Inductors for decoupling circuits
Multilayer ferrite(Soft termination)
KLZ-HR series (for automotive)

RoHS REACH Halogen Free Lead Free

AEC-Q200

KLZ2012-HR type

Product Portal Search Simulation Model Selection Guide Tech Library Tech Note Application Guides Automotive

FEATURES

- The KLZ series include inductors for decoupling circuits that have top-class DC superimposition characteristics and low DC resistance.
- They are compatible with wide frequency band noise, from low to high frequency.
- Guide electric property resin absorbs external stress, and mechanical stress, resistance force to thermal shock is improved.
- Easing by conductive resin thermal stress, and respond for High-temperature environment of 150°C, too.
- Operating temperature range: -55 to +150°C

APPLICATION

- V2X, in-Vehicle Network, Safety, Comfort, xEV, Powertrain, Motorcycle

PART NUMBER CONSTRUCTION

KLZ	2012	M	HR	1R0	H	T	D25
Series name	L×W×H dimensions 2.0×1.25×0.85 mm 2.0×1.25×1.25 mm	Product identification code	Specifications (Grade)	Inductance (µH)	Characteristic type	Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

Type	L		Thickness	L measuring conditions		DC resistance	Rated current	Reference value	Part No.
	(µH)	Tolerance	T (mm)	Frequency (MHz)	Current (mA)	(Ω)±30%	(Isat) *1 (mA)max.	(Itemp) *2 (mA)typ.	
Ultra-large current	1.0	±20%	1.25	2	0.1	0.10	700	800	KLZ2012MHR1R0HTD25
	2.2	±20%	1.25	2	0.1	0.16	400	600	KLZ2012MHR2R2HTD25
	3.3	±20%	1.25	2	0.1	0.20	350	500	KLZ2012MHR3R3HTD25
	4.7	±20%	1.25	2	0.1	0.34	300	400	KLZ2012MHR4R7HTD25
	10.0	±20%	1.25	2	0.1	0.68	200	300	KLZ2012MHR100HTD25
Large current	1.00	±20%	0.85	10	1.0	0.10	280	900	KLZ2012AHR1R0WTD25
	2.20	±20%	0.85	10	1.0	0.15	210	650	KLZ2012AHR2R2WTD25
	4.70	±20%	0.85	2	0.1	0.30	180	500	KLZ2012MHR4R7WTD25
	22.0	±20%	1.25	2	0.1	1.25	100	220	KLZ2012PHR220WTD25
	47.0	±20%	1.25	2	0.1	3.70	50	170	KLZ2012MHR470WTD25
Low resistance	100.0	±20%	1.25	2	0.1	3.50	30	140	KLZ2012NHR101LTD25

*1 Current assumed when inductance ratio has decreased by 50% max.
*2 Current assumed when temperature has risen to 20°C typ. (reference value). Operating temperature environment at this time: 130°C max.

