

## Data Sheet

**Customer:**

**Product:** Automotive Grade Multilayer Common Mode Filter – CMX..A Series

**Sizes.:** 0504 / 0805

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VIKING TECH CORPORATION  
光韻科技股份有限公司  
No.70, Guangfu N. Rd., Hukou  
Township, Hsinchu County  
303, Taiwan (R.O.C)

TEL:886-3-5972931  
FAX:886-3-5972935•886-3-5973494  
E-mail:sales@viking.com.tw

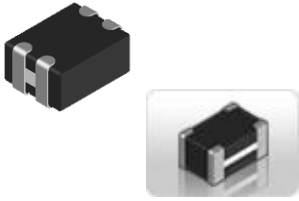
VIKING TECH CORPORATION KAOHSIUNG BRANCH  
光韻科技股份有限公司高雄分公司  
No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,  
806, Taiwan

TEL:886-7-8217999  
FAX:886-7-8228229  
E-mail:sales@viking.com.tw

VIKING ELECTRONICS (WUXI) CO., LTD.  
光韻電子(無錫)有限公司  
No.22 Xixia Road, Machinery & Industry Park,  
National Hi-Tech Industrial Development Zone  
of Wuxi, Wuxi, Jiangsu Province, China  
Zip Code:214028  
TEL:86-510-85203339  
FAX:86-510-85203667•86-510-85203977  
E-mail:china@viking.com.tw

Produced by (QC)	Checked (QC)	Approved by (QC)	Prepared by (Sales)	Accepted by (Customer)
11-Sep-23	11-Sep-23	11-Sep-23	11-Sep-23	
<i>Kris Chen</i>	<i>Ben Chang</i>	<i>Ben Chang</i>		

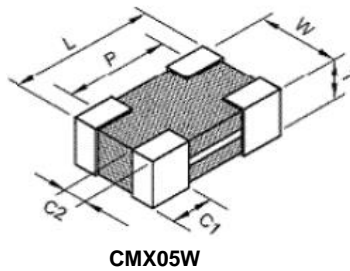
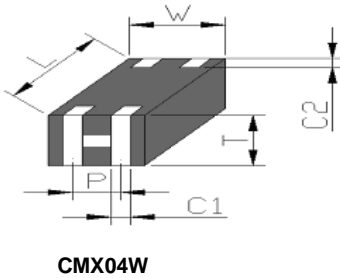
## Automotive Grade Multilayer Common Mode Filter



### ■ 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



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

### ■ Standard Electrical Specifications

#### CMX04W Type

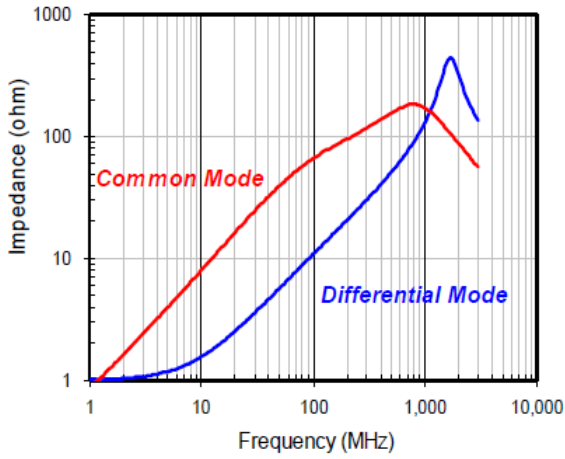
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	Rated Current (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage (V)	Insulation Resistance (MΩ) min.
67	±25%	100	0.50	300	10	25	200
90	±25%	100	0.60	300	10	25	200

