

Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

RoHS Compliant
Halogen Free
REACH Compliant



- Noise
Suppression
- Unshield
- Wire
Wound
- Ferrite
- General
Signal line

Part Numbering

A	WCU	00	201212	300	M	02
Grade	Series Name	Control Code	Dimensions Code (mm)	Impedance (Ω)	Tolerance	Internal Code
			2.05x1.25x1.2	300 30	M ±20%	02 USB2.0
			3.2x1.6x1.9	121 120	Y ±25%	03 USB3.0

A	WCU	00	453226	513	T	M2
Grade	Series Name	Control Code	Dimensions Code (mm)	Inductance (uH)	Tolerance	Internal Code
			4.5x3.2x2.6	513 51	T ±30%	M2
				104 100		T2

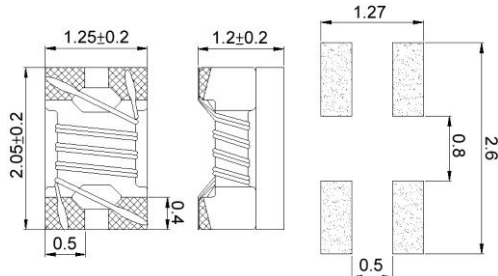
This specification applies to Common Mode Choke for Automotive Electronics based on AEC-Q200 except for Power train and Safety.

Common Mode Choke AWCU Series

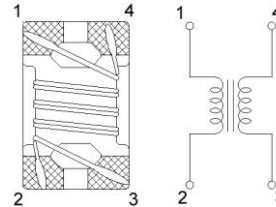
**Automotive
AEC-Q200**

AWCU00201212-02 Type

■ Dimensions / Recommended Land Pattern



■ NO Polarity Equivalent circuit



unit:mm

■ Electrical Characteristics

Part No.	Impedance (Ω)	Test Freq. (MHz)	RDC (Ω)Max.	IDC (mA)	Rated Voltage (Vdc)Max.	Withstanding Voltage (Vdc)	Insulation Resistance (MΩ)Min.	Tolerance (±%)
AWCU00201212300□02	30	100	0.2	450	50	125	10	20
AWCU00201212670□02	67	100	0.25	400	50	125	10	20
AWCU00201212750□02	75	100	0.3	360	50	125	10	20
AWCU00201212900□02	90	100	0.35	330	50	125	10	20
AWCU00201212121□02	120	100	0.3	400	50	125	10	20
AWCU00201212161□02	160	100	0.35	350	50	125	10	20
AWCU00201212181□02	180	100	0.35	330	50	125	10	20
AWCU00201212201□02	200	100	0.35	330	50	125	10	20
AWCU00201212221□02	220	100	0.35	310	50	125	10	20
AWCU00201212261□02	260	100	0.4	300	50	125	10	20
AWCU00201212301□02	300	100	0.4	290	50	125	10	20
AWCU00201212361□02	360	100	0.45	280	50	125	10	20
AWCU00201212371□02	370	100	0.45	280	50	125	10	20
AWCU00201212501□02	500	100	0.55	170	50	125	10	20
AWCU00201212671□02	670	100	0.6	140	50	125	10	20
AWCU00201212901□02	900	100	0.6	80	50	125	10	20

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

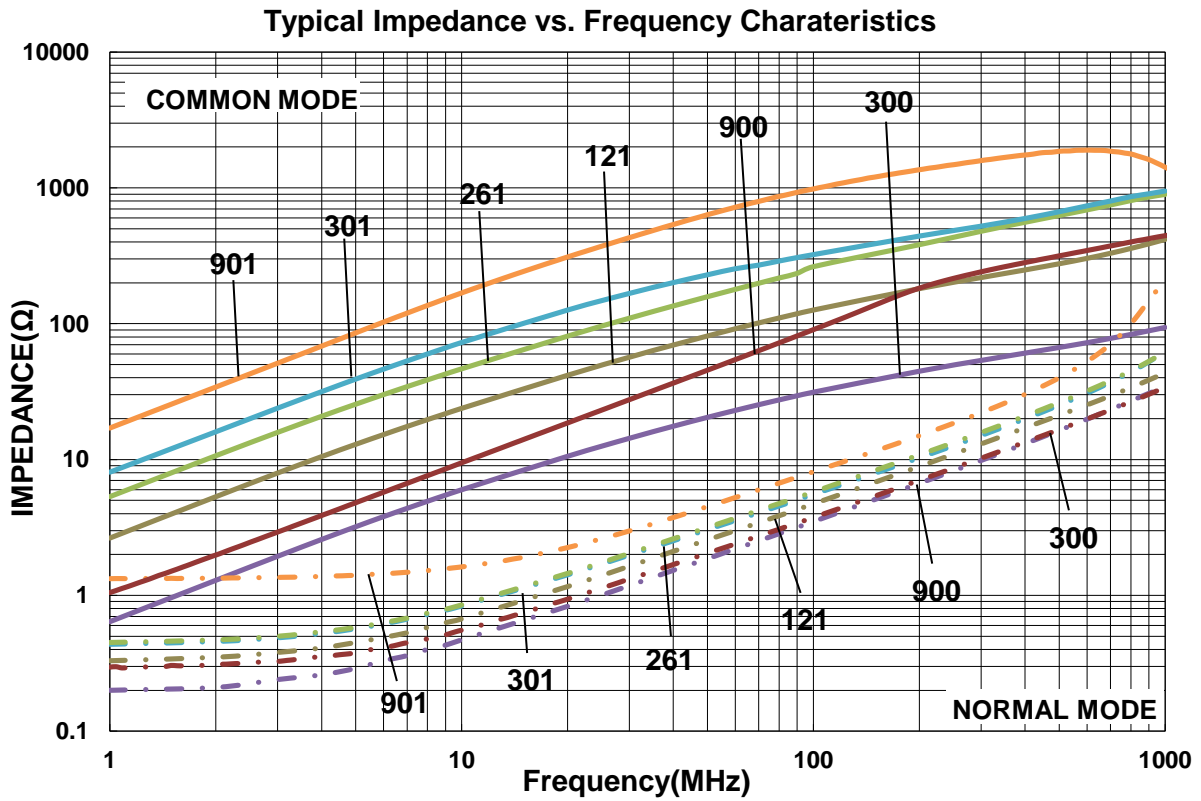
1. Operating temperature range - 50°C ~ 150°C(Including self - temperature rise)
2. RDC: SINGLE WIRE TEST VALUE
3. IDC for Inductance drop 10% from its value without current.
4. Measure Equipment:
 Z: Agilent HP4287A+Agilent 16197A
 RDC: Chroma 16502 (Single Wire Test Value)
 IDC: HP4284A+HP42841A/HP4285A+HP42841A

Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00201212-02 Type

Characteristics Graph

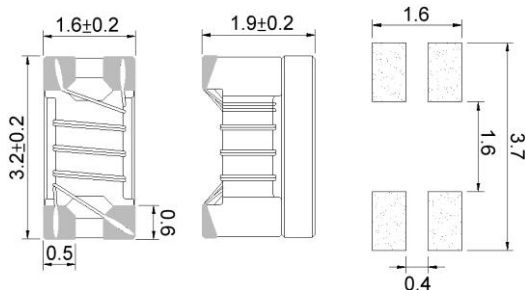


Common Mode Choke AWCU Series

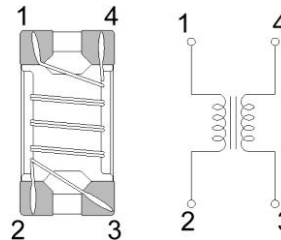
**Automotive
AEC-Q200**

AWCU00321619-02 Type

■ Dimensions / Recommended Land Pattern



■ NO Polarity Equivalent circuit



unit:mm

■ Electrical Characteristics

Part No.	Impedance (Ω)	Test Freq. (MHz)	RDC (Ω)Max.	IDC (mA)	Rated Voltage (Vdc)Max.	Withstanding Voltage (Vdc)	Insulation Resistance (MΩ)Min.	Tolerance (±%)
AWCU0032161990□02	90	100	0.3	370	50	125	10	20
AWCU00321619121□02	120	100	0.3	370	50	125	10	20
AWCU00321619161□02	160	100	0.4	340	50	125	10	20
AWCU00321619221□02	220	100	0.4	320	50	125	10	20
AWCU00321619261□02	260	100	0.5	310	50	125	10	20
AWCU00321619601□02	600	100	0.8	260	50	125	10	20
AWCU00321619102□02	1000	100	1	230	50	125	10	20
AWCU00321619222□02	2200	100	1.2	200	50	125	10	20

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

1. Operating temperature range - 50°C ~ 150°C(Including self - temperature rise)

2. RDC: SINGLE WIRE TEST VALUE

3. IDC for Inductance drop 10% from its value without current.

4. Measure Equipment:

Z: Agilent HP4287A+Agilent 16197A

RDC: Chroma 16502 (Single Wire Test Value)

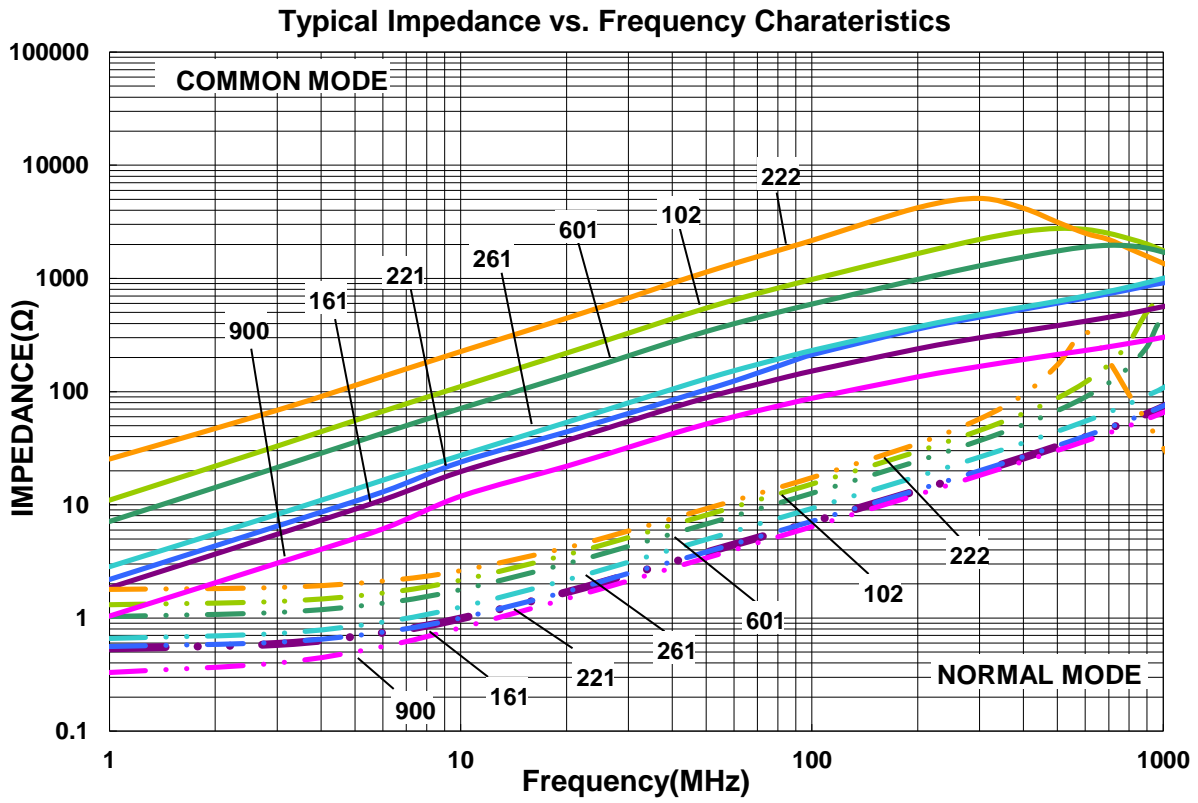
IDC: HP4284A+HP42841A/HP4285A+HP42841A

Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00321619-02 Type

Characteristics Graph



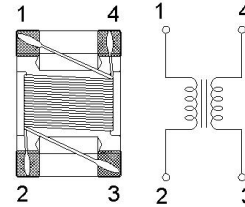
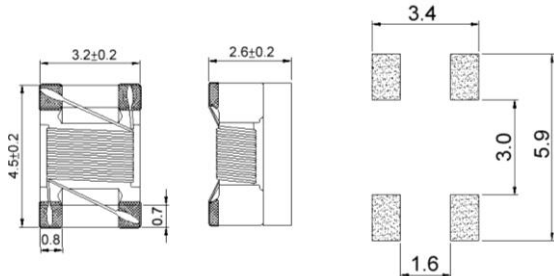
Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00453226-T2 Type