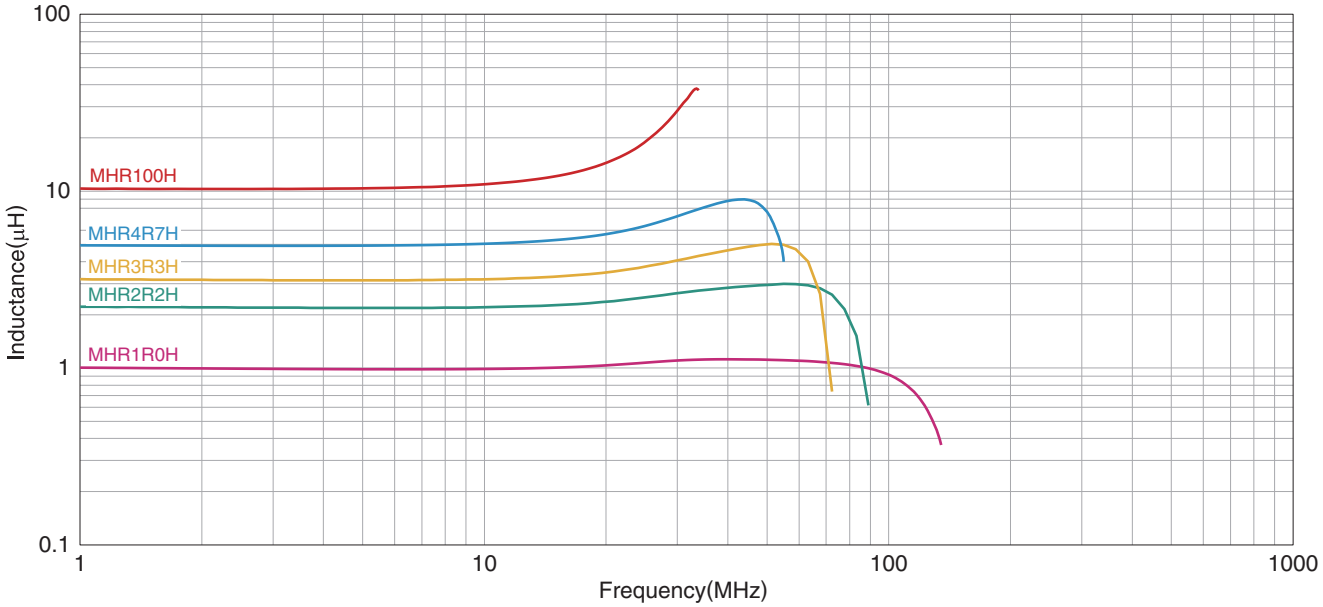
Measurement equipment

Measurement item	Product No. *	Manufacturer
L	4294A+16034G	Keysight Technologies
DC resistance	Type-755611	Yokogawa

* Equivalent measurement equipment may be used.

KLZ2012-HR type

L FREQUENCY CHARACTERISTICS H CHARACTERISTIC PRODUCT

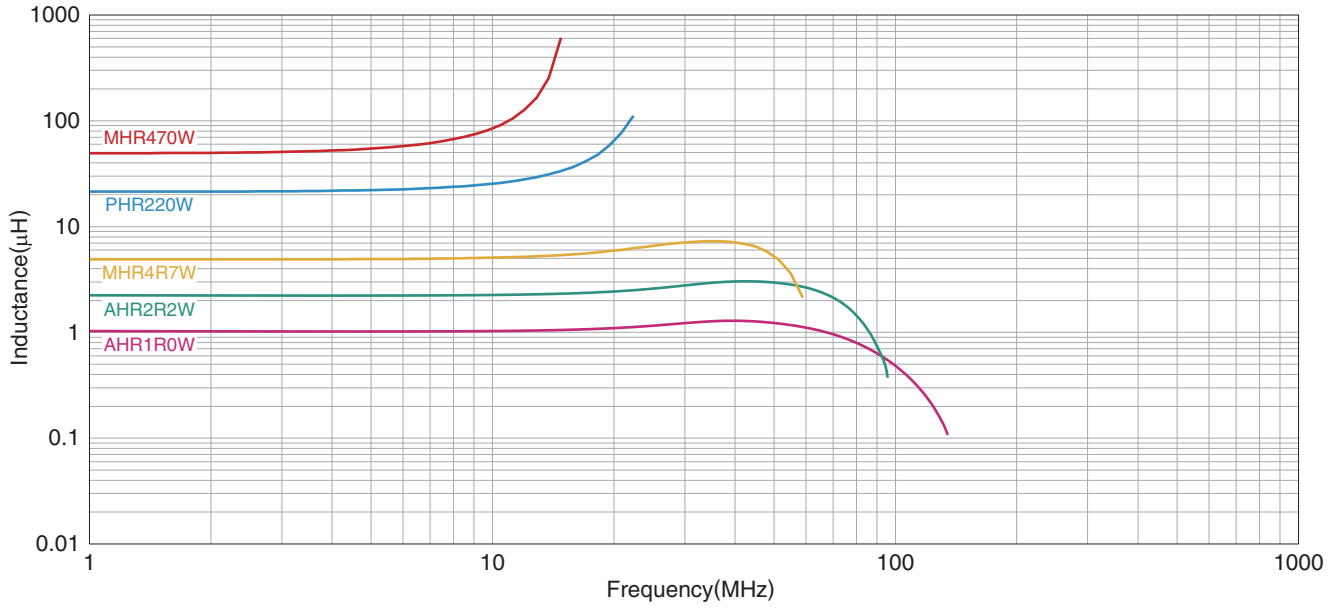


Measurement equipment

Product No. *	Manufacturer
4991A+16192A	Keysight Technologies

* Equivalent measurement equipment may be used.

