Data Sheet

Customer:	
Product:	**Automotive Grade Multilayer Common Mode Filter—CMX..A Series**
Sizes.:	**0504 / 0805**
Issued Date:	**11-Sep-23**
Edition:	**REV.A1**

RoHS Compliant

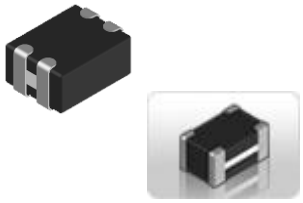
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香港海利斯特实业有限公司

SHENZHEN HELISTO TECHNOLOGYCOLTD
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11-Sep-23	11-Sep-23	11-Sep-23	11-Sep-23	
Kris Chen	*Ben Chang*	*Ben Chang*		

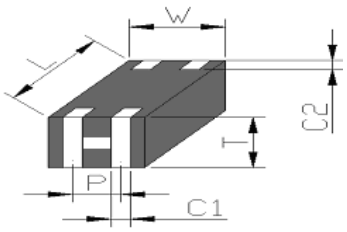
Automotive Grade Multilayer Common Mode Filter



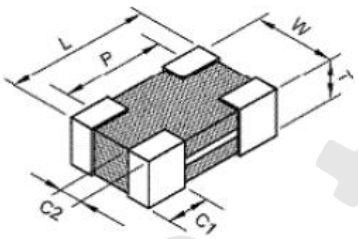
■Features and Application

- Powerful components with composite co-fired material to solve EMI problem for high speed differential signal transmission line as USB, and LVDS, without distortion to high speed signal transmission.
- MIPI, MHL serial interface in mobile device
- AEC-Q200 Compliance

■Dimensions



CMX04W



CMX05W

Type	Sizes (Inch)	L (mm)	W (mm)	T (mm)	P (mm)	C1 (mm)	C2 (mm)
CMX04W	0504	1.25±0.10	1.00±0.10	0.60±0.10	0.50±0.10	0.30±0.10	0.20±0.15
CMX05W	0805	2.00±0.20	1.25±0.20	1.00±0.10	1.60±0.20	0.40±0.20	0.30±0.20

■Part Numbering

CMX	04W	Y	T	900	A
Product Type	Dimensions LxW	Impedance Tolerance	Packaging Code	Impedance	Function Code
	04W: 0504 05W: 0805	Y: ±25%	T: Taping Reel	900: 90Ω	A: Automotive Grade

■Standard Electrical Specifications

CMX04W Type

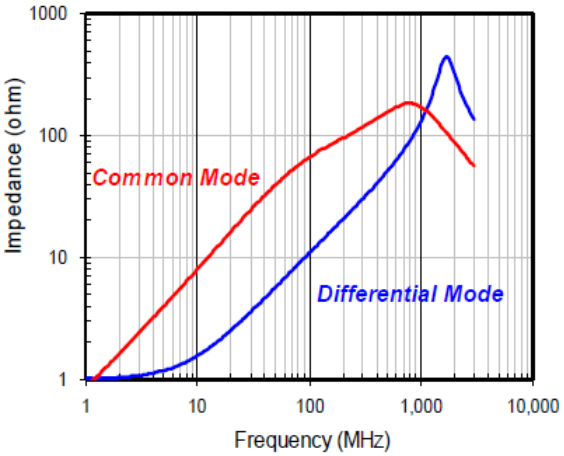
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	Rated Current (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage (V)	Insulation Resistance (MΩ) min.
67	±25%	100	0.50	300	10	25	200
90	±25%	100	0.60	300	10	25	200

CMX05W Type

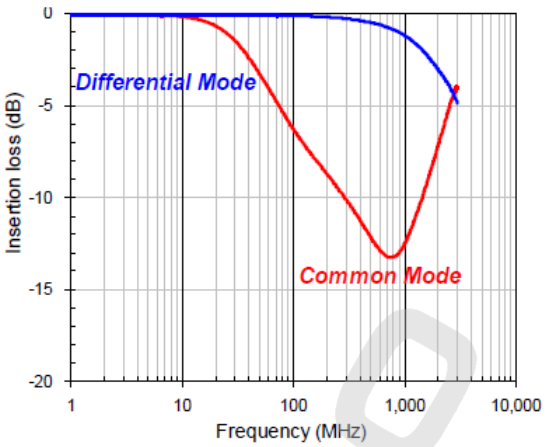
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	Rated Current (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage (V)	Insulation Resistance (MΩ) min.
67	±25%	100	0.40	400	10	25	200
90	±25%	100	0.40	400	10	25	200
120	±25%	100	0.40	400	10	25	200
160	±25%	100	0.50	400	10	25	200
180	±25%	100	0.50	400	10	25	200
220	±25%	100	0.50	300	10	25	200

