Common mode filters
Automotive power line (for power train/safety)
ACM-V series

AEC-Q200

ACM90V type

FEATURES

- Exclusive square type closed magnetic core designed as an exclusive core is used, so it can be small while maintaining the same features.
- Low profile design makes it optimal for surface mounting.
- Excellent impedance characteristics, making it great for suppressing common mode noise.
- The product series is designed for use up to 8A in an environment of 125°C.
- Covers a wide operating temperature range from –40 to +125°C.
- Operating temperature range: –40 to +125°C (Does not include self-heating. The product can be used up to 150°C including self-heating.)
- Compliant with AEC-Q200

APPLICATION

- Measures against common mode noise in power lines for various DC power lines, multimedia devices, and various electronic devices, including automotive power trains and safety applications.
- Application guides: Automotive (xEV), Car Infotainment

PART NUMBER CONSTRUCTION

ACM	90V	-	701	-	2PL	-	TL	00
Series name	L×W×H dimensions 9.0×7.0×4.5 mm		Impedance (Ω) at 100MHz		Number of lines		Packaging style	Internal code

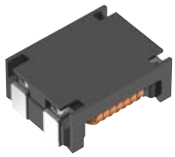
CHARACTERISTICS SPECIFICATION TABLE

Common mode impedance [at 100MHz] (Ω)min.	(Ω)typ.	DC resistance (mΩ)max.	Rated current (A)max.	Rated voltage (V)max.	Insulation resistance (MΩ)min.	Part No.
500	700	10	5.0	80	10	ACM90V-701-2PL-TL00

Measurement equipment

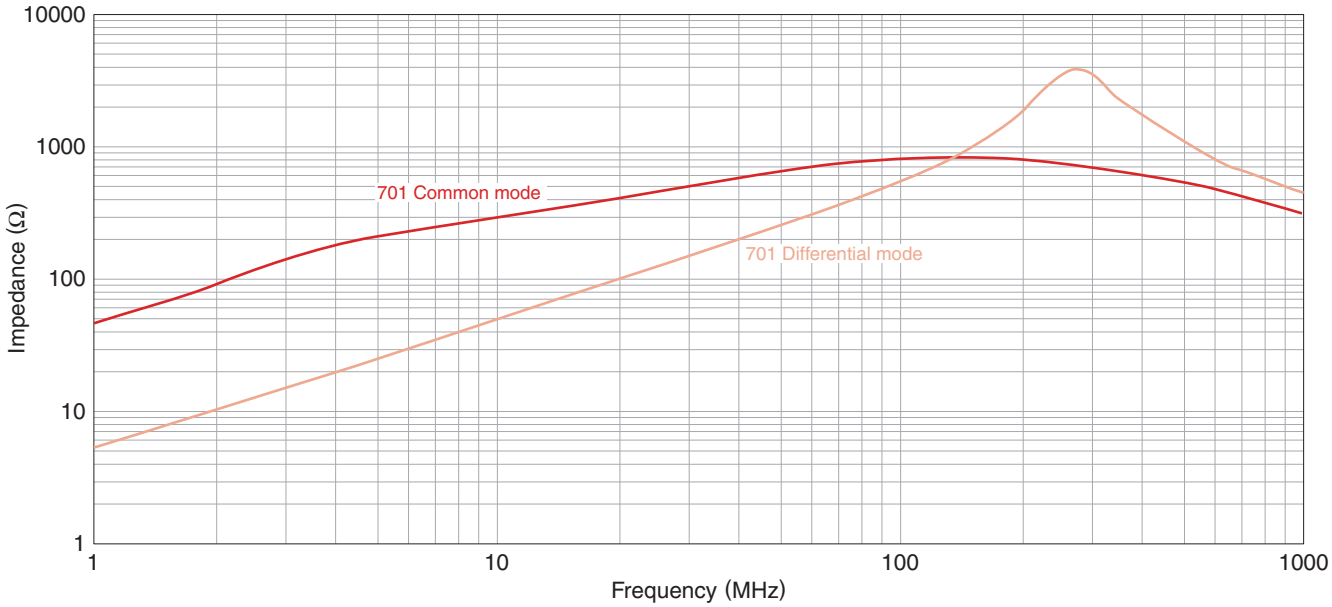
Measurement item	Product No.	Manufacturer
Common mode impedance	4991A	Keysight Technologies
DC resistance	4338A	Keysight Technologies
Insulation resistance	4339A	Keysight Technologies

* Equivalent measurement equipment may be used.



