TDK

SMD Inductors(Coils)
For Power Line(Multilayer, Magnetic Shielded)

Conformity to RoHS Directive

MLZ Series MLZ2012

This is a multilayered inductor primarily designed for choking power lines. With one of the best resistance performance in the industry, this product delivers a significantly lower DC resistance value compared to our previous products. This reduces the loss at the power supply and contributes to power conservation.

FEATURES

- Significantly reduced Rdc.
- An inductance value of 4.7μH was realized at a thickness of 0.85mm. This contributes to space saving.
- Automatic mounting in tape and reel package.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

APPLICATIONS

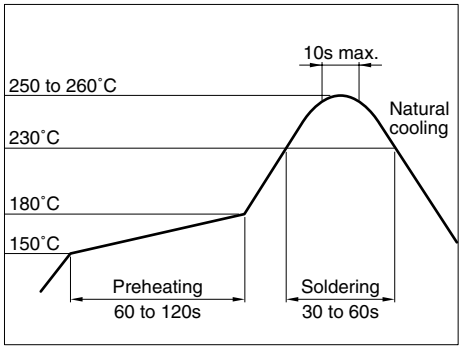
Choke coil to use for DVC, DSC, MD, power supply circuit such as various module.

SPECIFICATIONS

Operating temperature range	–55 to +125°C
Storage temperature range	–55 to +125°C[Unit of products]

RECOMMENDED SOLDERING CONDITION

REFLOW SOLDERING



PRODUCT IDENTIFICATION

MLZ	2012	A	1R0	P	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

2012	2.0×1.25mm

(3) Material code

(4) Inductance value

1R0	1.0 μH
100	10.0 μH

(5) Inductance tolerance

M	±20%
P	±25%

(6) Packaging style

T	Taping [reel]

PACKAGING STYLE AND QUANTITIES

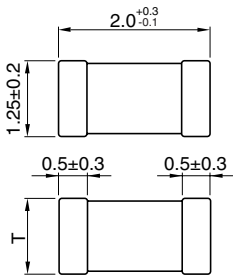
Packaging style	Thickness T(mm)	Quantity
Taping	0.85	4000 pieces/reel
	1.25	2000 pieces/reel

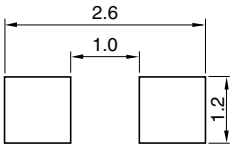
HANDLING AND PRECAUTIONS

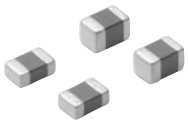
- Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 350°C. Soldering time should not exceed 3 seconds.

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- Please contact our Sales office when your application are considered the following:
  The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN







Dimensions in mm

ELECTRICAL CHARACTERISTICS

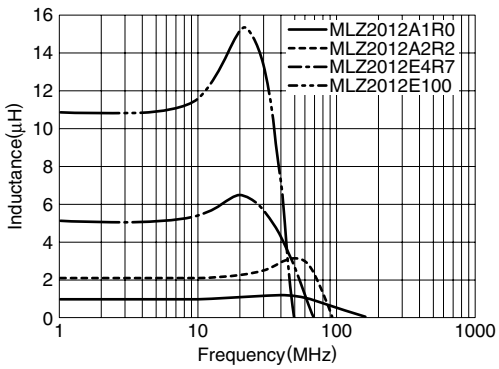
Part No.	Inductance (µH)	Inductance tolerance	Thickness (mm)	Test frequency L (MHz)	Test current L (mA)	Self-resonant frequency (MHz)typ.	DC resistance (Ω)±30%	Rated current (mA)
MLZ2012A1R0☐*T	1.0	±20, ±25%	0.85	10	1.0	160	0.12	220
MLZ2012A2R2☐T	2.2	±20, ±25%	0.85	10	1.0	100	0.20	160
MLZ2012E4R7☐T	4.7	±20, ±25%	0.85	2	0.1	70	0.30	80
MLZ2012E100☐T	10.0	±20, ±25%	1.25	2	0.1	30	0.40	60

* ☐: Please specify inductance tolerance, M(±20%) or P(±25%)

