

SMD Inductors(Coils)

For Power Line(Multilayer, Magnetic Shielded)

Conformity to RoHS Directive

MLZ Series MLZ1608

The MLZ Series is a new line of multilayer choke coils for decoupling with the industry's best DC superimposition characteristics and lowest DC resistance*. TDK has developed this coil using its proprietary ferrite material technique and dense electrodes.

The MLZ Series exerts an excellent effect mainly on the decoupling of power circuits. It also exerts an effect on audio lines because of its low DC resistance.

The DC superimposition characteristics of the MLZ1608-W Series (IDC UP type) have been improved by up to 250% in comparison with those of other existing products. The series has achieved a rated current of 90mA at 10 μ H and supports small devices that need downsizing.

With the introduction of 0.1 to 0.47 μ H products, the series is able to support high-frequency ranges.

* The MLZ Series was regarded as having the industry's best DC superimposition characteristics and lowest DC resistance according to research conducted in February 2010.

FEATURES

- The IDC UP type is a line of products with the industry's best DC superimposition characteristics.
- The introduction of high frequency-supporting products (0.1 to 0.47 μ H) enables support for high-frequency ranges.

APPLICATIONS

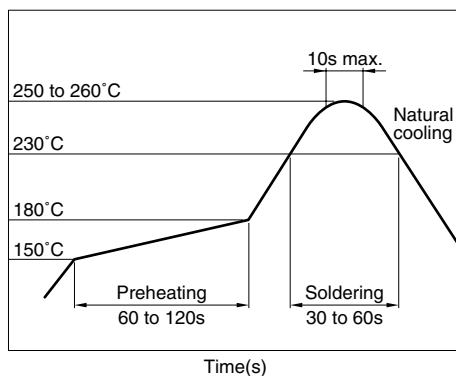
Modules such as digital cellular phone and camera module, Netbooks, note PCs, DSCs, DVCs, video games, portable memory audio devices, navigation systems, PNDs, TVs, W-LANs, solid state drives

SPECIFICATIONS

Operating temperature range	-55 to +125°C
Storage temperature range	-55 to +125°C

RECOMMENDED SOLDERING CONDITION

REFLOW SOLDERING



- 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.)

- All specifications are subject to change without notice.

PRODUCT IDENTIFICATION

MLZ	1608	A	1R0	M	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
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(3) Material code

(4) Inductance value

R10	0.1 μ H
1R0	1.0 μ H
100	10.0 μ H

(5) Management symbol

D	High frequency supported
M	STD
W	IDC-UP

(6) Packaging style

T	Taping [reel]
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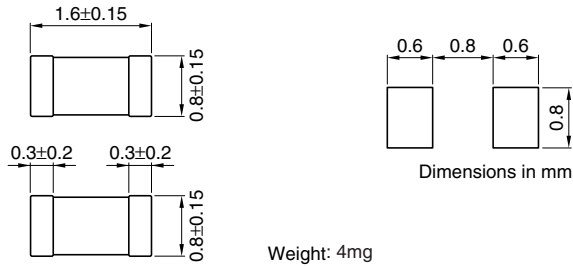
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	4000 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.

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Classification	Part No.	Inductance (μH)	Inductance tolerance	Test frequency L (MHz)	Test current L (mA)	Self-resonant frequency (MHz) typ.	DC resistance (Ω) ±30%	Rated current*1 (mA)	Rated current*2 (mA)
High frequency supported	MLZ1608DR10DT	0.10	±20%	25	1.0	600	0.14	700	850
	MLZ1608DR22DT	0.22	±20%	25	1.0	400	0.27	550	600
	MLZ1608DR47DT	0.47	±20%	25	1.0	260	0.42	400	500
STD	MLZ1608A1R0MT	1.00	±20%	10	1.0	170	0.17	150	600
	MLZ1608A2R2MT	2.20	±20%	10	1.0	120	0.30	100	500
	MLZ1608E4R7MT	4.70	±20%	2	0.1	80	0.50	60	350
	MLZ1608E100MT	10.0	±20%	2	0.1	50	0.90	40	250
IDC-UP	MLZ1608A1R0WT	1.00	±20%	10	1.0	170	0.15	190	800
	MLZ1608A2R2WT	2.20	±20%	10	1.0	120	0.25	130	600
	MLZ1608M4R7WT	4.70	±20%	2	0.1	80	0.50	120	450
	MLZ1608M100WT	10.0	±20%	2	0.1	50	1.05	90	250