L FREQUENCY CHARACTERISTICS W CHARACTERISTIC PRODUCT



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KLZ2012-HR type

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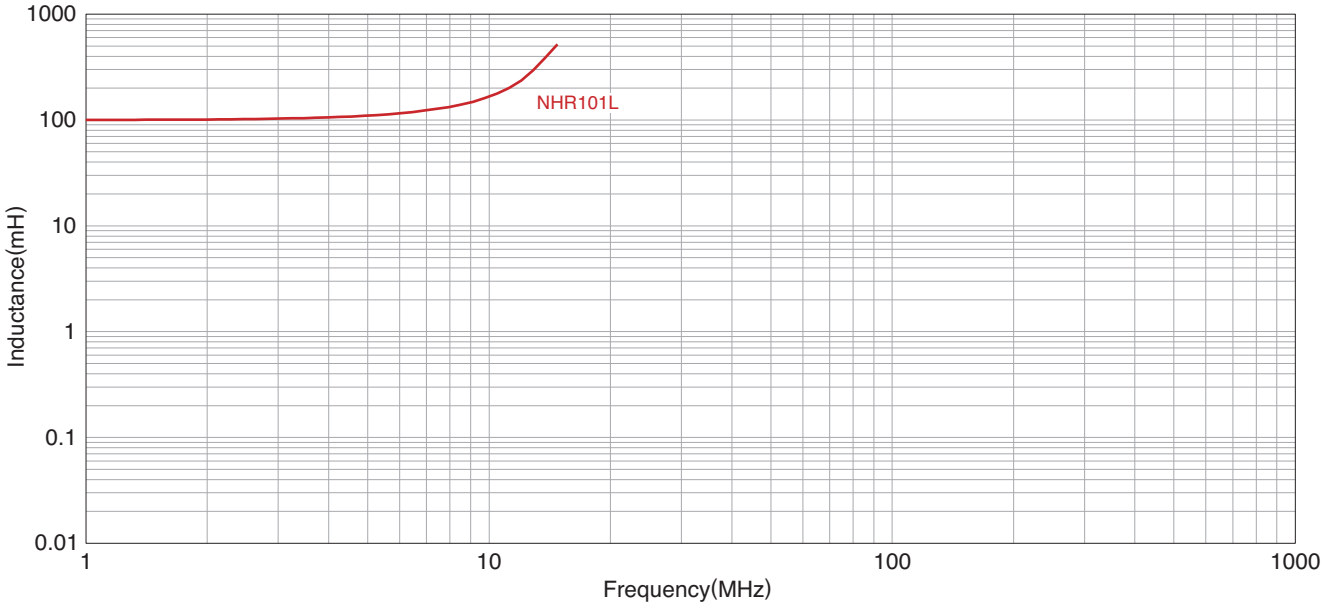