■ Dimensions / Recommended Land Patte

■ NO Polarity Equivalent circuit



unit:mm

■ Electrical Characteristics

Part No.	Inductance (uH)	Test Freq.	Impedance (Ω)		Test Freq. (MHz)	RDC (Ω) Max.	Irms (mA) Max.	Rated Voltage (Vdc)Max.	Withstanding Voltage (Vdc)	Insulation Resistance (MΩ)Min.	Tol. (±%)
			Min.	Typ.							
AWCU00453226113□T2	11	100kHz	300	600	10	0.6	250	50	125	10	30
AWCU00453226223□T2	22	100kHz	500	1200	10	1	200	50	125	10	30
AWCU00453226513□T2	51	100kHz	1000	2800	10	1	200	50	125	10	30
AWCU00453226104□T2	100	100kHz	2000	5800	10	2	150	50	125	10	30

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

- Operating temperature range - 40°C ~ 125°C(Including self - temperature rise)
- RDC: SINGLE WIRE TEST VALUE
- Irms for 40°C rise above 25°C ambient.
- Measure Equipment:
 Z: HP4286A / HP4287A / AgilentE4991A
 L: HP4284A+HP42841A/HP4285A+HP42841A
 RDC: CHROMA MILLIOM METER MODE 16502
 Irms: HP4284A+HP42841A/HP4285A+HP42841A
 Insulation Resistance: HP4339B

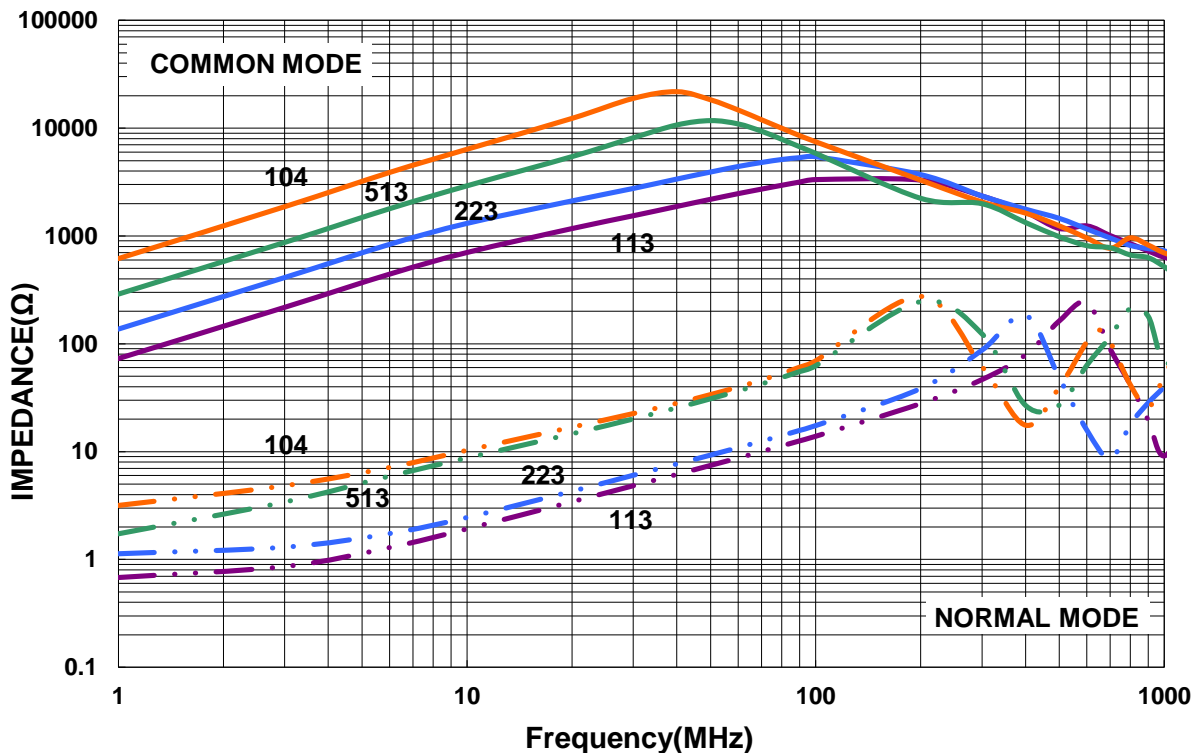
Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00453226-T2 Type

Characteristics Graph

Typical Impedance vs. Frequency Characteristics

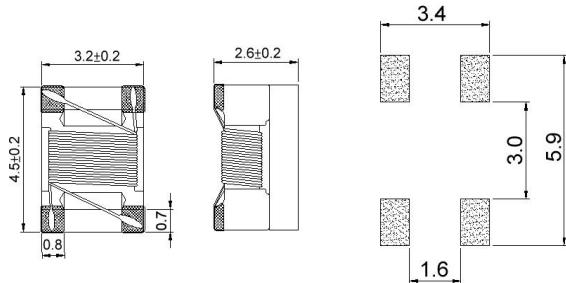


Common Mode Choke AWCU Series

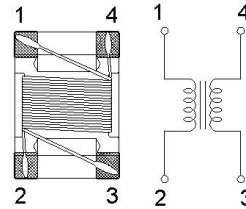
**Automotive
AEC-Q200**

AWCU00453226-M2 Type

■ Dimensions / Recommended Land Pattern



■ NO Polarity Equivalent circuit



unit:mm

■ Electrical Characteristics

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Irms (mA)Max.	Rated Voltage (Vdc)Max.	Withstanding Voltage (Vdc)	Insulation Resistance (MΩ)Min.	Tolerance (±%)
AWCU00453226113□M2	11	100kHz,100mV	0.5	360	50	125	10	30
AWCU00453226223□M2	22	100kHz,100mV	0.6	310	50	125	10	30
AWCU00453226513□M2	51	1MHz,200mV	1	230	50	125	10	30
AWCU00453226104□M2	100	1MHz,200mV	2	200	50	125	10	30

