



Common Mode Filters

For high-speed differential signal line, general signal line

ACM Series

ACM2012 Type

ACM2012

[0805 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.

REMINDERS

- The storage period is less than 6 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Carefully lay out the coil for the circuit board design of the non-magnetic shield type.
A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

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

For high-speed differential signal line, general signal line

Overview of ACM2012 Type

FEATURES

- Downsized wound type chip common mode filter that maintains required common mode filter characteristics.
Impedance for common mode noise can clear 1000Ω [100MHz], and has excellent EMC suppression.
- Differential mode impedance is suppressed, so there is virtually no affect on high speed signals.

APPLICATION

- Common mode noise countermeasure for high-speed differential signals where influence to the signal is a concern.
- USB line for PCs and peripheral devices.
- IEEE1394 lines and ETHERNET lines for PCs, STBs, etc.
- LCD panel LVDS and Panel Link lines.

PART NUMBER CONSTRUCTION

ACM	2012	-	900	-	2P	-	T	002
Series name	LxWxH Dimensions (mm)		Impedance (Ω) at 100MHz		Number of lines		Packaging style	Internal code
	2012	2.0x1.2x1.3	900	90	2P	2 lines	T	ø180mm reel
			121	120				
			201	200				002

OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range		Reel diameter (mm)	Package quantity (pieces/reel)	Individual weight (mg)
	Operating temperature (°C)	Storage temperature* (°C)			
ACM2012	-40 to +85	-40 to +85	ø180	2,000	25

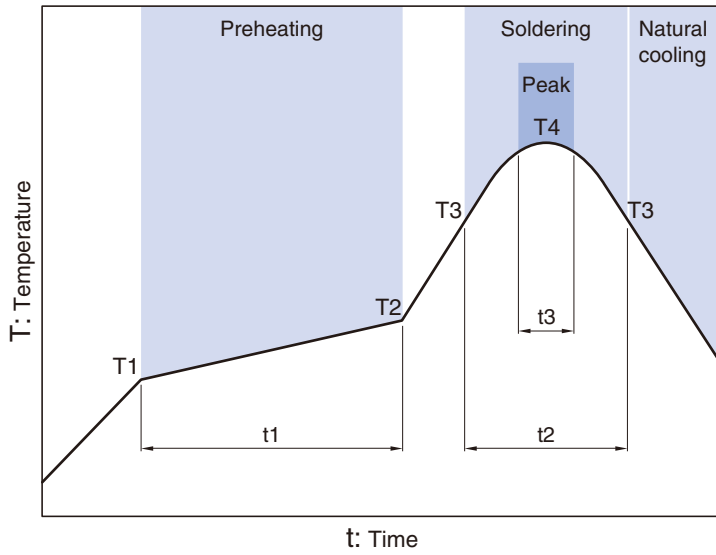
* The Storage temperature range is for after the circuit board is mounted.

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

 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.

ACM2012 Type

RECOMMENDED REFLOW PROFILE



Preheating			Soldering		Peak	
Temp.	Time		Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3
150°C	180°C	60 to 120s	230°C	10 to 30s	245°C	5s

Technical drawing of a spring assembly. The front view (top) shows a central spring with a total width of 2.0 ± 0.2 and a height of 1.3 max. . The side view (bottom) shows the spring's profile with a total height of 1.2 ± 0.2 . The side view is divided into three horizontal sections: a top section of 0.3 , a middle section of 0.5 , and a bottom section of 0.3 . The spring's width is divided into three horizontal sections: a left section of 0.4 , a middle section of 1.2 , and a right section of 0.4 . A small dimension of 0.05 is indicated for the top section of the side view.



The diagram illustrates the layout of four rectangular panels arranged in a 2x2 grid. The horizontal spacing between the panels is 1.1 units, and the vertical spacing is 0.4 units. The width of each panel is 0.75 units.

The diagram shows a transformer with two primary windings and one secondary winding. The primary windings are connected in parallel between terminals 1 and 2 on the left and terminals 4 and 3 on the right. The secondary winding is connected between terminals 1 and 4 on the left and terminals 2 and 3 on the right. The transformer core is represented by two vertical lines on the left and right, with three horizontal lines in the center representing the magnetic path.

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ACM2012 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

