

YAGEO

DATA SHEET

INDUCTOR

Power Inductors

AWVT Series

RoHS compliant & Halogen Free



YAGEO

Product specification – March 26, 2021 V.0



Power Inductor AWVT Series **Automotive AEC-Q200**

RoHS Compliant
Halogen Free
REACH Compliant



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

Part Numbering

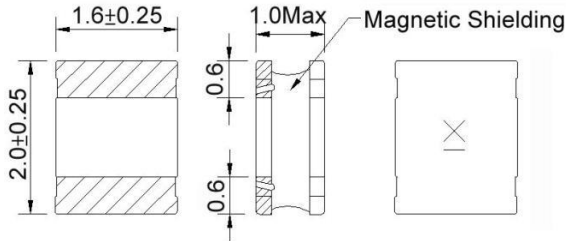
A	WVT	00	252012	1R0	M	00
Grade	Series Name	Control Code	Dimensions Code (mm)	Inductance (uH)	Tolerance	Internal Code
			201610 2.0x1.6x1.0	R47 0.47	M ±20%	
			252010 2.5x2.0x1.02	1R0 1.0	T ±30%	
			252012 2.5x2.0x1.2	101 100		
			303010 3.0x3.0x1.02			
			303012 3.0x3.0x1.2			
			404012 4.0x4.0x1.2			
			404015 4.0x4.0x1.5			
			404026 4.0x4.0x2.6			
			505020 5.0x5.0x2.0			
			606020 6.0x6.0x2.0			
			808040 8.0x8.0x4.0			

Power Inductor AWVT Series

Automotive
AEC-Q200

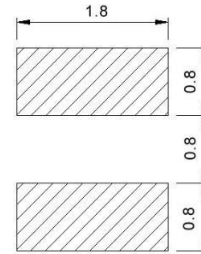
AWVT00201610 Type

■ 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
AWVT00201610R47□00	0.47	1MHz,200mV	0.072	2.40(2.10)	2.40(2.10)	20,30	A

Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±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. Irms 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
 - Irms: Agilent HP4284A

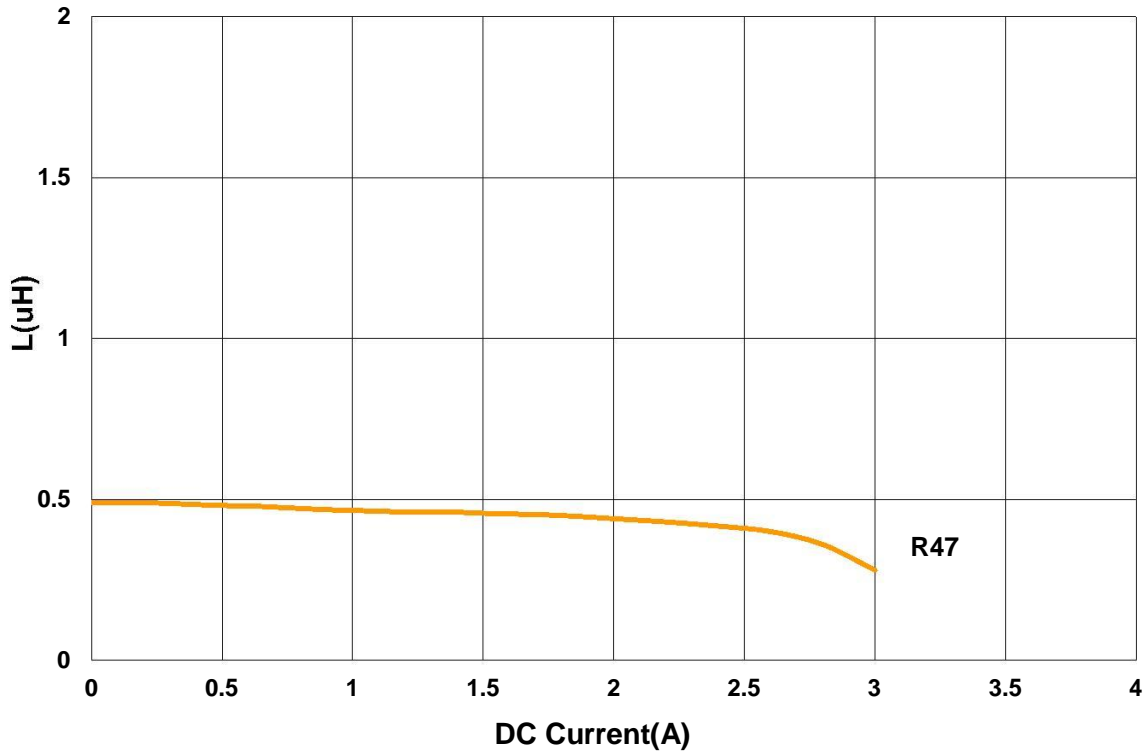
Power Inductor AWVT Series

Automotive
AEC-Q200

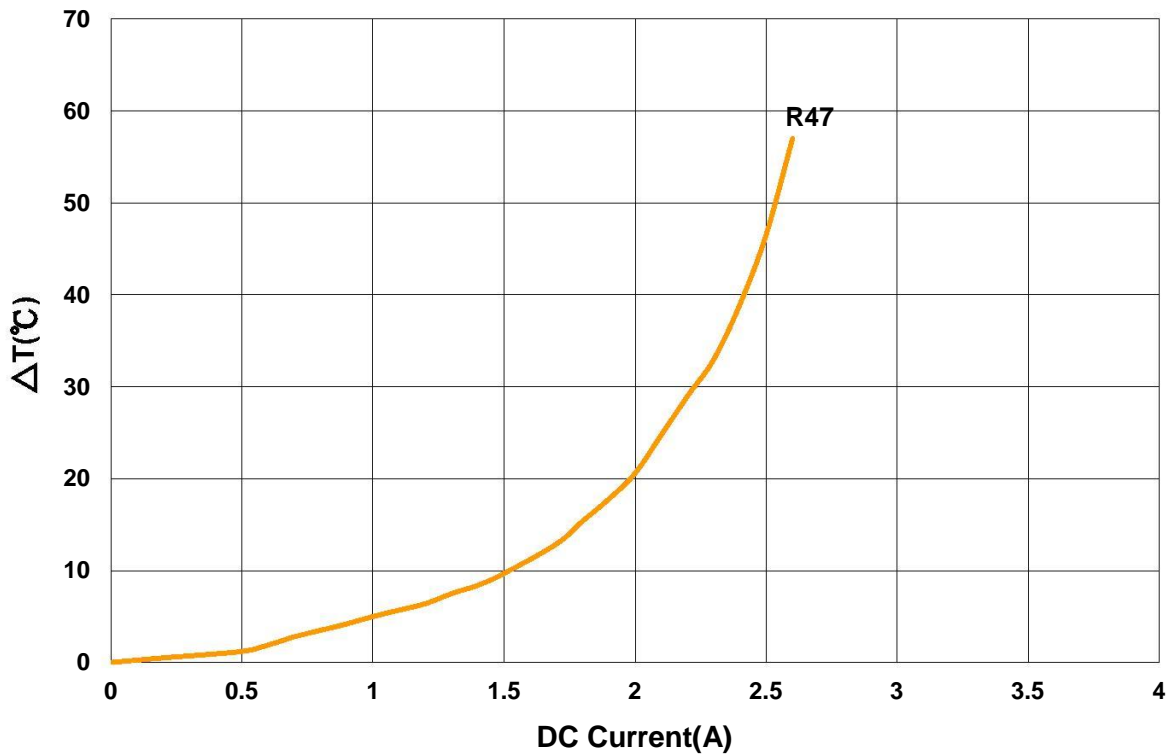
AWVT00201610 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

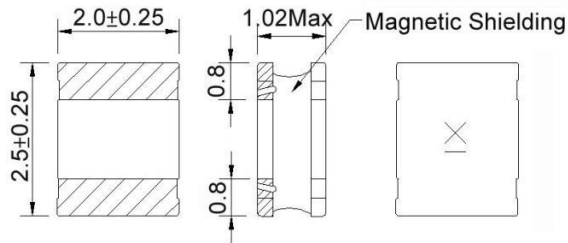


Power Inductor AWVT Series

Automotive
AEC-Q200

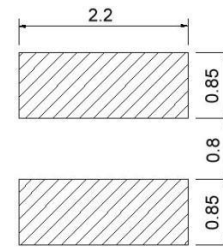
AWVT00252010 Type

■ 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
AWVT00252010R68□00	0.68	1MHz,200mV	0.050	2.40(2.10)	2.20(1.90)	20,30	K
AWVT002520102R2□00	2.2	1MHz,200mV	0.135	1.40(1.20)	1.50(1.30)	20,30	D
AWVT002520103R3□00	3.3	1MHz,200mV	0.220	1.10(1.00)	1.20(1.00)	20,30	E
AWVT002520106R8□00	6.8	1MHz,200mV	0.435	0.78(0.70)	0.84(0.75)	20,30	G

