

Common mode filters

Automotive signal line (for power train/safety)

ACT series



AEC-Q200

ACT1210G type



FEATURES

- Common mode filters for automotive Ethernet 1000BASE-T1, compatible with an operating temperature range of -40 to $+125^{\circ}\text{C}$.
- This product is equivalent to the conventional product (ACT1210L-201) compatible with 100BASE-T1.
- This product achieves high S-parameter while realizing high reliability by metallizing terminals and laser welding using a proprietary method.
- Operating temperature range: -40 to $+125^{\circ}\text{C}$
- OPEN ALLIANCE 1000BASE-T1 response
- Compliant with AEC-Q200

APPLICATION

- Ethernet system.

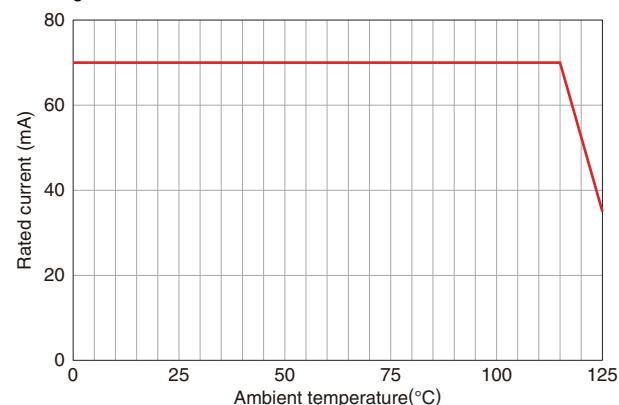
PART NUMBER CONSTRUCTION

ACT1210G	-	800	-	2P	-	TL	10
Series • type name		Inductance(typ.) (μH)		Number of lines		Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

Common mode inductance [100kHz]		DC resistance	Insulation resistance	Rated current	Rated voltage	Part No.
(μH)	Tolerance	(Ω)max.	(M Ω)min.	(mA)max.	(V)max.	
80	+50/-30%	2.6	10	70	80	ACT1210G-800-2P-TL10

Derating



Measurement equipment

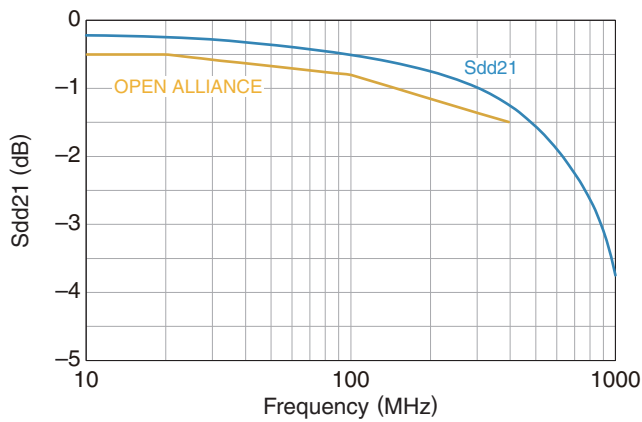
Measurement item	Product No.	Manufacturer
Common mode inductance	4294A	Keysight Technologies
DC resistance	4338A	Keysight Technologies
Insulation resistance	4339A	Keysight Technologies

* Equivalent measurement equipment may be used.

