

SUNLEI

FOR APPROVAL

樣品承認書



客戶名稱
CUSTOMER

產品名稱
PRODUCT

COMMON MODE CHOKE

產品型號
PART NO.

DB1210F-SERIES-PF

客戶型號
PART NO.

承認印 APPROVED BY

發行單位 ISSUE BY



昕磊科技有限公司

日期
DATE

2025/02/07

Office:

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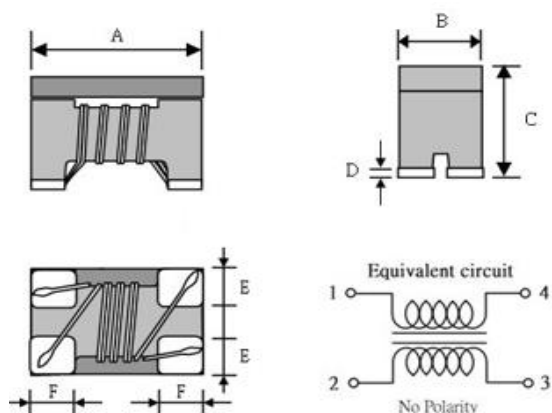
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RECORD OF REVISION

[illegible]

ITEM P/N	DB1210F-SERIES-PF	TEST INSTRUMENT	E4991·16502
PRODUCT	COMMON MODE CHOKE	TEST FREQUENCY	100 MHz / 0.5V

DIMENSIONS (mm)



DB1210	Dimensions
A	1.2 ± 0.2
B	1.0 ± 0.2
C	0.9 max.
D	0.15 max.
E	0.36Typ.
F	0.33Typ.

EXPLANATION OF PART NUMBERS

1	2	3	4	5	6	7	8	9	10	11	
D	B	1	2	1	0	F	-	2	5	0	L
(1)			(2)			(3)		(4)		(5)	

(1) Product name

(2) Shapes and dimensions

(3) Classification

F	FOR USB4.0
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(4) Impedance 【 at 100MHz 】

250:25Ω

(5) Tolerance

S=±25% ; M=±20% ; L=±15%

ELECTRICAL CHARACTERISTICS

P/N	Z(Ω)	DCR (Ω)	Idc(mA)	Rated Voltage	Insulation Resistance	Cut-off Frequency	Characteristic Resistance
	Common Mode						
	Impedance at 100MHz						
DB1210F-050□-PF	5	[Max]	[Max]	Vdc (V)Typical	IR (MΩ)Min.	(GHz)	(Ω)
DB1210F-070□-PF	7	0.06	500	20	10	10.0 typ.	5 typ.
DB1210F-120□-PF	12	0.09	500	20	10	10.0 typ.	7 typ.
DB1210F-150□-PF	15	0.10	500	20	10	12.0 typ.	12 typ.
DB1210F-250□-PF	25	0.12	500	20	10	12.0 typ.	15 typ.
		0.15	500	20	10	12.0 typ.	25 typ.

