

Common mode filters

Automotive signal line (for power train/safety)

ACT series



AEC-Q200

ACT1210D type



FEATURES

- Common mode filters for automotive CAN/CAN-FD system, compatible with an operating temperature range of -40 to $+150^{\circ}\text{C}$. (Target product name : ACT1210D-510/ACT1210D-101)
- 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 $+150^{\circ}\text{C}$ (ACT1210D-510/ACT1210D-101)
 -40 to $+125^{\circ}\text{C}$ (ACT1210D-131)
- Compliant with AEC-Q200

APPLICATION

- CAN FD system

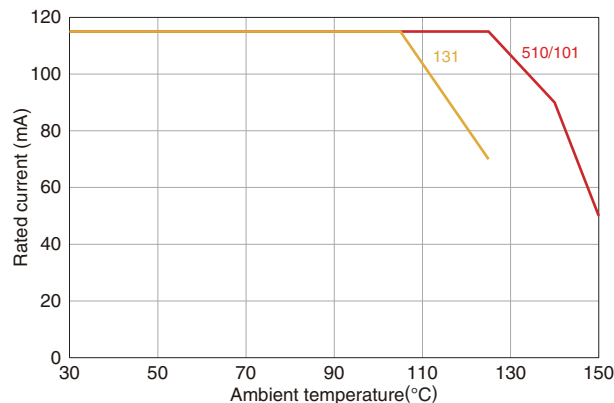
PART NUMBER CONSTRUCTION

ACT1210D	-	101	-	2P	-	TL	00
Series • type name		Inductance(typ.) (μH)		Number of lines		Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

Common mode inductance [100kHz] (μH)	Tolerance	DC resistance -40 to $+125^{\circ}\text{C}$ (Ω)max.	Insulation resistance ($\text{M}\Omega$)min.	Rated current (mA)max.	Rated voltage (V)max.	Part No.
50	$+50/-30\%$	3.0	10	115	80	ACT1210D-510-2P-TL00
100	$+50/-30\%$	3.0	10	115	80	ACT1210D-101-2P-TL00
130	$+50/-30\%$	3.5	10	115	80	ACT1210D-131-2P-TL00

Rated current temperature characteristics (Derating)



Measurement equipment

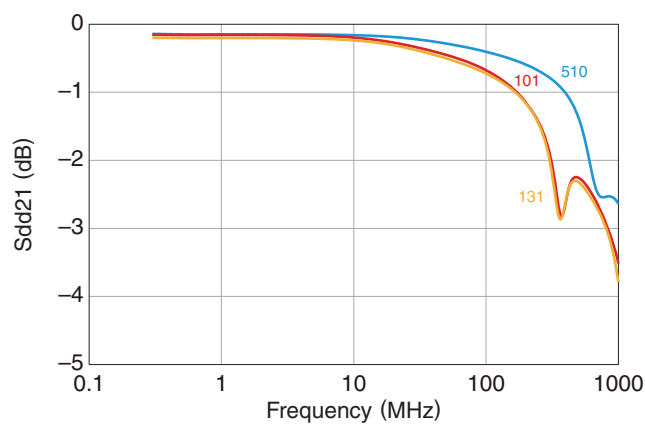
Measurement item	Product No.	Manufacturer
Common mode inductance	4294A	Keysight Technologies
DC resistance	4338A	Keysight Technologies
Insulation resistance	4339A	Keysight Technologies

* Equivalent measurement equipment may be used.