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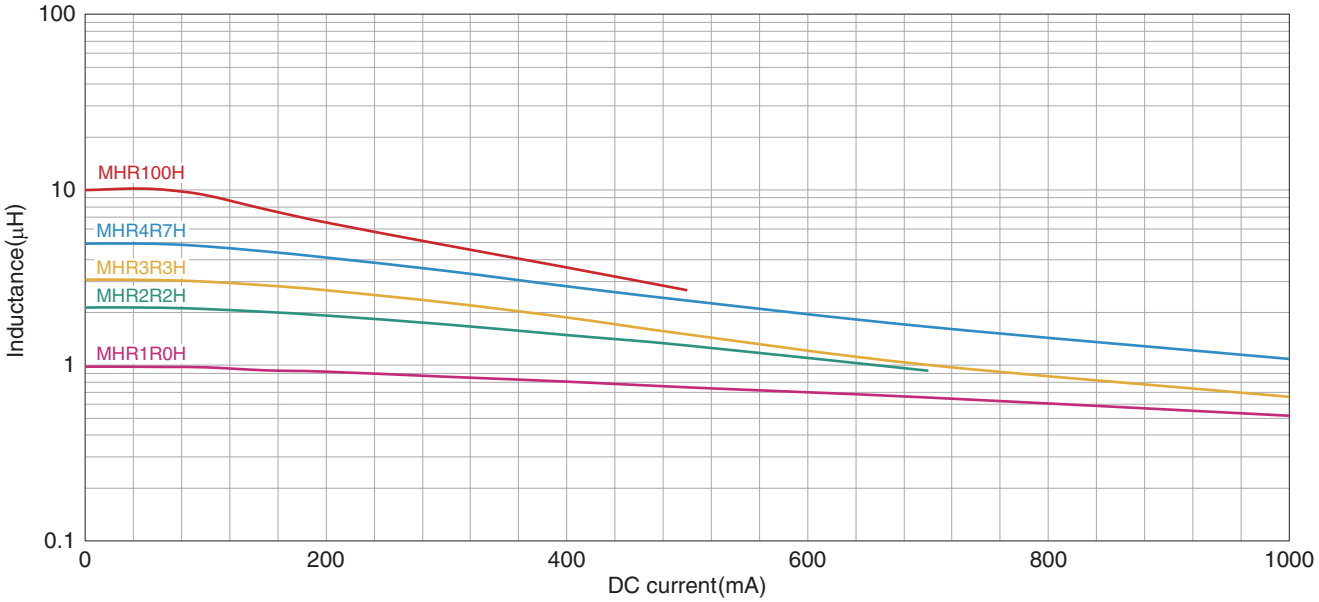
KLZ2012-HR type

INDUCTANCE VS. DC BIAS CHARACTERISTICS H CHARACTERISTIC PRODUCT



Measurement equipment

Product No. *	Manufacturer
4291B+16200A+16192A	Keysight Technologies

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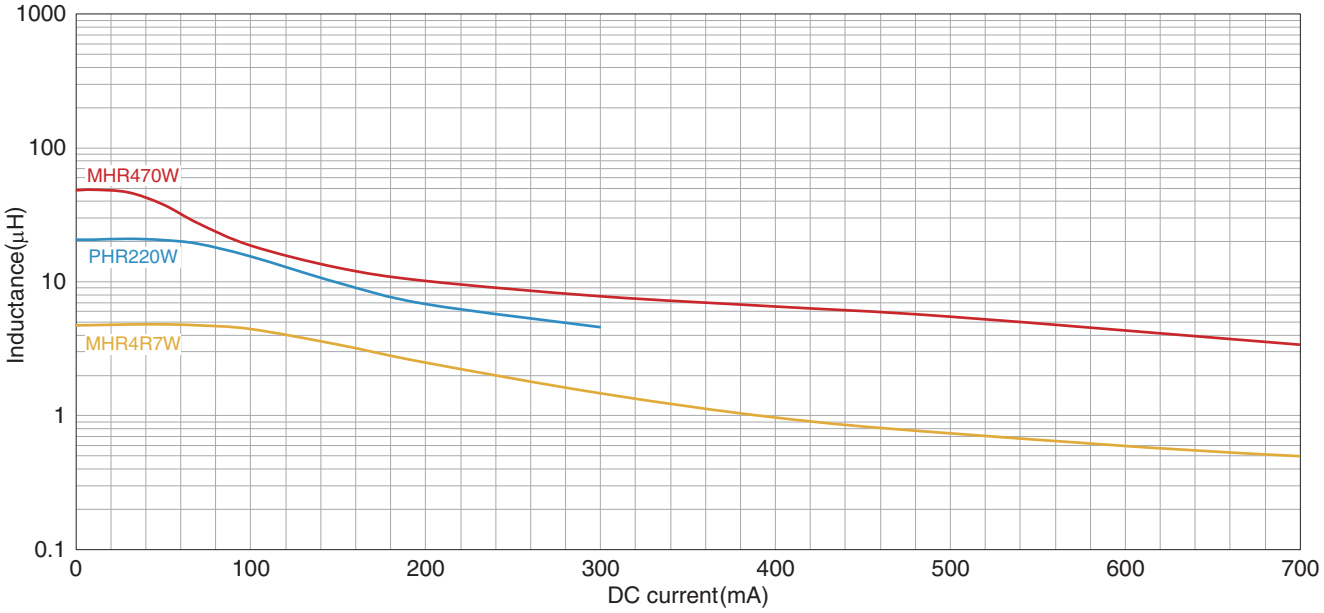

