

**Power Inductor AWH Series**

**Automotive  
AEC-Q200**

RoHS Compliant  
Halogen Free  
REACH Compliant

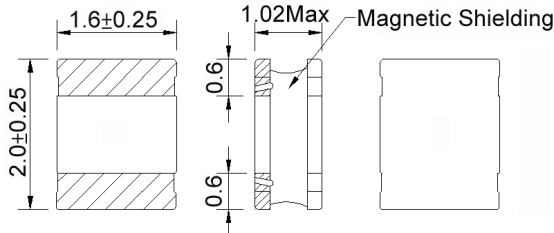


- Power Circuit
- Shield
- Magnetic Resin LVx
- Ferrite
- High Current

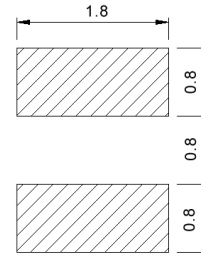
**Part Numbering**

A	WVH	00	252012	1R0	M	00
Grade	Series Name	Control Code	Dimensions Code (mm)	Inductance (uH)	Tolerance	Internal Code
			201610 2.0x1.6x1.02	R47 0.47	M ±20%	00 General
			252010 2.5x2.0x1.0	1R0 1.0	T ±30%	H1 High Current
			252012 2.5x2.0x1.2	101 100		
			404030 4.0x4.0x3.0			

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**AWVH00201610-H1 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 (±%)
AWVH00201610R24□H1	0.24	1MHz,200mV	0.048	3.70(3.30)	2.50(2.10)	20,30
AWVH00201610R33□H1	0.33	1MHz,200mV	0.048	3.40(3.00)	2.50(2.10)	20,30
AWVH00201610R47□H1	0.47	1MHz,200mV	0.072	2.90(2.60)	2.10(1.80)	20,30
AWVH00201610R56□H1	0.56	1MHz,200mV	0.072	2.70(2.40)	2.10(1.80)	20,30
AWVH00201610R68□H1	0.68	1MHz,200mV	0.092	2.50(2.20)	1.80(1.50)	20,30
AWVH002016101R0□H1	1.0	1MHz,200mV	0.110	2.20(2.00)	1.50(1.20)	20,30
AWVH002016102R2□H1	2.2	1MHz,200mV	0.205	1.40(1.20)	1.15(0.97)	20,30
AWVH002016103R3□H1	3.3	1MHz,200mV	0.380	1.05(0.94)	0.90(0.80)	20,30
AWVH002016104R7□H1	4.7	1MHz,200mV	0.520	0.90(0.80)	0.80(0.68)	20,30
AWVH00201610100□H1	10	1MHz,200mV	1.100	0.62(0.55)	0.45(0.38)	20,30

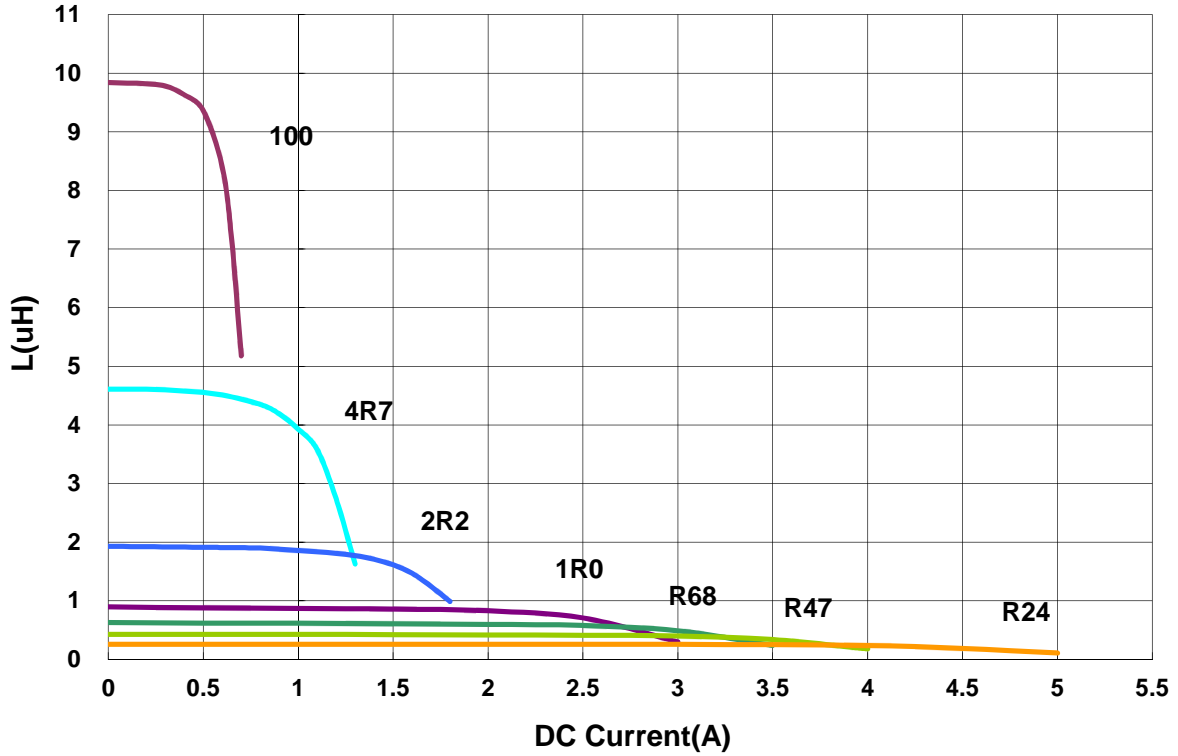
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