Characteristics

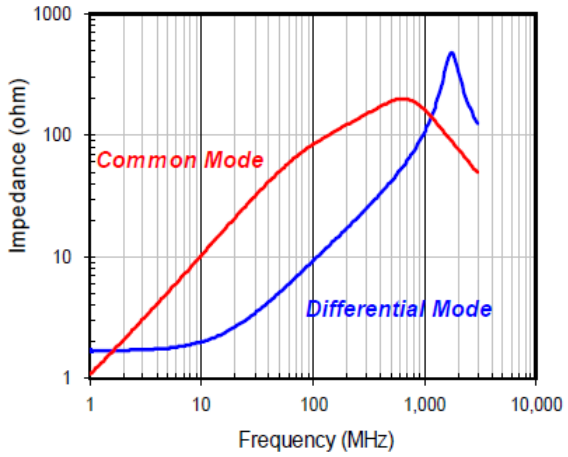
CMX04WYT670A Impedance vs. Frequency



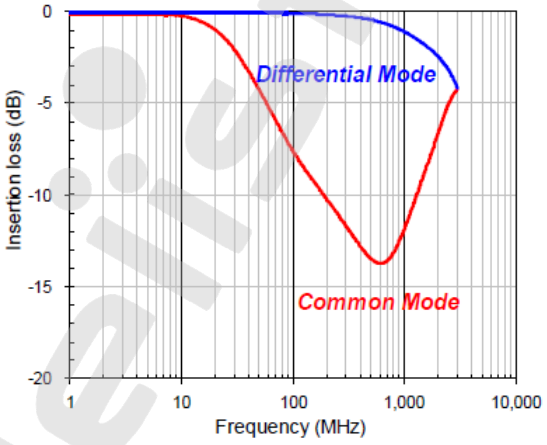
CMX04WYT670A Insertion Loss vs. Frequency



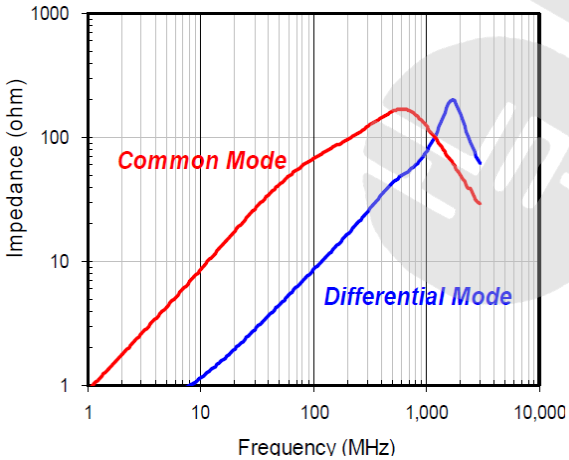
CMX04WYT900A Impedance vs. Frequency



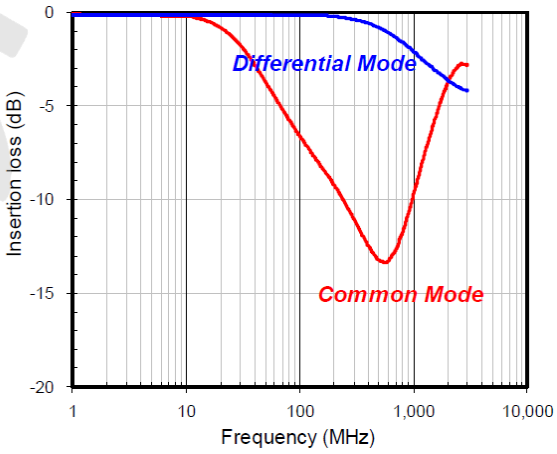
CMX04WYT900A Insertion Loss vs. Frequency