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

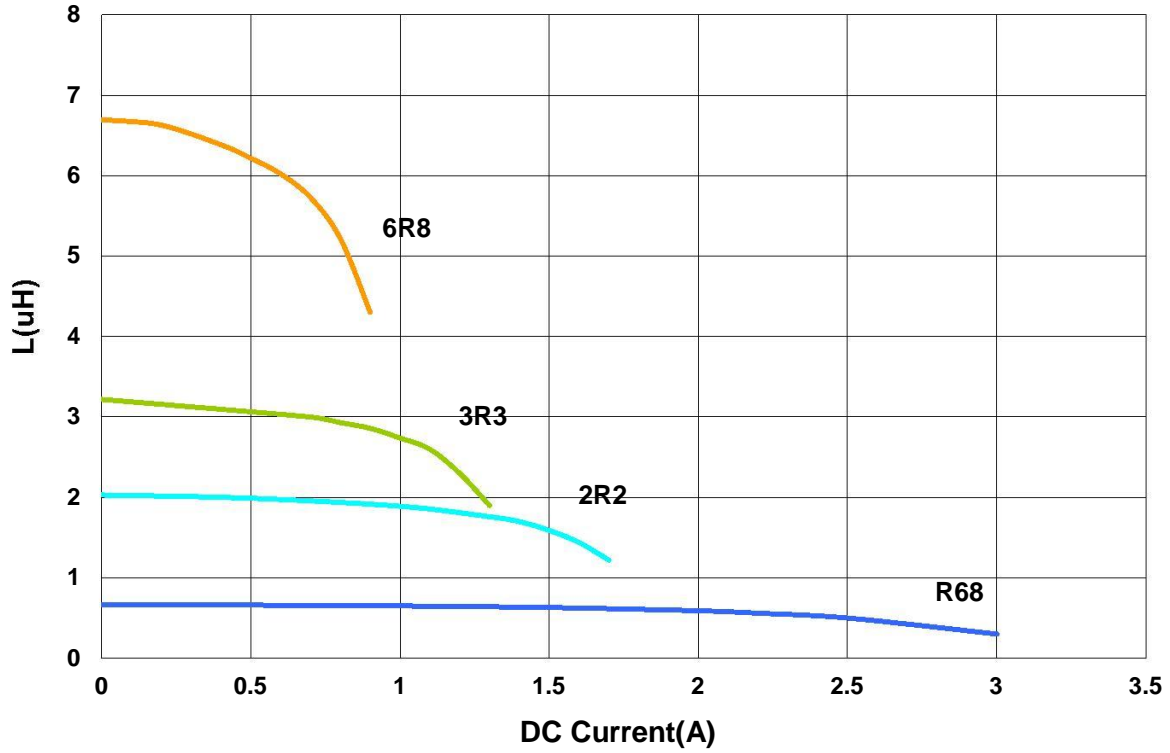
- Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- Isat for Inductance drop 30% from its value without current.
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment:
 - L: Agilent HP4287A+Agilent HP16197A
 - RDC: DIGITAL MILLINHM METER CHROMA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

Power Inductor AWVT Series **Automotive AEC-Q200**

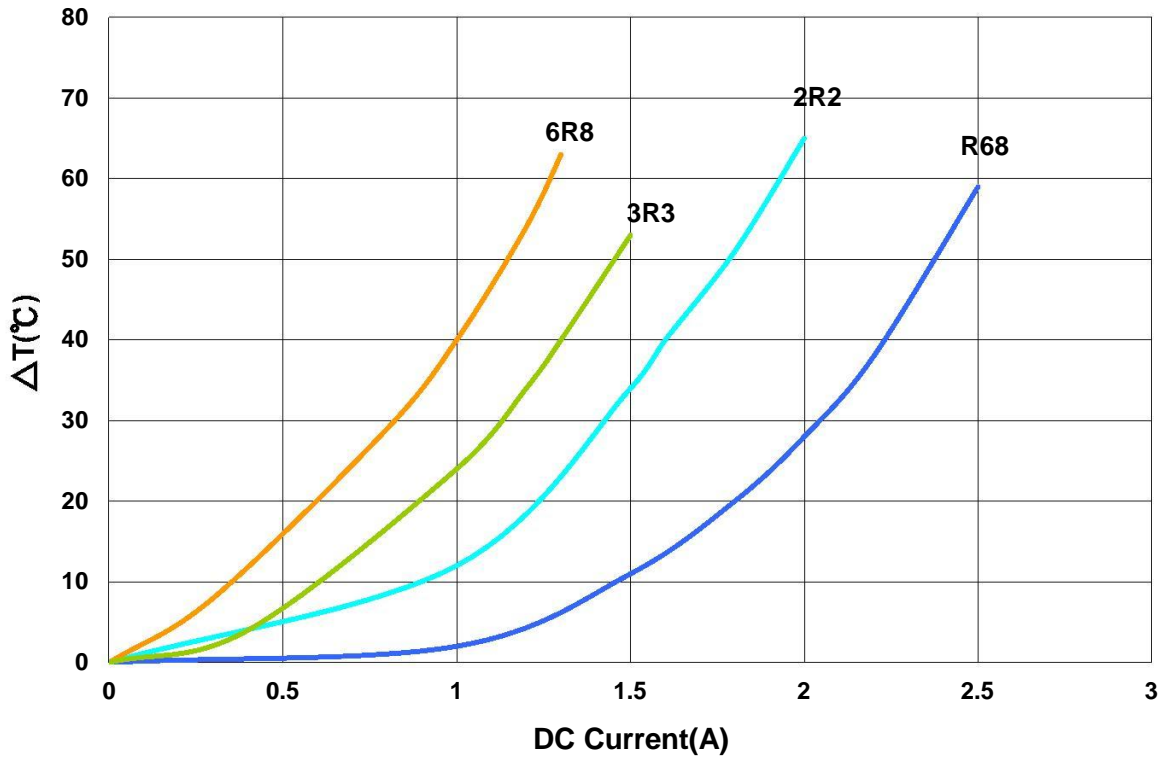
AWVT00252010 Type

Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

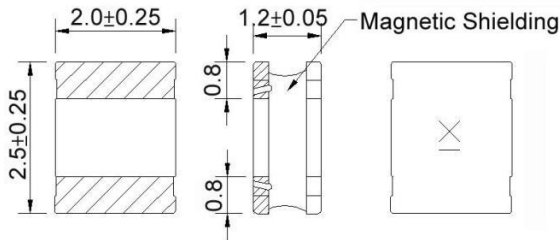


Power Inductor AWVT Series

**Automotive
AEC-Q200**

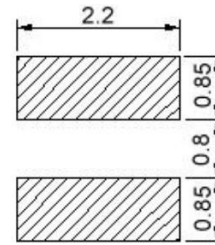
AWVT00252012 Type

■ 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
AWVT00252012R47□00	0.47	1MHz,200mV	0.027	3.70(3.30)	3.10(2.70)	20,30	A

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

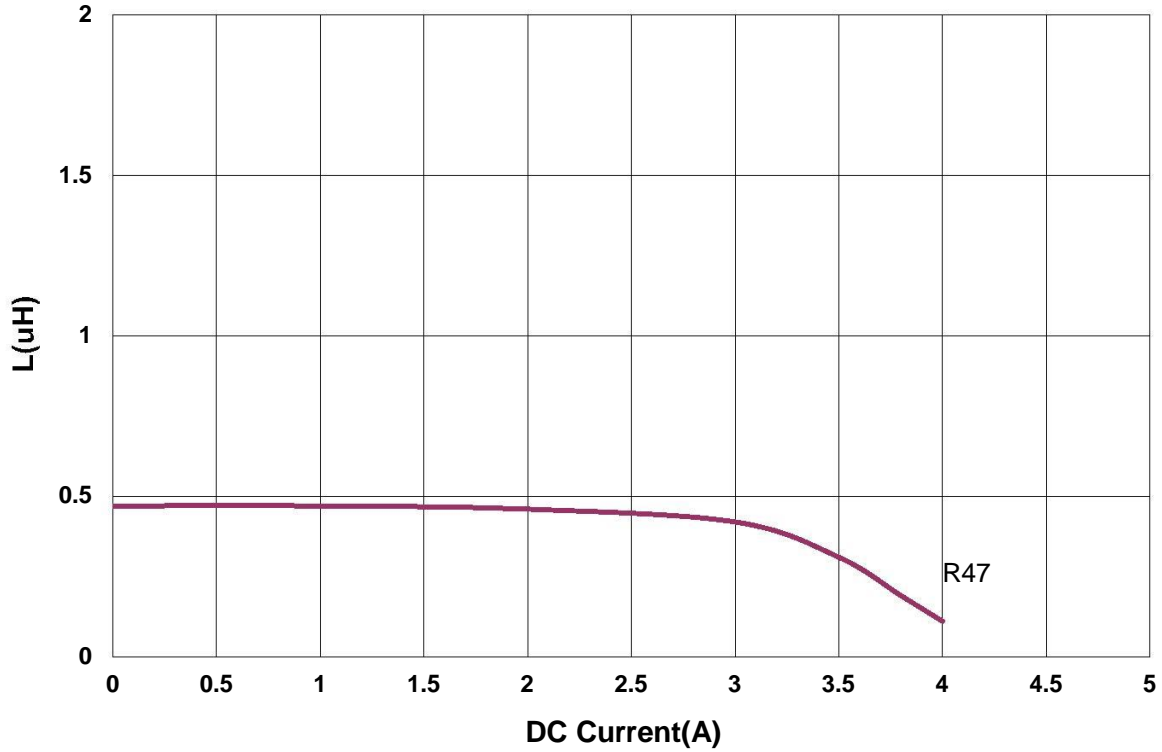
1. Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
2. Isat for Inductance drop 30% from its value without current.
3. Irms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
 - L: Agilent HP4287A+Agilent HP16197A
 - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
 - Isat: Agilent HP4284A
 - Irms: Agilent HP4284A