- 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

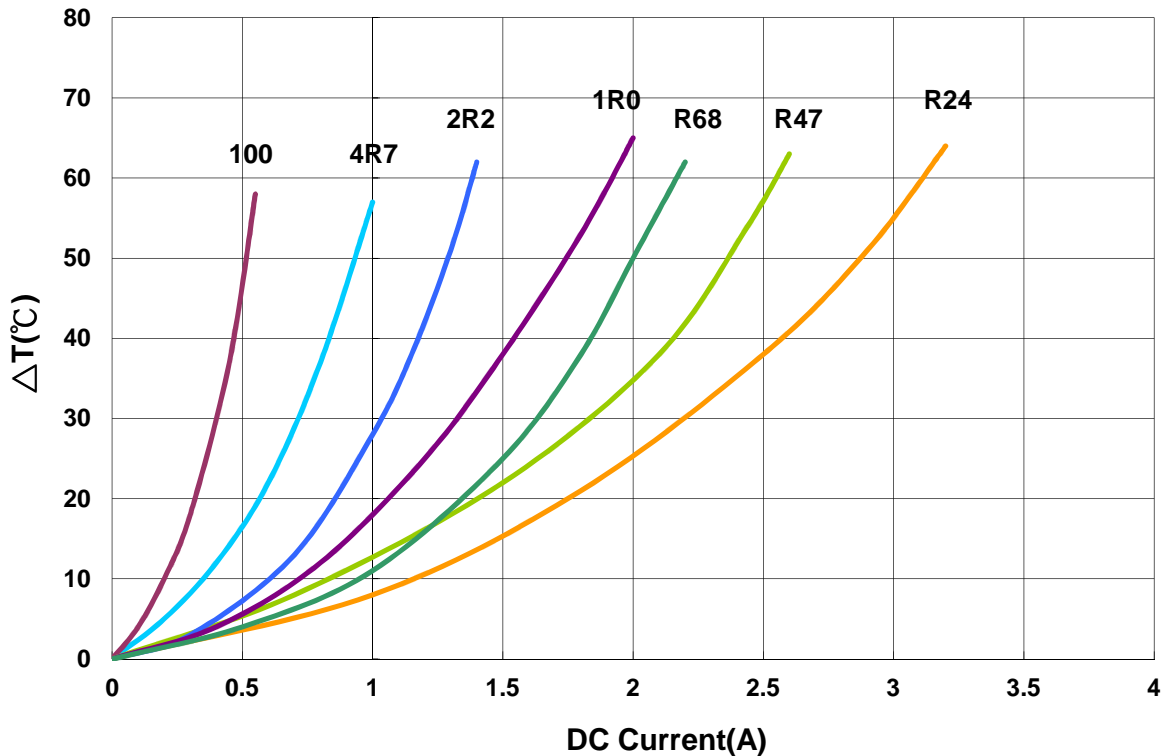
**AWVH00201610-H1 Type**

**Characteristics Graph**

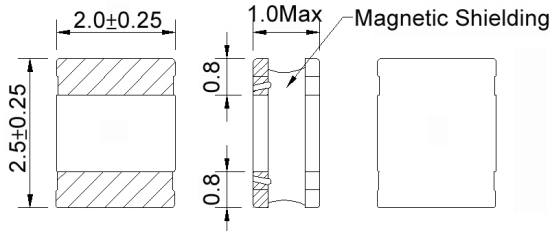
**Inductance vs. DC Current**



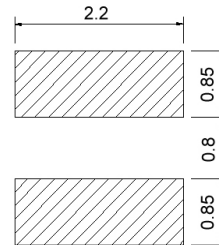
**Temperature Change vs. DC Current**



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**AWVH00252010-H1 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 (±%)
AWVH00252010R24□H1	0.24	1MHz,200mV	0.030	4.70(4.20)	3.60(3.00)	20,30
AWVH00252010R47□H1	0.47	1MHz,200mV	0.043	3.30(2.90)	2.70(2.30)	20,30
AWVH00252010R68□H1	0.7	1MHz,200mV	0.062	2.80(2.00)	2.30(1.90)	20,30
AWVH002520101R0□H1	1	1MHz,200mV	0.080	2.30(2.00)	1.90(1.60)	20,30
AWVH002520102R2□H1	2.2	1MHz,200mV	0.135	1.60(1.40)	1.40(1.10)	20,30
AWVH002520104R7□H1	4.7	1MHz,200mV	0.330	1.00(0.90)	0.85(0.72)	20,30
AWVH00252010100□H1	10	1MHz,200mV	0.670	0.72(0.64)	0.58(0.49)	20,30