#### CMX05W Type

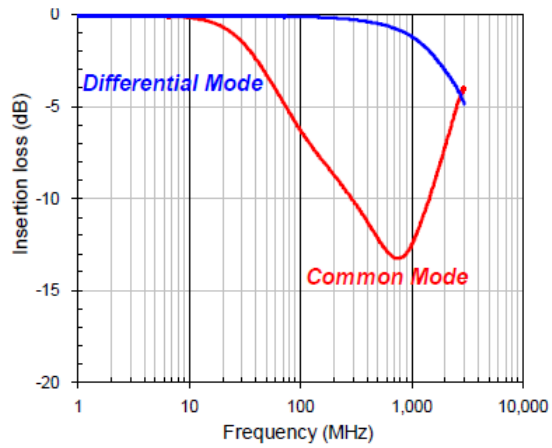
Impedance (Ω)	Tolerance	Test Condition (MHz)	DCR (Ω) max.	Rated Current (mA) max.	Rated Voltage Vdc (V)	Withstanding Voltage (V)	Insulation Resistance (MΩ) min.
67	±25%	100	0.40	400	10	25	200
90	±25%	100	0.40	400	10	25	200
120	±25%	100	0.40	400	10	25	200
160	±25%	100	0.50	400	10	25	200
180	±25%	100	0.50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

**Characteristics**

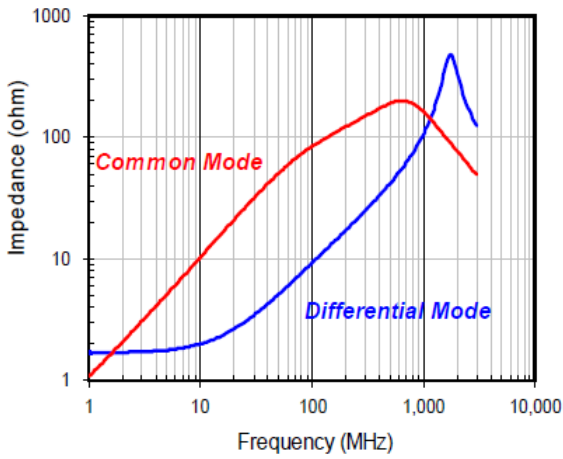
CMX04WYT670A Impedance vs. Frequency



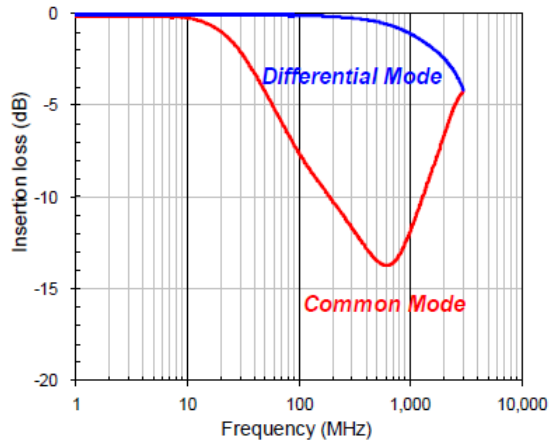
CMX04WYT670A Insertion Loss vs. Frequency