CMX05WYT670A Impedance vs. Frequency

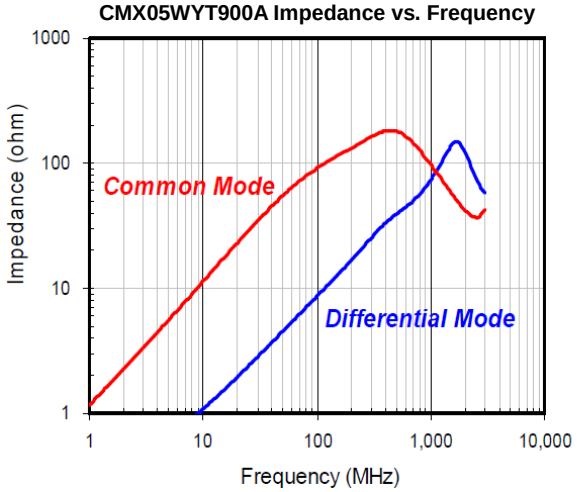


CMX05WYT670A Insertion Loss vs. Frequency

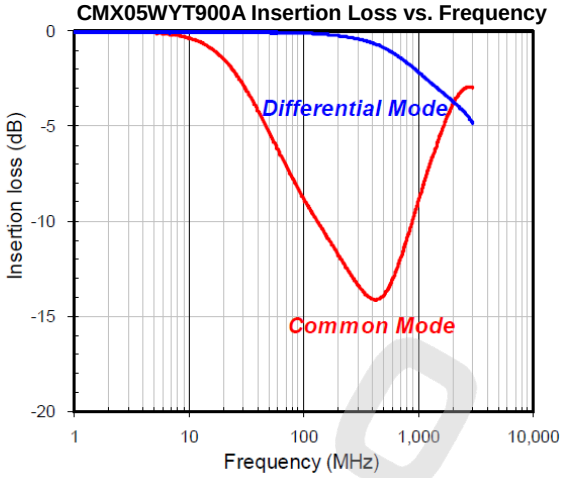


Characteristics

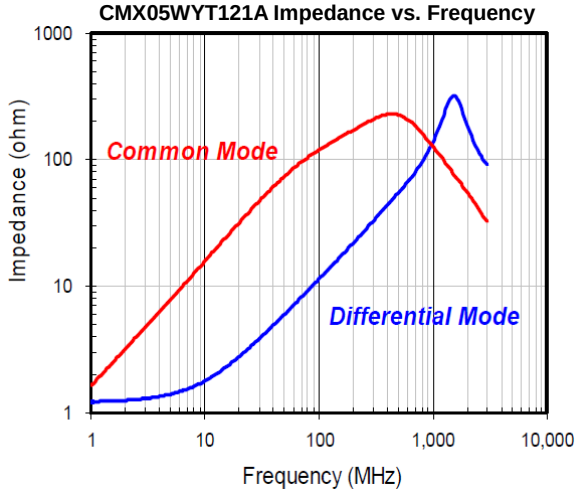
CMX05WYT900A Impedance vs. Frequency



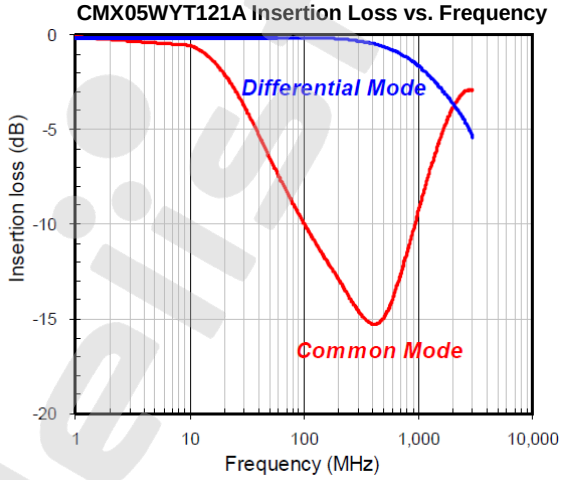
CMX05WYT900A Insertion Loss vs. Frequency