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KLZ2012-HR type

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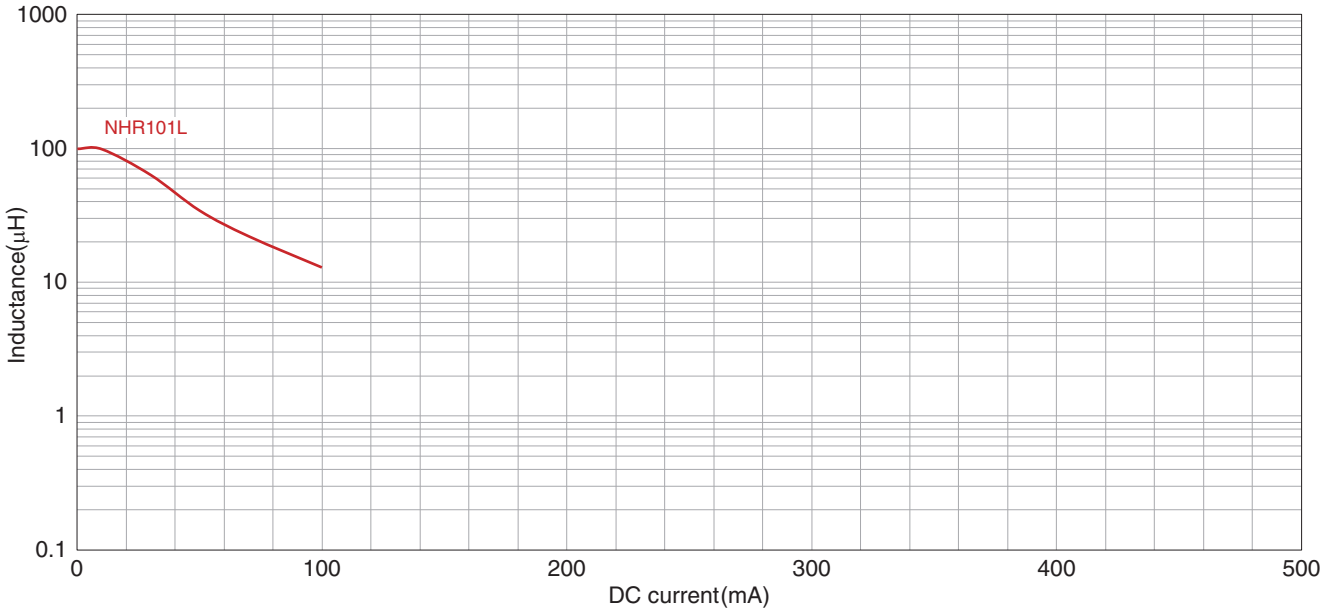