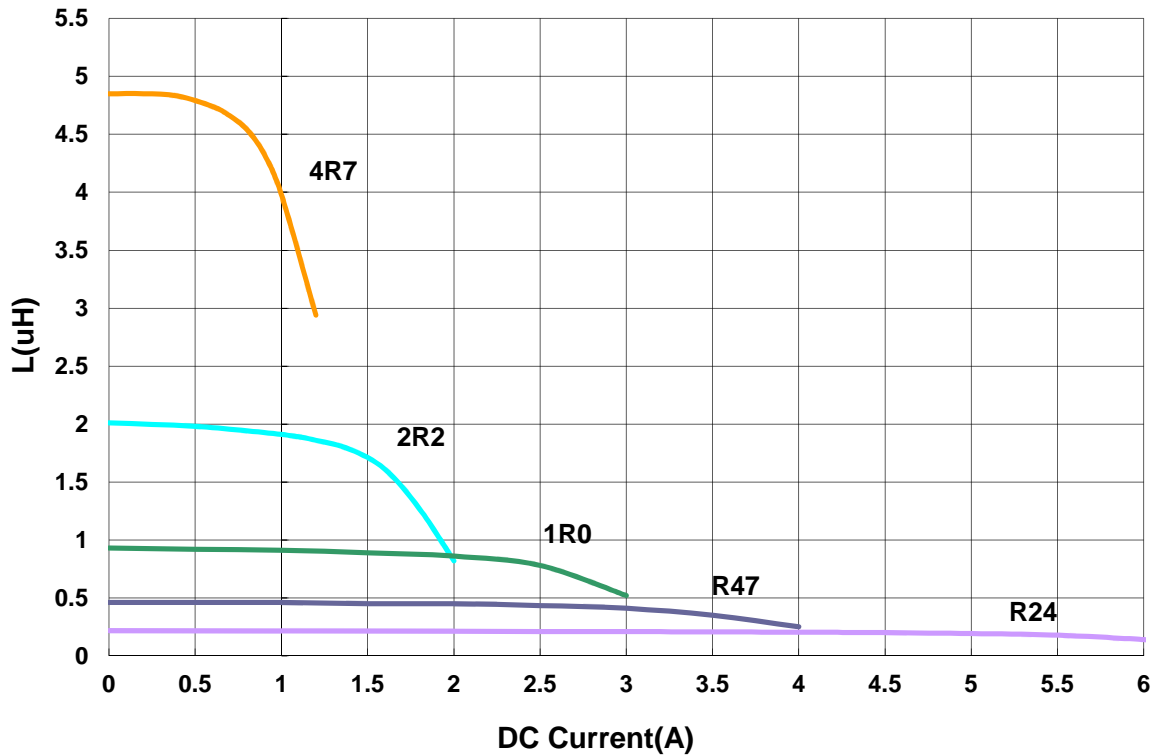
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