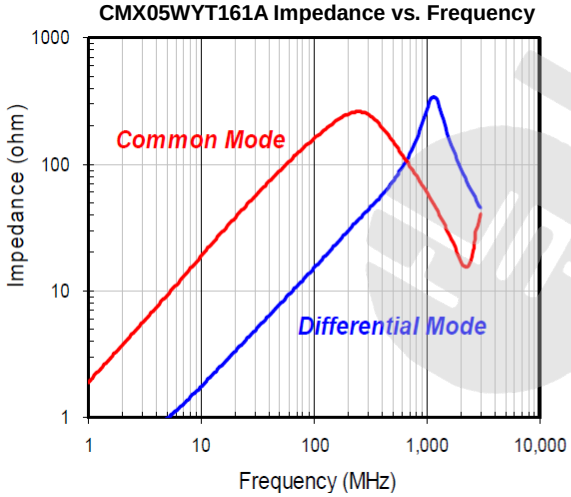
CMX05WYT121A Impedance vs. Frequency



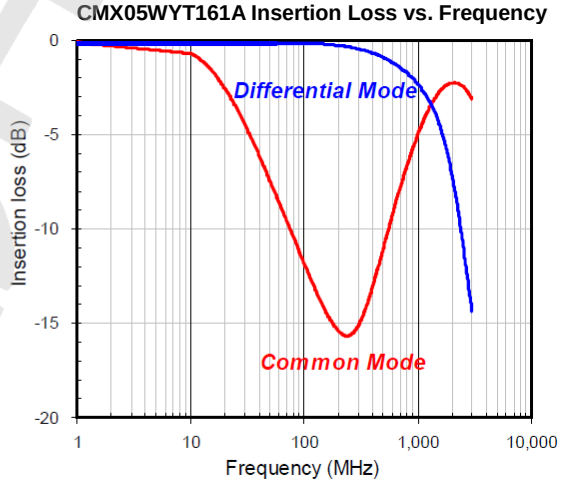
CMX05WYT121A Insertion Loss vs. Frequency