ACM90V type

IMPEDANCE VS. FREQUENCY CHARACTERISTICS



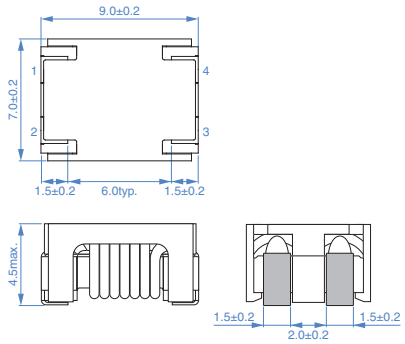
Measurement equipment

Product No.	Manufacturer
4991A	Keysight Technologies

* Equivalent measurement equipment may be used.

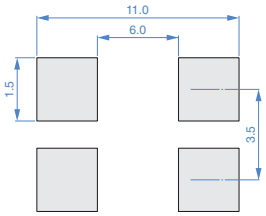
ACM90V type

SHAPE & DIMENSIONS



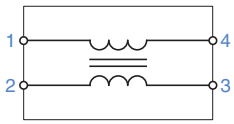
Dimensions in mm

RECOMMENDED LAND PATTERN



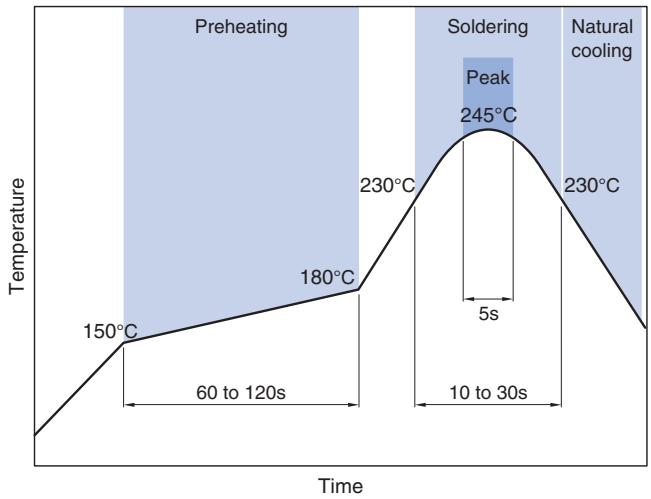
Dimensions in mm

CIRCUIT DIAGRAM



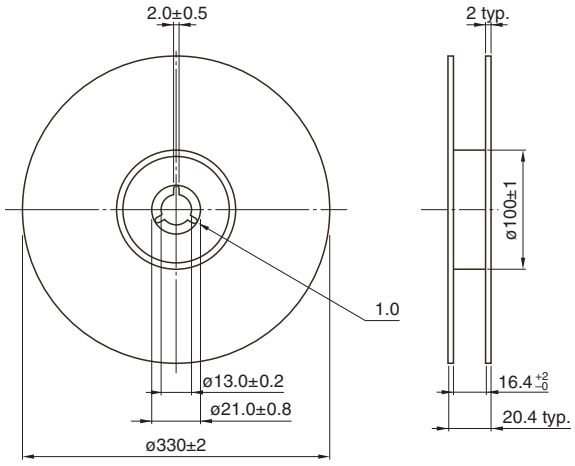
• No polarity

RECOMMENDED REFLOW PROFILE



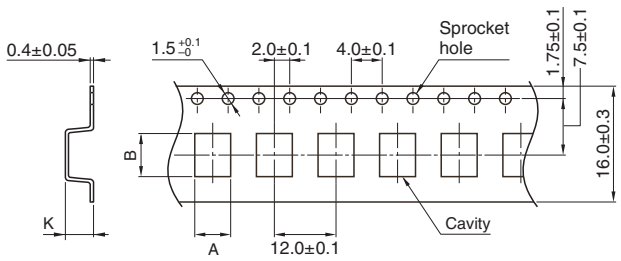
PACKAGING STYLE

REEL DIMENSIONS



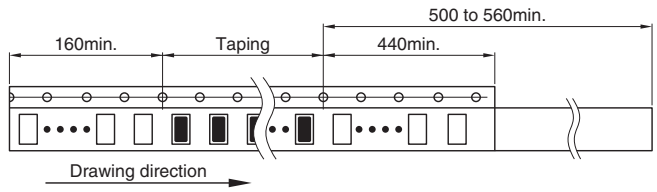
Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm

Type	A	B	K
ACM90V	8.6±0.1	9.6±0.1	4.6±0.1



Dimensions in mm

PACKAGE QUANTITY

Package quantity	800 pcs/reel

TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range*	Storage temperature range**	Individual weight
–40 to +125 °C	–40 to +125 °C	0.82 g

* The operating temperature range of this product does not include self-heating. The product can be used up to 150°C including self-heating. When using the product in an environment at 125°C, use the product within the current range shown in the table on page 1/4 of this catalog.

** The storage temperature range is for after the assembly.

⚠ 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.

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 this products.

⚠ REMINDERS

- The storage period is less than 12 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 (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.