□00	2.2	100kHz,1V	0.018	9.5(8.50)	5.2(4.60)	20,30	2R2
AWVC006060453R3□00	3.3	100kHz,1V	0.022	7.8(7.00)	4.4(3.90)	20,30	3R3
AWVC006060454R7□00	4.7	100kHz,1V	0.030	6.8(6.10)	4.0(3.60)	20,30	4R7
AWVC006060456R8□00	6.8	100kHz,1V	0.042	5.7(5.10)	3.3(2.90)	20,30	6R8
AWVC00606045100□00	10	100kHz,1V	0.060	4.6(4.10)	2.6(2.30)	20,30	100
AWVC00606045150□00	15	100kHz,1V	0.090	3.8(3.40)	2.2(1.90)	20,30	150
AWVC00606045220□00	22	100kHz,1V	0.130	3.3(2.90)	1.9(1.70)	20,30	220

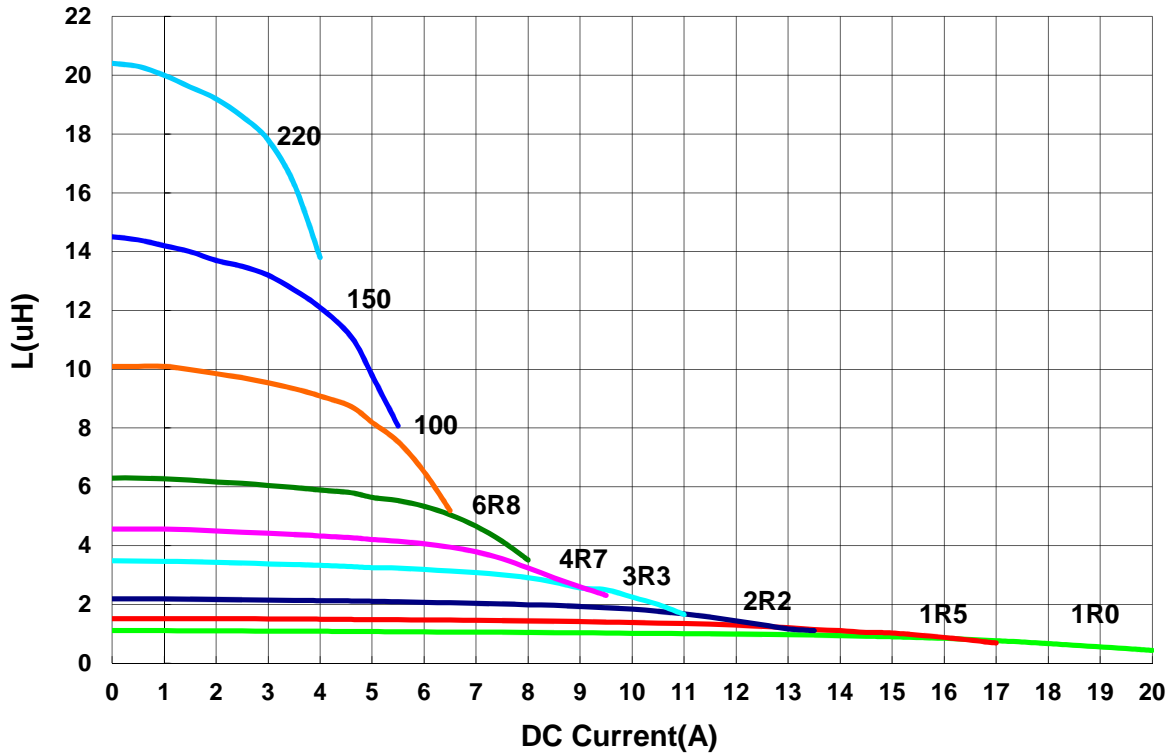
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

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- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment:
  - L: Agilent HP4284A+Agilent HP42841A
  - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
  - Isat: Agilent HP4284A
  - Irms: Agilent HP4284A