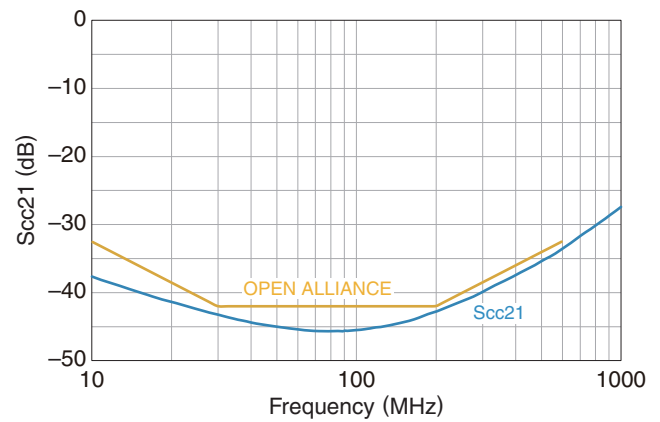


ACT1210G type

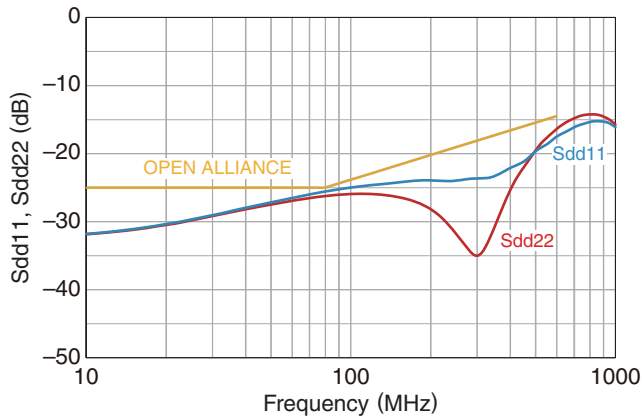
Sdd21



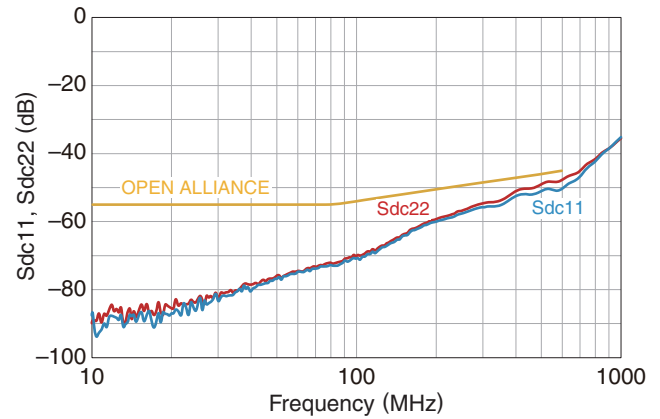
Scc21



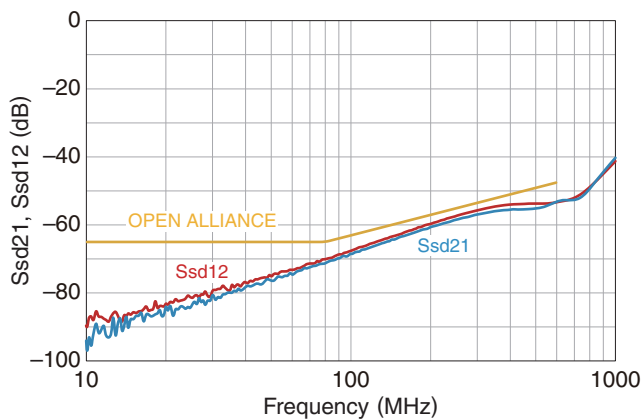
Sdd11, Sdd22



Sdc11, Sdc22



Ssd21, Ssd12



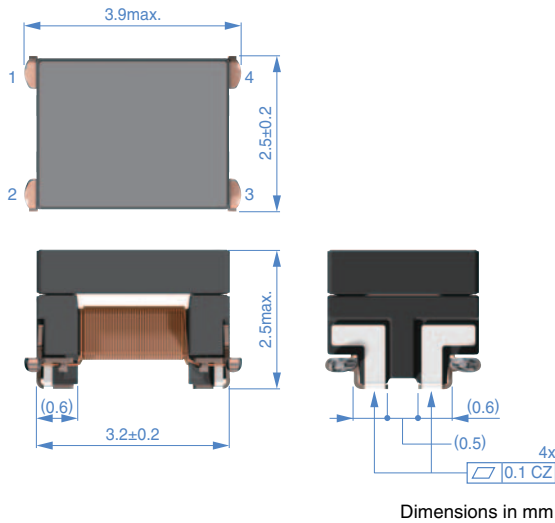
Measurement equipment

Product No.	Manufacturer
E5071C	Keysight Technologies

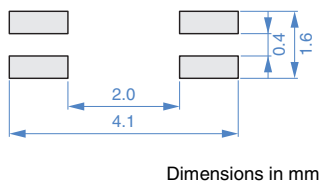
* Equivalent measurement equipment may be used.