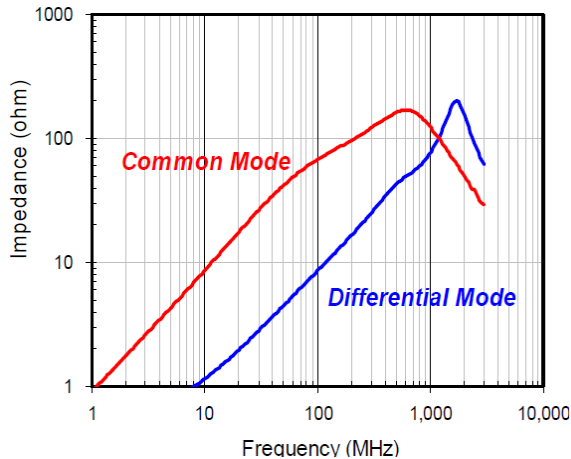
CMX04WYT900A Impedance vs. Frequency



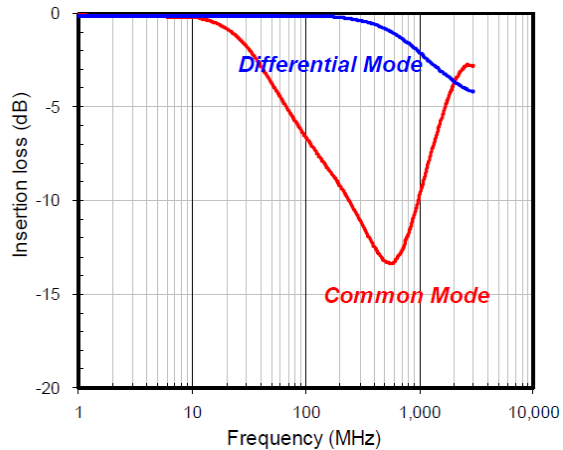
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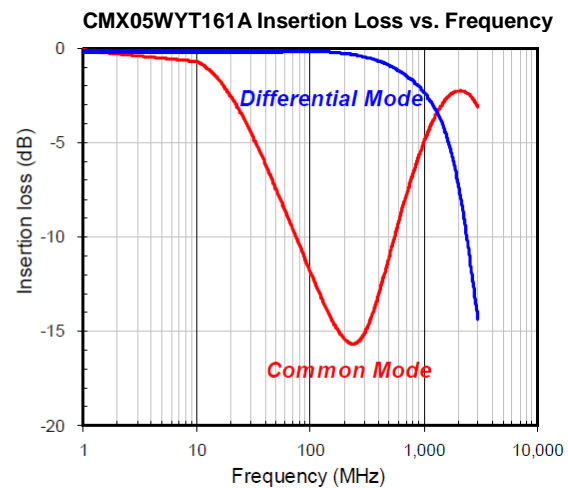