- 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

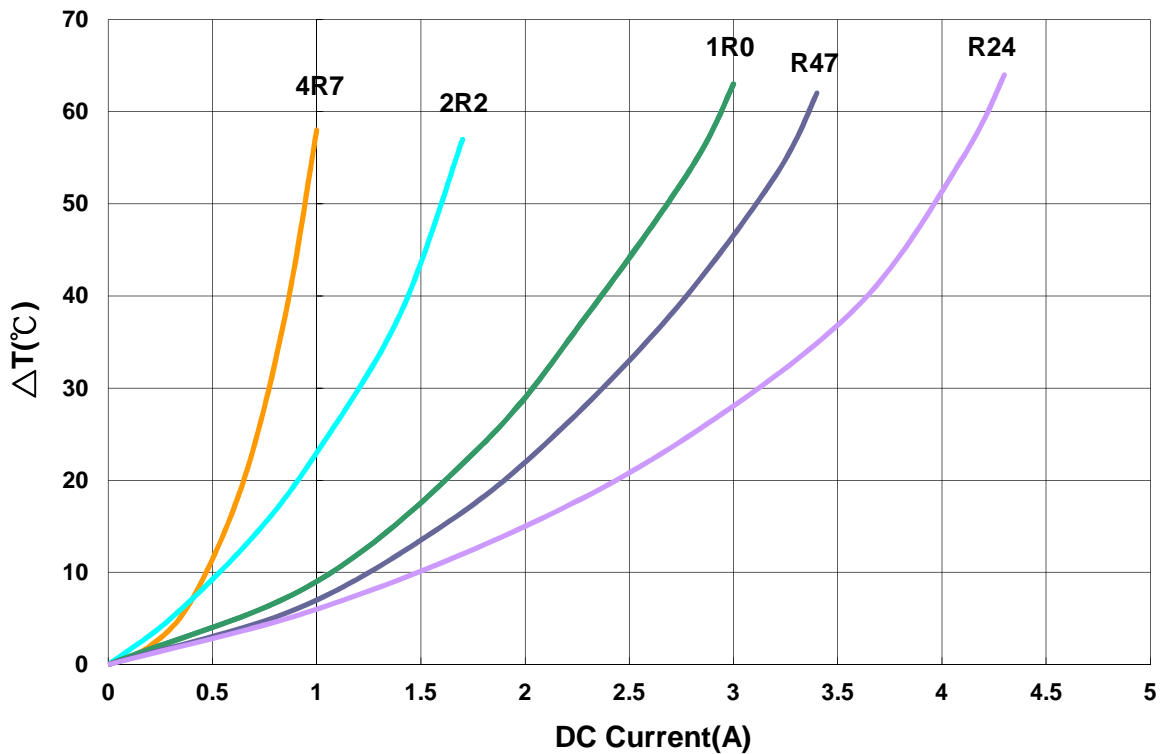
**AWVH00252010-H1 Type**

**Characteristics Graph**

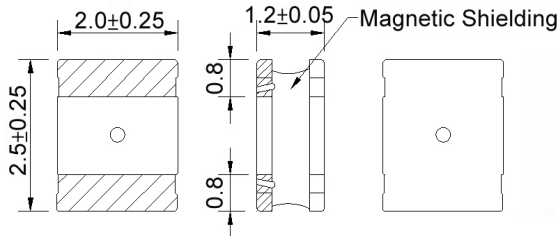
**Inductance vs. DC Current**



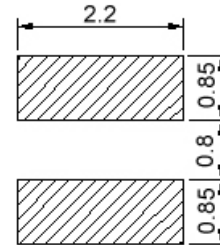
**Temperature Change vs. DC Current**



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**AWVH00252012-H1 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 (±%)
AWVH00252012R47□H1	0.47	1MHz,200mV	0.031	4.10(3.60)	3.10(2.60)	20,30
AWVH00252012R68□H1	0.68	1MHz,200mV	0.031	3.10(2.70)	3.10(2.60)	20,30
AWVH002520121R0□H1	1.0	1MHz,200mV	0.049	3.20(2.80)	3.00(2.50)	20,30
AWVH002520121R5□H1	1.5	1MHz,200mV	0.088	2.30(2.00)	2.20(1.80)	20,30
AWVH002520122R2□H1	2.2	1MHz,200mV	0.099	2.20(1.90)	2.00(1.70)	20,30
AWVH002520123R3□H1	3.3	1MHz,200mV	0.190	1.40(1.20)	1.20(1.00)	20,30
AWVH002520124R7□H1	4.7	1MHz,200mV	0.235	1.30(1.10)	1.10(0.93)	20,30
AWVH00252012100□H1	10	1MHz,200mV	0.510	0.92(0.82)	0.80(0.68)	20,30

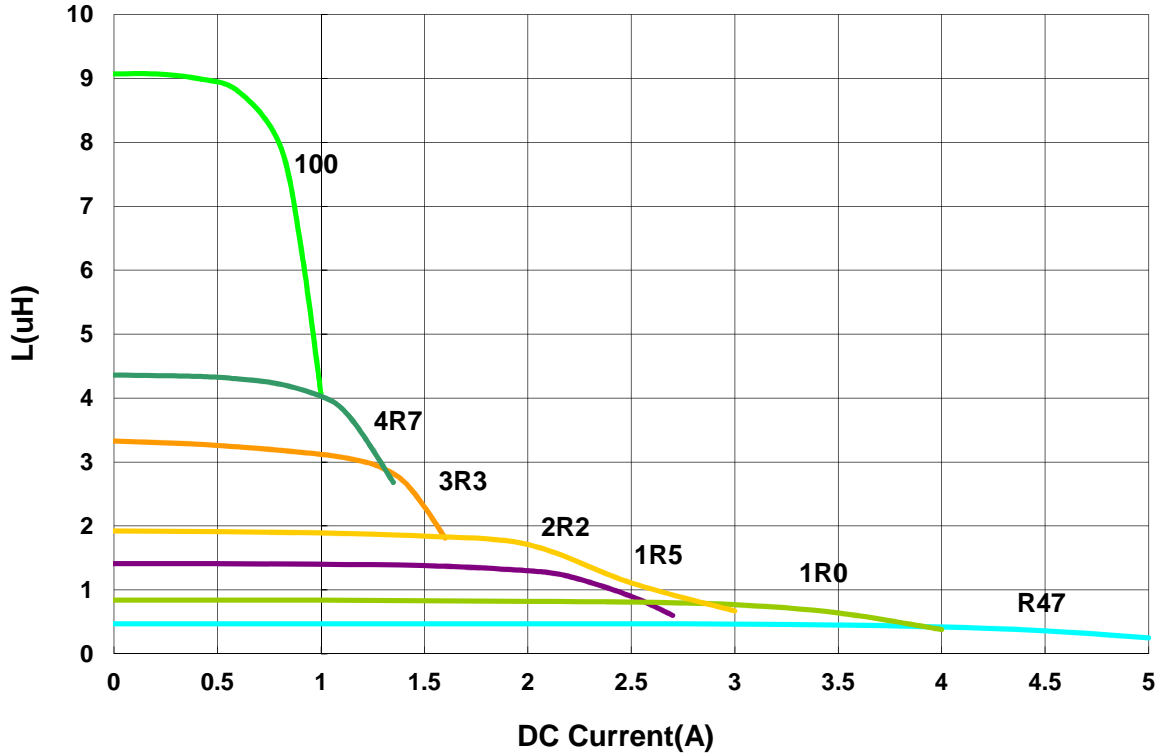
**Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±30%**