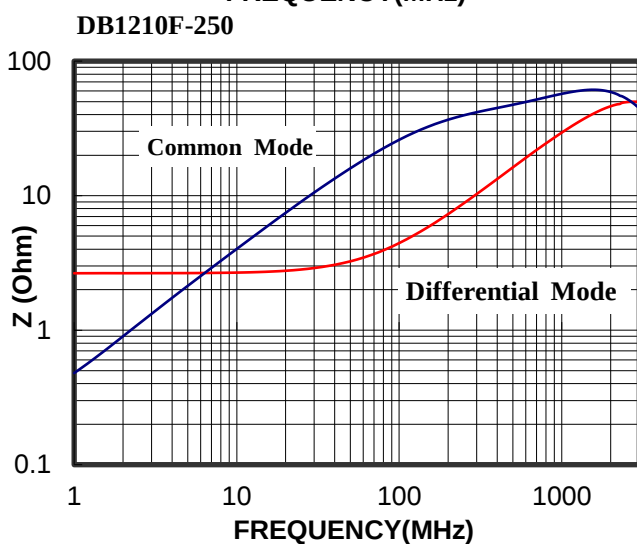
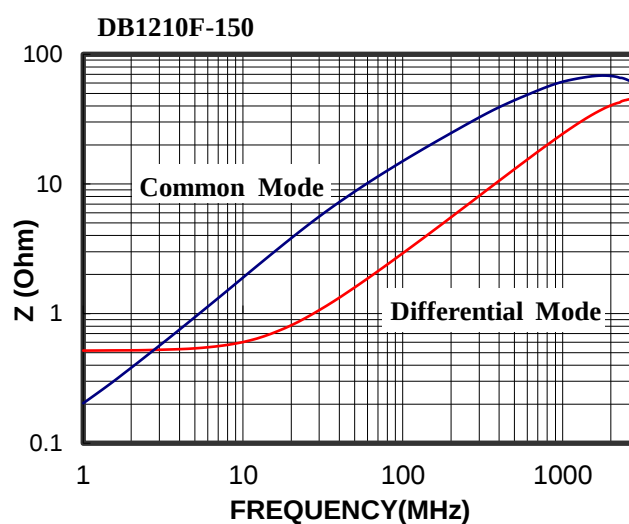
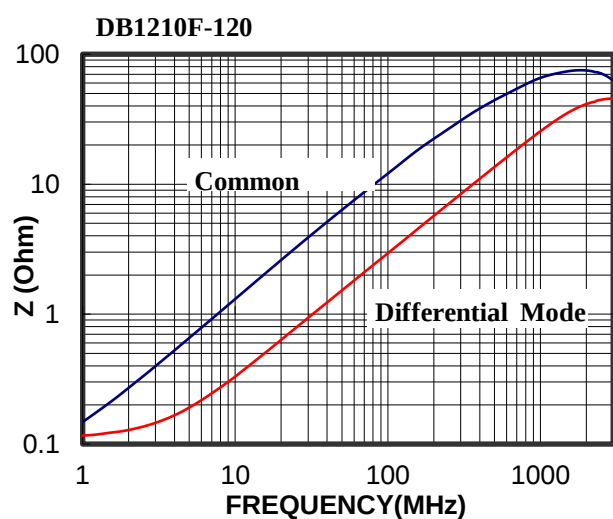
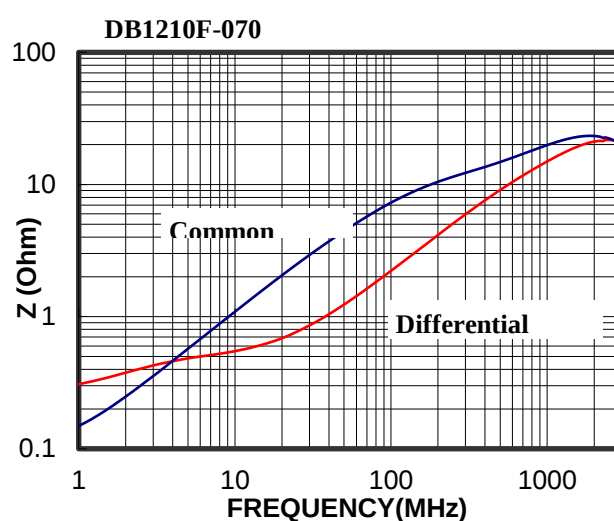
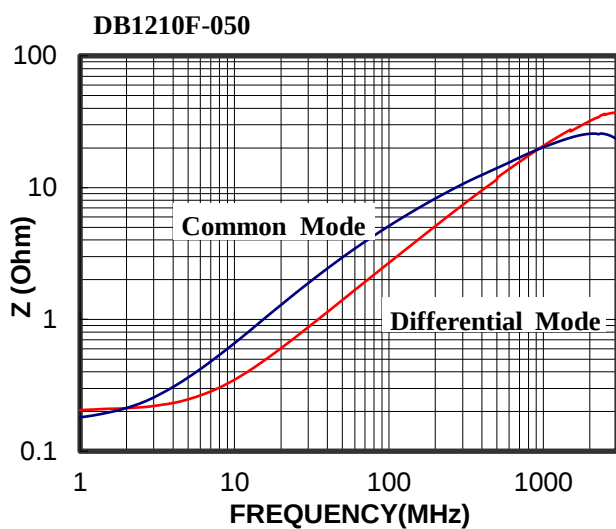
Operating temperature : -40 to +105℃