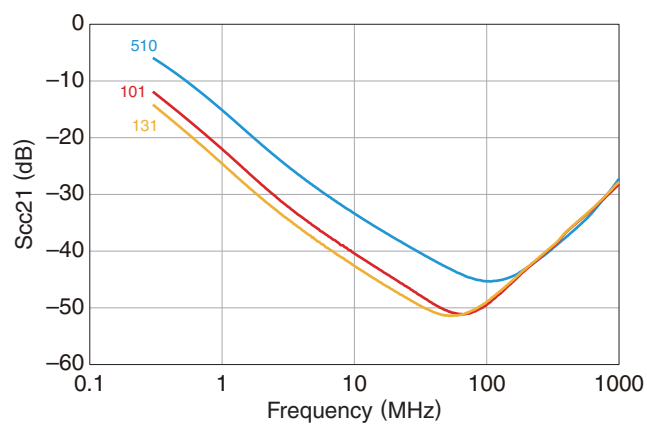


ACT1210D type

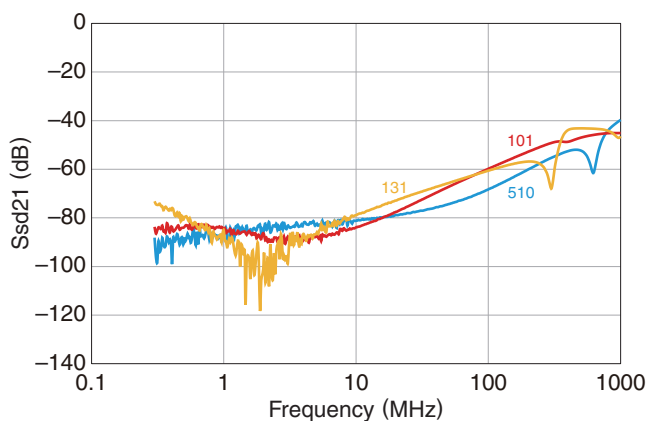
■ Sdd21



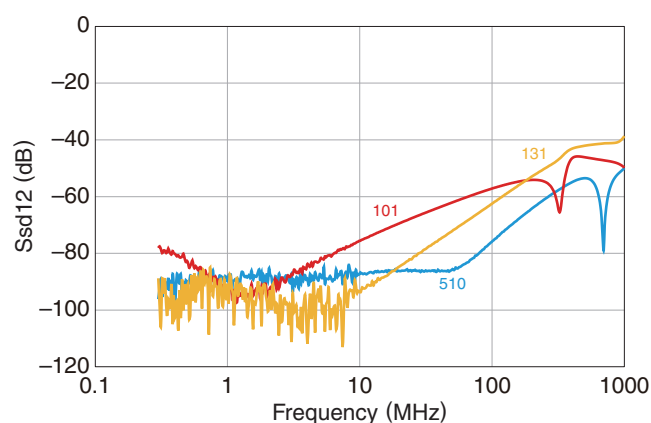
■ Scc21



■ Ssd21



■ Ssd12



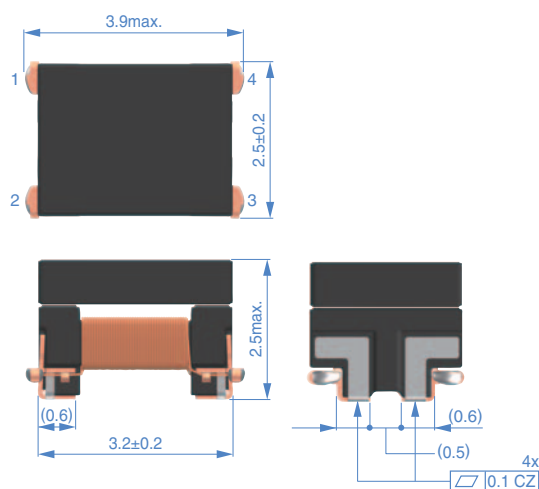
Measurement equipment

Product No.	Manufacturer
E5071C	Keysight Technologies

* Equivalent measurement equipment may be used.

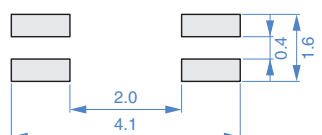
ACT1210D type

SHAPE & DIMENSIONS



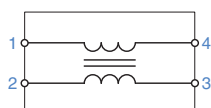
Dimensions in mm

RECOMMENDED LAND PATTERN



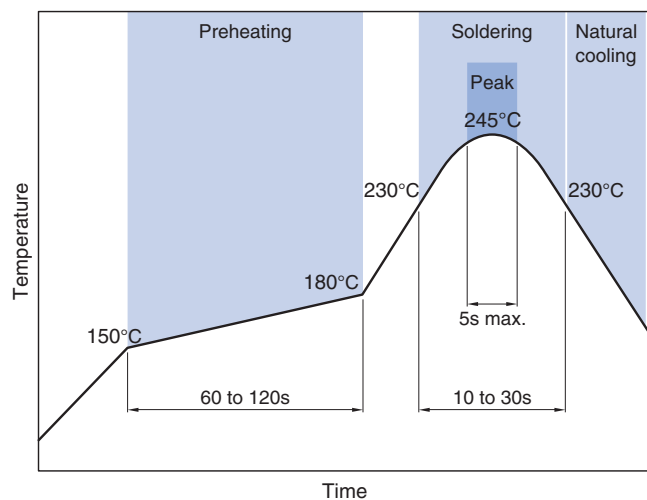
Dimensions in mm

CIRCUIT DIAGRAM



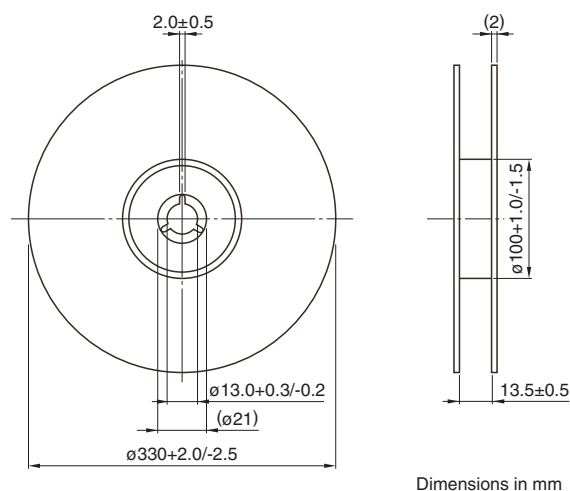
• No polarity

RECOMMENDED REFLOW PROFILE



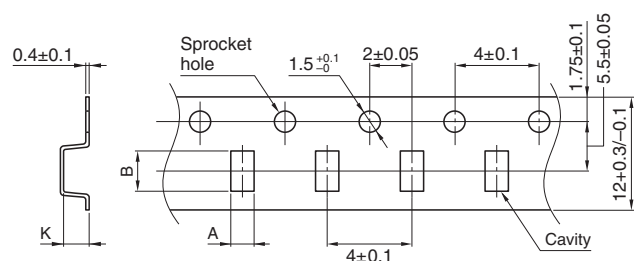
PACKAGING STYLE

REEL DIMENSIONS



Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm

Type	A	B	K
ACT1210D	(2.85)	(4.2)	(2.7)

PACKAGE QUANTITY

Package quantity	6,000 pcs/reel
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TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Part number	Operating temperature range	Individual weight
ACT1210D-510	-40 to +150°C	0.075 g
ACT1210D-101	-40 to +150°C	0.075 g
ACT1210D-131	-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 described in this catalog are intended to be installed in automobiles or automotive electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) and to be used in automobiles (including the case where the said automotive product is mounted in a vehicle) or standard applications as general electronic equipment in automotive applications or standard applications as general electronic equipment in automotive applications in accordance with the scope and conditions described in this specification, while the said automotive or general electronic equipment including the said product is intended to be used in the usual operation and usage methods, respectively. Other than automotive or automotive products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

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 this specification, please contact us.

- | | |
|---|--|
| (1) Aerospace/aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (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.