Power Inductor AWVT Series **Automotive
AEC-Q200**

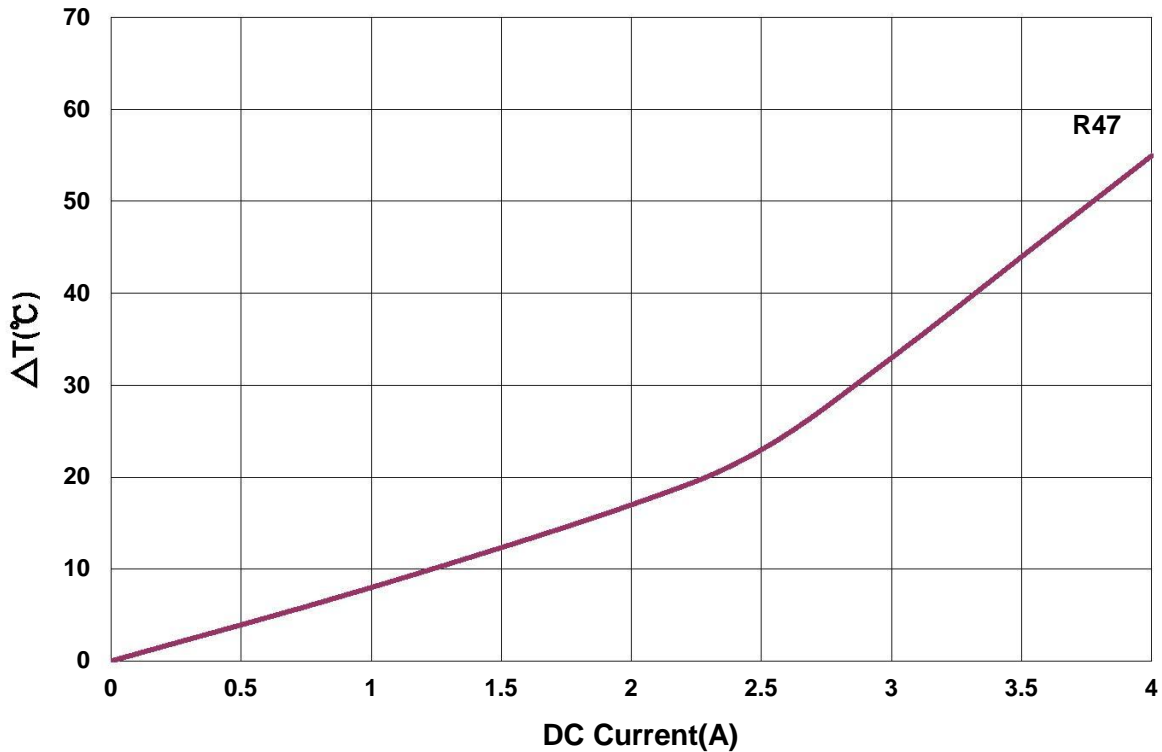
AWVT00252012 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

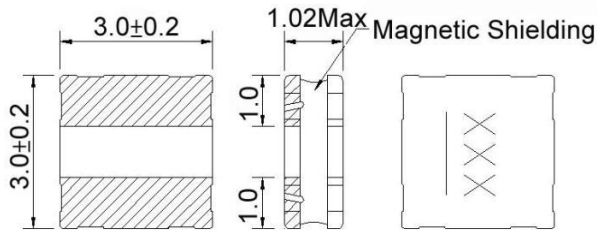


Power Inductor AWVT Series

Automotive
AEC-Q200

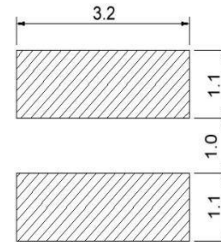
AWVT00303010 Type

■ 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
AWVT003030101R0□00	1.0	1MHz,200mV	0.063	2.40(2.10)	2.30(2.00)	20,30	1R0
AWVT003030103R3□00	3.3	1MHz,200mV	0.165	1.20(1.00)	1.10(0.99)	20,30	3R3

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

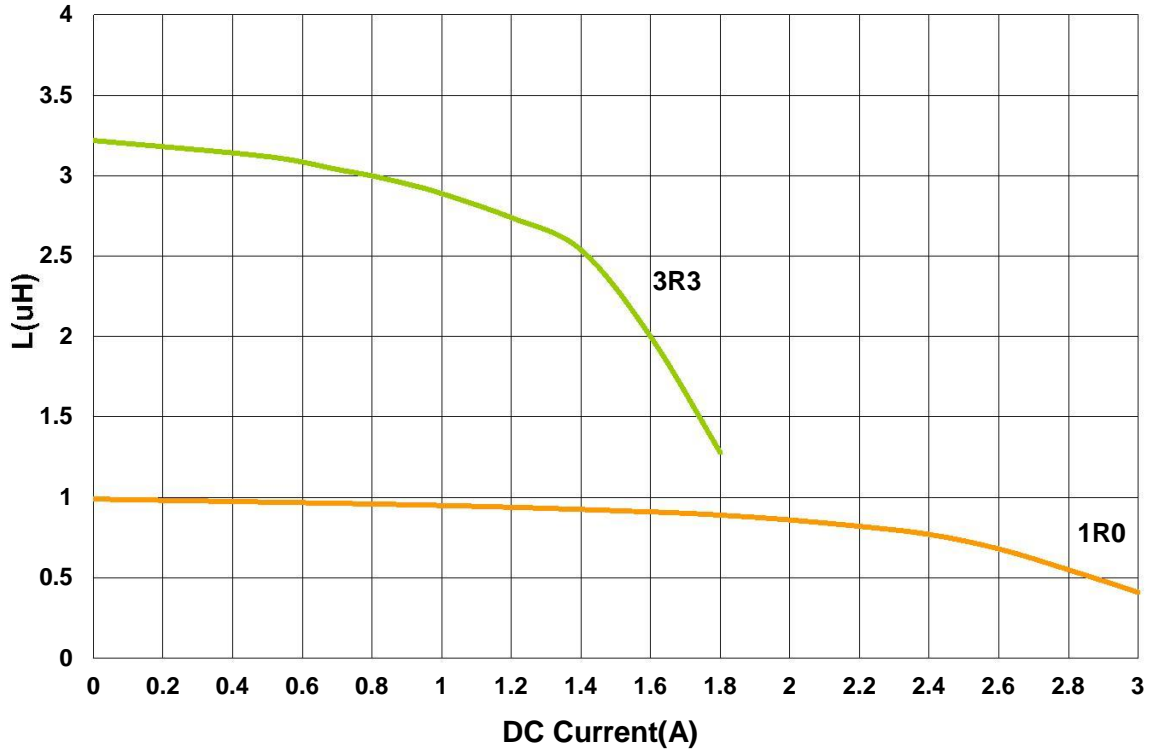
Power Inductor AWVT Series

Automotive
AEC-Q200

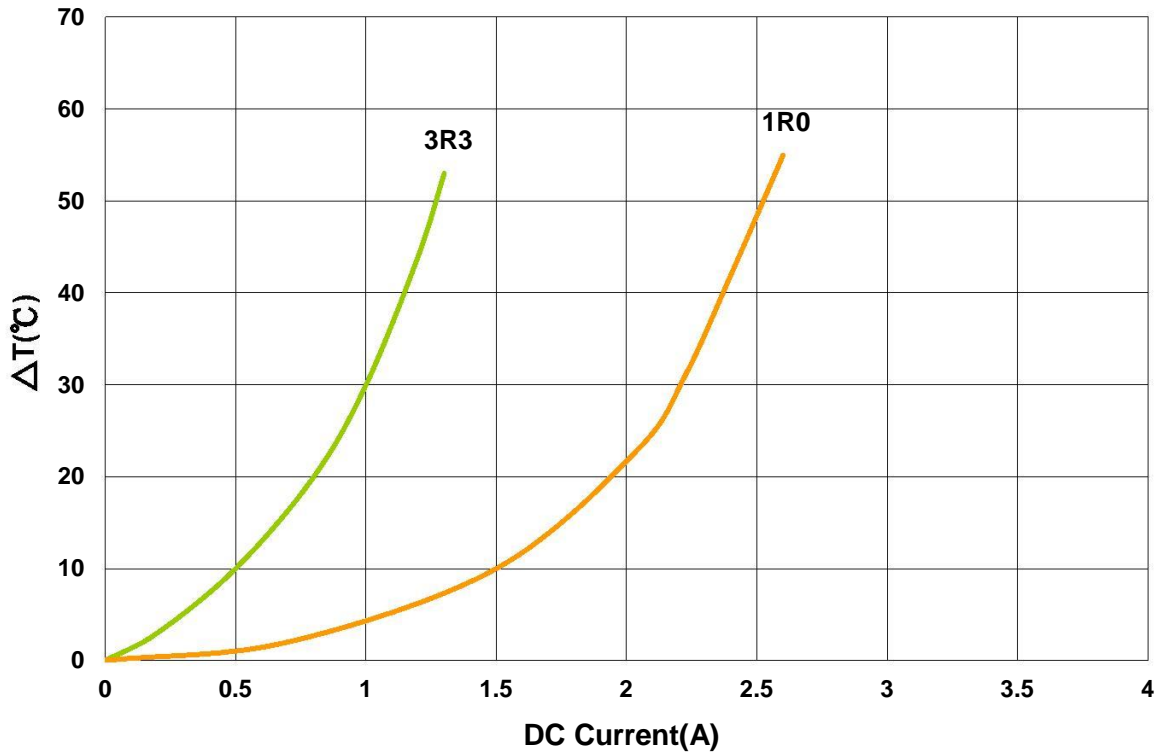
AWVT00303010 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

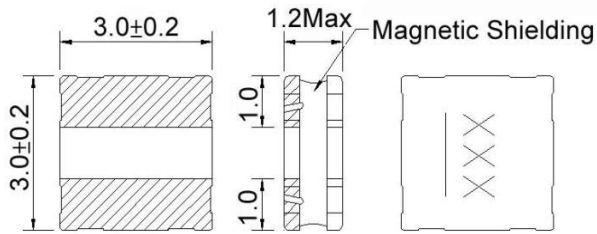


Power Inductor AWVT Series

Automotive
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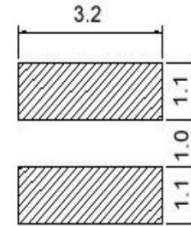
AWVT00303012 Type