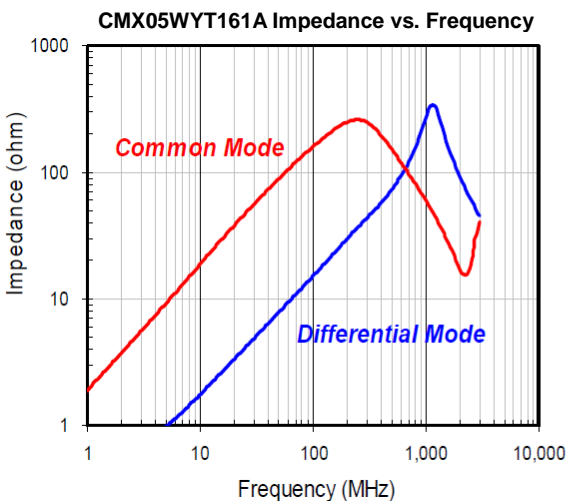
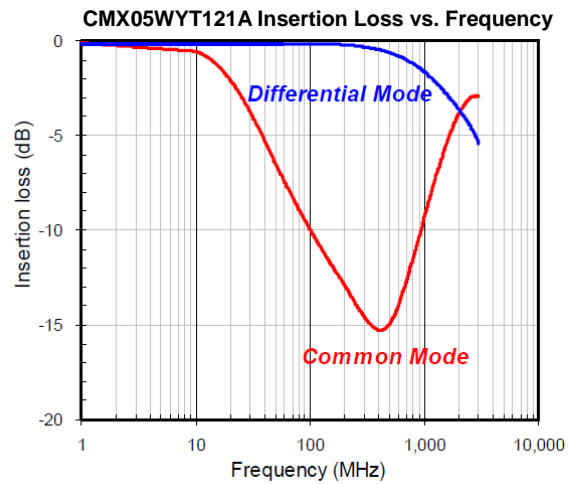
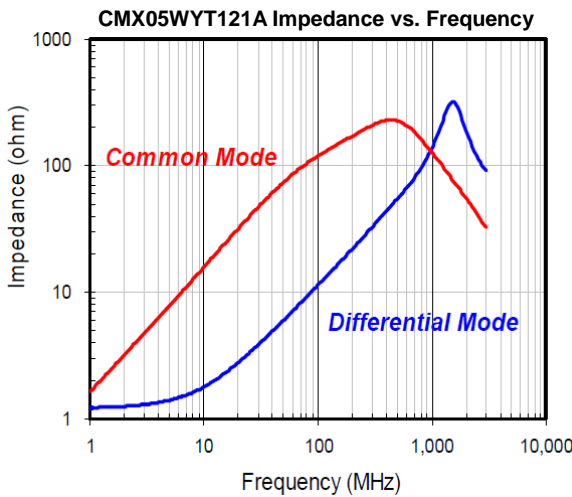
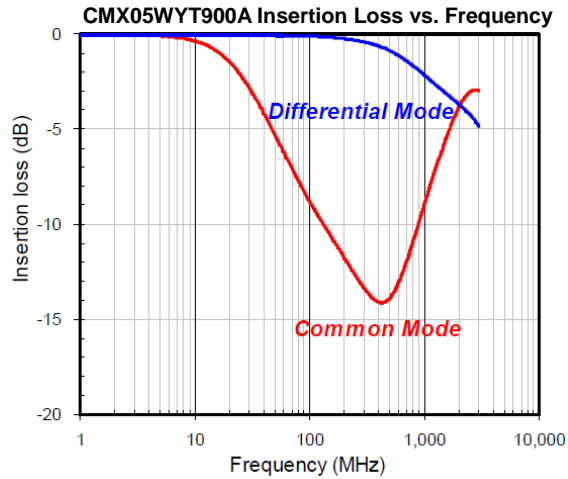
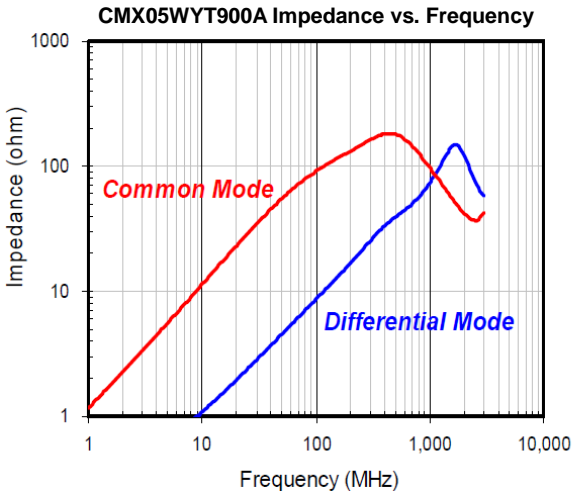
CMX05WYT670A Impedance vs. Frequency



