

Inductors for decoupling circuits

Wound ferrite

ADL series (for automotive)



AEC-Q200

ADL2012 type



FEATURES

- Small size and thin form factor (mounting area 2.2x1.25mm, height 1.75mm max.)
- Achieving broadband impedance characteristics and good DC superimposition characteristics as the result of an original coiled wiring design and original structure
- Ensuring consistent high quality and reliability as the result of a completely automated manufacturing process
- Operating temperature range: -40 to +135°C (including self-heating)
- Compliant with AEC-Q200

APPLICATION

- Inductor for use with separate signal and power lines in in-vehicle PoC (Power Over Coax)

PART NUMBER CONSTRUCTION

ADL	2012	S	-	1R2	M	-	T	01
Series name	LxW dimensions 2.2x1.25 mm	Characteristic type Non code: low resistance S: high frequency		Inductance (μH)	Inductance tolerance		Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

L (μH)	L measuring frequency		DC resistance (Ω)max.	Self-resonant frequency (MHz)typ.	Rated current*				Part No.
	Tolerance	(MHz)			Isat (mA)typ.	Itemp (mA)typ. 85deg.C	105deg.C	125deg.C	
0.47	±20%	1	0.10	1000	-	-	1100	650	ADL2012-R47M-T01
0.8	±20%	1	0.12	700	1800	-	1000	600	ADL2012-R80M-T01
1.5	±20%	1	0.21	450	1200	1100	800	450	ADL2012-1R5M-T01
2.2	±20%	1	0.50	360	900	700	550	300	ADL2012-2R2M-T01
4.4	±20%	1	0.90	260	650	-	350	200	ADL2012-4R4M-T01
1.2	±20%	1	0.50	500	-	700	550	300	ADL2012S-1R2M-T01

* Rated current: smaller value of either Isat or Itemp.

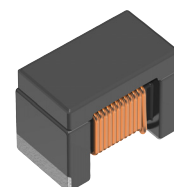
Isat.: Current value at -30% inductance reduction rate in DC superposition with inductance typ.

Itemp.: Current value at which the self-temperature reaches 135°C when the product mounted on the board for self-temperature rise measurement is energized.

Measurement equipment

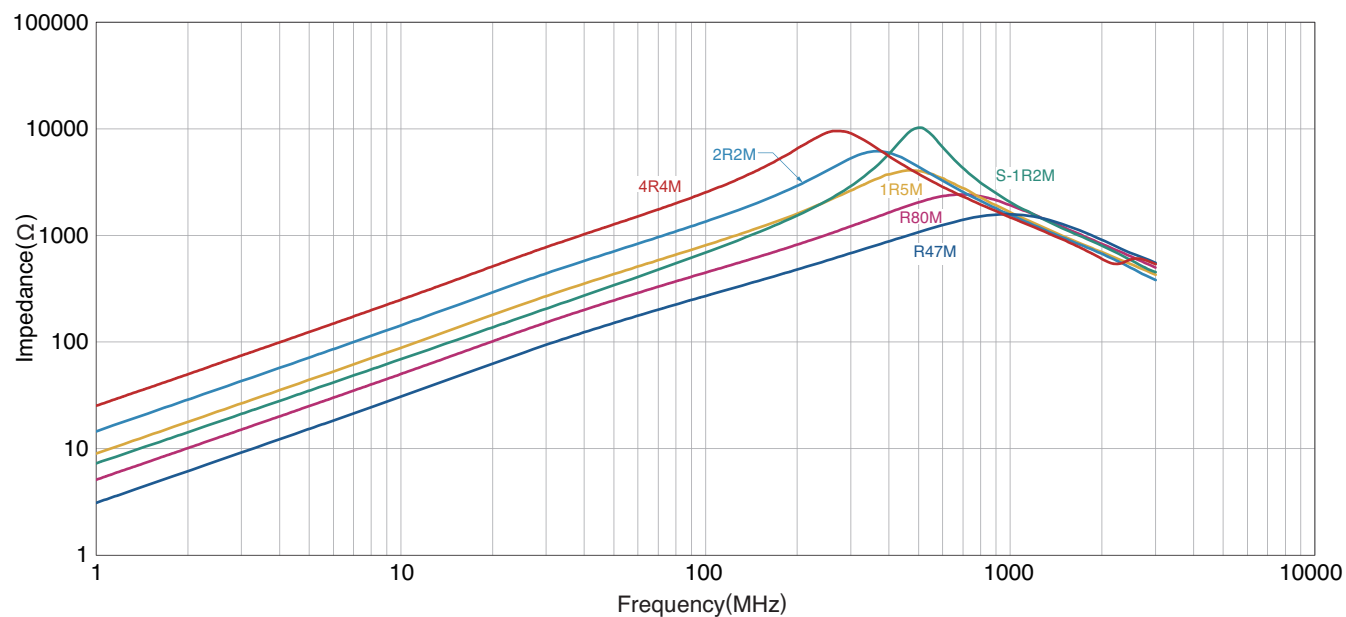
Measurement item	Product No. *	Manufacturer
Inductance	E4991A	Keysight Technologies
DC resistance	4338A	Keysight Technologies

* Equivalent measurement equipment may be used.