■ Dimensions



unit:mm

■ Recommended Land Pattern



unit:mm

■ Electrical Characteristics

Part No.	Inductance (μH)	Test Freq.	RDC (Ω) $\pm 30\%$	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance ($\pm\%$)	Marking
AWVT00303012R47□00	0.47	1MHz,200mV	0.032	4.3(3.87)	4.0(3.60)	20,30	R47
AWVT003030121R0□00	1	1MHz,200mV	0.06	3.1(2.79)	3.0(2.70)	20,30	1R0
AWVT003030121R5□00	1.5	1MHz,200mV	0.072	2.7(2.43)	2.6(2.34)	20,30	1R5

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

- Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- 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

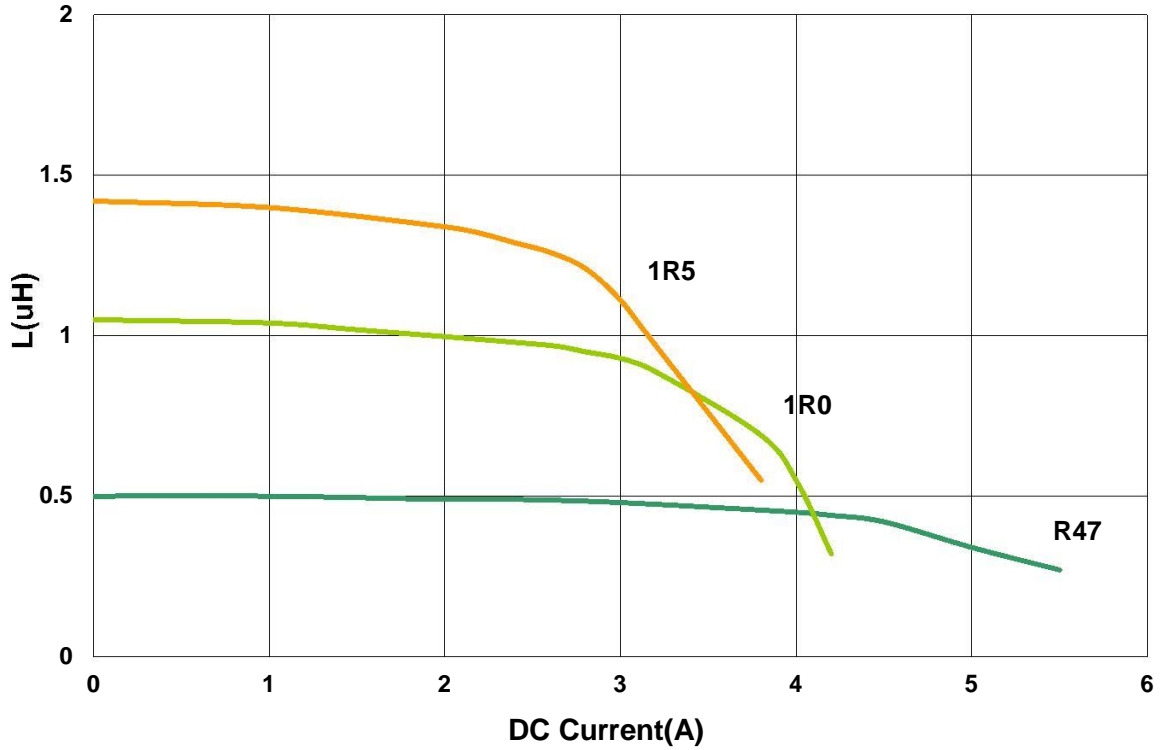
Power Inductor AWVT Series

Automotive
AEC-Q200

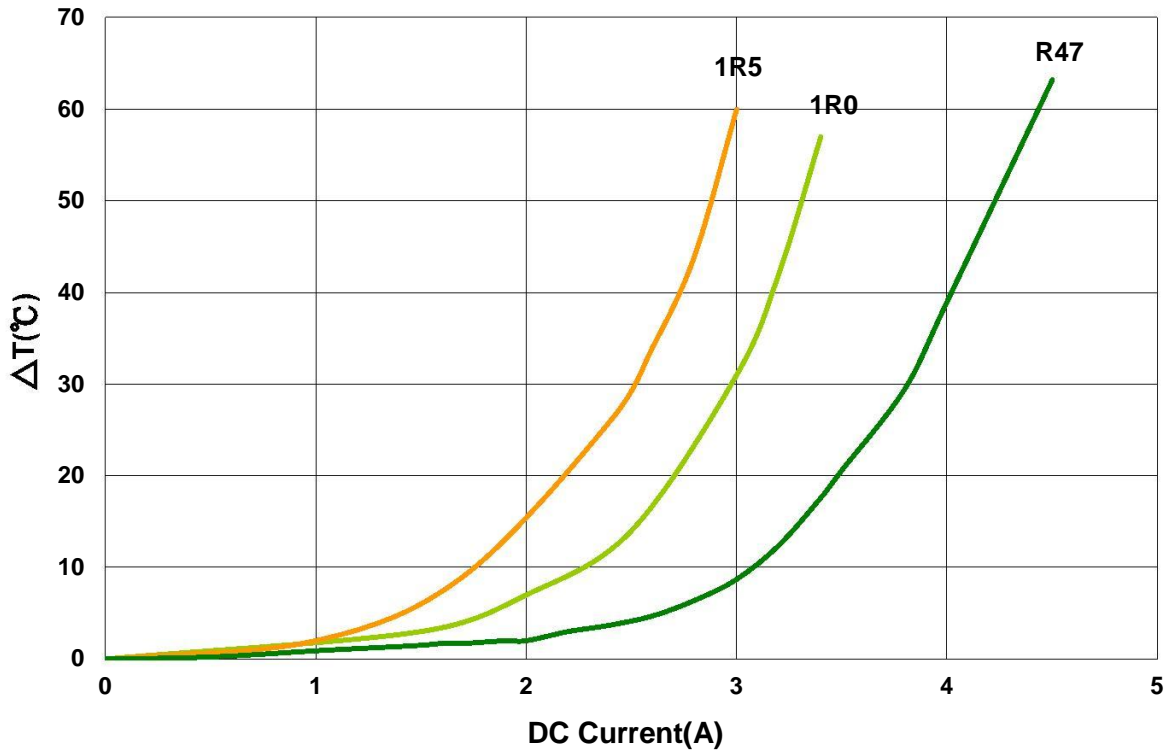
AWVT00303012 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

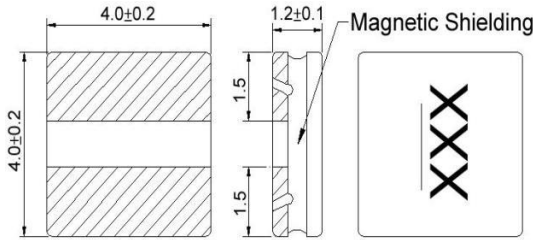


Power Inductor AWVT Series

Automotive
AEC-Q200

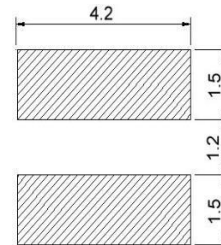
AWVT00404012 Type

■ 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
AWVT00404012R50□00	0.5	1MHz,200mV	0.030	3.90(3.50)	3.5(3.10)	20,30	R50
AWVT004040121R0□00	1.0	1MHz,200mV	0.040	2.90(2.60)	3.0(2.70)	20,30	1R0
AWVT004040121R5□00	1.5	1MHz,200mV	0.051	2.30(2.00)	2.5(2.20)	20,30	1R5
AWVT004040122R2□00	2.2	1MHz,200mV	0.060	1.90(1.70)	2.3(2.00)	20,30	2R2
AWVT004040124R7□00	4.7	1MHz,200mV	0.094	1.30(1.10)	1.8(1.60)	20,30	4R7
AWVT004040126R8□00	6.8	1MHz,200mV	0.135	1.00(0.95)	1.5(1.30)	20,30	6R8
AWVT00404012150□00	15	1MHz,200mV	0.260	0.78(0.70)	1.0(0.90)	20,30	150
AWVT00404012220□00	22	1MHz,200mV	0.390	0.62(0.55)	0.8(0.72)	20,30	220

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

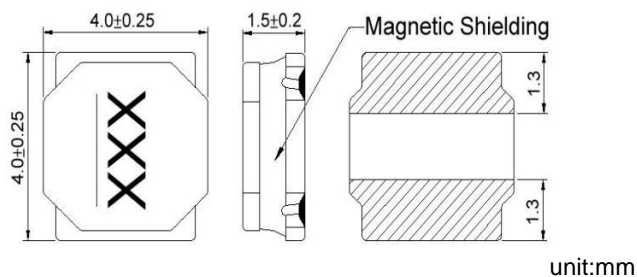
1. Operating temperature range -40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I rms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
 L: Agilent HP4284A+Agilent HP42841A
 RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
 Isat: Agilent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

Power Inductor AWVT Series

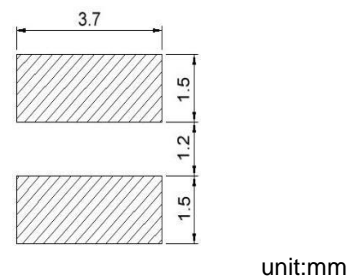
Automotive
AEC-Q200

AWVT00404015 Type

■ Dimensions



■ Recommended Land Pattern



■ Electrical Characteristics

Part No.	Inductance (μH)	Test Freq.	RDC (Ω) $\pm 30\%$	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance ($\pm\%$)	Marking
AWVT004040151R0□00	1.0	1MHz,200mV	0.034	3.6(3.20)	3.7(3.30)	20,30	1R0
AWVT004040153R3□00	3.3	1MHz,200mV	0.080	2.0(1.80)	2.2(1.90)	20,30	3R3