Storage temp. and humidity: Less than 40℃ and 60% RH

If Use Wave soldering is there will be some risk. Re-flow soldering temperatures below 240 degrees, there will be unwitting risk

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PERFORMANCE CURVES



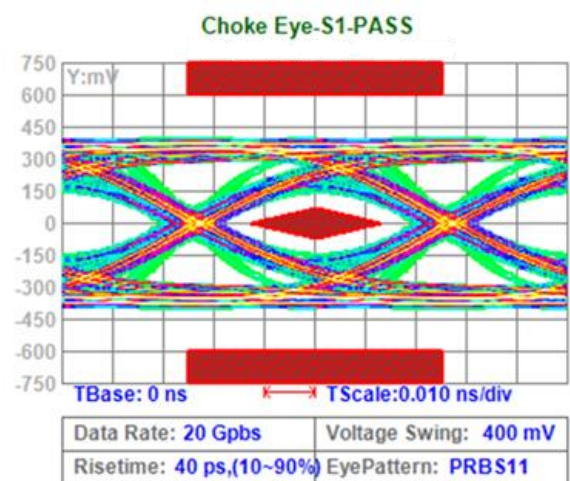
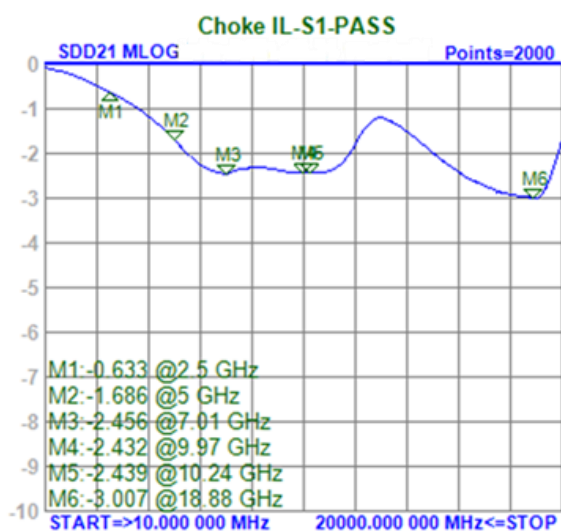
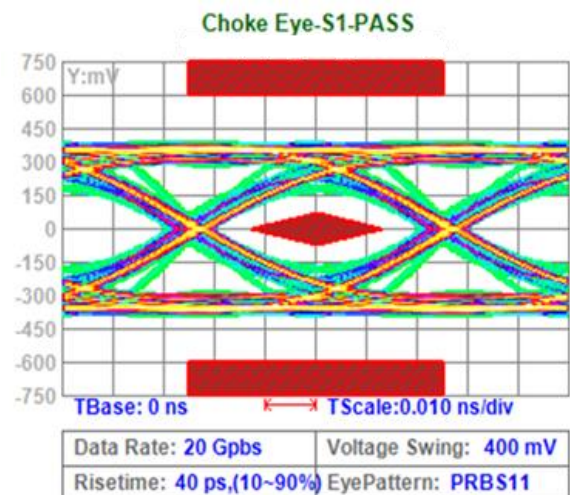
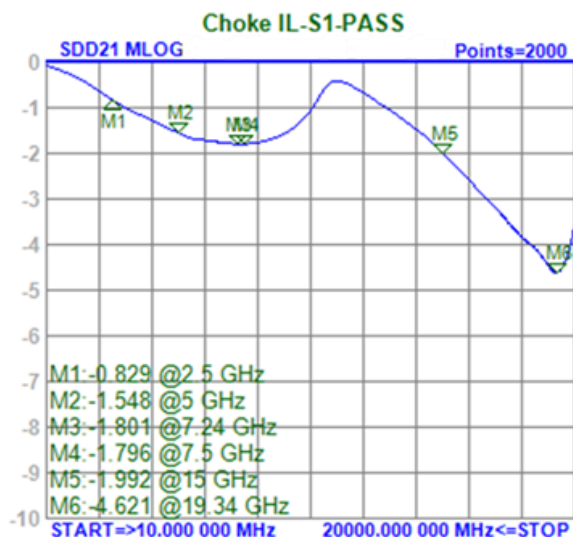
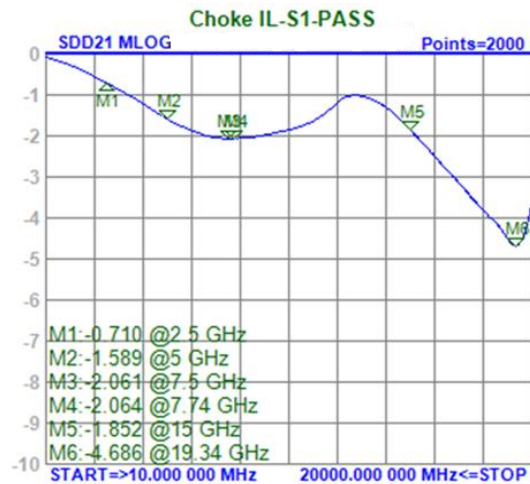
Version: 1.0

