

Version:  
June 27, 2017



# TOKEN

## (TCDU)

### Nickel Core

# Integrated Inductor

#### **Token Electronics Industry Co., Ltd.**

**Taiwan:** No.137, Sec. 1, Zhongxing Rd., Wugu District,  
New Taipei City, Taiwan, R.O.C. 24872  
Tel: +886 2981 0109 Fax: +886 2988 7487

**China:** 12F, Zhong Xing Industry Bld., Chuang Ye Road,  
Nan Shan District, Shen Zhen City,  
Guang Dong, China 518054  
Tel: +86 755 26055363; Fax: +86 755 26055365

[Web: www.token.com.tw](http://www.token.com.tw)

[Email: rfq@token.com.tw](mailto:rfq@token.com.tw)



## ▶ Product Introduction

### Technology of Diagonal Through Hole Nickel Core Integrated Inductor Design.

#### Features :

- Ultra low cost.
- Shielded construction.
- High current rating up to DC 33 Amp.
- High frequency range up to 1.0MHz.
- Very low DC resistance.
- All lead-free.(RoHS).

#### Applications :

- Motherboards for laptop and desktop computers.
- DC/DC converter in distributed power systems or VRM Applications. Inductor for general purpose use.


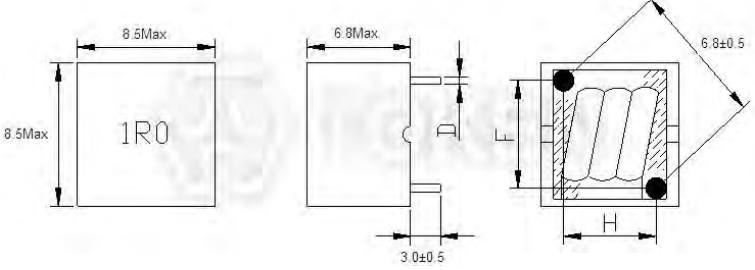

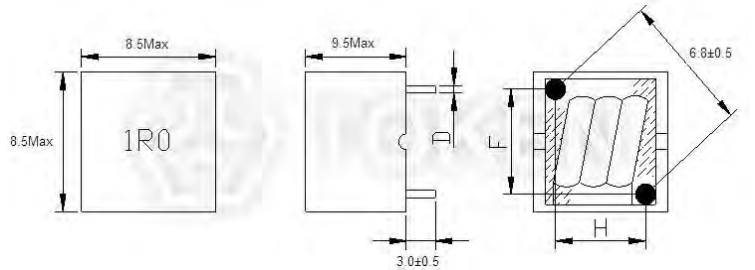

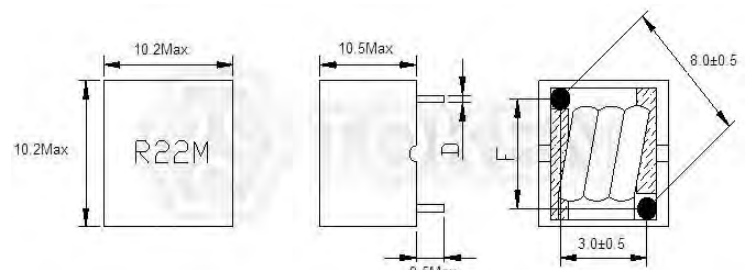

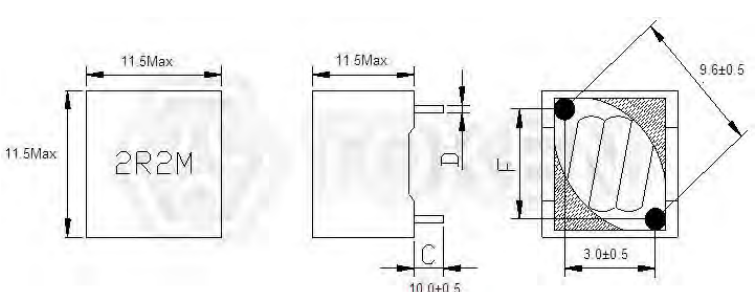
An integrated circuit structure is provided with (TCDU) inductor formed of a high magnetic susceptibility nickel metal core coil. The Nickel Core Integrated Inductor (TCDU) measure high current rating up to DC 33 Amp., frequency high up to 1.0MHz with low DC resistance. Three compact sizes are available, 8.5mm x 8.5mm, 10.2mm x 10.2mm, and 11.5mm x 11.5mm. Making them ideally for today's DC/DC converter in distributed power systems or VRM, and motherboards for laptop and desktop computers applications.

The (TCDU) inductors are RoHS compliant and meet standard requirements. Custom parts are available on request. Token will also produce devices outside these specifications to meet specific customer requirements, Please contact our sales or link to Token official website "[Through Hole Inductors](http://www.token.com.tw)" for more information.