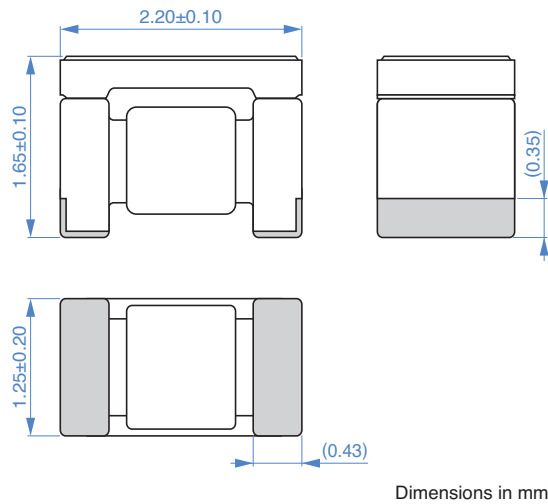
ADL2012 type

■ IMPEDANCE VS. FREQUENCY CHARACTERISTICS

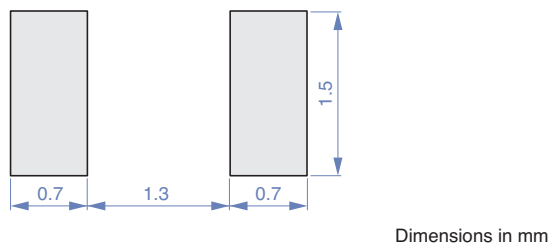


ADL2012 type

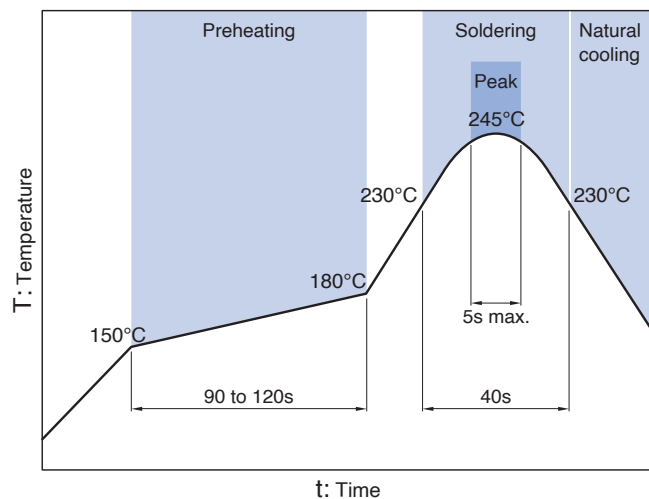
SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN

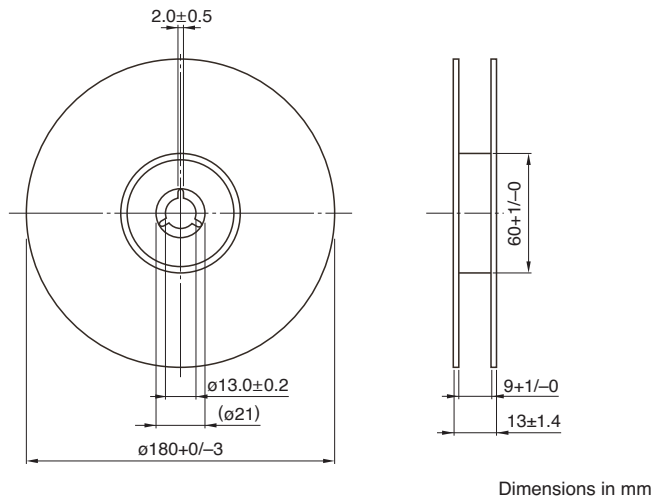


RECOMMENDED REFLOW PROFILE

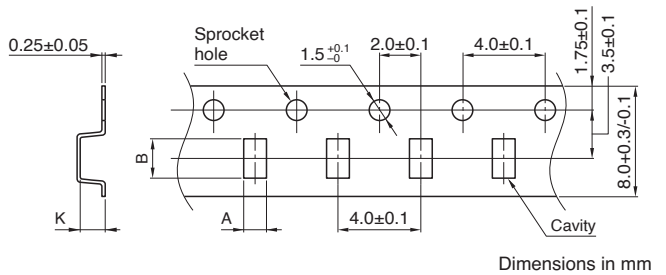


PACKAGING STYLE

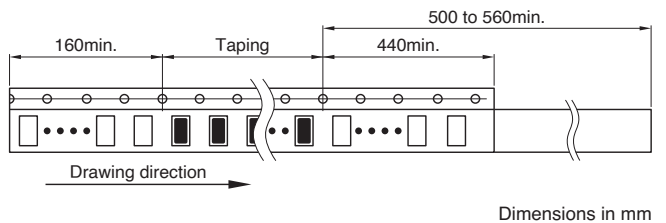
REEL DIMENSIONS



TAPE DIMENSIONS



Type	A	B	K
ADL2012	(1.55)	(2.4)	(1.9)



PACKAGE QUANTITY

Package quantity	2,000 pcs/reel
------------------	----------------

TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range *	Storage temperature range	Individual weight
-40 to +135 °C	-40 to +135 °C	18 mg

* Operating temperature range includes self-heating.

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.).
- 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
- (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.