CHARACTERISTICS

**RoHS
COMPLIANT**

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■ Performance Curves

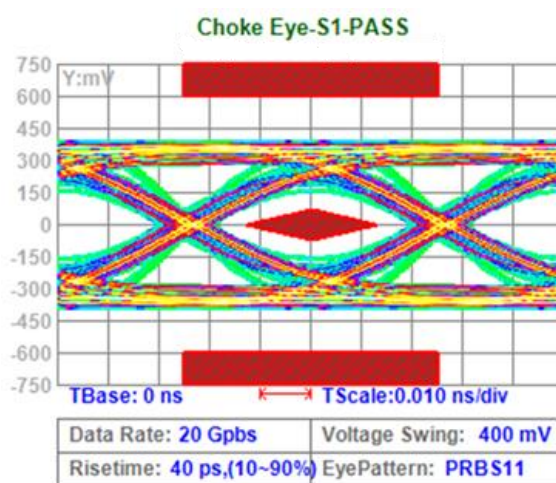
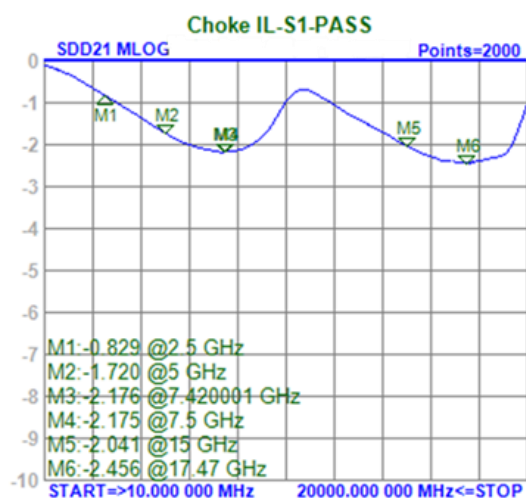
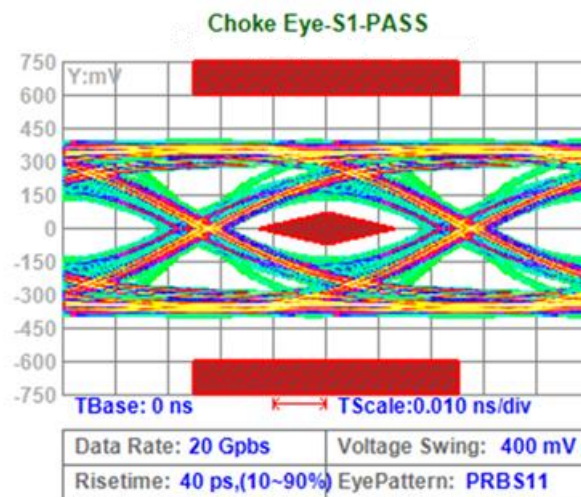
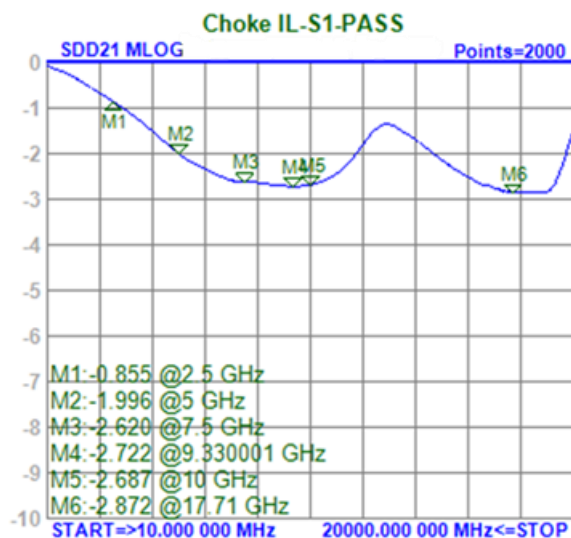