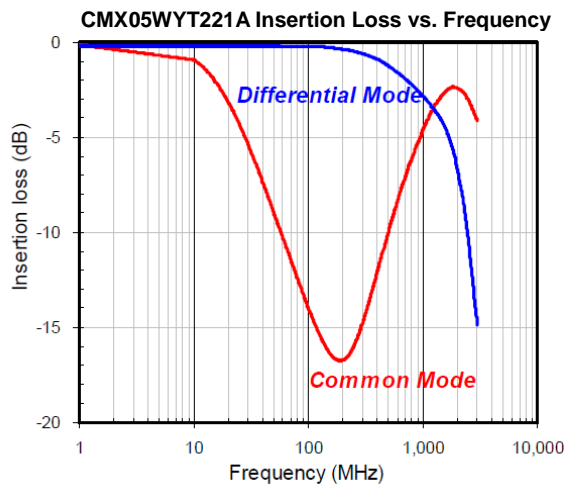
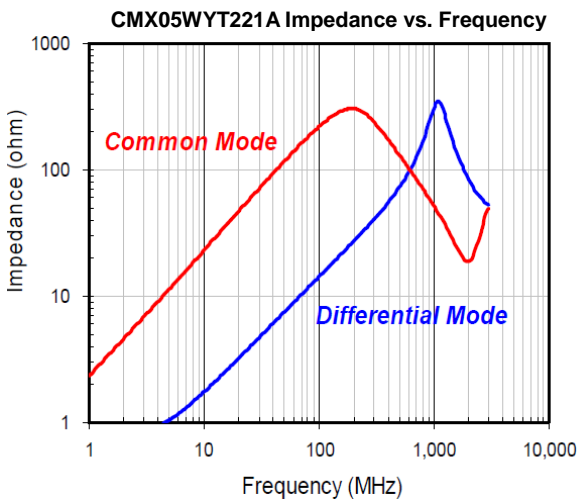
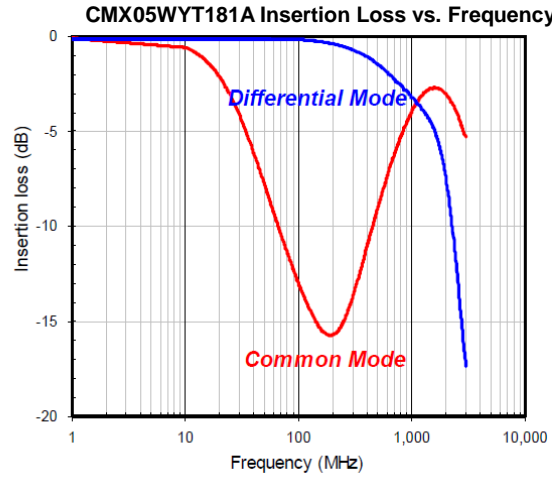
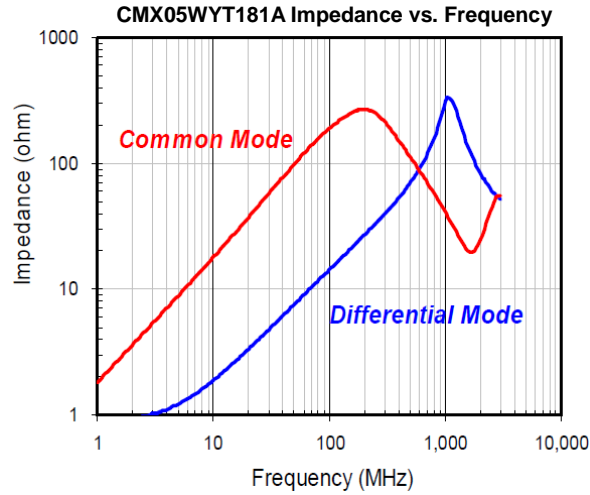
CMX05WYT670A Insertion Loss vs. Frequency