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

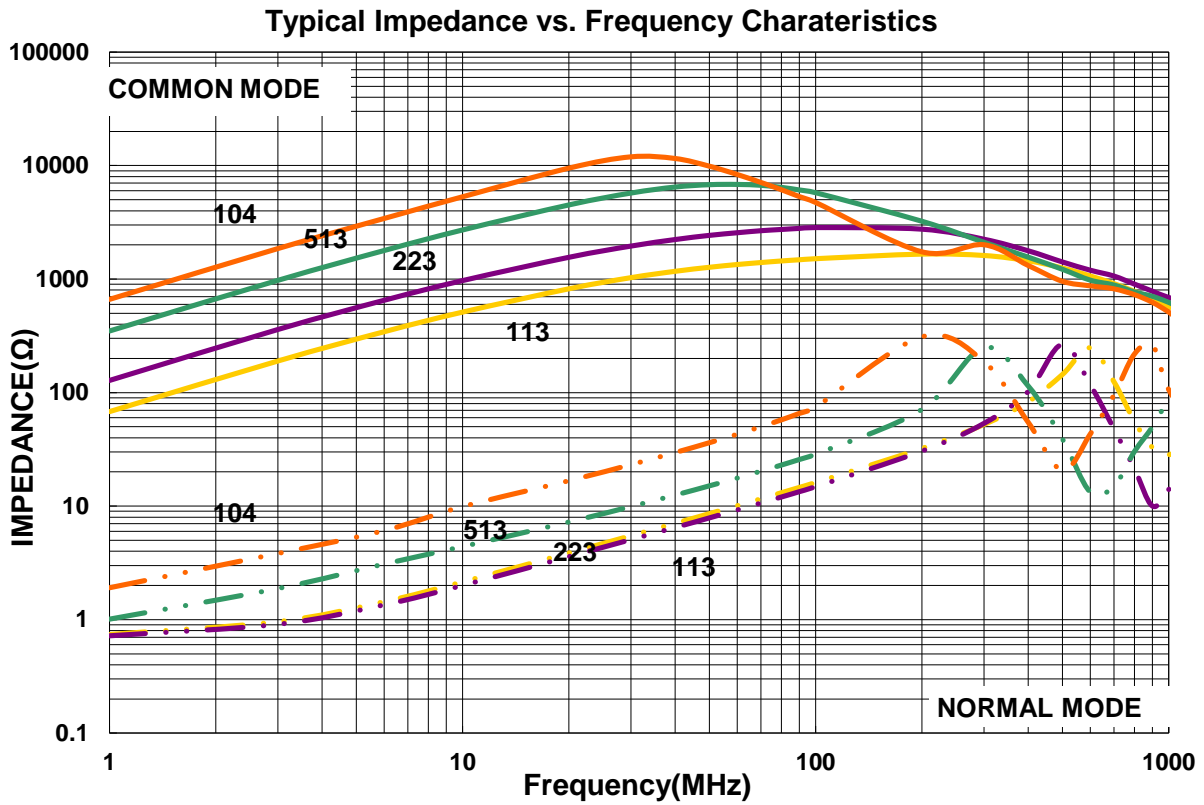
1. Operating temperature range - 40°C ~ 125°C(Including self - temperature rise)
2. RDC: SINGLE WIRE TEST VALUE
3. I rms for 40°C rise above 25°C ambient.
4. Measure Equipment:
 L: HP4284A+HP42841A/HP4285A+HP42841A
 RDC: CHROMA MILLIOM METER MODE 16502
 I rms: HP4284A+HP42841A/HP4285A+HP42841A
 Insulation Resistance: HP4339B

Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00453226-M2 Type

Characteristics Graph

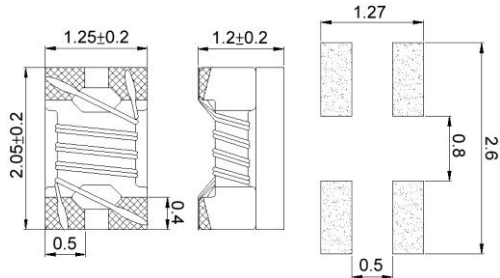


Common Mode Choke AWCU Series

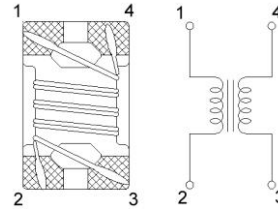
**Automotive
AEC-Q200**

AWCU00201212-03 Type

■ Dimensions / Recommended Land Pattern



■ NO Polarity Equivalent circuit



unit:mm

■ Electrical Characteristics

Part No.	Impedance (Ω)	Test Freq. (MHz)	RDC (Ω)Max.	IDC (mA)	Rated Voltage (Vdc)Max.	Withstanding Voltage (Vdc)	Insulation Resistance (MΩ)Min.	Tolerance (±%)
AWCU00201212500□03	50	100	0.2	500	50	125	10	25
AWCU00201212670□03	67	100	0.3	500	50	125	10	25
AWCU00201212900□03	90	100	0.3	500	50	125	10	25
AWCU00201212121□03	120	100	0.35	330	50	125	10	25

Note: When ordering, please specify tolerance code. Tolerance: Y=±25%

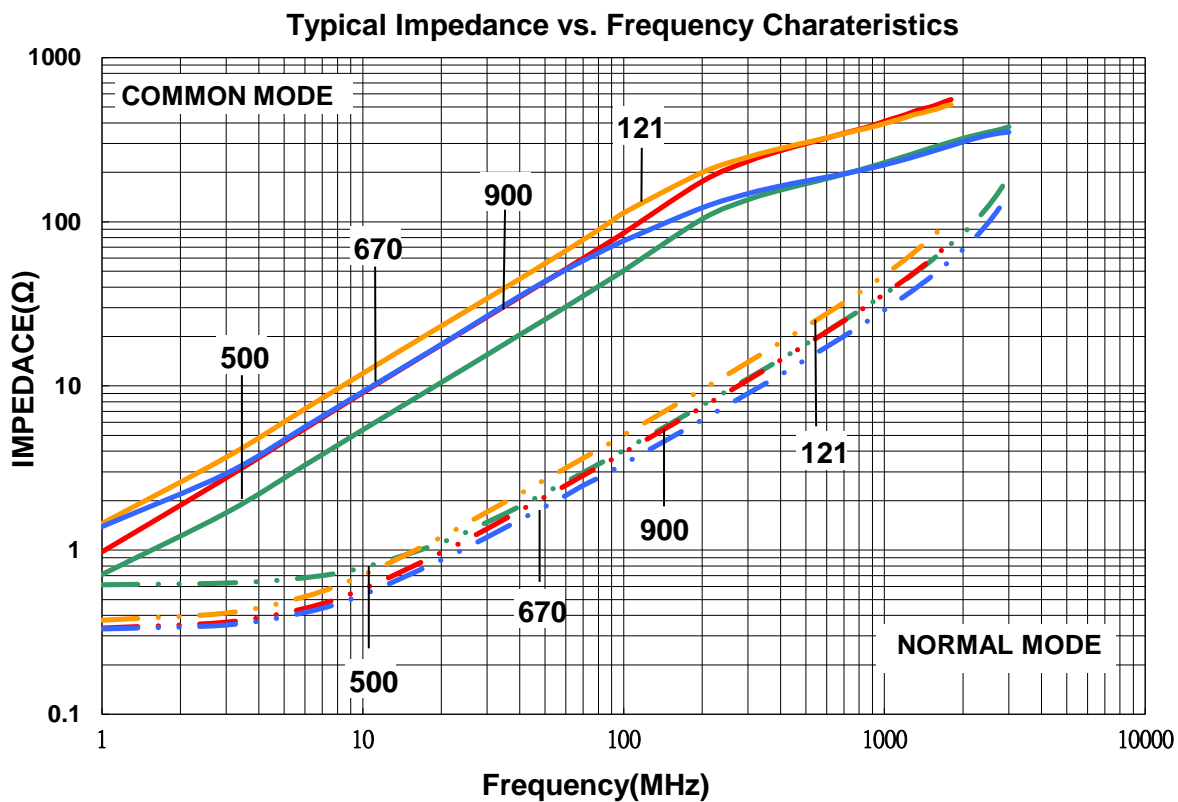
- Operating temperature range - 50°C ~ 150°C(Including self - temperature rise)
- RDC: SINGLE WIRE TEST VALUE
- IDC for Inductance drop 10% from its value without current.
- Measure Equipment:
 Z: Agilent HP4287A+Agilent 16197A
 RDC: Chroma 16502 (Single Wire Test Value)
 IDC: HP4284A+HP42841A/HP4285A+HP42841A

Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

AWCU00201212-03 Type

Characteristics Graph

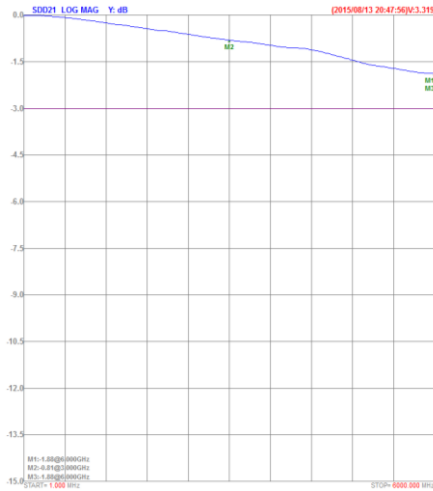


Common Mode Choke AWCU Series

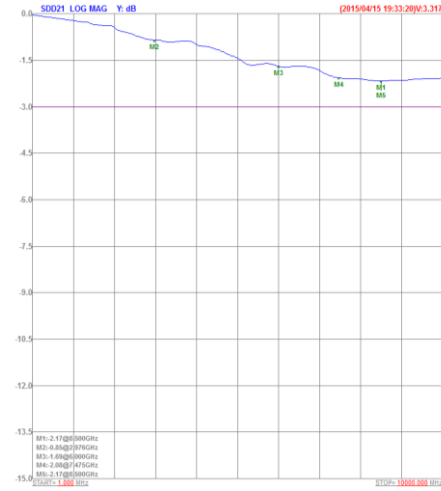
Automotive
AEC-Q200

AWCU00201212500Y03

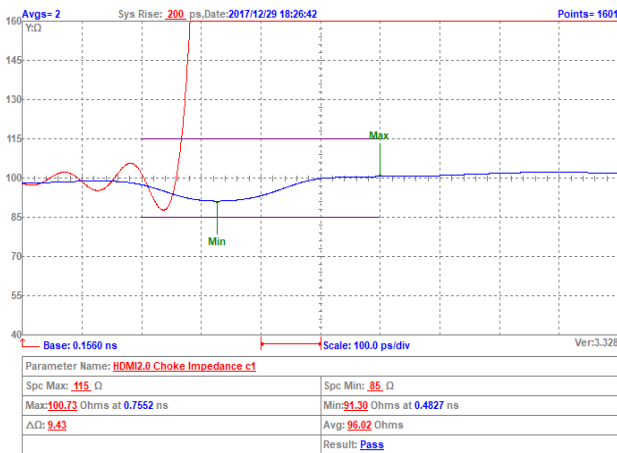
■ Insertion Loss For HDMI2.0 Testing:



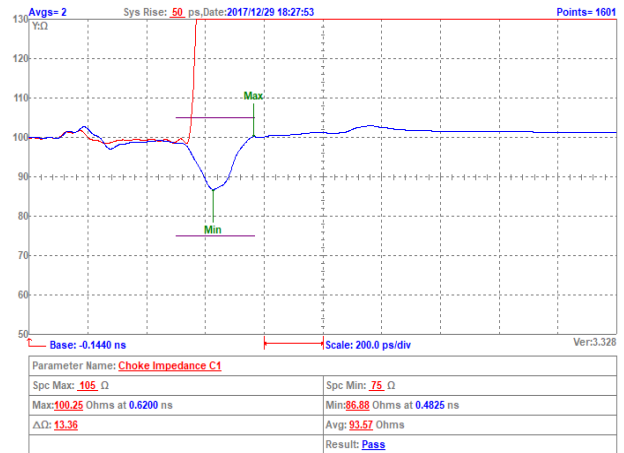
■ Insertion Loss For USB3.0 Testing:



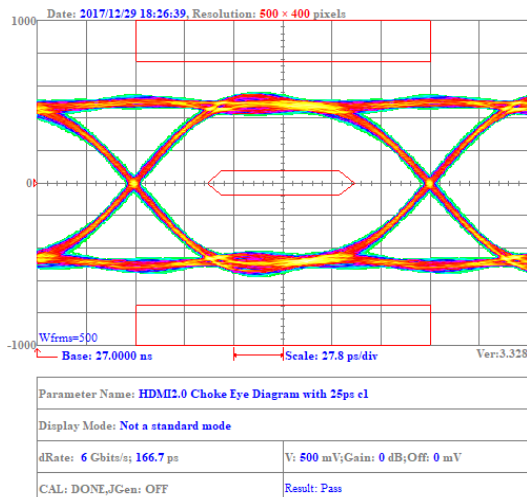
■ TDR For HDMI2.0 Testing:



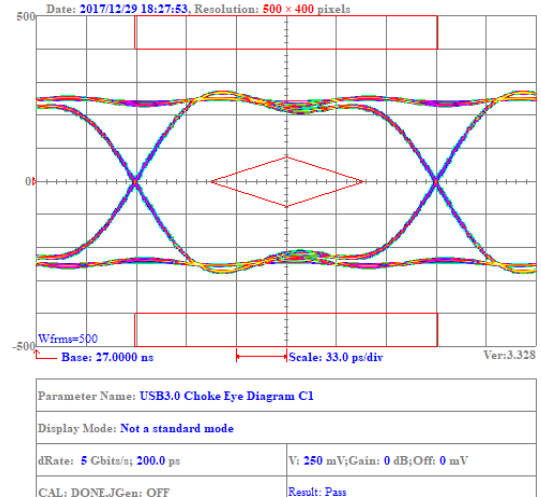
■ TDR For USB3.0 Testing:



