

Inductors

Multilayer ferrite coils with the industry's highest rated current

- Rated current up to 2.5 higher than that of existing products
- Mass production starting in February 2011

February 17, 2011

TDK-EPC, a group company of the TDK Corporation, has developed a TDK multilayer ferrite coil (MLZ2012-H series) in case size EIA 2012 with a rated current that is 2.5 times higher than existing products. With a current capability of up to 700 mA at 1.0 μ H and dimensions of just 2.0 x 1.25 x 1.25 mm³, the MLZ2012-H series is ideally suited for decoupling in compact electronic devices such as notebook computers and digital still and video cameras. Mass production of the coil begins in February 2011.

The improvement in the coil's key performance characteristics over the existing product (MLZ2012-W) was achieved through the use of advanced proprietary ferrite materials with an optimized multilayer structure. This was made possible by the precise control of the enamel physical properties and allows a further improvement of the coil design and superior DC superimposition characteristics on a par with those of wire wound-type coils. As a result, the MLZ2012-H has the industry's* highest rated current for 2012-size multilayer ferrite coils that can be used for decoupling. The inductors are available with inductance values of 1.0 to 10 μ H with a tolerance of \pm 20 percent. At DC resistance values of 0.1 to 0.68 Ω (\pm 30 percent) the current range is between 200 and 700 mA.

The MLZ2012-H series coils take advantage of TDK-EPC's leading-edge multilayer technology and can even be designed into circuits where previously only wire wound coils could be used.

* As of February 2011, according to TDK-EPC research

Glossary

- Decoupling: prevents the effects of current fluctuations from spreading to other parts of a circuit (coupling).
- DC superimposition characteristic: phenomenon in which a direct current causes magnetic saturation to occur and inductance to drop.

Main applications

- Decoupling in compact electronic devices such as digital still cameras, video cameras, and notebook computers

Main features and benefits

- Rated current is 2.5 times higher than that of existing products and equivalent to that of wire wound coils.
- RoHS compatible and suitable for lead-free soldering.

Key data

| Type | Dimensions [mm] | Inductance [μ H] * | DC resistance [Ω] ** | Rated current [mA] |
|--------------|-------------------|-------------------------|-------------------------------|--------------------|
| MLZ2012M1R0H | 2.0 x 1.25 x 1.25 | 1.0 | 0.10 | 700 |
| MLZ2012M2R2H | | 2.2 | 0.16 | 400 |
| MLZ2012M4R7H | | 4.7 | 0.34 | 300 |
| MLZ2012M100H | | 10 | 0.68 | 200 |

* Tolerance \pm 20 percent

** Tolerance \pm 30 percent

About TDK-EPC Corporation

TDK-EPC Corporation (TDK-EPC), a TDK group company, is a leading manufacturer of electronic components, modules and systems headquartered in Tokyo, Japan. TDK-EPC has emerged from the combination of the electronic components business of TDK and the EPCOS Group and markets its products under the product brands, TDK and EPCOS.

The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites and inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors. With this product spectrum TDK-EPC offers a broad range of products and solutions of outstanding value from a single source and focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer electronics. The company has design and manufacturing locations and sales offices in Asia, Europe, and in North and South America.

You can download this text and associated images from www.tdk.co.jp/teah01/aah33700.htm.

Further information on the products can be found under www.tdk.co.jp/tefe02/coil.htm#aname2.

Contacts for regional media

| Region | Contact | Phone | Mail |
|---------------|--|------------------|--|
| Japan | Mr. Yoichi OSUGA TDK Corporation Tokyo/ Japan | +813 5201-7102 | pr@jp.tdk.com |
| ASEAN | Ms. Tomoko KAMEDA TDK Singapore (Pte) Ltd. Singapore | +65 6273 5022 | asean.inquiry@sg.tdk.com |
| Greater China | Ms. Clover XU TDK China Co., Ltd. Shanghai/ China | +86 21 61962307 | pr@cn.tdk.com |
| Europe | Mr. Frank TRAMPNAU TDK Electronics Europe GmbH Dusseldorf/ Germany | +49 211 9077 127 | trampnau@eu.tdk.com |
| America | Ms. Sara M. REYNOSO TDK Corporation of America Irving, TX/ USA | +1 972-409-4519 | sreynoso@tdktca.com |