► Configurations & Dimensions

Configurations & Dimensions (Unit: mm) (TCDU0806/0809/1009/1103)

<p>TCDU0806</p>	 <p style="text-align: center; font-size: small;">WWW.TOKEN.COM.TW</p>	
<p>TCDU0809</p>	 <p style="text-align: center; font-size: small;">WWW.TOKEN.COM.TW</p>	
<p>TCDU1009</p>	 <p style="text-align: center; font-size: small;">WWW.TOKEN.COM.TW</p>	
<p>TCDU1109</p>	 <p style="text-align: center; font-size: small;">WWW.TOKEN.COM.TW</p>	

▶ **TCDU0806**

**Electrical Characteristics (TCDU0806)**

Part No	L (μH)	DCR (mΩ)		Isat (A)	Irms (A)
	±20%	TYP	MAX	TYP	TYP
TCDU0806-1R0M	1.00	2.50	2.70	12.0	12.0

Note:

- Inductance tested at 100KHz , 0.1V.
- Inductance drop = 10% typ. at rated isat.
- ΔT = 40 °C rise typ. at irms.
- Operating temperature range -40 °C to +125 °C.
- Electrical specifications at +25 °C.

▶ **TCDU0809**

**Electrical Characteristics (TCDU0809)**

Part No	L (μH)	DCR (mΩ)		Isat (A)	Irms (A)
	±20%	TYP	MAX	TYP	TYP
TCDU0806-2R2M	2.20	4.60	5.00	13.0	10.0

Note:

- Inductance tested at 100KHz , 0.1V.
- Inductance drop = 10% typ. at rated isat.
- ΔT = 40 °C rise typ. at irms.
- Operating temperature range -40 °C to +125 °C.
- Electrical specifications at +25 °C.

▶ **TCDU1009**

**Electrical Characteristics (TCDU1009)**

Part No	L (μH)	DCR (mΩ)		Isat (A)	Irms (A)
	±20%	TYP	MAX	TYP	TYP
TCDU1009-R22M	0.22	0.53	0.65	50.0	33.0
TCDU1009-R36M	0.36	0.70	0.90	50.0	33.0
TCDU1009-R47M	0.47	0.70	0.90	30.0	26.0
TCDU1009-R50M	0.50	0.70	0.90	30.0	26.0
TCDU1009-R56M	0.56	0.70	0.90	30.0	26.0
TCDU1009-R80M	0.80	1.28	1.56	30.0	20.0
TCDU1009-1R0M	1.00	1.28	1.56	30.0	20.0
TCDU1009-2R2M	2.20	4.00	3.10	18.0	13.0

Note:

- Inductance tested at 100KHz , 0.1V.
- Inductance drop = 10% typ. at rated isat.
- ΔT = 40 °C rise typ. at irms.
- Operating temperature range -40 °C to +125 °C.
- Electrical specifications at +25 °C.



▶ **TCDU1109**

**Electrical Characteristics (TCDU1109)**

Part No	L (μH)	DCR (mΩ)		Isat (A)	Irms (A)
	±20%	TYP	MAX	TYP	TYP
TCDU1109-R22M	0.22	0.50	0.75	40.0	30.0
TCDU1109-R56M	0.56	1.00	1.30	40.0	28.0
TCDU1109-1R0M	1.00	1.20	1.50	28.0	24.0
TCDU1109-1R2M	1.20	1.20	1.50	26.0	22.0
TCDU1109-2R2M	2.00	2.30	3.00	25.0	18.0

Note:

- Inductance tested at 100KHz , 0.1V.
- Inductance drop = 10% typ. at rated isat.
- ΔT = 40 °C rise typ. at irms.
- Operating temperature range -40 °C to +125 °C.
- Electrical specifications at +25 °C.

▶ **Order Codes**

**Order Codes (TCDU)**

TCDU	1109	-	R22	M		
Part Number	Size		Inductance		Tolerance	
TCDU	0806	8.5×8.5mm	R22	0.22μH	J	±5%
	0809	8.5×8.5mm	1R0	1.00μH	K	±10%
	1009	10.2×10.2mm			L	±15%
	1109	11.5×11.5mm			M	±20%
					P	±25%
					N	±30%



## ► General Information

### Leading-Edge Technology

Token Electronics brand passive component specializes in standard and custom solutions offering the latest in state-of-the-art low profile high power density inductor components. Token provides cost-effective, comprehensive solutions that meet the evolving needs of technology-driven markets. In working closely with the industry leaders in chipset and core development, we remain at the forefront of innovation and new technology to deliver the optimal mix of packaging, high efficiency and unbeatable reliability. Our designs utilize high frequency, low core loss materials, new and custom core shapes in combination with innovative construction and packaging to provide designers with the highest performance parts available on the market.

### Find Inductor Solutions Faster

**Find Your Inductor** - wt.moc.nekot@qfr

Only timely and accurate information can help manage the changing needs of your customers. The Token Inductor Finder puts you only a click away from all of the inductor information you need.

**Find Your Solution** - wt.moc.nekot@qfr

Selecting the correct inductor solution will not only save you time, but it will give you a competitive edge. At Token, we are committed to helping you find the most efficient alternative for your power design. Our inductor and power supply design experts can help you make that selection.

Please forward us:

- A brief description of your particular application's requirements.
- Details of an existing solution that you'd like to replace, enhance or find an alternative.
- Inquiries for feasibility to tailor a power transformer or inductor to your specific application.

We can also help you with any additional technical information you might need relating to any of our products.

**Ask Us Today**

