



February 2015

Common Mode Filters

For high-speed differential signal line, general signal line

ACM-E Series

ACM2012E Type

ACM2012E

[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 | (8) Public information-processing equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

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 ACM2012E Type

■ FEATURES

- Downsized, low height 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

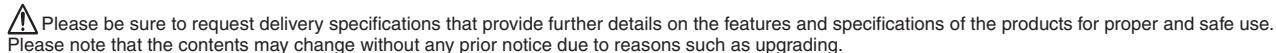
ACM	2012	-	E	-	670	-	2P	-	T	-	00
Series name	LxWxH Dimensions (mm)		Product internal code		Impedance (Ω) at 100MHz		Number of lines		Packaging style		Internal code
2012	2.0×1.2×1.0		E		670	67	2P	2 lines	T	ø180mm reel	00 General signal line
					900	90			TL	ø330mm reel	01 High-speed differential signal line
					121	120					
					181	180					
					251	250					
					391	390					
					681	680					
					102	1000					

■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range Operating temperature (°C)	Storage temperature* (°C)	Reel diameter (mm)	Package quantity (pieces/reel)	Individual weight (mg)
ACM2012E	-40 to +85	-40 to +85	ø180	2,000	8

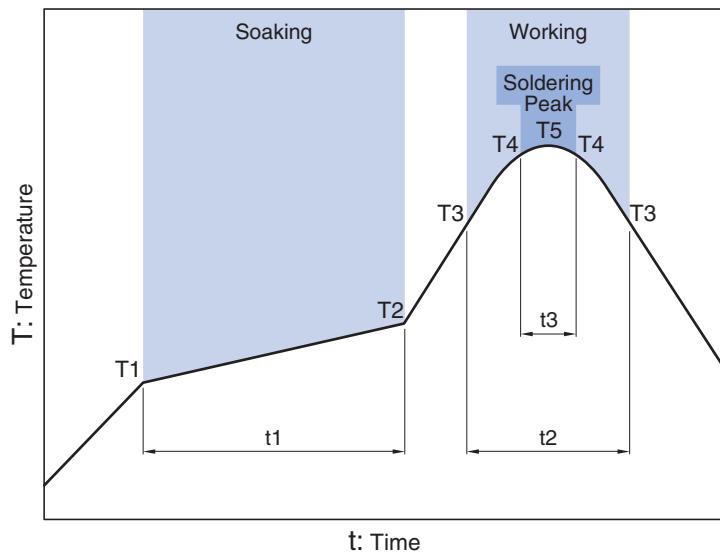
* The Storage temperature range is for after the circuit board is mounted.

- 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.

ACM2012E Type

■ RECOMMENDED REFLOW PROFILE

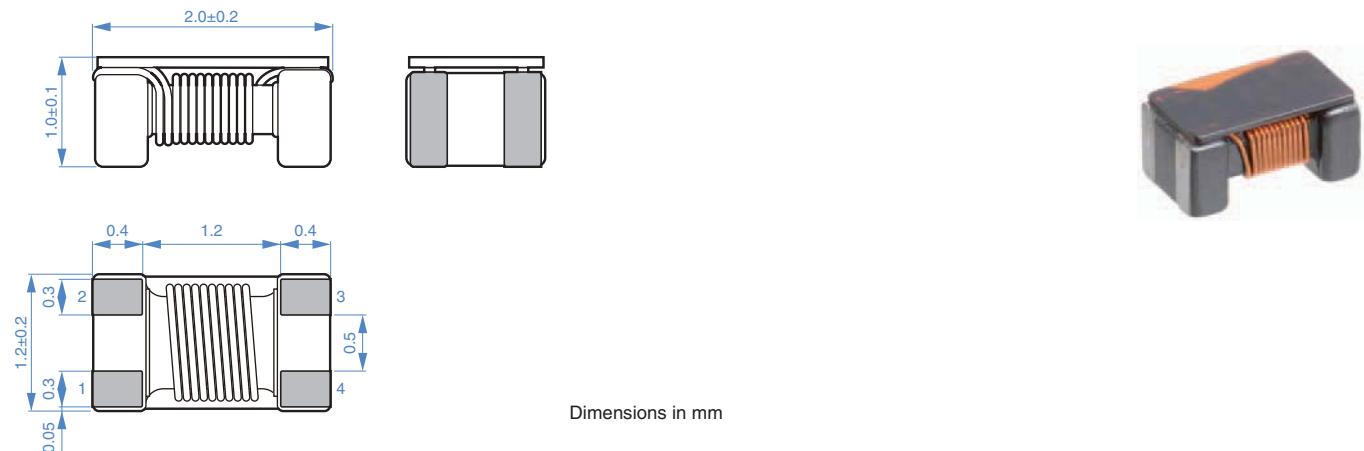


Preheating			Soldering		Peak	
Temp.	Temp.	Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3
150°C	180°C	60 to 120s	230°C	10 to 30s	245°C	5s