■ Characteristics



**■ Characteristics**

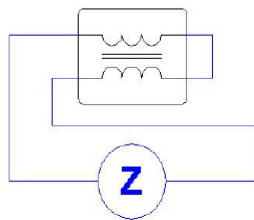
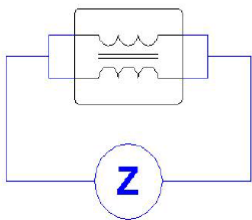


**■ Measuring Circuits**

**CMX04W**

(A): Common mode

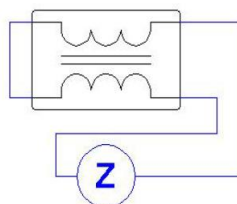
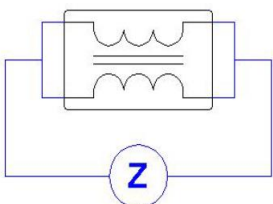
(B): Differential mode



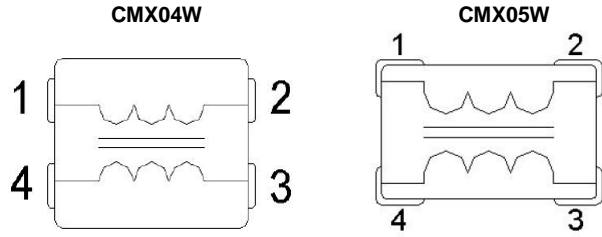
**CMX05W**

(A): Common mode

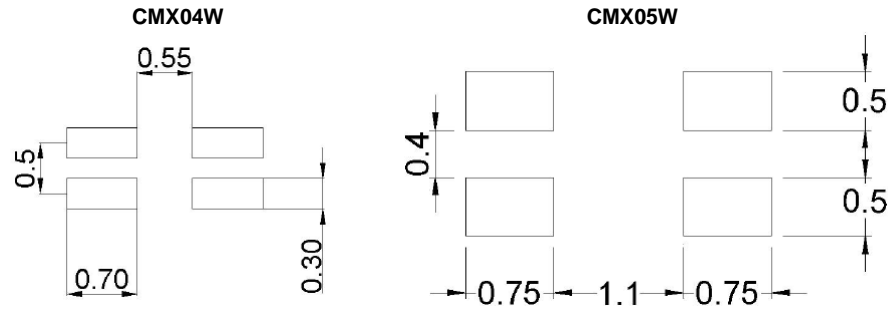
(B): Differential mode



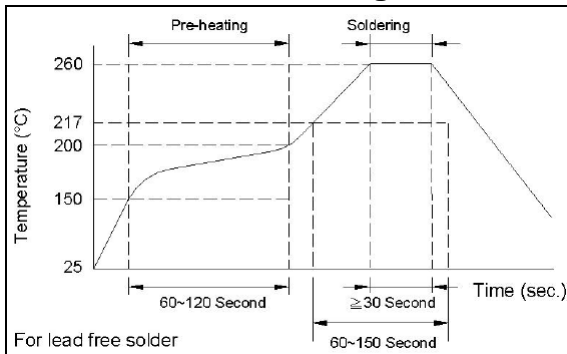
**■ Circuit Configuration**



**■ Recommended Land Pattern**



**■ Recommended Soldering Conditions**



**Environmental Characteristics**

Items	Requirement	Test Conditions
Temperature Cycle		Temperature: -55~ +125°C Cycle : 1000cycles Dwell time: 30minutes Measurement : at ambient temperature 24 hrs after test completion
Operational Life	No mechanical damage Impedance should be within ±20% of the initial value	Temperature: 125°C ± 5°C Test time: 1000hrs Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion
Biased Humidity		Temperature: 85±2°C 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°C Test time: 1000hrs Measurement : at ambient temperature 24 hrs after test completion
Resistance to Solder Heat		Solder temperature: 260 ± 5°C 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	Condition F: 1500g's/0.5ms/half sine
Vibration	DCR value should be within±30% of the initial value	5g's for 20min, 12cycles each of 3 orientations Test from 10-2000Hz., 12cycleseach of orientations

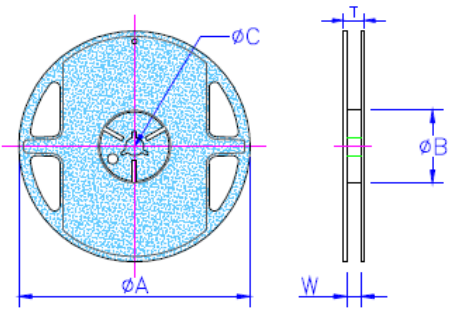
■Storage Temperature: <40°C ; Humidity 70%RH

■Operating Temperature: -55~+125°C

■Storage Time: 6 months max.

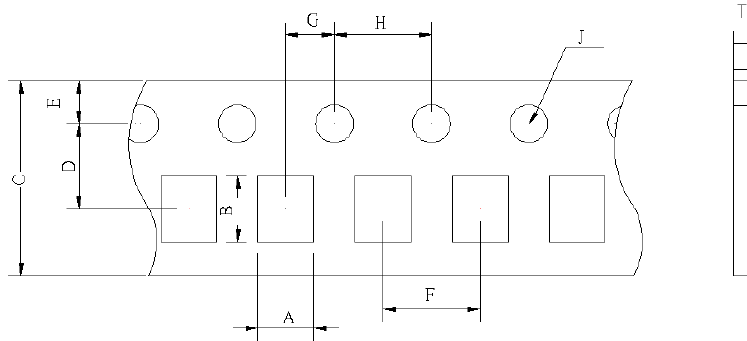
**■Packaging**

Packaging Quantity & Reel Specifications



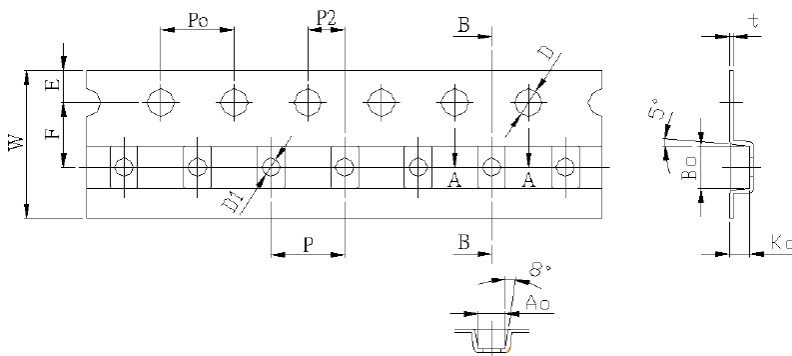
Type	ØA (mm)	ØB (mm)	ØC (mm)	W (mm)	T (mm)	Quantity (EA)
CMX04W	178±1	60+0.5/-0	13.0±0.2	9.0±0.5	12.0±0.15	4000
CMX05W	178±1	60+0.5/-0	13.0±0.2	9.0±0.5	12.0±0.15	3000

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