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

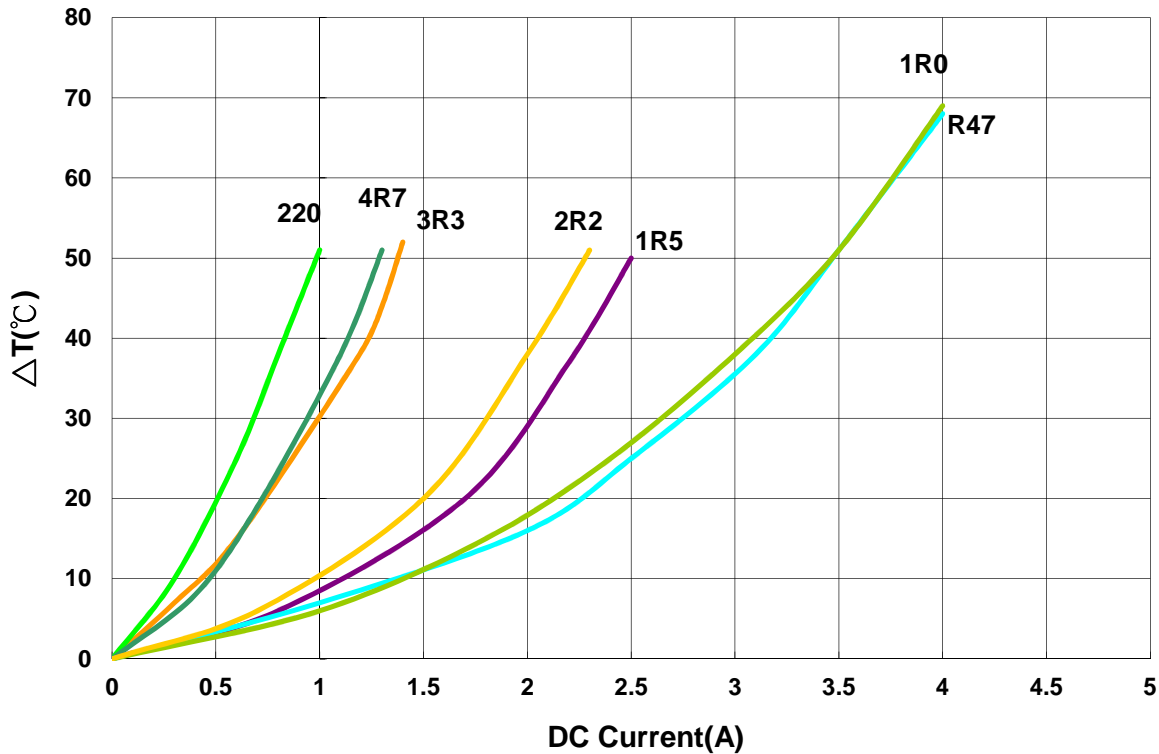
**AWVH00252012-H1 Type**

**Characteristics Graph**

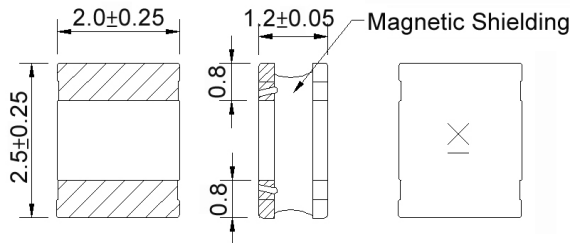
**Inductance vs. DC Current**



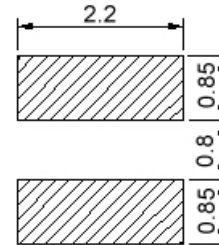
**Temperature Change vs. DC Current**



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**AWVH00252012 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
AWVH00252012R24□00	0.24	1MHz,200mV	0.021	4.70(4.20)	3.80(3.20)	20,30	E
AWVH00252012R33□00	0.33	1MHz,200mV	0.027	4.20(3.70)	3.00(2.50)	20,30	G
AWVH00252012R47□00	0.47	1MHz,200mV	0.027	3.60(3.30)	3.00(2.50)	20,30	J
AWVH00252012R50□00	0.50	1MHz,200mV	0.027	3.60(3.30)	3.00(2.50)	20,30	D
AWVH00252012R68□00	0.68	1MHz,200mV	0.036	2.90(2.60)	2.80(2.30)	20,30	H
AWVH002520121R0□00	1.0	1MHz,200mV	0.037	2.70(2.40)	2.60(2.20)	20,30	A
AWVH002520121R5□00	1.5	1MHz,200mV	0.075	2.20(1.90)	1.90(1.60)	20,30	I
AWVH002520122R2□00	2.2	1MHz,200mV	0.080	1.90(1.80)	1.80(1.50)	20,30	B
AWVH002520124R7□00	4.7	1MHz,200mV	0.195	1.20(1.00)	1.10(0.93)	20,30	C
AWVH00252012100□00	10	1MHz,200mV	0.400	0.90(0.78)	0.80(0.68)	20,30	F
AWVH00252012330□00	33	1MHz,200mV	1.550	0.43(0.38)	0.38(0.34)	20,30	L
AWVH00252012470□00	47	1MHz,200mV	1.700	0.39(0.35)	0.34(0.30)	20,30	K