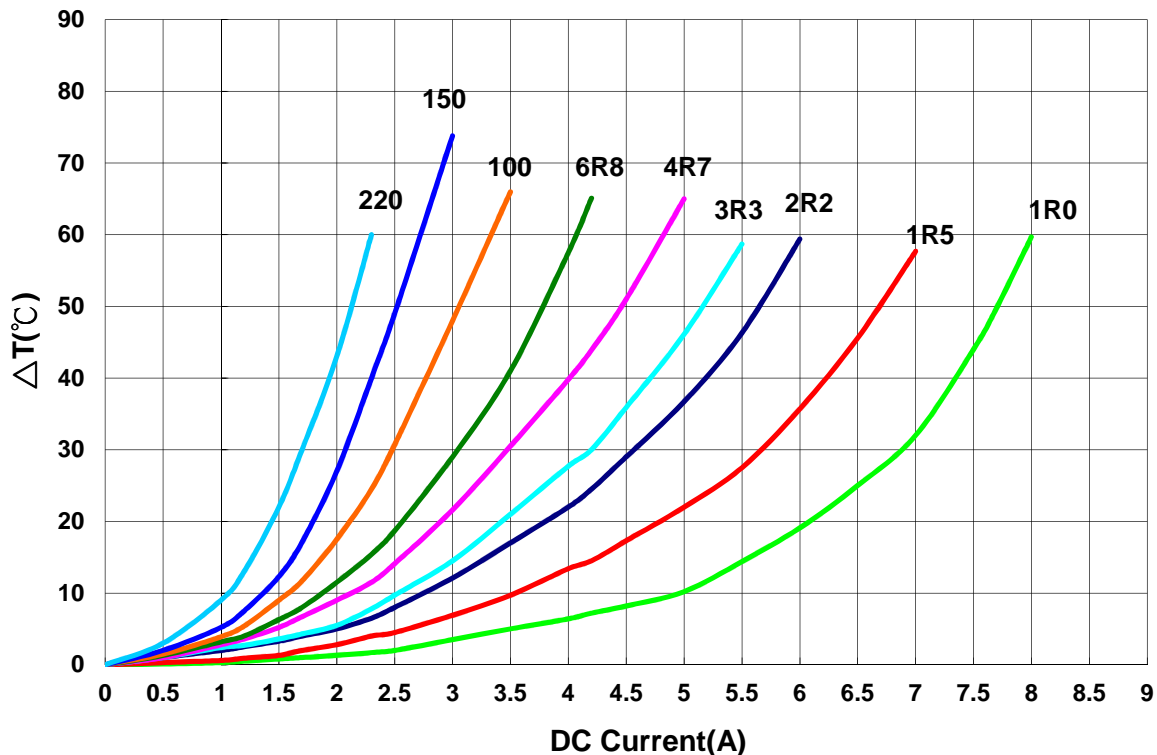
**AWVC00606045 Type**

**Characteristics Graph**

**Inductance vs. DC Current**



**Temperature Change vs. DC Current**



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**■ Packaging**

Tape Dimensions

Figure 1

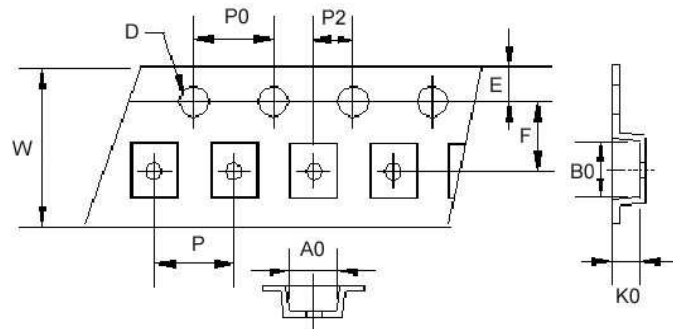
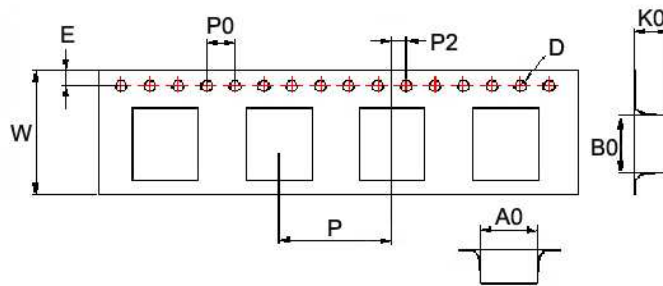


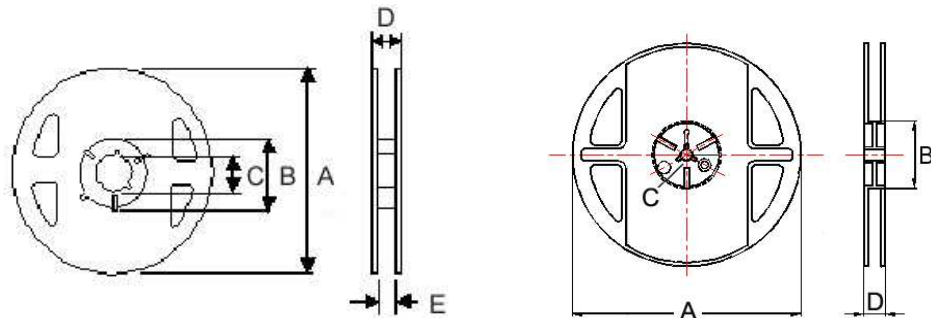
Figure 2



Reel Dimensions

Figure 1

Figure 2



Dimensions in mm

TYPE	Fig	Tape Dimensions										Reel Dimensions					Quantity PCS / Reel
		A0	B0	K0	D	E	F	W	P	P0	P2	A	B	C	D	E	
AWVC00201610	1	1.9	2.2	1.15	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVC00201612	1	1.9	2.2	1.3	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVC00252012	1	2.40	2.70	1.35	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVC00404018	2	4.25	4.25	2.1	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	800
AWVC00505040	2	5.2	5.2	4.2	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	1500
AWVC00606028	2	6.25	6.25	3.00	1.55	1.75	7.5	16	12	4	2	330	100	13	16	-	1500
AWVC00606045	2	6.2	6.2	4.65	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	1000