CMX05WYT161A Impedance vs. Frequency

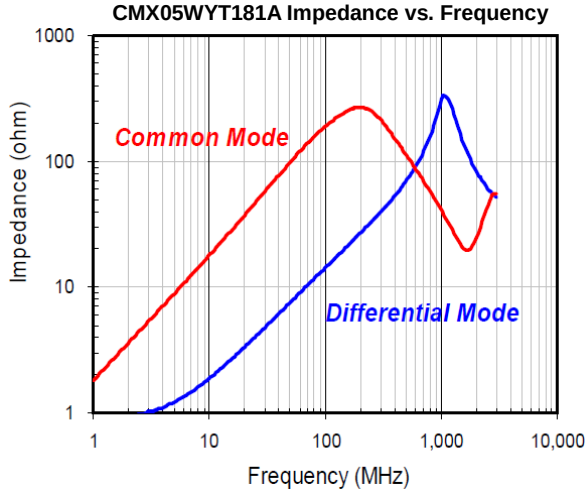


CMX05WYT161A Insertion Loss vs. Frequency

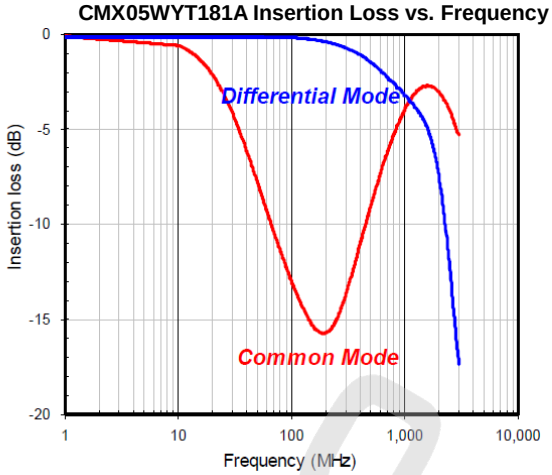


Characteristics

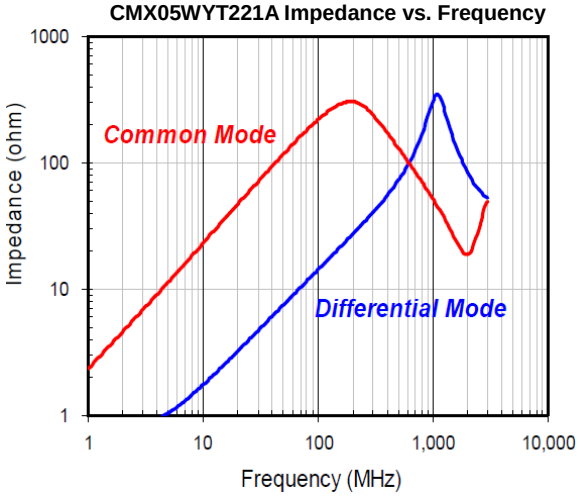
CMX05WYT181A Impedance vs. Frequency



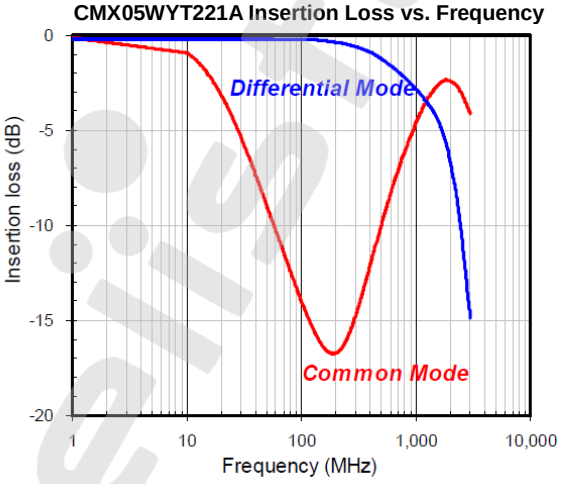
CMX05WYT181A Insertion Loss vs. Frequency



CMX05WYT221A Impedance vs. Frequency



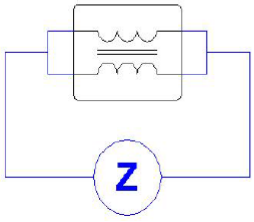
CMX05WYT221A Insertion Loss vs. Frequency