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Product No. *	Manufacturer
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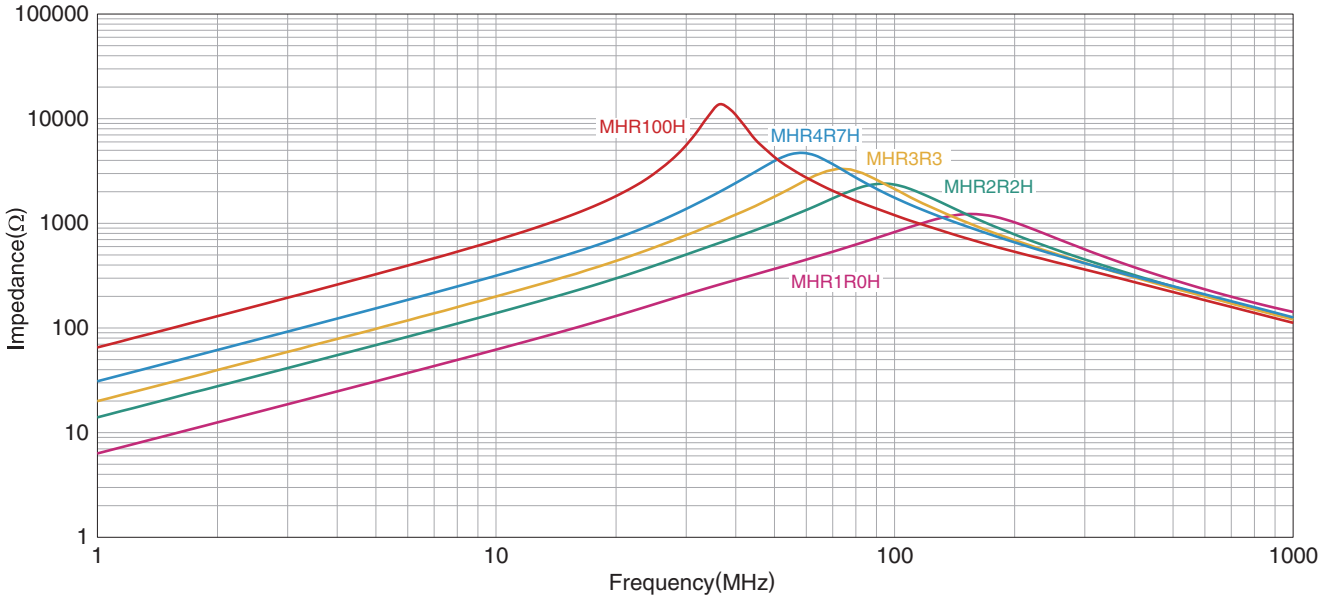
* Equivalent measurement equipment may be used.

KLZ2012-HR type

IMPEDANCE VS. FREQUENCY CHARACTERISTICS H CHARACTERISTIC PRODUCT



Measurement equipment

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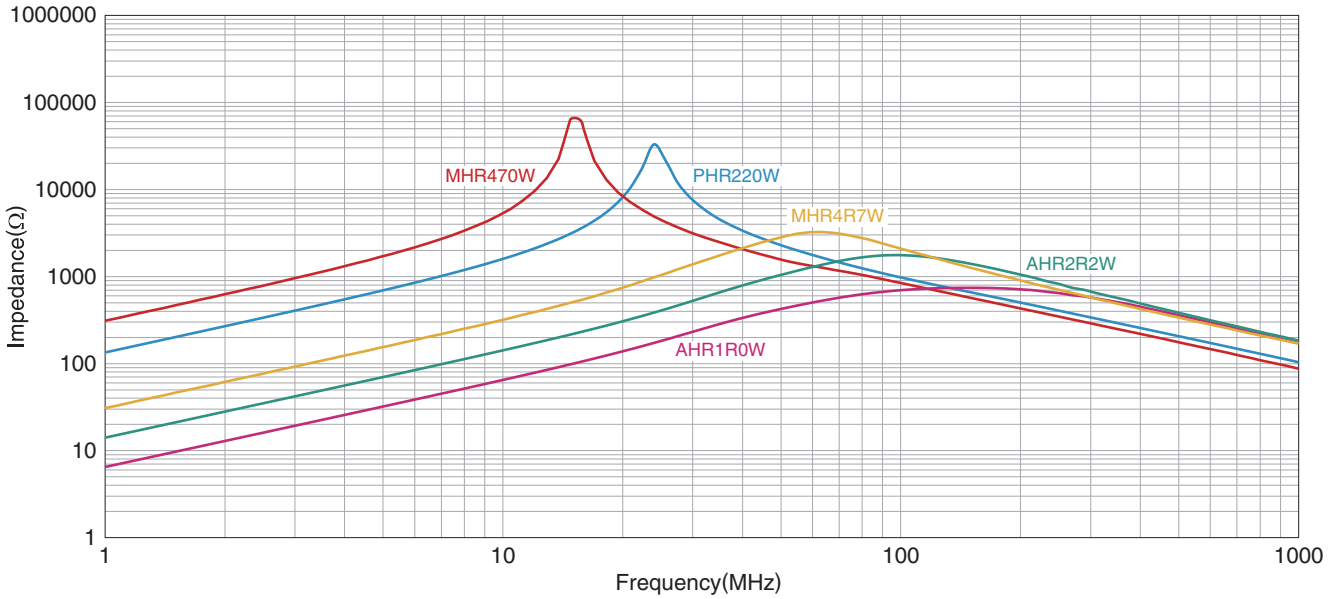