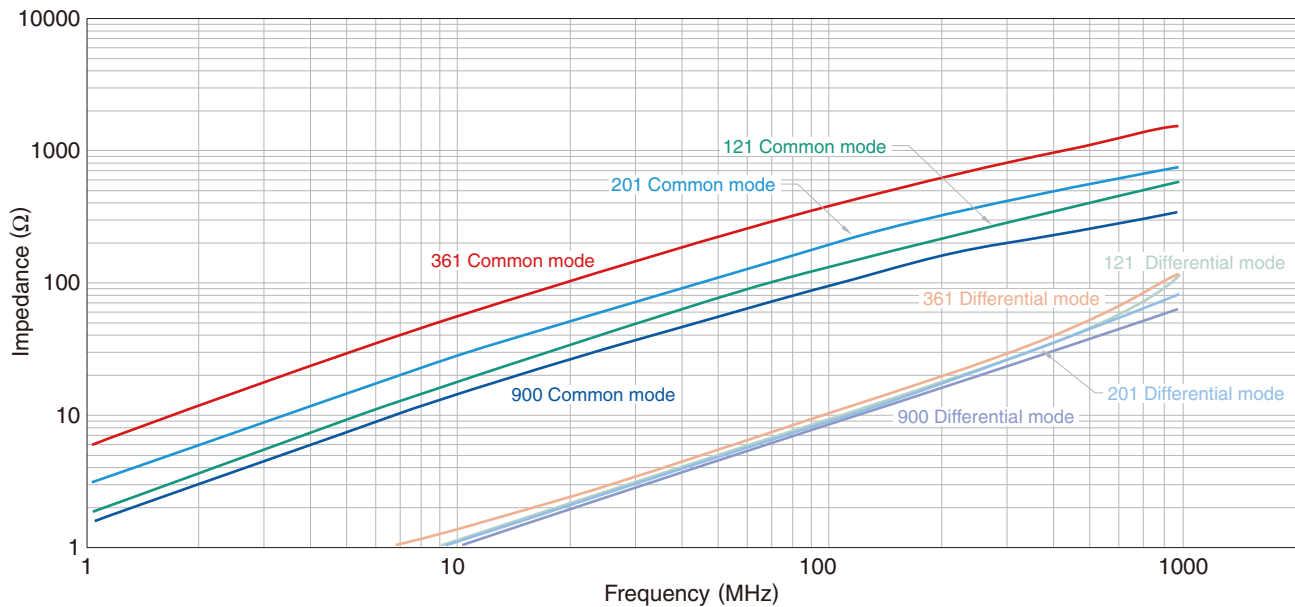
Impedance [100MHz]		DC resistance	Rated voltage	Rated current	Part No.
(Ω)min.	(Ω)typ.	(Ω)max.	(V)max.	(A)max.	
65	90	0.19	50	0.4	ACM2012-900-2P-T002
90	120	0.22	50	0.37	ACM2012-121-2P-T002
150	200	0.25	50	0.35	ACM2012-201-2P-T002
270	360	0.5	50	0.22	ACM2012-361-2P-T002

Measurement equipment

Measurement item	Product No.	Manufacturer
Common mode impedance	4991A	Keysight Technologies
DC resistance	4338A	Keysight Technologies
Insulation resistance	4339A	Keysight Technologies

* Equivalent measurement equipment may be used.

IMPEDANCE VS. FREQUENCY CHARACTERISTICS



Measurement equipment

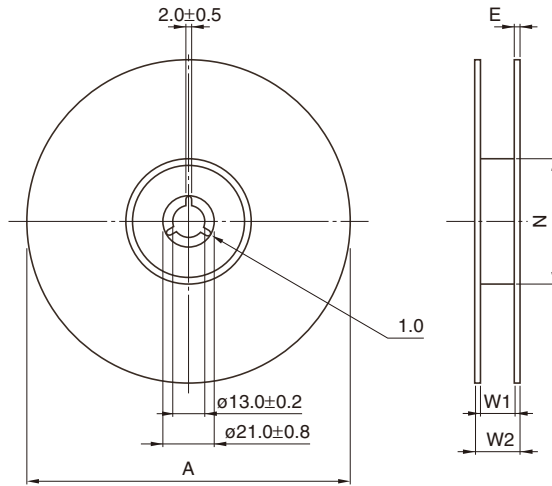
Product No.	Manufacturer
4991A	Keysight Technologies

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PACKAGING STYLE

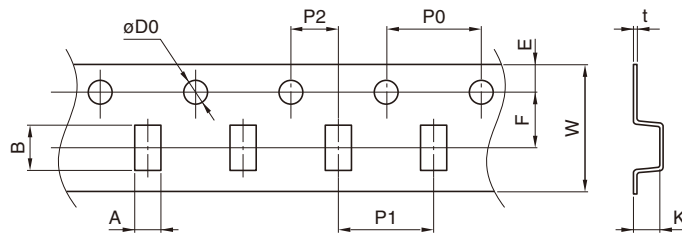
REEL DIMENSIONS



Dimensions in mm

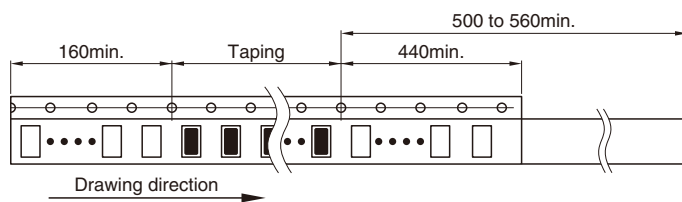
Type	A	W1	W2	N	E
ACM2520	ø180±3	9+1/-0	13±1	60+1-0	2 typ.

TAPE DIMENSIONS



Dimensions in mm

Type	A	B	øD0	E	F	P0	P1	P2	W	K	t
ACM2520	2.4±0.1	2.9±0.1	1.5+0.1/0	1.75±0.1	3.5±0.1	4.0±0.1	4.0±0.1	2.0±0.1	8.0±0.2	1.45±0.1	0.25±0.05



Dimensions in mm