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

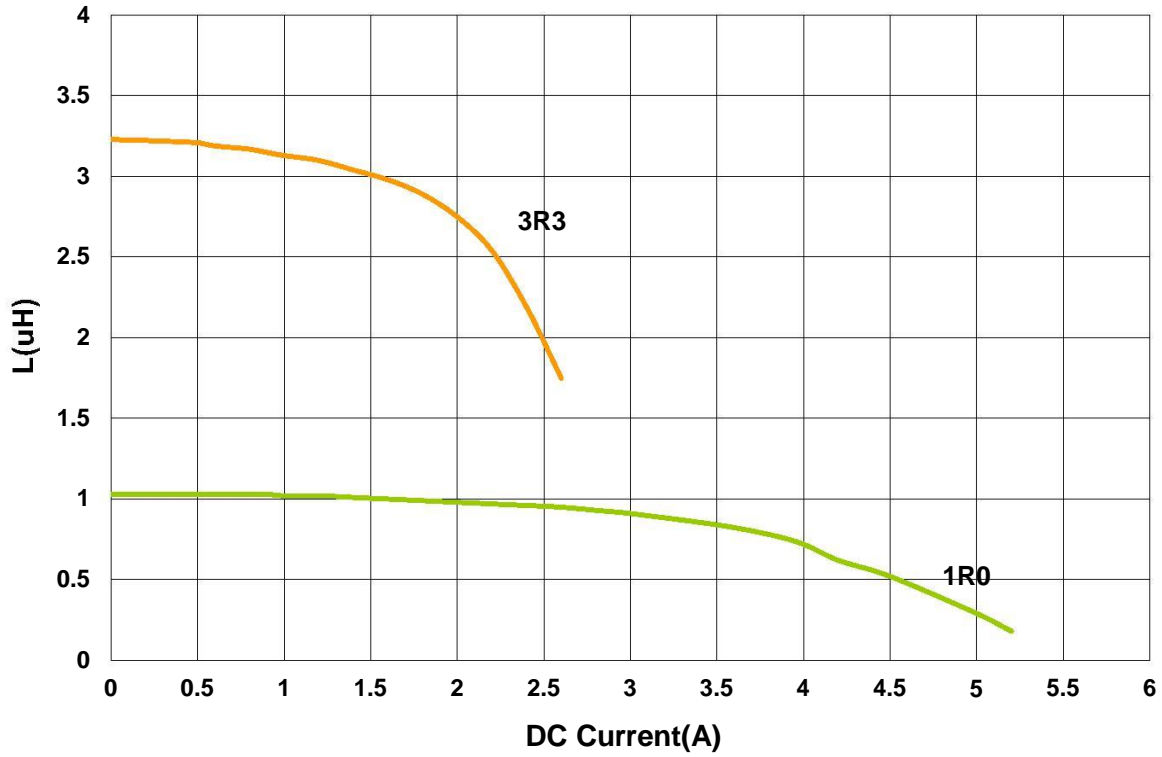
- Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment:
 - L: Agilent HP4284A+Agilent HP42841A
 - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
 - Isat: Agilent HP4284A
 - Irms: Agilent HP4284A

Power Inductor AWVT Series **Automotive AEC-Q200**

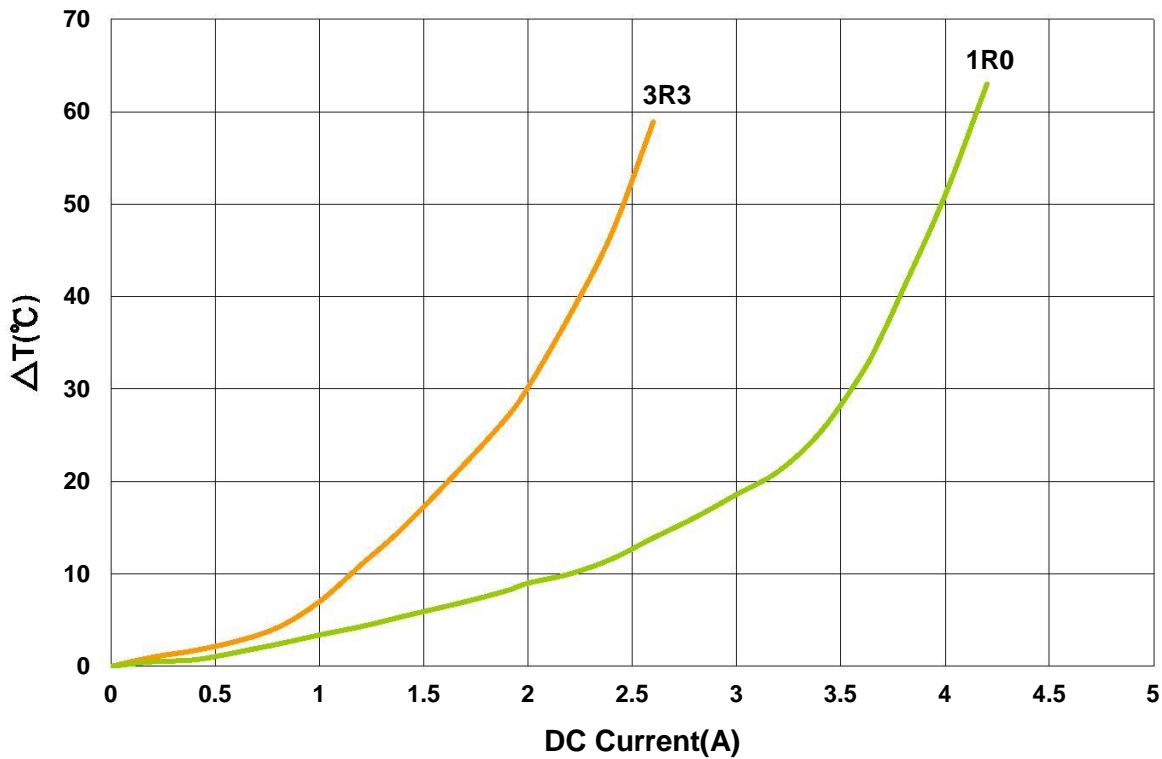
AWVT00404015 Type

Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

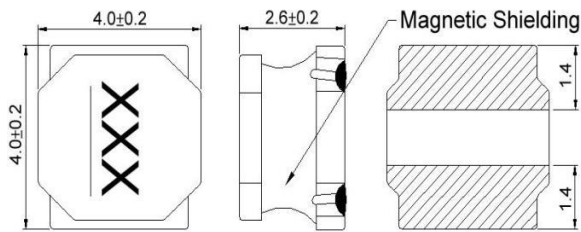


Power Inductor AWVT Series

Automotive
AEC-Q200

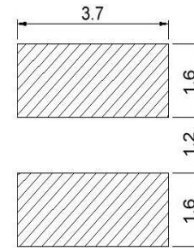
AWVT00404026 Type

■ Dimensions



unit:mm

■ Recommended Land Pattern



unit:mm

■ Electrical Characteristics

Part No.	Inductance (μ H)	Test Freq.	RDC (Ω) $\pm 30\%$	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance ($\pm\%$)	Marking
AWVT00404026R47□00	0.47	100kHz,1V	0.024	7.20(6.4)	4.80(4.3)	20,30	R47
AWVT00404026R50□00	0.50	100kHz,1V	0.024	7.20(6.4)	4.80(4.3)	20,30	R50

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°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