Version: 1.0

CHARACTERISTICS

RoHS
 COMPLIANT

ITEM P/N	DB1210F-SERIES-PF	TEST INSTRUMENT	E4991-16502
PRODUCT	COMMON MODE CHOKE	TEST FREQUENCY	100 MHz / 0.5V



Version: 1.0		CHARACTERISTICS		RoHS COMPLIANT
ITEM P/N	DB1210F-SERIES-PF	TEST INSTRUMENT	E4991-16502	
PRODUCT	COMMON MODE CHOKE	TEST FREQUENCY	100 MHz / 0.5V	

■ Electrical Performance

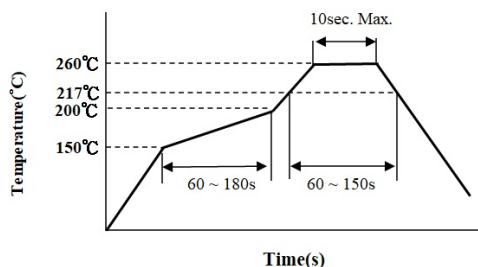
No.	Item	Specifications	Test Method
1	Impedance (Ω) (at 100MHz)	Electrical Characteristics	Measuring Equipment : Agilent E4991 or the Equivalents. Measuring Frequency : 100MHz
2	DC Resistance (Ω)		Measuring Equipment : Agilent 4339B or the Equivalents. Measuring Current : 100 mA max. (ref. Item 10.) (In Case of Doubt in The Above-mentioned Standard Condition, Measure by 4 Terminal Method.)
3	Heat Rating Current DC $I_{rms.}(A)$		Measuring Equipment : Microtest 6379 + Microtest 6220. Typical Heat Rating DC Current would cause an approximately ΔT of 40°C
4	Saturation Current DC $I_{sat.}(A)$		Measuring Equipment : Microtest 6379 + Microtest 6220. Base on temp. rise & $\Delta L/L0A \leq 30\%$ Typ.
5	Insulation Resistance (I.R.)		Measuring Equipment : Chroma 19073 or the Equivalents. Test Voltage : 50 V(DC) Time : Within 60 s
6	Withstanding Voltage (V)	Products shall not be damaged.	Voltage : 125 V(DC) Time : 60 s Charge Current : 1 mA max.
7	Rated Voltage (V)		Voltage : 50 V(DC) Time : 60 s