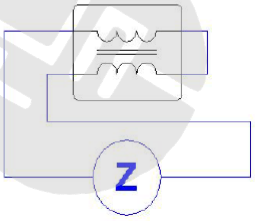
Measuring Circuits

CMX04W

(A):Common mode

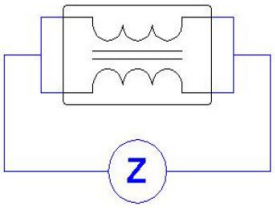


(B):Differential mode

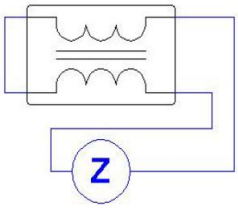


CMX05W

(A):Common mode

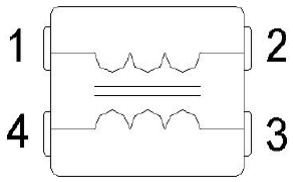


(B):Differential mode

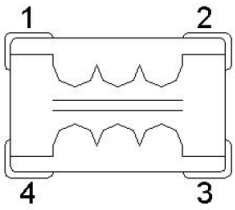


■Circuit Configuration

CMX04W

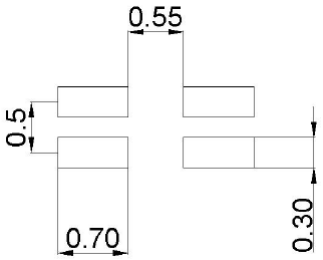


CMX05W

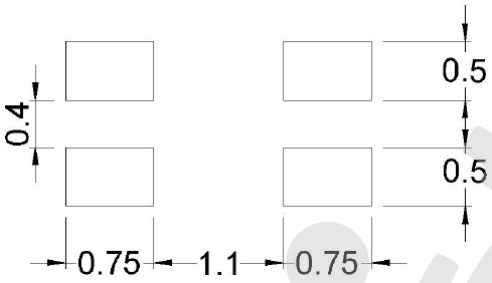


■Recommended Land Pattern

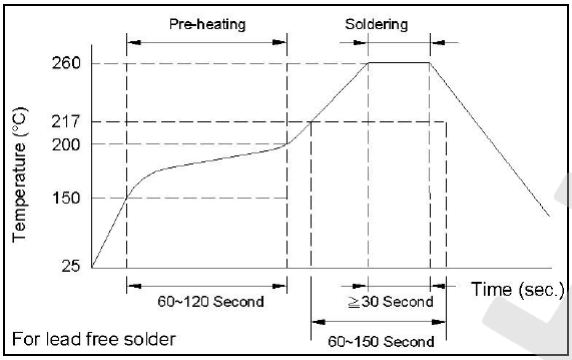
CMX04W



CMX05W



■Recommended Soldering Conditions



■Environmental Characteristics

Items	Requirement	Test Conditions
Temperature Cycle	No mechanical damage Impedance should be within ±20% of the initial value	Temperature: -55~ +125℃ Cycle : 1000cycles Dwell time: 30minutes Measurement : at ambient temperature 24 hrs after test completion
Operational Life		Temperature: 125℃± 5℃ Test time: 1000hrs Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion
Biased Humidity		Temperature: 85±2℃ Humidity : 85 % RH Test time: 1000hrs Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion
High Temperature Exposure		Temperature: 125±5℃ Test time: 1000hrs Measurement : at ambient temperature 24 hrs after test completion
Resistance to Solder Heat	Impedance should be within ±20% of the initial value	Solder temperature: 260 ± 5℃ Flux: Rosin DIP time: 10 ±1 sec
Terminal Strength	No mechanical damage	0504 size: Apply force of 5N for 30 seconds 0805 size: Apply force of 17.7N for 60 seconds
Board Flex		Epoxy-PCB(1.6mm) Deflection 2mm(min) 60s min holding time
Mechanical Shock	No mechanical damage DCR value should be within±30% of the initial value	Condition F: 1500g's/0.5ms/half sine
Vibration		5g's for 20min, 12cycles each of 3 orientations Test from 10-2000Hz., 12cycleseach of orientations

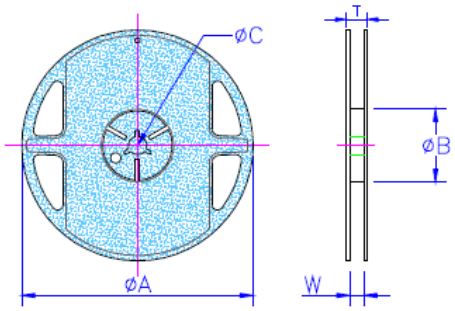
■Storage Temperature: <40°C ; Humidity 70%RH

■Operating Temperature: -55~+125°C

■Storage Time: 6 months max.

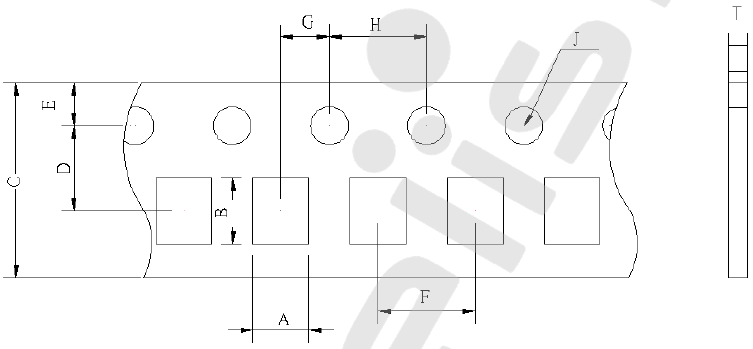
■Packaging

Packaging Quantity & Reel Specifications



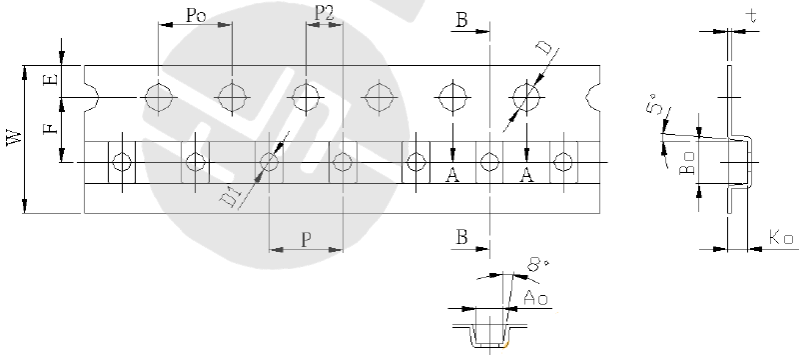
Type	øA (mm)	øB (mm)	øC (mm)	W (mm)	T (mm)	Quantity (EA)
CMX04W	178±1	60+0.5/-0	13.0±0.2	9.0±0.5	12.0±0.15	4000
CMX05W	178±1	60+0.5/-0	13.0±0.2	9.0±0.5	12.0±0.15	3000

Paper Tape Specifications



Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	T (mm)
CMX04W	1.20±0.05	1.45±0.05	8.0±0.10	3.5±0.05	1.75±0.05	4.00±0.10	2.00±0.05	4.00±0.10	1.55±0.05	0.75±0.03

Emboss Plastic Tape Specifications



Type	A0 (mm)	B0 (mm)	W (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P2 (mm)	D (mm)	D1 (mm)	K0 (mm)	t (mm)
CMX05W	1.40±0.10	2.30±0.10	8.0±0.10	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.5+010	1.00±0.10	1.13±0.10	0.22±0.05