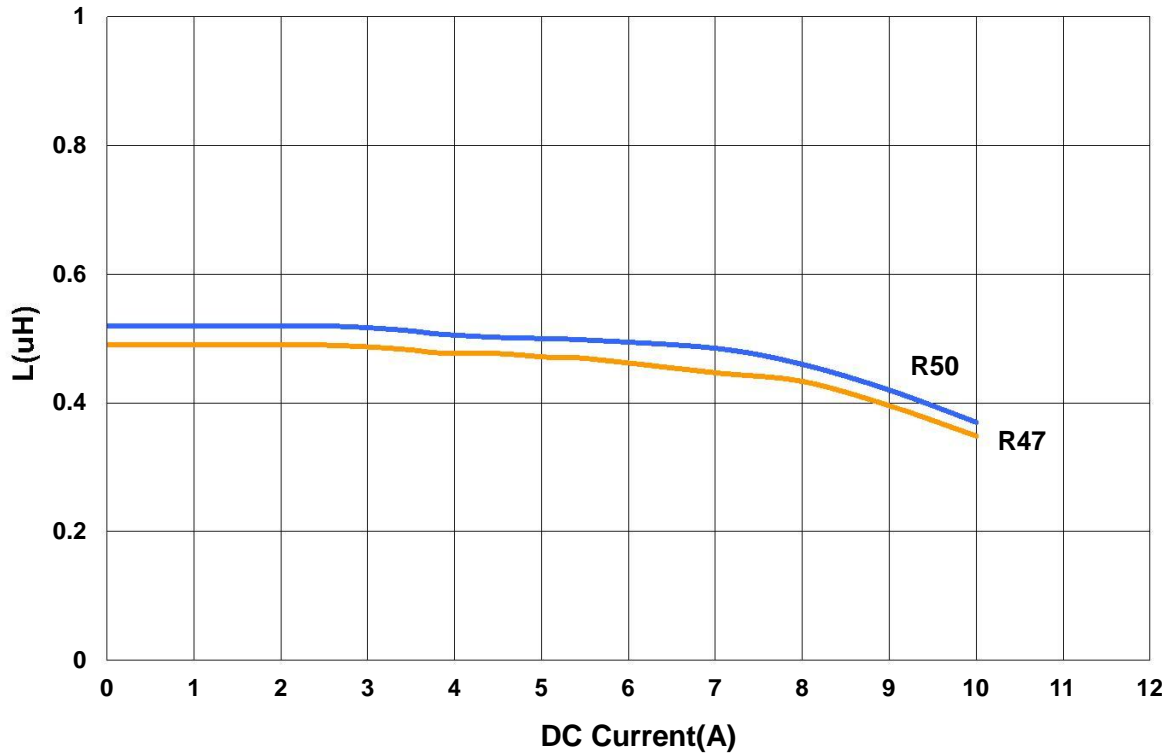
Power Inductor AWVT Series

**Automotive
AEC-Q200**

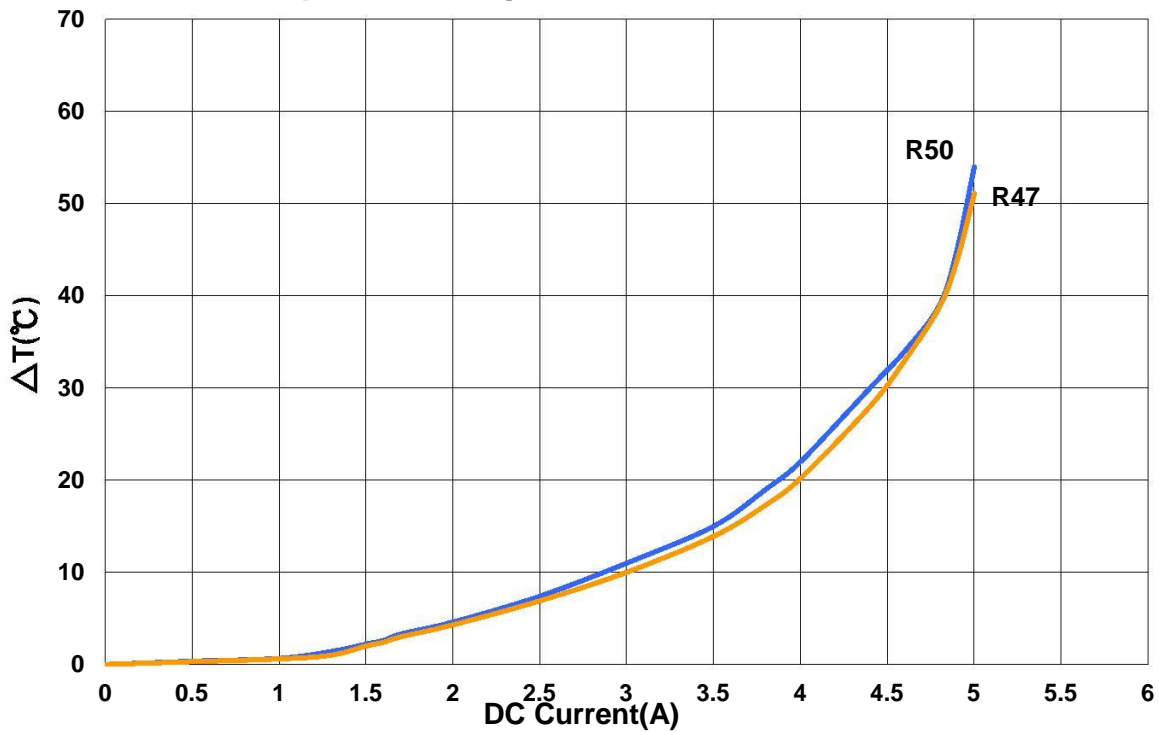
AWVT00404026 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

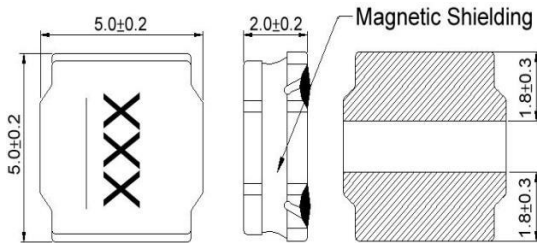


Power Inductor AWVT Series

Automotive
AEC-Q200

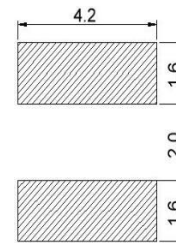
AWVT00505020 Type

■ 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
AWVT00505020R47□00	0.47	100kHz,1V	0.0135	8.0(7.2)	5.5(5.0)	20,30	R47
AWVT005050203R3□00	3.3	100kHz,1V	0.050	3.4(3.00)	2.7(2.40)	20,30	3R3

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

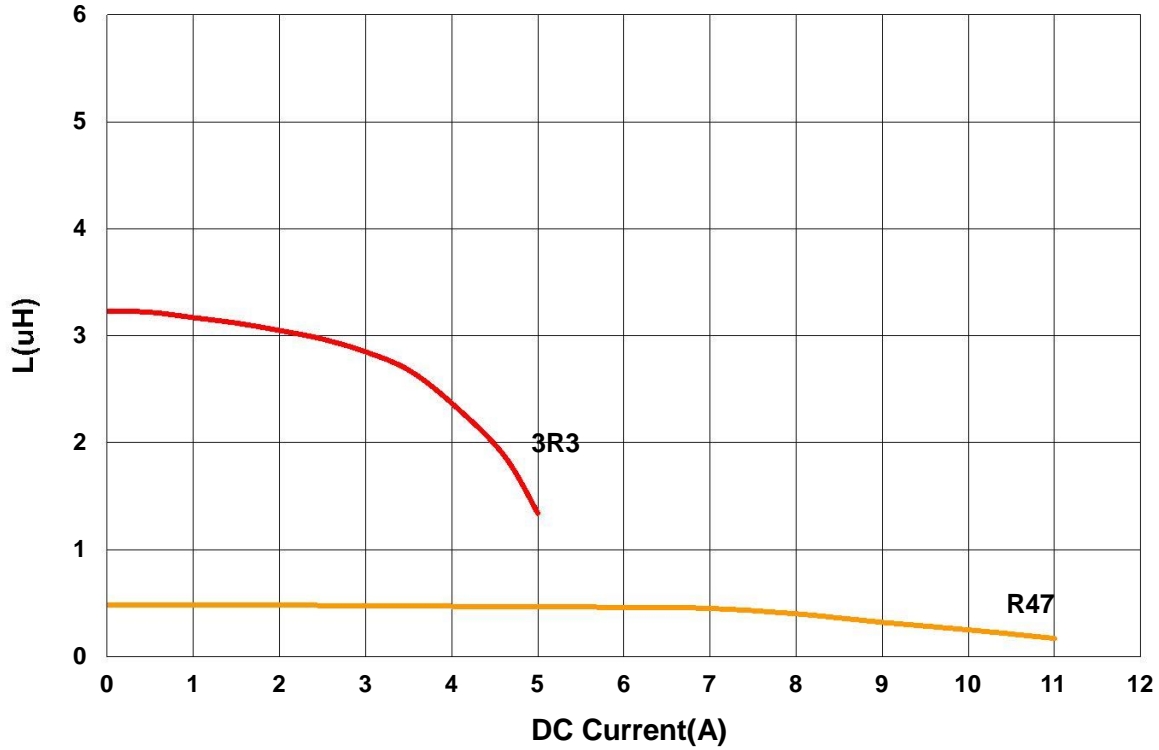
1. Operating temperature range -40°C ~ 125°C
2. Isat for Inductance drop 30% from its value without current
3. I rms for a 40°C temperature rise from 25°C ambient with current
4. Measure Equipment:
 - L: Agilent HP4284A+Agilent HP42841A
 - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
 - Isat: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

Power Inductor AWVT Series **Automotive
AEC-Q200**

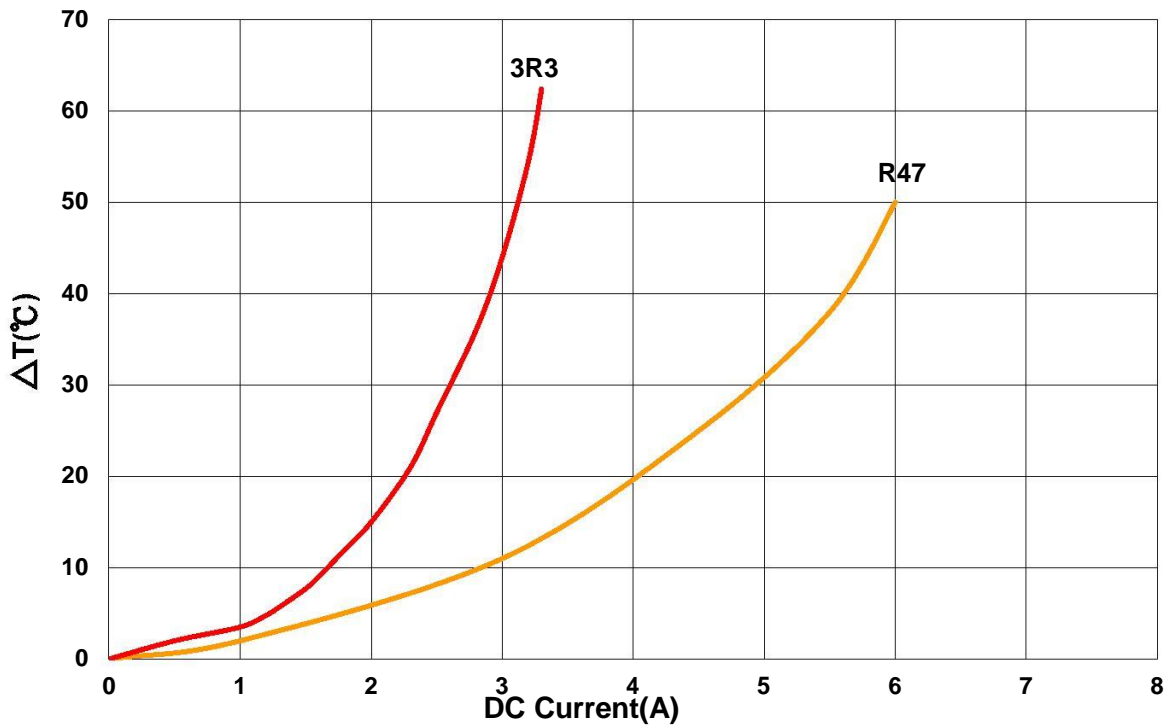
AWVT00505020 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