ACT1210G type

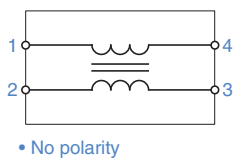
SHAPE & DIMENSIONS



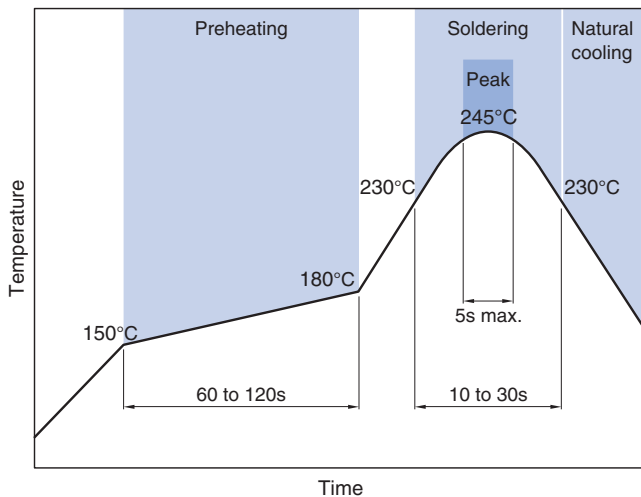
RECOMMENDED LAND PATTERN



CIRCUIT DIAGRAM

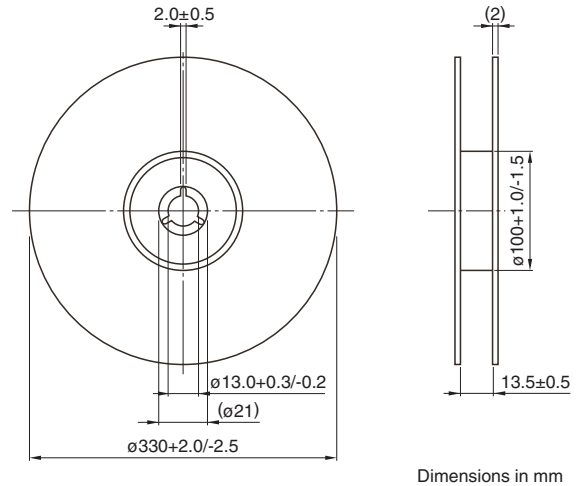


RECOMMENDED REFLOW PROFILE

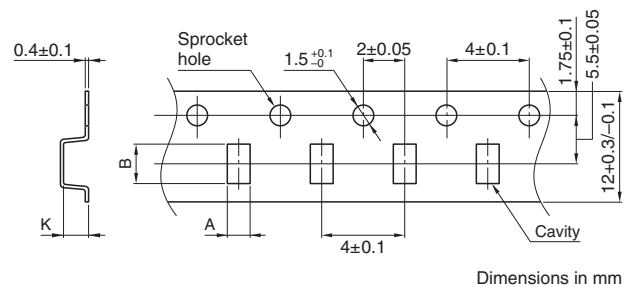


PACKAGING STYLE

REEL DIMENSIONS



TAPE DIMENSIONS



Type	A	B	K
ACT1210G	(2.85)	(4.2)	(2.7)

PACKAGE QUANTITY

Package quantity	6,000 pcs/reel
------------------	----------------

TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range	Individual weight
-40 to +125°C	0.075 g

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 within 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.