Terminal to be Tested

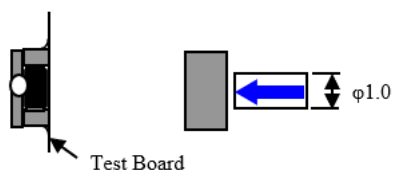
When measuring and supplying the voltage, the following terminal is applied.

No.	Item	Terminal to be Tested
1	Impedance (Ω) (Measurement Terminal)	
2	DC Resistance (Ω) (Measurement Terminal)	
3	Heat Rating Current DC I rms.(A) (Measurement Terminal)	
4	Saturation Current DC I sat. (A) (Measurement Terminal)	
5	Insulation Resistance (M Ω) (Measurement Terminal)	
6	Withstanding Voltage (V) (Measurement Terminal)	
7	Rated Voltage (V) (Measurement Terminal)	

■ Recommended Soldering Temp. Graph



■ Mechanical Reliability

TEST	Specification & Requirement		Method Used
Solderability	The metalized area must have 90% minimum solder coverage.		Solder temperature: $245 \pm 5^{\circ}\text{C}$ Soldering time: 4 ± 1 sec
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.		Solder temperature: $260 \pm 5^{\circ}\text{C}$ Soldering time: 10 ± 1 sec
Temperature cycle			Step1. 30 ± 5 minutes at $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Step2. 30 ± 5 minutes at $+105^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24 ± 2 hours
High Temp Exposure			Temperature: $105 \pm 5^{\circ}\text{C}$ Test duration: 500 ± 12 hours Measurement to be made after keeping at room temperature for 24 ± 2 hours
Humidity	Inductors must not have a shorted or open winding.		Humidity: $85 \pm 5\%$ R.H Temperature: $85 \pm 5^{\circ}\text{C}$ Test duration: 500 ± 12 hours Measurement to be made after keeping at room temperature for 24 ± 2 hours
Terminal strength	Series No.	F (Kg)	Solder a chip to test substrate and then laterally apply a force in the arrow direction 
	DB1210A/C/D/E/F	0.2	
	DB1608A/C	0.5	
	DB2012A/B/C	0.5	
	DB3216A	1.0	
	DB3225	1.0	
	DB4532	1.0	

■ Application Notice

●Storage Conditions(component level)

To maintain the solderability of terminal electrodes:

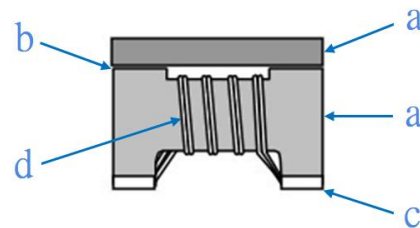
1. HUNGTRON products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months form the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

●Transportation

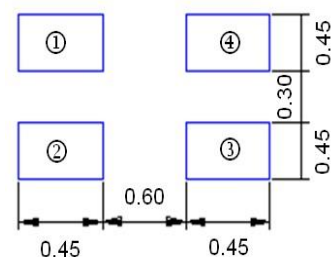
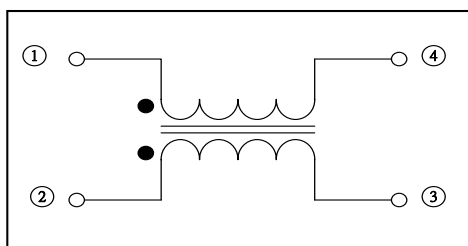
1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