**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

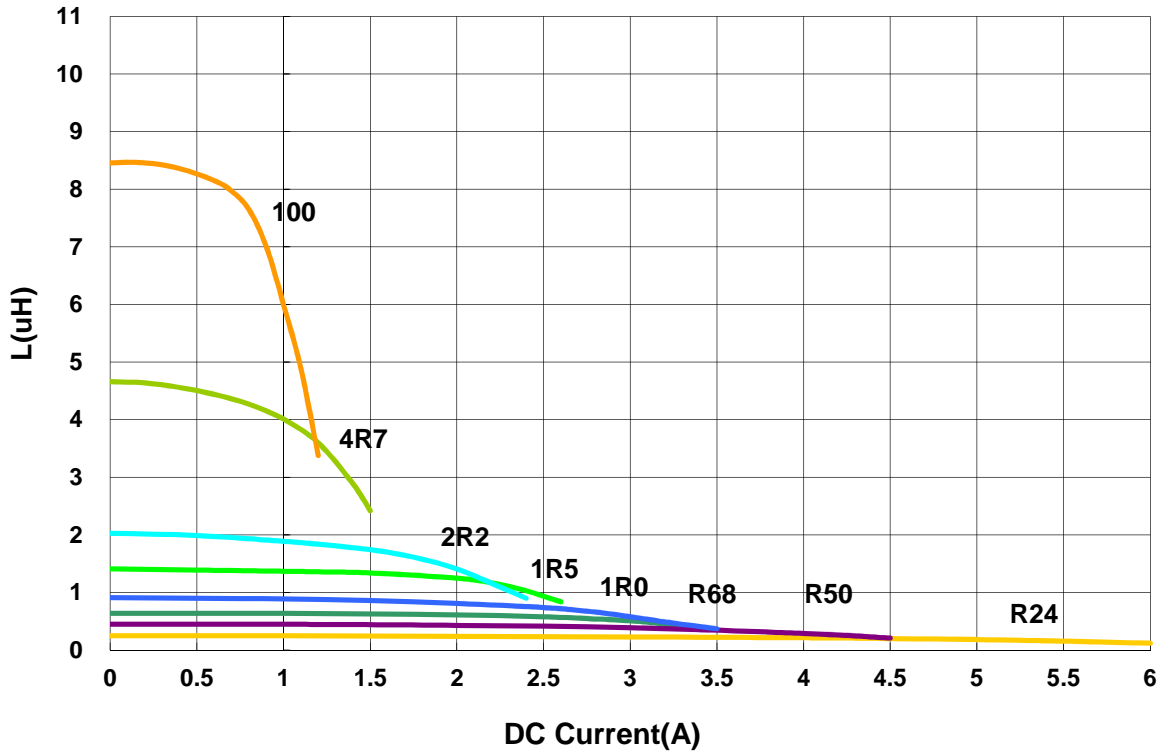
I rms: Agilent HP4284A



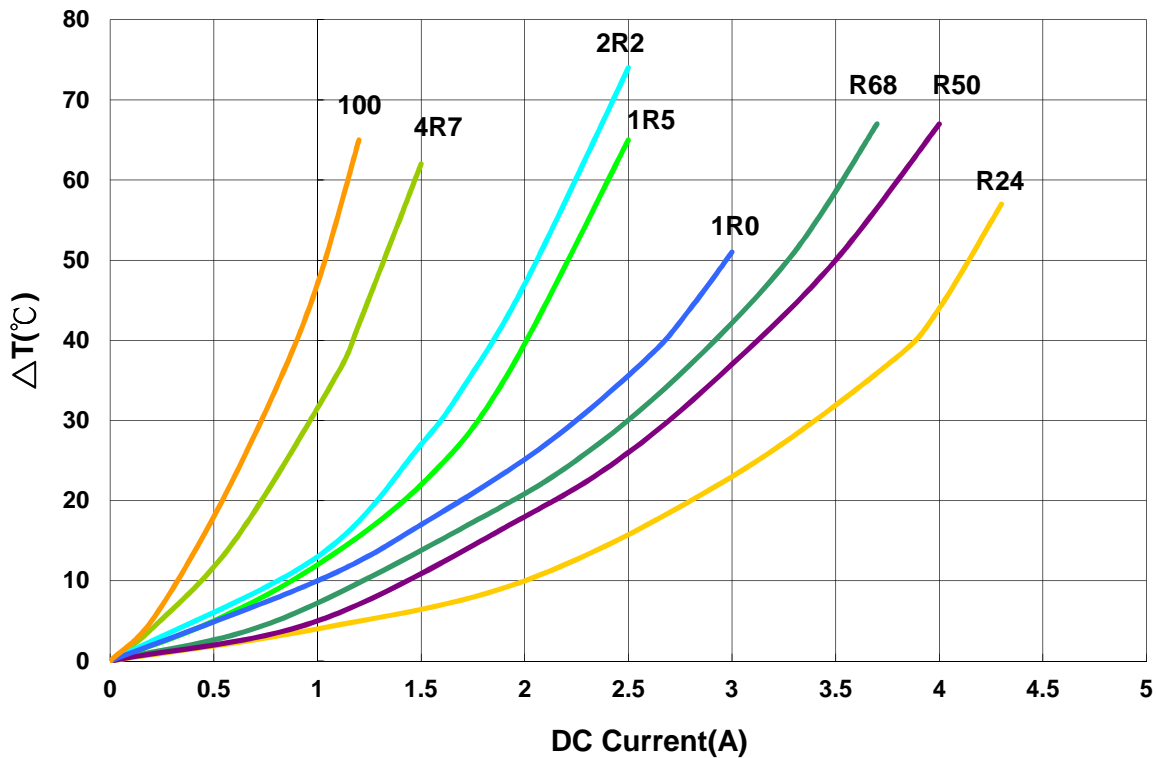
**AWVH00252012 Type**

**Characteristics Graph**

**Inductance vs. DC Current**



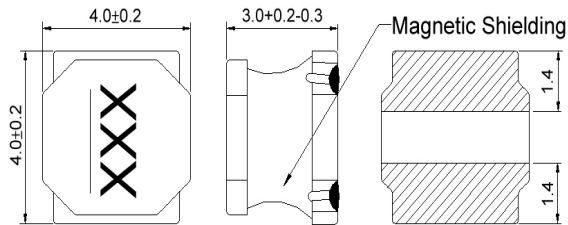
**Temperature Change vs. DC Current**



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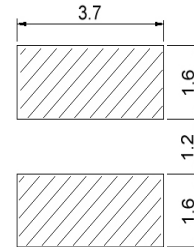
**AWVH00404030 Type**

**■ Dimensions**



unit:mm

**■ Recommended Land Pattern**



unit:mm

**■ Electrical Characteristics**

Part No.	Inductance (uH)	Test Freq.	RDC ( $\Omega$ ) $\pm 30\%$	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance ( $\pm\%$ )	Marking