*1 Rated Current Based on Inductance Variation: Current when inductance decreases by 50% of the initial value due to direct current superimposed characteristics

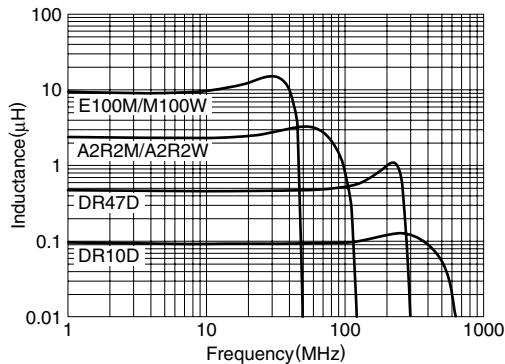
*2 Rated Current Based on Increasing Product Temperature: Current when temperature of the product reaches +20°C

• Test equipment

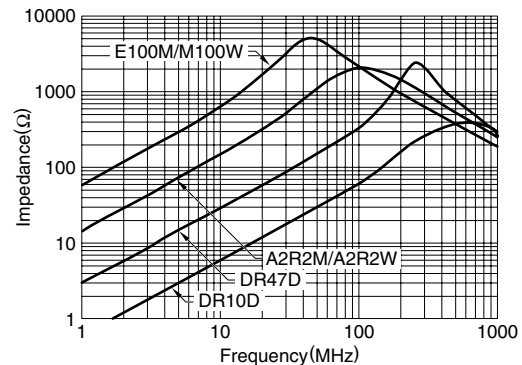
Inductance: Ag-4294A+16034G

TYPICAL ELECTRICAL CHARACTERISTICS

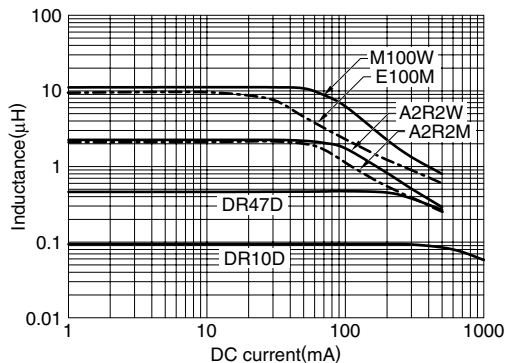
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



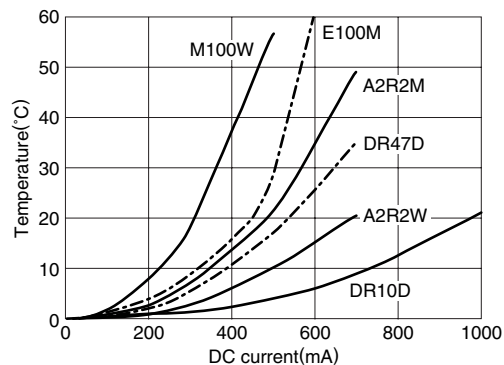
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



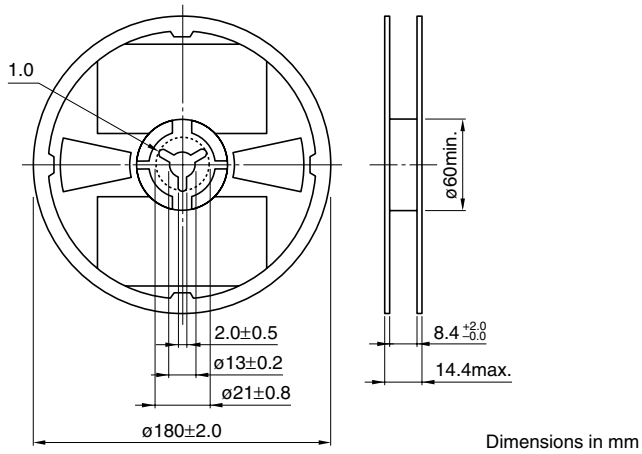
TEMPERATURE CHARACTERISTICS



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PACKAGING STYLES

REEL DIMENSIONS



TAPE DIMENSIONS