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KLZ2012-HR type

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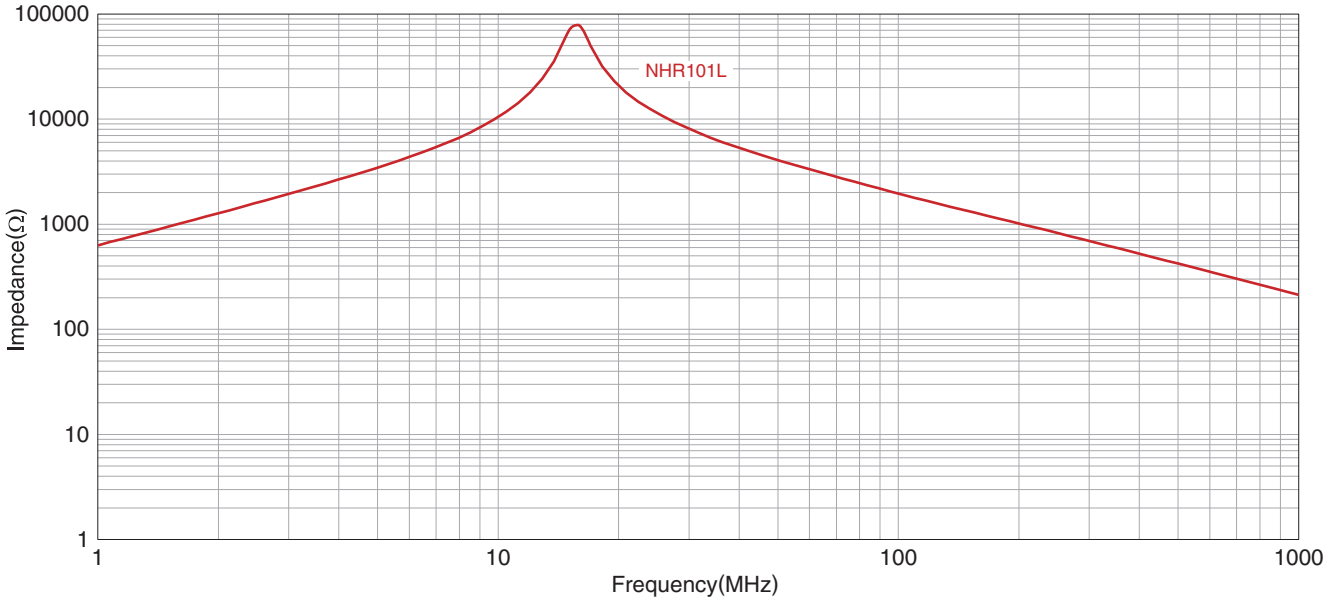

Measurement equipment

Product No. *	Manufacturer
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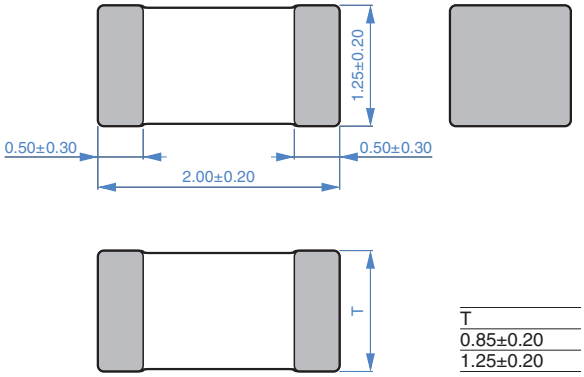
KLZ2012-HR type