AWVH00404030R47□00	0.47	100kHz,1V	0.014	9.0(8.0)	5.2(4.6)	30	R47
AWVH004040302R2□00	2.2	100kHz,1V	0.042	4.4(3.9)	2.8(2.5)	20,30	2R2

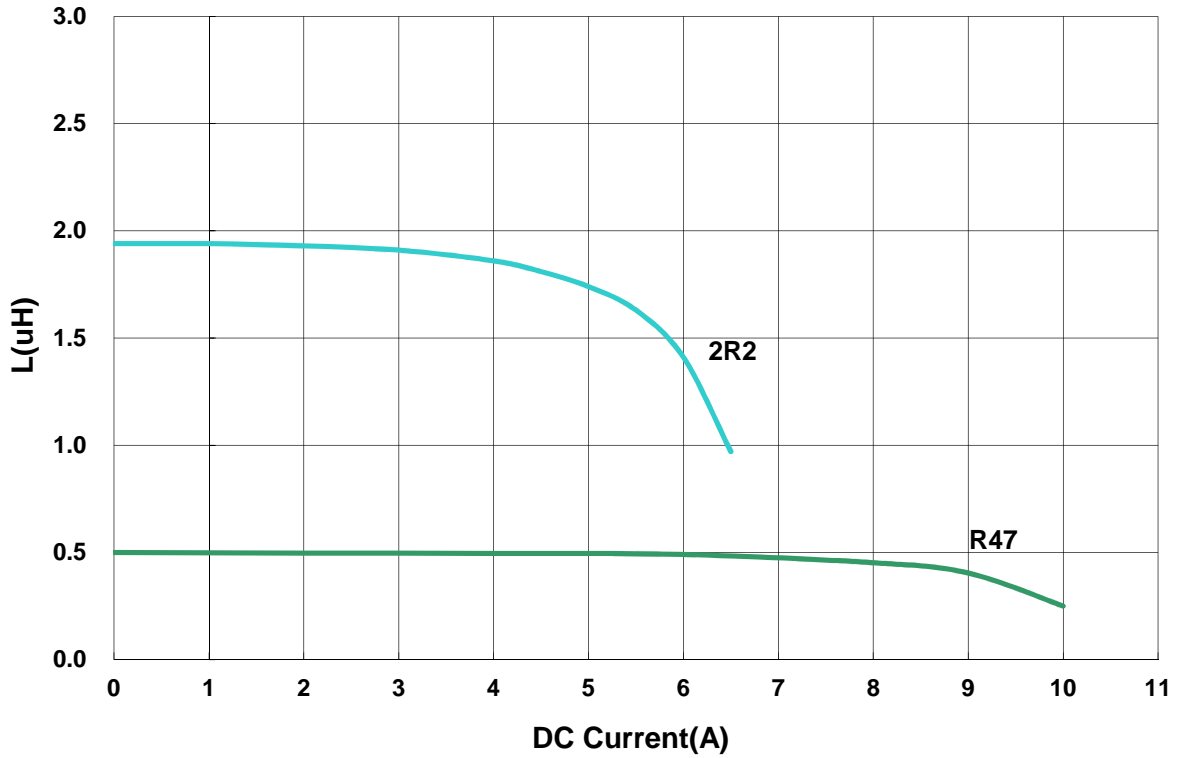
**Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$  / T= $\pm 30\%$**

1. Operating temperature range -  $40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
2. Isat for Inductance drop 30% from its value without current
3. I rms for a  $40^{\circ}\text{C}$  temperature rise from  $25^{\circ}\text{C}$  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