■ Eye Diagram For HDMI2.0 Testing:



■ Eye Diagram For USB3.0 Testing:



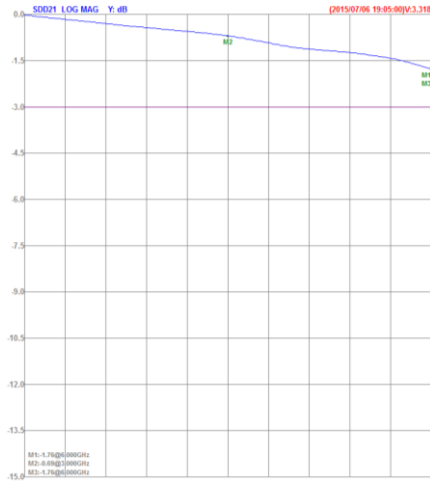
Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Chilisin approval. Please contact our sales department before ordering.

Common Mode Choke AWCU Series

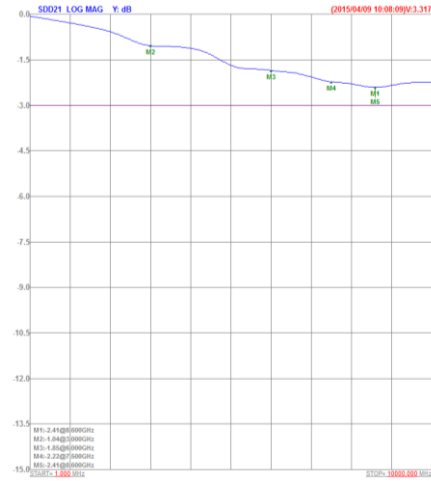
**Automotive
AEC-Q200**

AWCU00201212670Y03

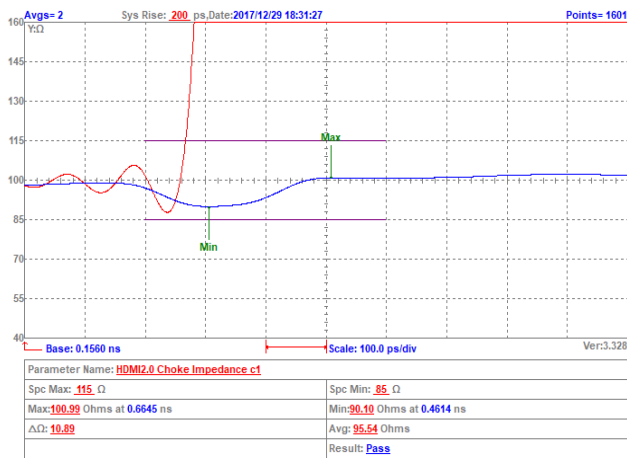
Insertion Loss For HDMI2.0 Testing:



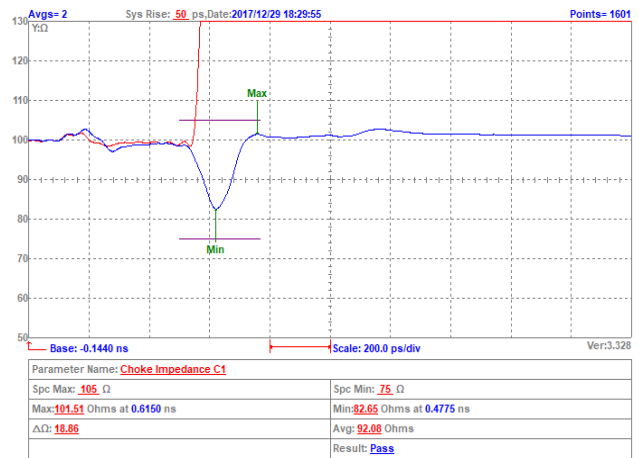
Insertion Loss For USB3.0 Testing:



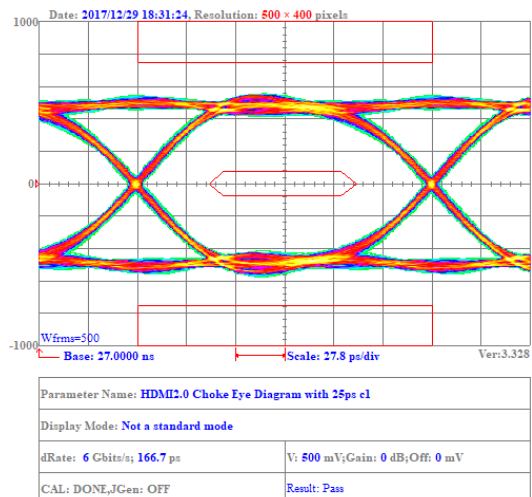
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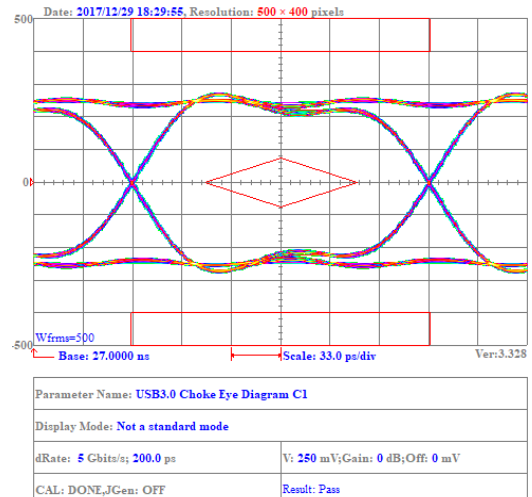
TDR For USB3.0 Testing:



Eye Diagram For HDMI2.0 Testing:



Eye Diagram For USB3.0 Testing:



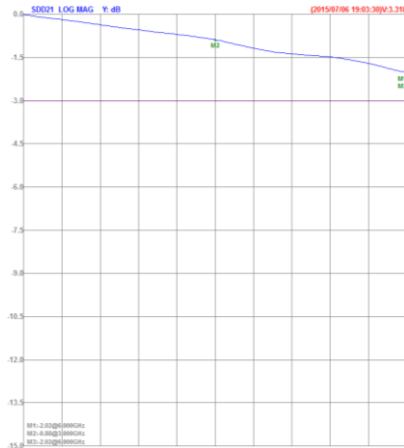
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Common Mode Choke AWCU Series