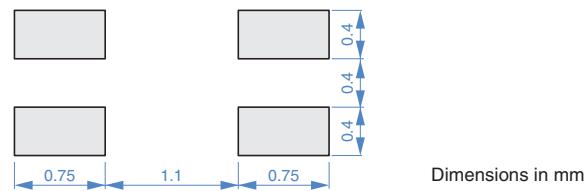
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ACM2012E Type (General signal line)

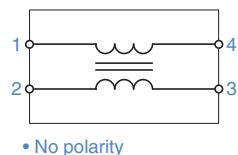
■ SHAPE & DIMENSIONS



■ RECOMMENDED LAND PATTERN



■ CIRCUIT DIAGRAM



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ACM2012E Type (General signal line)

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

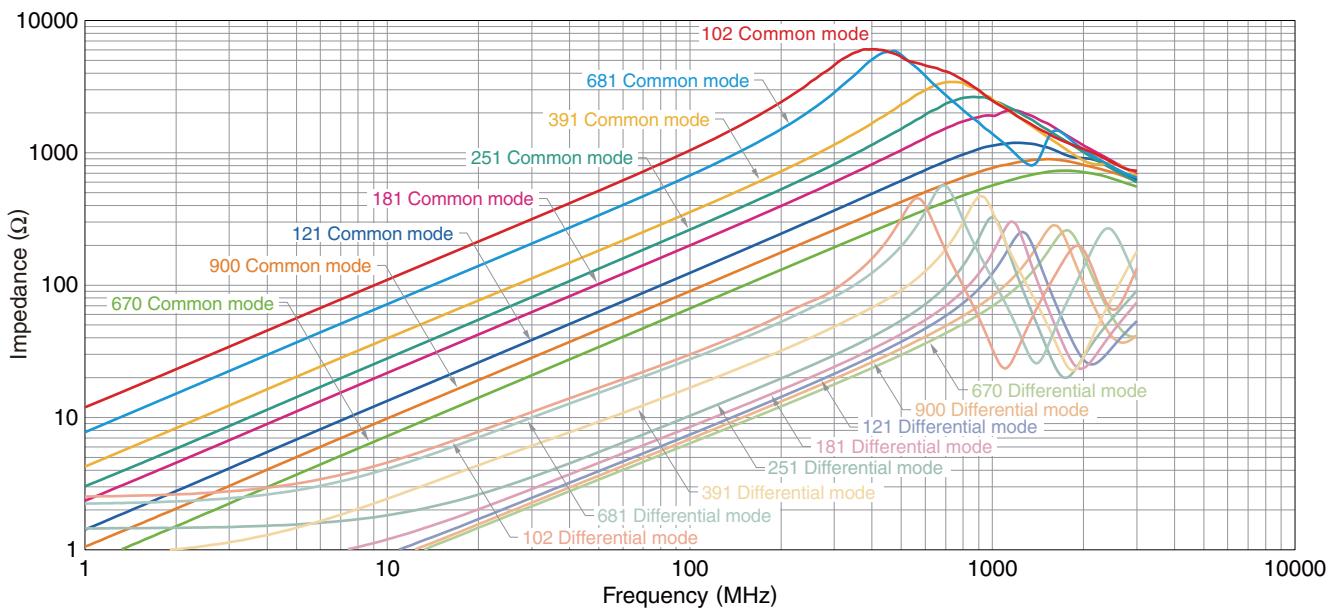
Impedance [100MHz] (Ω)	DC resistance [1 line] (Ω)max.	Rated voltage (V)max.	Rated current (A)max.	Part No.
67±25%	0.35	50	0.50	ACM2012E-670-2P-T00
90±25%	0.35	50	0.33	ACM2012E-900-2P-T00
120±25%	0.45	50	0.30	ACM2012E-121-2P-T00
180±25%	0.60	50	0.25	ACM2012E-181-2P-T00
250±25%	1.00	50	0.20	ACM2012E-251-2P-T00
270min. (390typ.)	0.80	50	0.30	ACM2012E-391-2P-T00
510min. (680typ.)	1.80	50	0.17	ACM2012E-681-2P-T00
750min. (1000typ.)	2.50	50	0.15	ACM2012E-102-2P-T00

○ Measurement equipment

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

* Equivalent measurement equipment may be used.