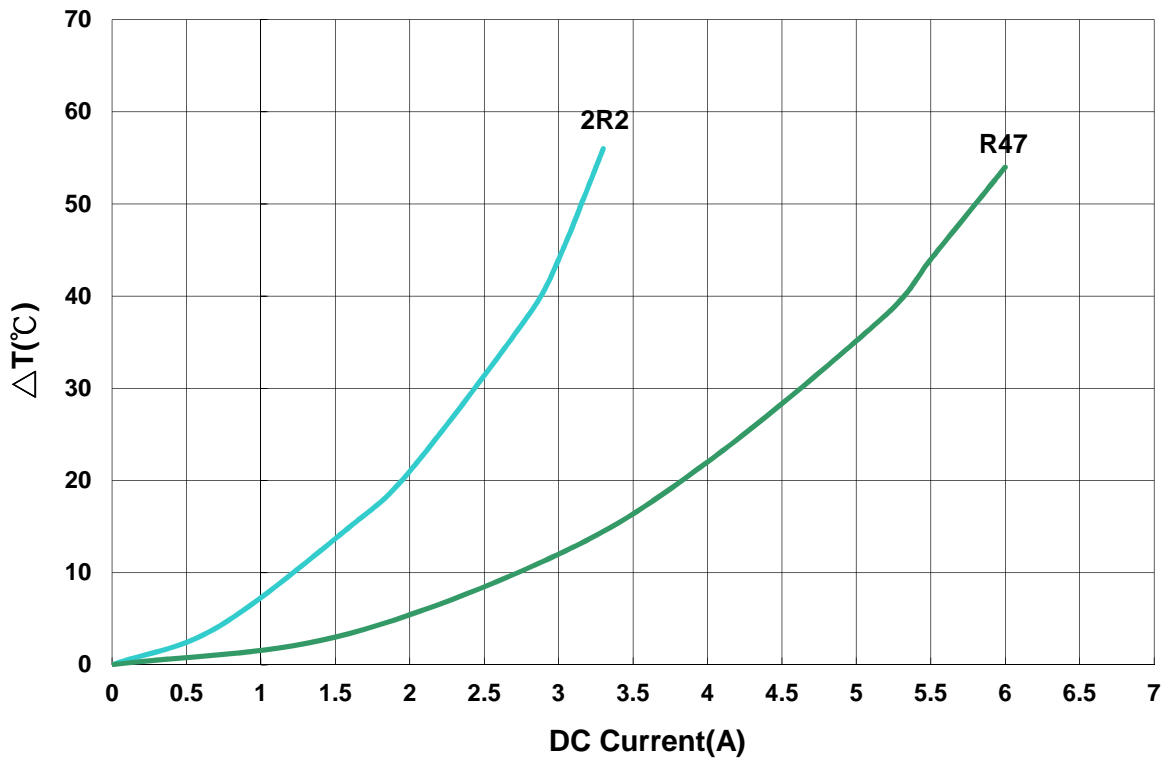
**AWVH00404030 Type**

**Characteristics Graph**

**Inductance vs. DC Current**



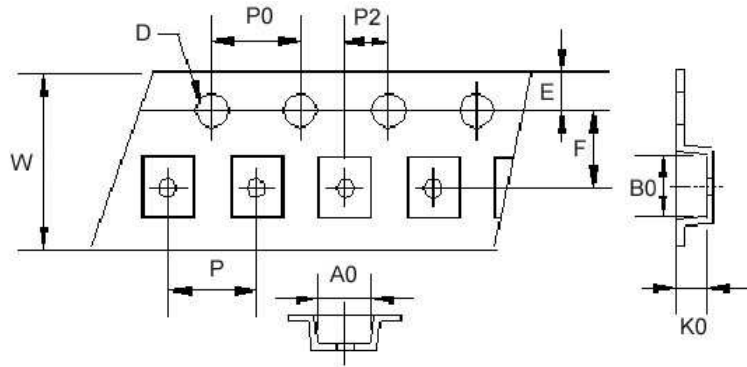
**Temperature Change vs. DC Current**



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**■ Packaging**

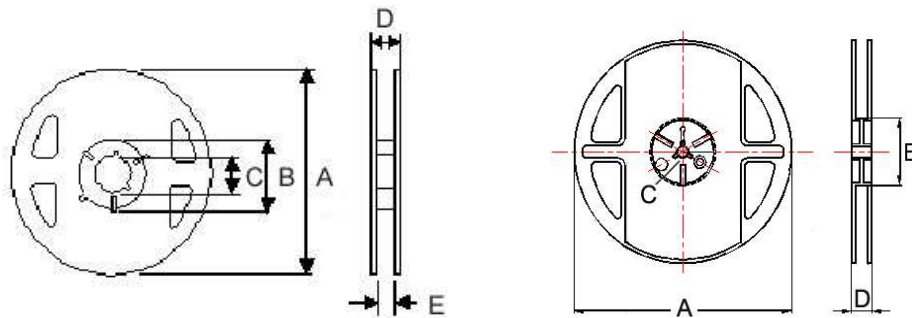
Tape Dimensions



Reel Dimensions

Figure 1

Figure 2



TYPE	Fig	Tape Dimensions										Reel Dimensions					Quantity PCS / Reel
		A0	B0	K0	D	E	F	W	P	P0	P2	A	B	C	D	E	
AWVH00201610	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
AWVH00252010	1	2.4	2.7	1.15	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVH00252012	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
AWVH00404030	2	4.25	4.25	3.2	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	500