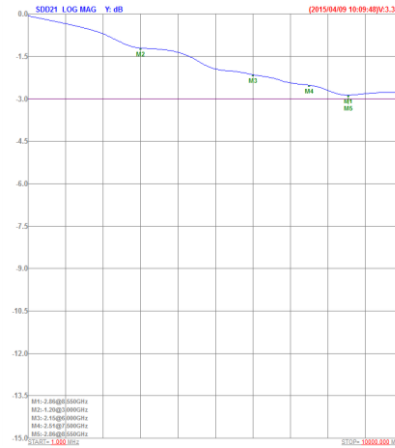
Automotive
AEC-Q200

AWCU00201212900Y03

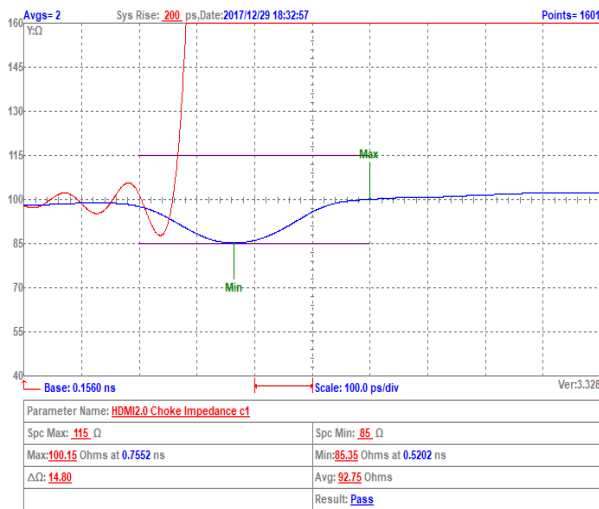
Insertion Loss For HDMI2.0 Testing:



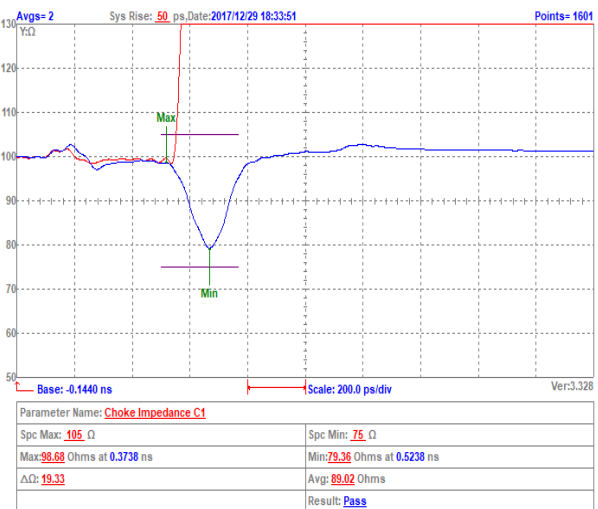
Insertion Loss For USB3.0 Testing:



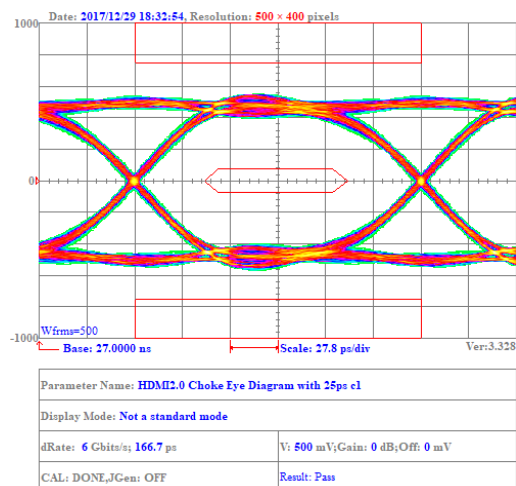
TDR For HDMI2.0 Testing:



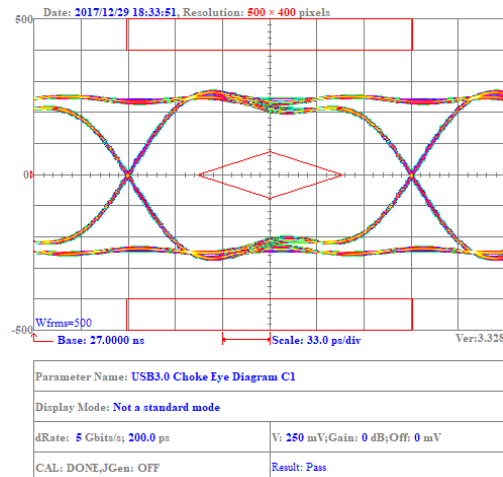
TDR For USB3.0 Testing:



Eye Diagram For HDMI2.0 Testing:



Eye Diagram For USB3.0 Testing:



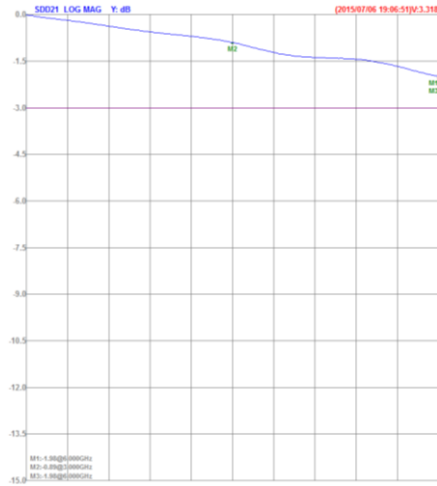
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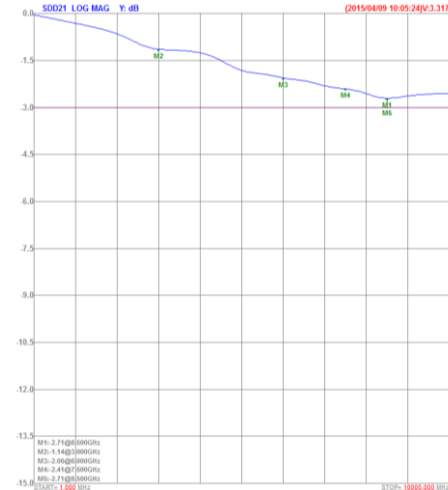
Automotive
AEC-Q200