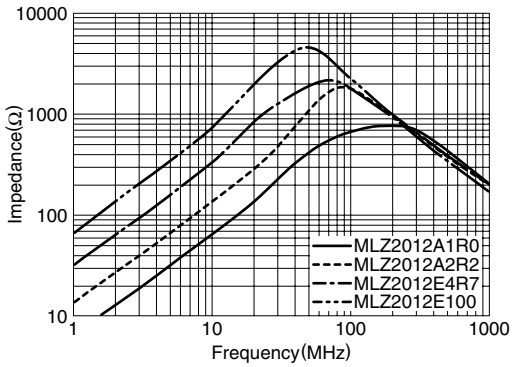
- Test equipment
  Inductance: HP4291B-16192A
  Ag4294A-16034G

TYPICAL ELECTRICAL CHARACTERISTICS

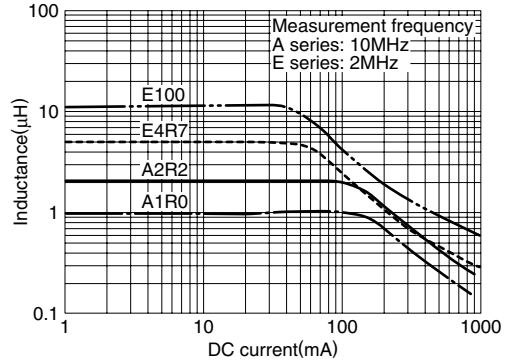
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS

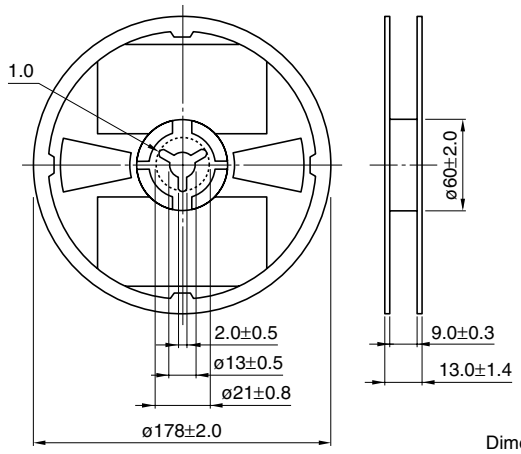


INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



PACKAGING STYLES

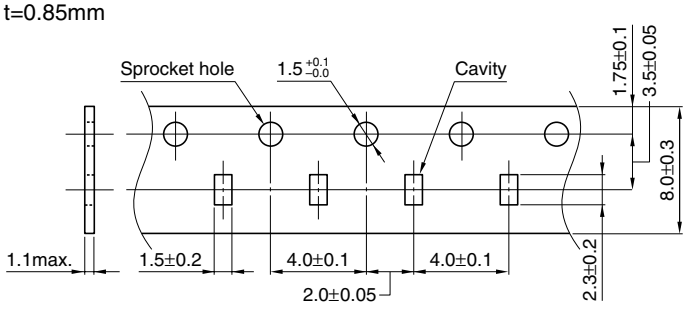
REEL DIMENSIONS



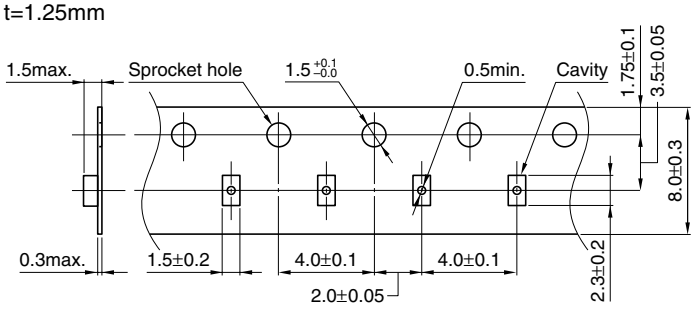
Dimensions in mm

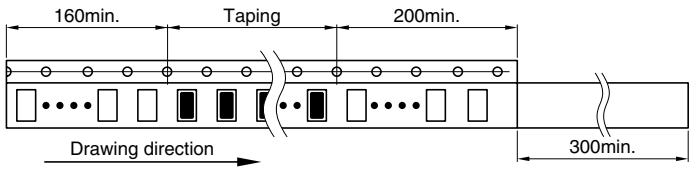
TAPE DIMENSIONS

t=0.85mm



t=1.25mm





Dimensions in mm