



Common Mode Filters

For automotive power line

ACM-V Series

ACM90V Type

ACM90V

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.

<u> </u>
The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RI 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 condition

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (electric trains, ships, etc.)

set forth in the each catalog, please contact us.

- (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

For automotive power line

Product compatible with RoHS directive Compatible with lead-free solders AEC-Q200

Overview of ACM90V Type

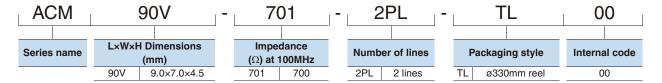
FEATURES

- Exclusive square type closed magnetic core designed as an exclusive core is used, so it can be small while maintaining the same features.
- O Low profile design makes it optimal for surface mounting.
- Excellent impedance characteristics, making it great for suppressing common mode noise.
- O Series includes large current products up to 8A, making them compatible with various DC power lines.
- Ocovers a wide operating temperature range from -40 to +125°C.

APPLICATION

Ocommon mode noise countermeasure for electronic controller DC power lines and power supply lines for car multi-media equipment and various electronic devices.

PART NUMBER CONSTRUCTION



■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

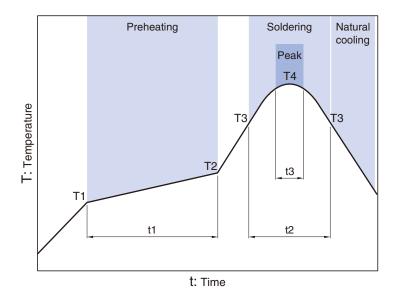
	Temperat	ure range	Reel diameter	Package quantity	Individual weight
Туре	Operating temperature	Storage temperature*			
	(°C)	(°C)	(mm)	(pieces/reel)	(g)
ACM90V	-40 to +125	-40 to +125	ø330	800	0.82

^{*} 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/



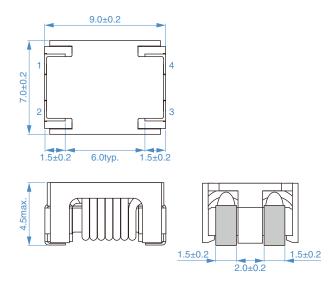
■ RECOMMENDED REFLOW PROFILE



Preheati	ng		Soldering	1	Peak		
Temp.		Time	Temp.	Time	Temp.	Time	
T1	T2	t1	Т3	t2	T4	t3	
150°C	180°C	60 to 120s	230°C	10 to 30s	245°C	5s	



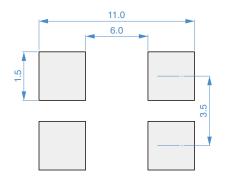
■SHAPE & DIMENSIONS





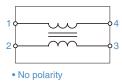
Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



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

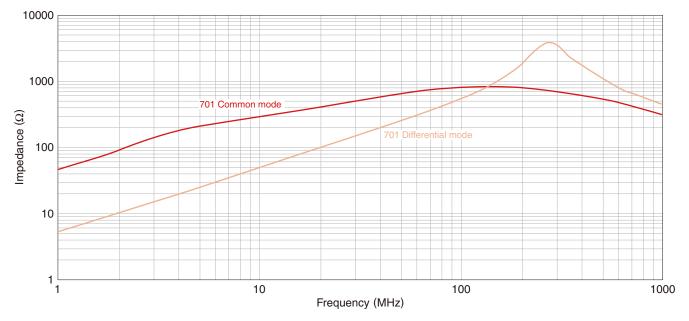
Common mod	de impedance	DC resistance	Rated current	Rated voltage	Insulation resistance	Part No.
[at 100MHz]						
(Ω)min.	(Ω)typ.	(m Ω)max.	(A)max.	(V)max.	(M Ω)min.	
500	700	10	5.0	80	10	ACM90V-701-2PL-TL00

O 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



O Measurement equipment

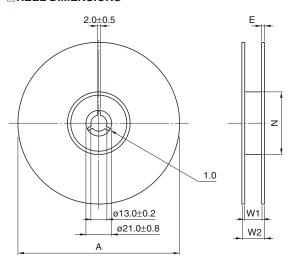
Product No.	Manufacturer
4991A	Agilent Technologies

^{*} Equivalent measurement equipment may be used.



■PACKAGING STYLE

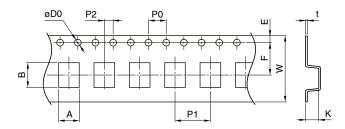
REEL DIMENSIONS



Type	Α	W1	W2	N	E
ACM90V	ø330±2	16.4+2/-0	20.4 typ.	100±1	2 typ.

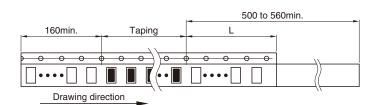
Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm

Туре	Α	В	øD0	Е	F	P0	P1	P2	W	K	t
ACM90V	8.6±0.1	9.6±0.1	1.5+0.1/0	1.75±0.1	7.5±0.1	4.0±0.1	12.0±0.1	2.0±0.1	16.0±0.3	4.6±0.1	0.4±0.05



Type	L
ACM90V	440min.

Dimensions in mm