

Version:  
June 27, 2017



# TOKEN

## (TCTC)

# High Current Toroidal Inductors

### **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****Low Loss Powdered Iron Cores, Low EMI, High Current Toroidal Inductors.****Features :**

- Notebook, Inkjet Printer, Copying Machine,
- Copying Machine, Display Monitor, ADSL Modem,
- Color TV, Video Camera, Air Conditioner, Refrigerator,
- Laundry Machine, Microwave Oven and Car Electronics, etc..

**Applications :**

- Low EMI.
- Low Cost.
- High Current.

Toroidal inductors and transformers are electronic components with the high performers among inductors, typically consisting of a circular ring-shaped magnetic core of iron powder, ferrite, or other material around which wire is coiled to make an inductor. Their windings cool better because of the proportionally larger surface area. Toroidal coils with a round core cross section are better performers than a rectangular cross section.

Token's (TCTC) high current Toroidal Series manufactured by Low loss powdered iron cores offer the smallest size by volume and weight, and lower electromagnetic interference (EMI). Token toroidal can have higher Q factors and higher inductance than similarly constructed solenoid coils. This is due largely to the smaller number of turns required when the core provides a closed magnetic path. The magnetic flux in a toroid is largely confined to the core, preventing its energy from being absorbed by nearby objects, making toroidal cores essentially self-shielding. The (TCTC) series is suitable for a broad range of applications, such as high-frequency coils and transformers.

Full line products meet RoHS compliant. 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](#)" for more information.



► **Configurations & Dimensions**

**Configurations & Dimensions (Unit: mm) (TCTC)**

Type: HA		A Max	B Max	C	D
	TCTC5026 -HA	15.5	8.0	6±1	5±1
	TCTC5026B -HA	15.5	9.5	6±1	5±1
	TCTC5052 -HA	15.5	8.0	6±1	5±1
	TCTC5052B -HA	15.5	9.5	6±1	5±1
	TCTC5018B -HA	15.5	9.5	6±1	5±1
	TCTC5018 -HA	15.5	8.0	6±1	5±1
	TCTC6052 -HA	20.0	10.0	6±1	5±1
	TCTC6018 -HA	20.0	10.0	6±1	5±1
Type: HB		A Max	B Max	C	D
	TCTC5026 -HB	18.0	10.0	6±1	15±1
	TCTC5026B -HB	18.0	11.5	6±1	15±1
	TCTC5052 -HB	18.0	10.0	6±1	15±1
	TCTC5052B -HB	18.0	11.5	6±1	15±1
	TCTC5018B -HB	18.0	11.5	6±1	15±1
	TCTC5018 -HB	18.0	10.0	6±1	15±1
	TCTC6052 -HB	22.0max	12.0max	6±1	17±1
	TCTC6018 -HB	22.0max	12.0max	6±1	17±1
Type: HC		A Max	B Max	C	D
	TCTC5026 -HC	15.5	8.0	6±1	14±1
	TCTC5026B -HC	15.5	9.5	6±1	14±1
	TCTC5052 -HC	15.5	8.0	6±1	14±1
	TCTC5052B -HC	15.5	9.5	6±1	14±1
	TCTC5018B -HC	15.5	9.5	6±1	14
	TCTC6052 -HC	20.0	10.0	6±1	16±1
	TCTC6018 -HC	20.0	10.0	6±1	16±1
	Type: V		A Max	B Max	C
	TCTC5026 -V	9.0	18.0	6±1	7.0±1
	TCTC5026B -V	10.0	18.0	6±1	8.5±1
	TCTC5052 -V	9.0	18.0	6±1	7±1
	TCTC5052B -V	10.0	18.0	6±1	8.5±1
	TCTC5018B -V	10.0	18.0	6±1	8.5±1
	TCTC6052 -V	11.0	21.0	6±1	9.5REF
	TCTC6018 -V	11.0	21.0	6±1	9.5REF

### Configurations & Dimensions (Unit: mm) (TCTC)

In addition, a variety of common mode magnetic coil inductors can be supplied according to customer requirements



- Note: Design as Customer's Requested Specifications.



TCTC

Electrical Characteristics (TCTC)