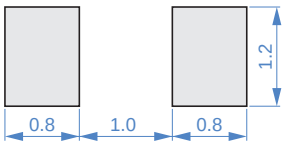
SHAPE & DIMENSIONS



T
0.85±0.20
1.25±0.20

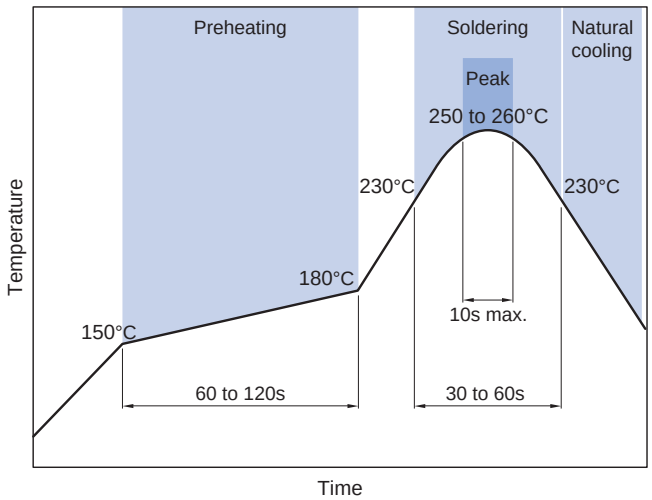
Dimensions in mm

RECOMMENDED LAND PATTERN



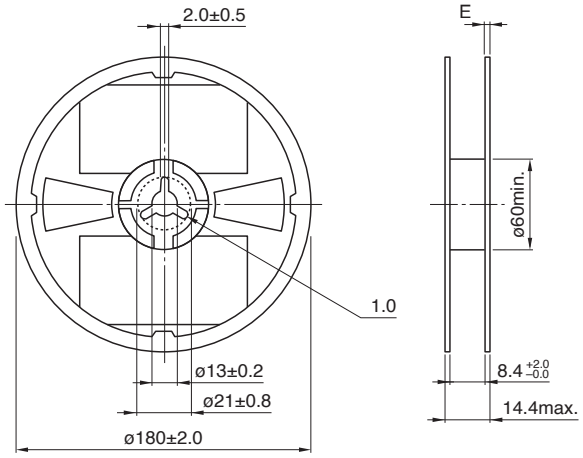
Dimensions in mm

RECOMMENDED REFLOW PROFILE



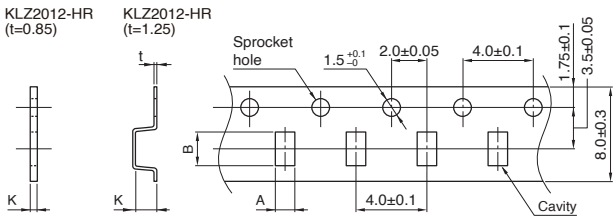
PACKAGING STYLE

REEL DIMENSIONS



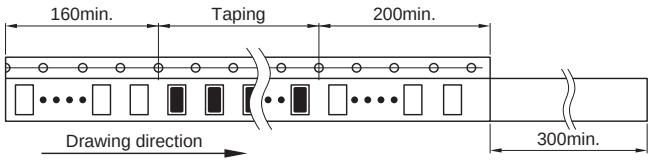
Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm

Type		A	B	K
KLZ2012-HR	t=0.85mm	1.5±0.2	2.3±0.2	1.1 max.
	t=1.25mm	1.5±0.2	2.3±0.2	1.5 max.



Dimensions in mm

PACKAGE QUANTITY

Package quantity	t=0.85mm	4000 pcs/reel
	t=1.25mm	2000 pcs/reel

TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Type	Operating temperature range	Storage temperature range *	Individual weight
t=0.85mm	-55 to +150 °C	-55 to +150 °C	10 mg
t=1.25mm	-55 to +150 °C	-55 to +150 °C	14 mg

* The storage temperature range is for after the assembly.

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.