



### Common Mode Filters

For ultra high-speed differential signal line (HDMI, DVI, USB3.0)

**MCZ-DH Series** 

# MCZ1210DH Type

MCZ1210DH [0504 inch]\*

\* Dimensions Code JIS[EIA]

### REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

	<b>⚠</b> REMINDERS
or less).	months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH soldering of the terminal electrodes may deteriorate.
On not use or store in locations wh	ere there are conditions such as gas corrosion (salt, acid, alkali, etc.).
Before soldering, be sure to preheat The preheating temperature should does not exceed 150°C.	at components.  d be set so that the temperature difference between the solder temperature and chip temperature
_	ng should be within the range of the conditions determined in the specifications. rmance deterioration, or lifespan shortening may occur.
• ,	board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to circuit board and partial distortion such as at screw tightening portions.
Self heating (temperature increase design.	) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal
Carefully lay out the coil for the circ A malfunction may occur due to ma	cuit board design of the non-magnetic shield type. agnetic interference.
Use a wrist band to discharge stati	c electricity in your body through the grounding wire.
On not expose the products to mag	gnets or magnetic fields.
On not use for a purpose outside o	f the contents regulated in the delivery specifications.
equipment, home appliances, amu equipment, industrial robots) under The products are not designed or v	are intended for use in general electronic equipment (AV equipment, telecommunications sement equipment, computer equipment, personal equipment, office equipment, measurement r a normal operation and use condition.  Warranted to meet the requirements of the applications listed below, whose performance and/or
society, person or property.	rel of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to
If you intend to use the products in	the applications listed below or if you have special requirements exceeding the range or conditions

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment

set forth in the each catalog, please contact us.

- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.



### **Common Mode Filters**

Product compatible with RoHS directive Halogen-free

For ultra high-speed differential signal line (HDMI, DVI, USB3.0) Compatible with lead-free solders

# Overview of MCZ1210DH Type

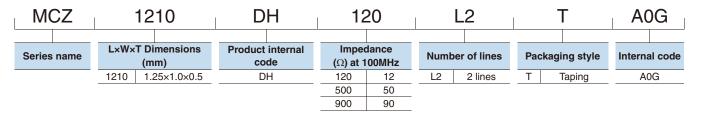
### FEATURES

- Ocompact multilayer common mode filter.
- Widened frequency range for differential mode transmission up to 6.0GHz while ensuring common mode impedance. Suppresses common mode noise without influencing the high-speed differential transmission line signal.
- $\bigcirc$  Characteristics impedance for differential mode is 100 $\Omega$ . Optimal for high-speed differential transmission lines, especially HDMI sink devices.

#### APPLICATION

- O High-speed interfaces for electronic equipment (HDMI, DVI, USB3.0)
- TVs, DVCs, Mobile phones, PCs, DSCs, portable game machines, etc.

### ■ PART NUMBER CONSTRUCTION



### ■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

	Temperat	ure range	Package quantity	Individual weight
Туре	Operating temperature	Storage temperature*		
	(°C)	(°C)	(pieces/reel)	(mg)
MCZ1210DH	-40 to +85	-40 to +85	4,000	3.0

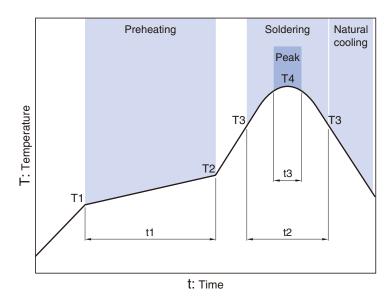
<sup>\*</sup> The Storage temperature range is for after the circuit board is mounted.

RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. http://product.tdk.com/en/environment/rohs/

Halogen-free: Indicates that CI content is less than 900ppm, Br content is less than 900ppm, and that the total CI and Br content is less than 1500ppm.