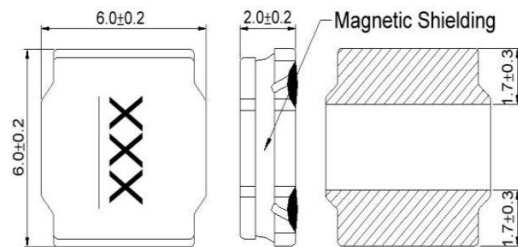


Power Inductor AWVT Series

Automotive
AEC-Q200

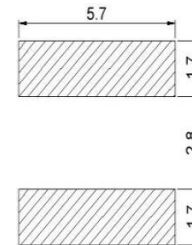
AWVT00606020 Type

■ Dimensions



unit:mm

■ Recommended Land Pattern



unit:mm

■ Electrical Characteristics

Part No.	Inductance (μH)	Test Freq.	RDC (Ω) $\pm 30\%$	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance ($\pm\%$)	Marking
AWVT006060201R0□00	1.0	100kHz,1V	0.019	6.4(5.70)	4.2(3.70)	20,30	1R0
AWVT006060201R5□00	1.5	100kHz,1V	0.026	5.4(4.80)	3.7(3.30)	20,30	1R5
AWVT006060202R2□00	2.2	100kHz,1V	0.034	4.5(4.00)	3.3(2.90)	20,30	2R2
AWVT006060203R3□00	3.3	100kHz,1V	0.045	3.6(3.20)	2.8(2.50)	20,30	3R3
AWVT006060206R8□00	6.8	100kHz,1V	0.085	2.6(2.30)	1.9(1.70)	20,30	6R8

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

- Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- 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 HP4284A+Agilent HP42841A
 - RDC: DIGITAL MILLINHM METER CHROMA 16502, or equivalent
 - Isat: Agilent HP4284A
 - Irms: Agilent HP4284A

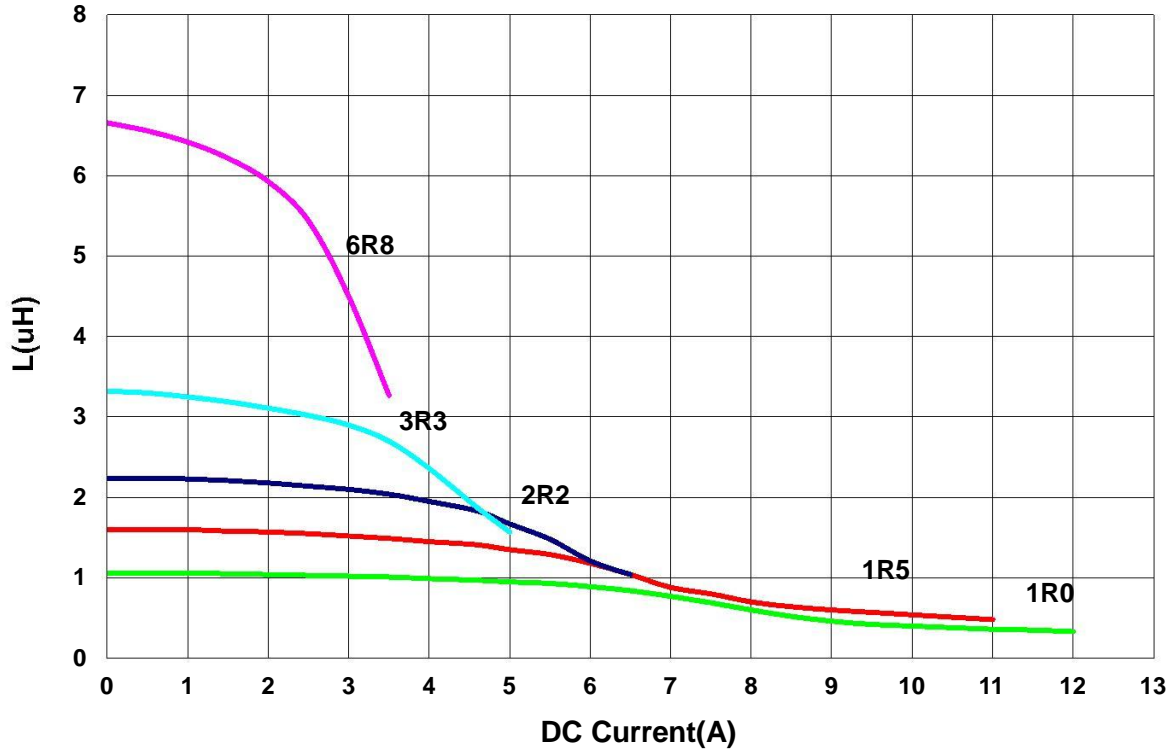
Power Inductor AWVT Series

Automotive
AEC-Q200

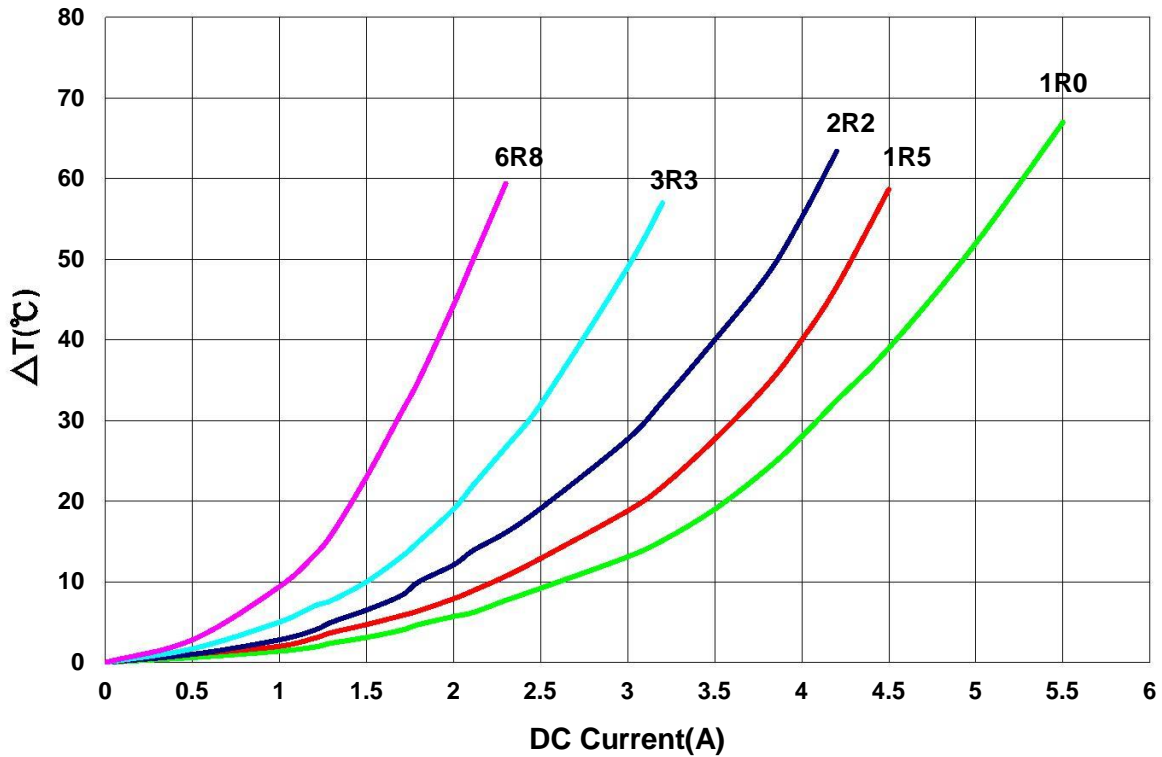
AWVT00606020 Type

■ Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

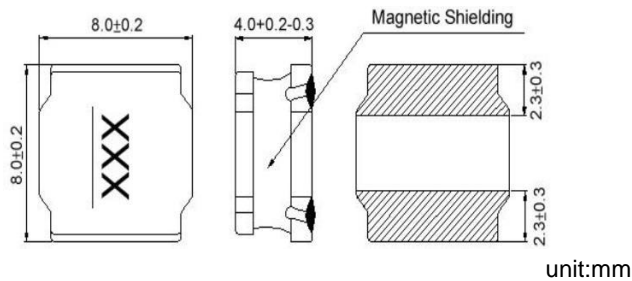


Power Inductor AWVT Series

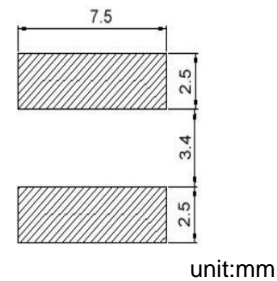
Automotive
AEC-Q200

AWVT00808040 Type

■ Dimensions



■ Recommended Land Pattern



■ Electrical Characteristics

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(A) Typ.(Max)	Irms(A) Typ.(Max)	Tolerance (±%)	Marking
AWVT008080401R0□00	1.0	100kHz,1V	0.0075	13.5(12.00)	8.1(7.10)	20,30	1R0
AWVT008080401R5□00	1.5	100kHz,1V	0.0097	10.5(9.30)	7.7(6.80)	20,30	1R5
AWVT008080402R2□00	2.2	100kHz,1V	0.0120	9.7(8.60)	7.2(6.30)	20,30	2R2
AWVT008080403R3□00	3.3	100kHz,1V	0.0170	8.0(7.10)	5.9(5.20)	20,30	3R3
AWVT008080406R8□00	6.8	100kHz,1V	0.0290	5.8(5.10)	4.9(4.30)	20,30	6R8