Indctance ( $\mu$ H)	5026		5026B		5052		5052B		5018		5018B		6052		6018	
	DCR	IDC	DCR	IDC	DCR	IDC	DCR	IDC	DCR	IDC	DCR	IDC	DCR	IDC	DCR	IDC
1.0(1R0M)	6.0	15/0.8	5.0	15/0.8	6.0	15/0.8	5.0	15/0.8	6.0	15/0.8	5.0	15/0.8	4.0	20/0.8	4.0	20/0.8
1.2(1R2M)	6.0	15/1.0	5.0	15/1.0	6.0	15/1.0	5.0	15/1.0	6.0	15/1.0	5.0	15/1.0	4.0	20/1.0	4.0	20/1.0
1.5(1R5M)	6.0	12/1.2	6.0	15/1.2	6.0	12/1.2	6.0	15/1.2	6.0	15/1.2	6.0	15/1.2	4.0	20/1.2	4.0	20/1.2
1.8(1R8M)	7.0	12/1.5	6.0	12/1.5	7.0	12/1.5	6.0	12/1.5	7.0	12/1.5	6.0	12/1.5	4.0	15/1.5	4.0	15/1.5
2.0(2R0M)	7.0	11/1.6	6.0	12/1.6	7.0	11/1.6	6.0	12/1.6	7.0	12/1.6	6.0	12/1.6	4.0	15/1.6	4.0	15/1.6
2.2(2R2M)	7.0	11/1.7	7.0	12/1.7	7.0	11/1.7	7.0	12/1.7	7.0	12/1.7	7.0	12/1.7	4.0	15/1.7	4.0	15/1.7
2.5(2R5M)	8.0	10/2.0	7.0	10/2.0	8.0	10/2.0	7.0	10/2.0	8.0	10/2.0	7.0	10/2.0	5.0	15/2.0	5.0	15/2.0
2.7(2R7M)	8.0	10/2.2	7.0	10/2.2	8.0	10/2.2	7.0	10/2.2	8.0	10/2.2	7.0	10/2.2	5.0	12/2.2	5.0	12/2.2
3.0(3R0M)	8.0	9/2.4	7.0	10/2.4	8.0	9/2.4	7.0	10/2.4	8.0	10/2.4	7.0	10/2.4	5.0	12/2.4	5.0	12/2.4
3.3(3R0M)	8.0	9/2.7	7.0	9/2.7	8.0	9/2.7	7.0	9/2.7	8.0	9/2.7	7.0	9/2.7	5.0	12/2.7	5.0	12/2.7
3.5(3R5M)	9.0	8/2.8	8.0	9/2.8	9.0	8/2.8	8.0	9/2.8	9.0	9/2.8	8.0	9/2.8	5.0	12/2.8	5.0	12/2.8
3.9(3R9M)	9.0	8/3.0	8.0	9/3.3	9.0	8/3.0	8.0	9/3.3	9.0	9/3.3	8.0	9/3.3	5.0	10/3.0	5.0	10/3.0
4.0(4R0M)	9.0	7/3.2	8.0	8/3.2	9.0	7/3.2	8.0	8/3.2	9.0	8/3.2	8.0	8/3.2	5.0	10/3.2	5.0	10/3.2
4.5(4R5M)	9.0	7/3.6	9.0	8/3.6	9.0	7/3.6	9.0	8/3.6	9.0	8/3.6	9.0	8/3.6	5.0	10/3.6	5.0	10/3.6
4.7(4R7M)	10.0	6/3.8	9.0	8/3.8	10.0	6/3.8	9.0	8/3.8	10.0	8/3.8	9.0	8/3.8	6.0	9/3.8	6.0	9/3.8
5.0(5R0M)	10.0	6/4.0	9.0	7/4.0	10.0	6/4.0	9.0	7/4.0	10.0	7/4.0	9.0	7/4.0	6.0	9/4.0	6.0	9/4.0
6.0(6R0M)	10.0	5/4.8	9.0	7/4.8	10.0	5/4.8	9.0	7/4.8	10.0	7/4.8	9.0	7/4.8	6.0	8/4.8	6.0	8/4.8
6.5(6R5M)	11.0	5/5.0	9.0	6/5.2	11.0	5/5.0	9.0	6/5.2	11.0	6/5.2	9.0	6/5.2	6.0	8/5.2	6.0	8/5.2
7.0(7R0M)	11.0	4/5.6	10.0	6/5.6	11.0	4/5.6	10.0	6/5.6	11.0	6/5.6	10.0	6/5.6	6.0	7/5.6	6.0	7/5.6
7.5(7R5M)	11.0	4/6.1	10.0	5/6.1	11.0	4/6.1	10.0	5/6.1	11.0	5/6.1	10.0	5/6.1	6.0	7/6.1	6.0	7/6.1
8.0(8R0M)	12.0	3/6.4	10.0	5/6.4	12.0	3/6.4	10.0	5/6.4	12.0	5/6.4	10.0	5/6.4	7.0	7/6.4	7.0	7/6.4
8.5(8R5M)	12.0	3/6.8	11.0	4/6.8	12.0	3/6.8	11.0	4/6.8	12.0	4/6.8	11.0	4/6.8	7.0	6/6.8	7.0	6/6.8
9.0(9R0M)	12.0	3/7.2	11.0	4/7.2	12.0	3/7.2	11.0	4/7.2	12.0	4/7.2	11.0	4/7.2	7.0	6/7.2	7.0	6/7.2
9.5(9R5M)	12.0	2/7.6	12.0	3/7.6	12.0	2/7.6	12.0	3/7.6	12.0	3/7.6	12.0	3/7.6	7.0	6/7.6	7.0	6/7.6
10.0(100M)	12.0	2/8.0	12.0	3/8.0	12.0	2/8.0	12.0	3/8.0	12.0	3/8.0	12.0	3/8.0	7.0	6/8.0	7.0	6/8.0

(TCTC) General Material Characteristics

Materials	Initial Permeability	Permeability with DC bias Hdc=50 oersteds @ 10KHz	Color Code
-2	10	10.0 (100%)	Red/Clear
-8	35	31.9 (91%)	Yellow/Red
-14	14	14.0 (100%)	Black/Red
-18	55	40.7 (74%)	Green/Red
-19	55	40.7 (74%)	Red/Green
-26	75	38.3 (51%)	Yellow/White
-30	22	20.0 (91%)	Green/Gray
-34	33	27.7 (84%)	Gray/Blue
-35	33	27.7 (84%)	Yellow/Gray
-40	60	37.2 (62%)	Green/Yellow
-45	100	46.0 (46%)	Black/Black
-52	75	44.3 (59%)	Green/Blue



▶ Order Codes

Order Codes (TCTC)

TCTC	5026		HA	-	45	1R0M		-	K
Part Number	Size Code		Pattern TYPE		Materials	Inductance			Tolerance
TCTC	5026	15.5×8.0	HA		45	1R0M	1.0μH		J 5%
	5026B	15.5×9.5	HB			100M	10.0μH		K 10%
	5052	15.5×8.0	HC						L 15%
	5052B	15.5×9.5	V						M 20%
	5018	15.5×8.0							N 30%
	5018B	15.5×9.5							Y min
	6018	20.0×10.0							
	6052	20.0×10.0							

## ► 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**