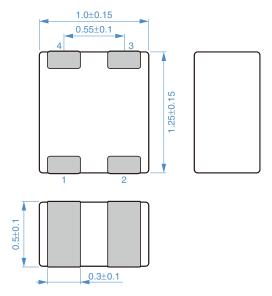
### ■ RECOMMENDED REFLOW PROFILE



Soldering Preheating Peak Temp. Temp. Temp. Time Time Time T1 T2 T4 Т3 t3 150°C 180°C 60 to 120s 230°C 250 to 260°C 30 to 60s 10s max.



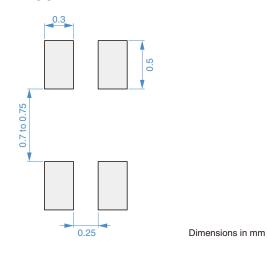
### ■SHAPE & DIMENSIONS



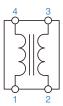


Dimensions in mm

### ■ RECOMMENDED LAND PATTERN



### **CIRCUIT DIAGRAM**



No polarity

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.



### **ELECTRICAL CHARACTERISTICS**

#### **CHARACTERISTICS SPECIFICATION TABLE**

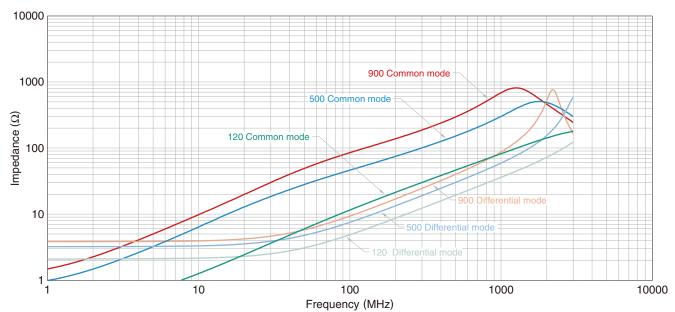
Common n		DC resistance	Rated current	Rated voltage	Insulation resistance	Part No.
[100MHz]		[1 line]				
<b>(</b> Ω <b>)</b>	Tolerance	( $\Omega$ )max.	(mA)max.	(V)max.	(M $\Omega$ )min.	
12	±5Ω	1.50	100	5	10	MCZ1210DH120L2TA0G
50	±25%	2.50	100	5	10	MCZ1210DH500L2TA0G
90	±25%	3.00	100	5	10	MCZ1210DH900L2TA0G

#### O Measurement equipment

Measurement item	Product No.	Manufacturer
Common mode impedance	E4991A+16192A	Keysight Technologies
DC resistance	Type-7561	Yokogawa
Insulation resistance	4339B	Keysight Technologies

<sup>\*</sup> Equivalent measurement equipment may be used.

#### ☐ IMPEDANCE VS. FREQUENCY CHARACTERISTICS



### O Measurement equipment

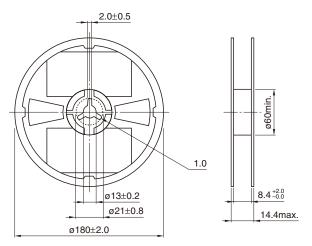
Product No.	Manufacturer
E4991A+16192A	Keysight Technologies

<sup>\*</sup> Equivalent measurement equipment may be used.



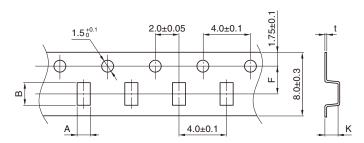
### **■PACKAGING STYLE**

#### **□REEL DIMENSIONS**



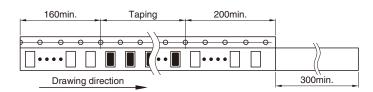
Dimensions in mm

### **TAPE DIMENSIONS**



Dimensions in mm

Type A		В	K	t
MCZ1210DH	1.15±0.1	1.4±0.1	1.0max.	0.25±0.05



Dimensions in mm

### **ПОСТАВКА** ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

### Данный компонент на территории Российской Федерации Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

### http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

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