IMPEDANCE VS. FREQUENCY CHARACTERISTICS



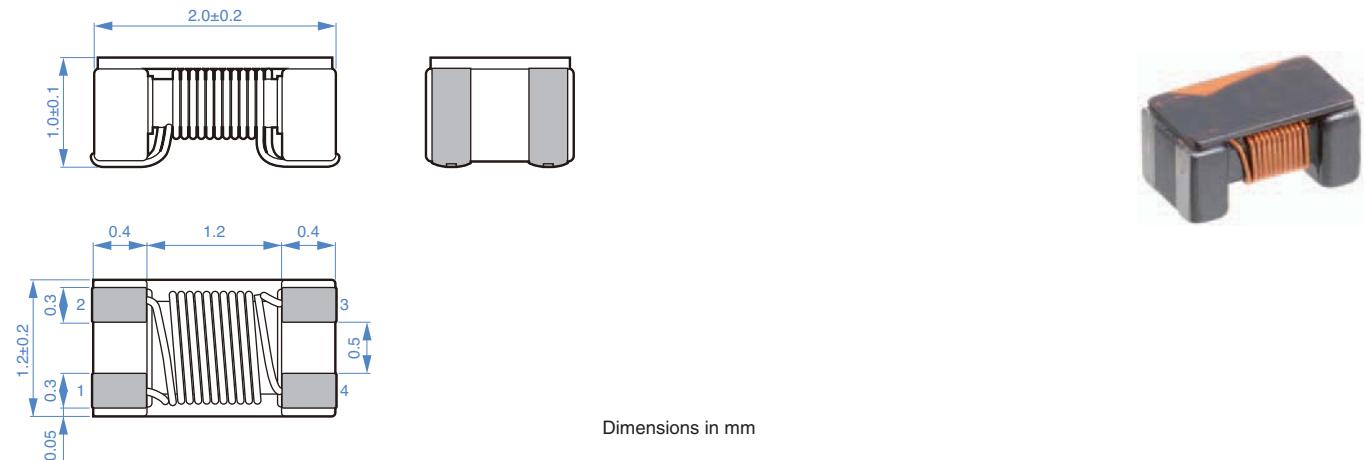
○ Measurement equipment

Product No.	Manufacturer
4991A	Agilent Technologies

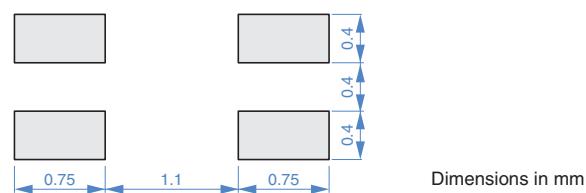
* Equivalent measurement equipment may be used.

ACM2012E Type (high-speed differential signal line)

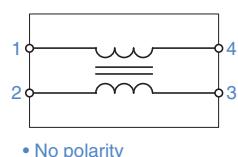
■ SHAPE & DIMENSIONS



■ RECOMMENDED LAND PATTERN



■ CIRCUIT DIAGRAM



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ACM2012E Type (high-speed differential signal line)

■ ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

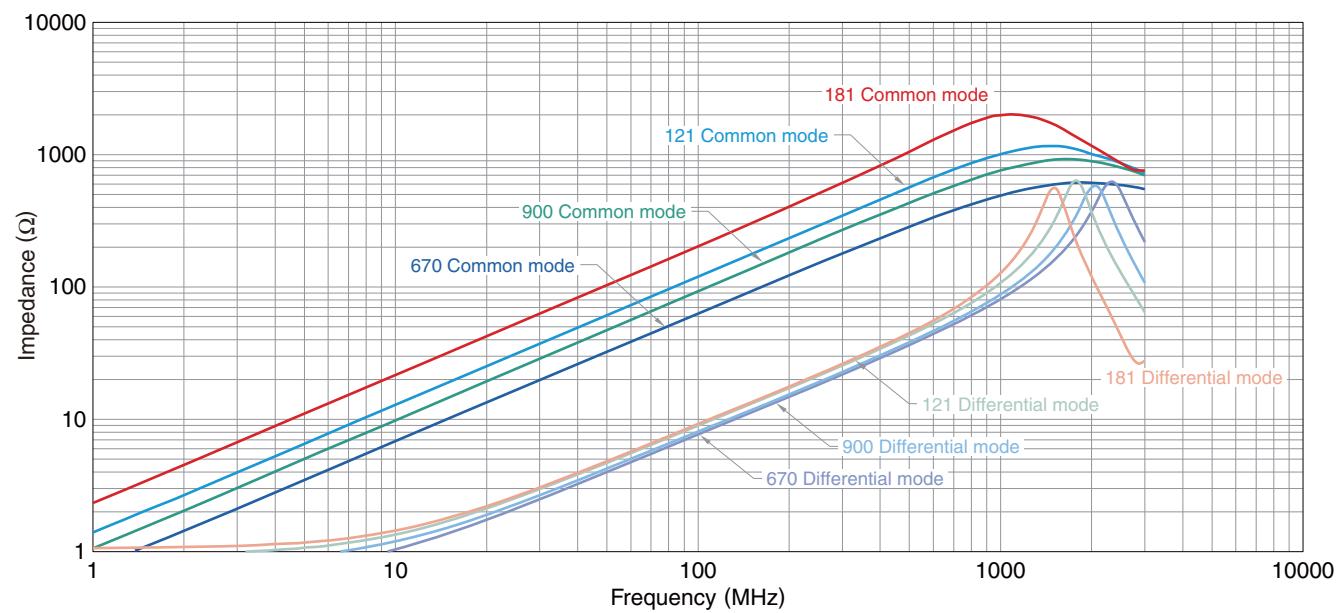
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□ IMPEDANCE VS. FREQUENCY CHARACTERISTICS



○ Measurement equipment

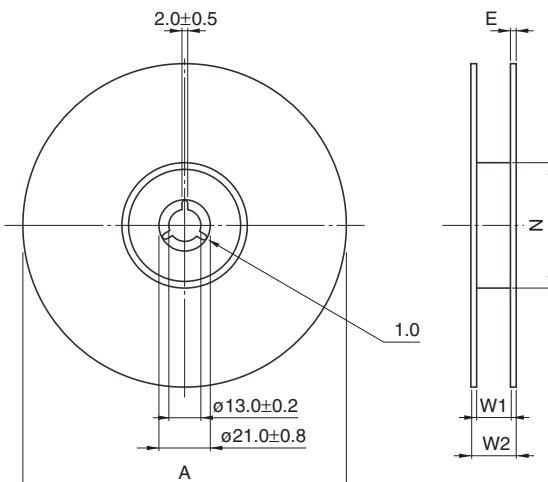
Product No.	Manufacturer
4991A	Agilent Technologies

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ACM2012E Type

■ PACKAGING STYLE

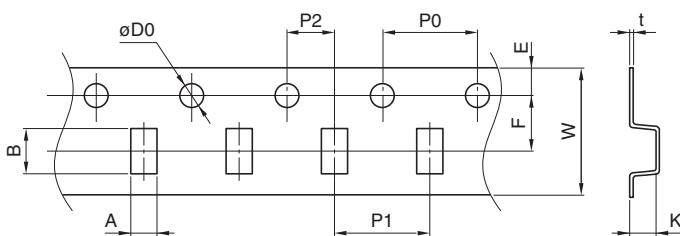
□ REEL DIMENSIONS



Type	A	W1	W2	N	E
ACM2012E	$\varnothing 330 \pm 2$	9.5 ± 0.5	13.5 ± 1	100 ± 1	2 typ.
	$\varnothing 180 \pm 3$	$9+1/-0$	13 ± 1	$60+1/-0$	2 typ.

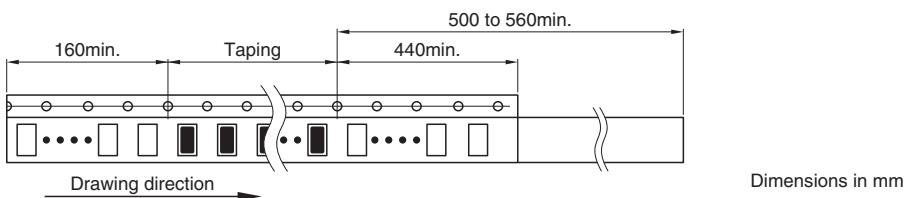
Dimensions in mm

□ TAPE DIMENSIONS



Dimensions in mm

Type	A	B	$\varnothing D0$	E	F	P0	P1	P2	W	K	t
ACM2012E	1.4 ± 0.1	2.25 ± 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	1.15 ± 0.05	0.20 ± 0.05



Dimensions in mm

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помошь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помошь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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