AWCU00201212121Y03

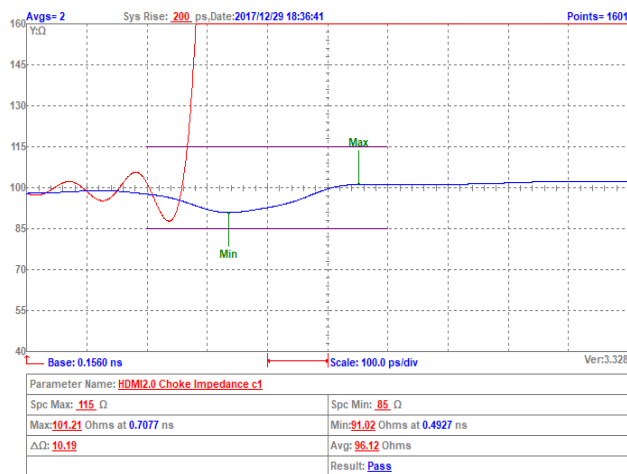
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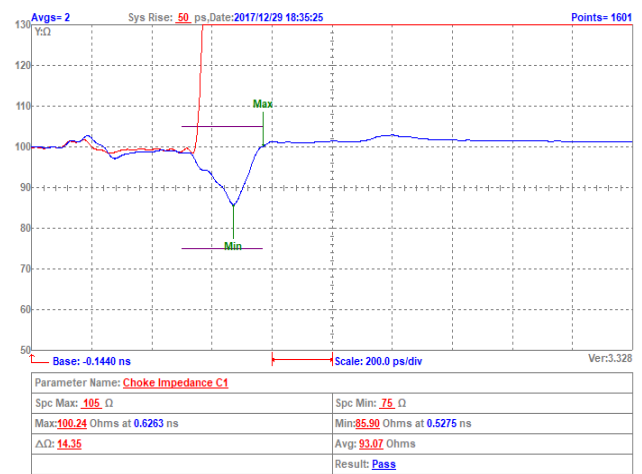
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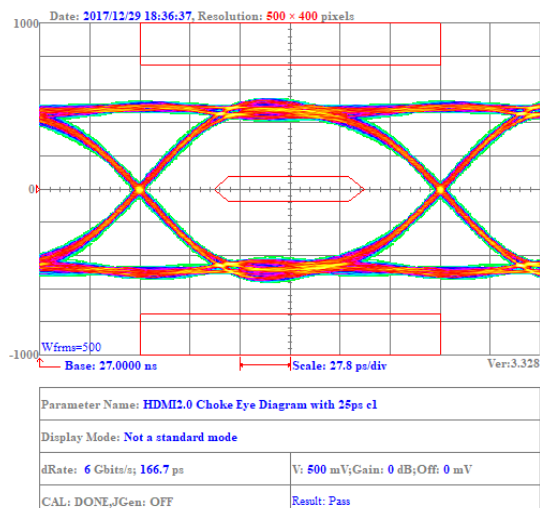
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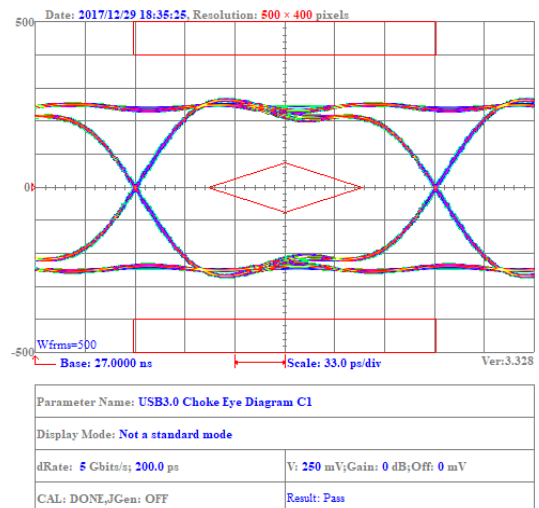
TDR For USB3.0 Testing:



Eye Diagram For HDMI2.0 Testing:



Eye Diagram For USB3.0 Testing:



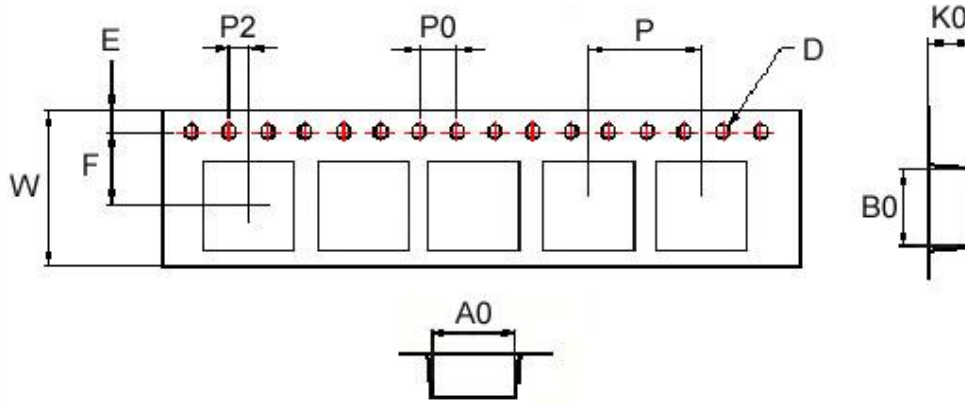
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Common Mode Choke AWCU Series

**Automotive
AEC-Q200**

■ Packaging

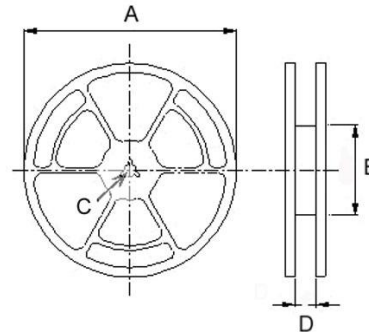
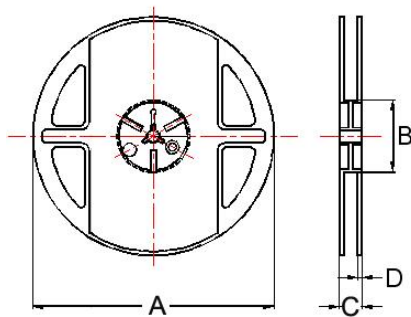
Tape Dimensions



Reel Dimensions

Figure 1

Figure 2



Dimensions in mm

TYPE	Tape Dimensions											Reel Dimensions				Quantity PCS / REEL
	A0	B0	K0	D	E	F	W	P	P0	P2	Fig.	A	B	C	D	
AWCU00201212	1.5	2.25	1.45	1.5	1.75	3.5	8	4	2	2	1	178	60	12	1.5	2000
AWCU00321619	1.76	3.47	2.05	1.5	1.75	3.5	8	4	2	2	1	178	60	12	1.5	2000
AWCU00453226	3.6	4.9	2.7	1.5	1.75	5.5	12	8	4	2	2	330	100	13	13.4	2500