Note: When ordering, please specify tolerance code. Tolerance: M=±20% / T=±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. Irms 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
 - Irms: Agilent HP4284A

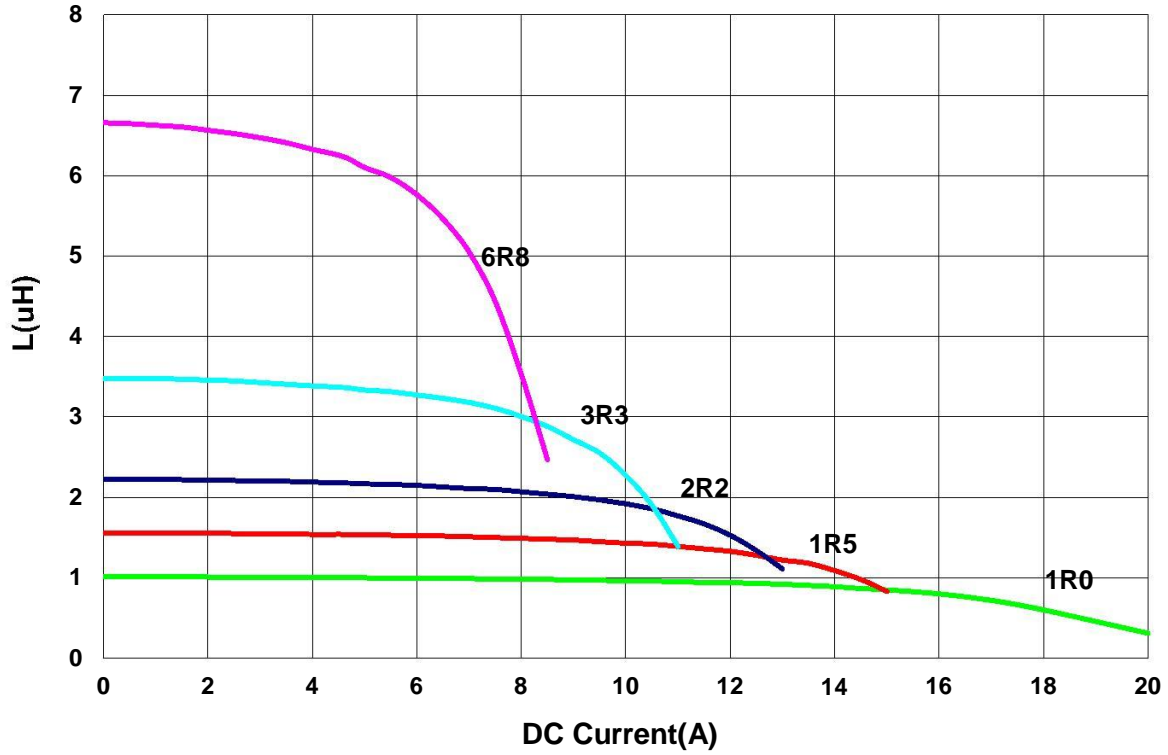
Power Inductor AWVT Series

**Automotive
AEC-Q200**

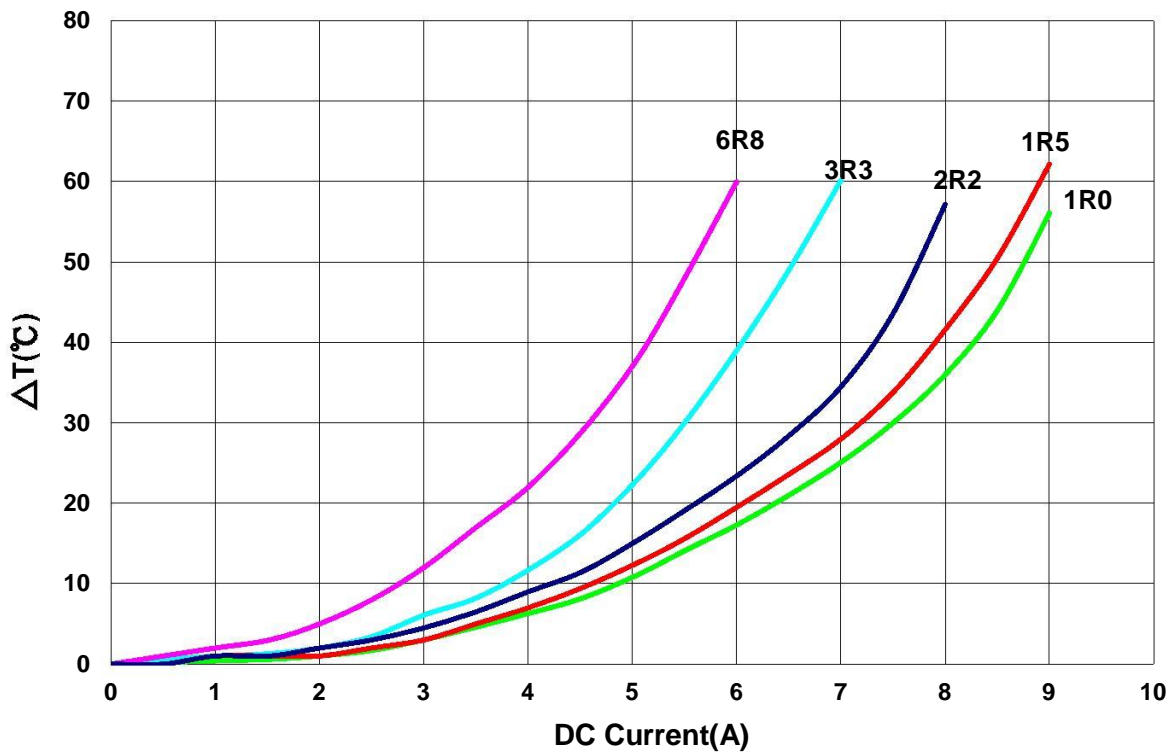
AWVT00808040 Type

Characteristics Graph

Inductance vs. DC Current



Temperature Change vs. DC Current

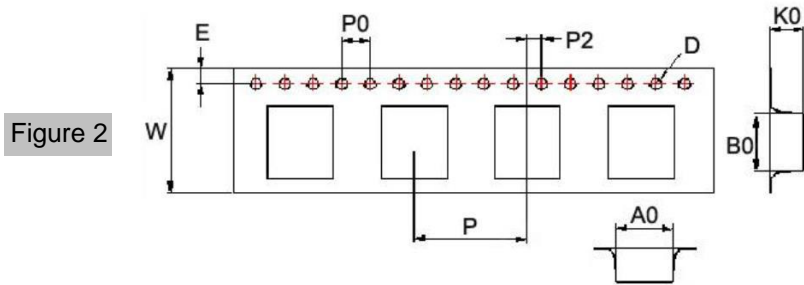
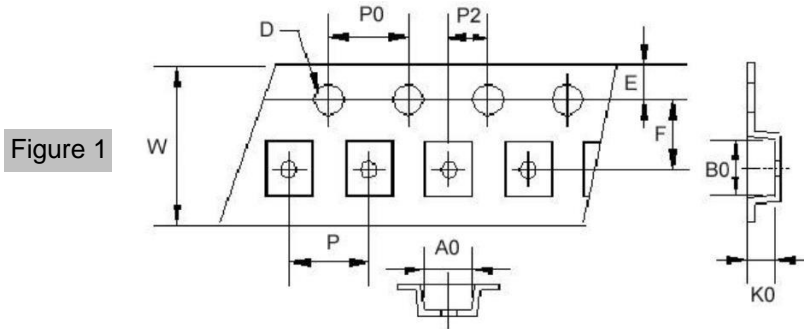


Power Inductor AWVT Series

**Automotive
AEC-Q200**

■ Packaging

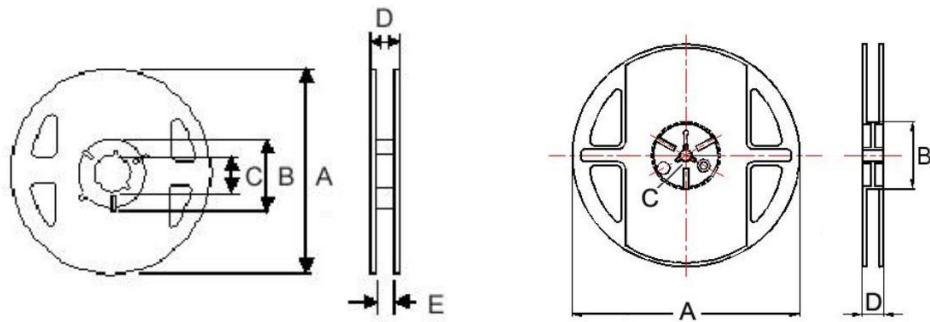
Tape Dimensions



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	
AWVT00201610	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
AWVT00252010	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
AWVT00252012	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
AWVT00303010	1	3.2	3.2	1.4	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVT00303012	1	3.2	3.2	1.4	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
AWVT00404012	2	4.25	4.25	1.3	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	1000
AWVT00404015	2	4.25	4.25	1.7	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	1000
AWVT00404026	2	4.25	4.25	3	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	500
AWVT00505020	2	5.25	5.25	2.2	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	2000
AWVT00606020	2	6.25	6.25	2.2	1.55	1.75	7.5	16	12	4	2	330	100	13	16	-	2000
AWVT00808040	2	8.25	8.25	4.15	1.55	1.75	7.5	16	12	4	2	330	100	13	17.4	-	1000