■ Product Composition Diagram

No.	Description	Specification
a.	Core	Ferrite Core
b.	Coating	Epoxy
c.	Termination	Tin Pb Free
d.	Wire	Enameled Copper Wire

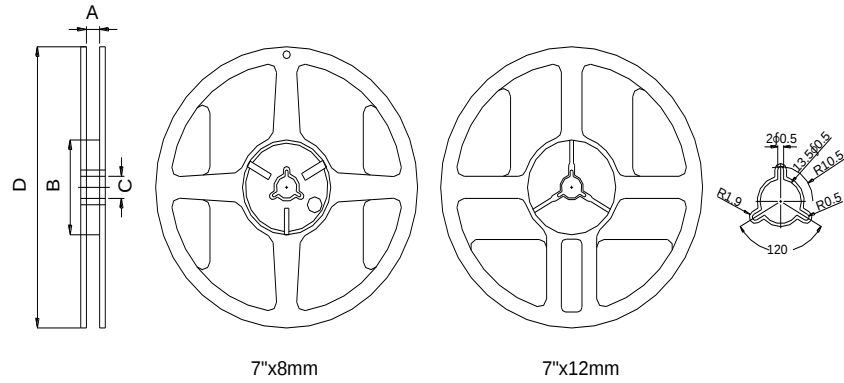


■ Recommended Footprint

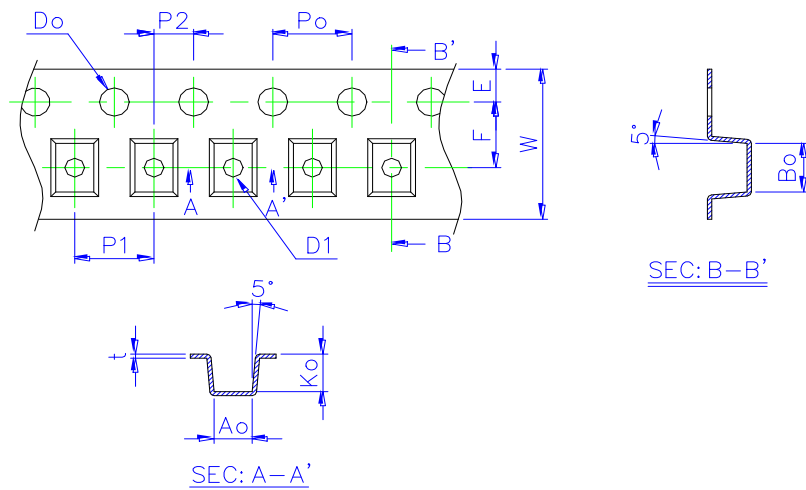


PACKAGING INFORMATION

■ Reel Dimension & Tape Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	9.5±0.5	60±0.5	13.5±0.5	178±1
7"x12mm	13.7±0.5	60±0.5	13.5±0.5	178±1



Size	t(mm)	Ao(mm)	Bo(mm)	Ko(mm)	W(mm)	E(mm)	F(mm)	Po(mm)	P1(mm)	P2(mm)	Do(mm)
1210	0.22±0.05	1.22±0.05	1.45±0.05	0.96±0.05	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1,-0
1608	0.22±0.05	1.00±0.05	1.70±0.05	1.18±0.05	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1,-0
2012	0.23±0.05	1.35±0.10	2.25±0.10	1.37±0.10	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1,-0
3216	0.23±0.05	1.88±0.10	3.50±0.10	2.10±0.10	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1,-0
3225	0.23±0.05	2.80±0.10	3.60±0.10	2.20±0.10	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1,-0
4532	0.27±0.05	3.45±0.10	4.90±0.10	3.05±0.10	12.00±0.20	1.75±0.10	3.50±0.05	4.00±0.05	8.00±0.10	2.00±0.05	1.50+0.1,-0

■ Packaging Quantity

Chip Size	1210	1608	2012	3216	3225	4532
7"/ Reel	3000	2000	2000	2000	1000	500