

Large Current Power Inductor

Large Current Power Inductor, Low DCR - TCDA Series

Technology of Diagonal Through Hole Power Inductor Design (TCDA)

▶ Preview

Token's TCDA Large Current Series power inductors feature with high current, low DC resistance, high frequency, easy heat dissipation, and high reliability advantages.

Token utilizes the latest technology of diagonal through hole power inductor design enabling the most cost-effective propose in manufacturing TCDA Products.

Token will also produce devices outside these specifications to meet customer requirements, with comprehensive application engineering and design support available for customers worldwide.

The TCDA series is lead-free and RoHS compliant. Detailed specifications, both mechanical and electrical, please contact our sales representative for more information.

Features :

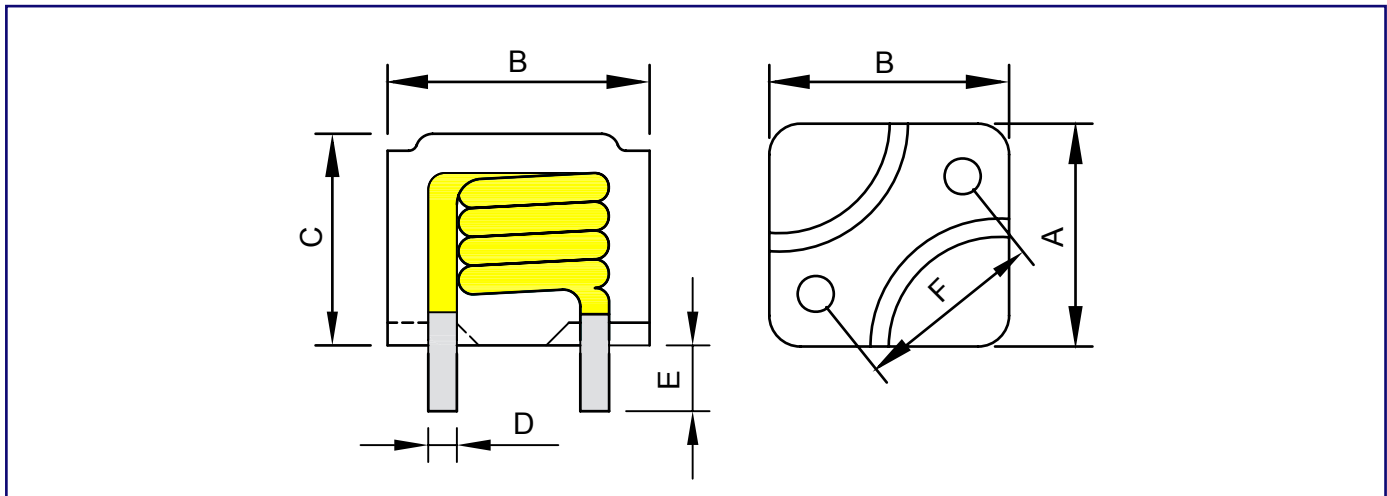
- Low DCR.
- High Frequency (up to 1MHz).
- Low Profile: 7.5mm ~ 10.0mm
- For Large Current Use: 12 ~ 45 amp.
- Diagonal Through Hole Power Inductor.

Applications :

- Graphic Card/ VGA Module.
- Inductor for general purpose use.
- Laptop Computer / Notebook Computer.
- DC/DC converter or VRM applications.
- Thin type on-board power supply module for exchanger.

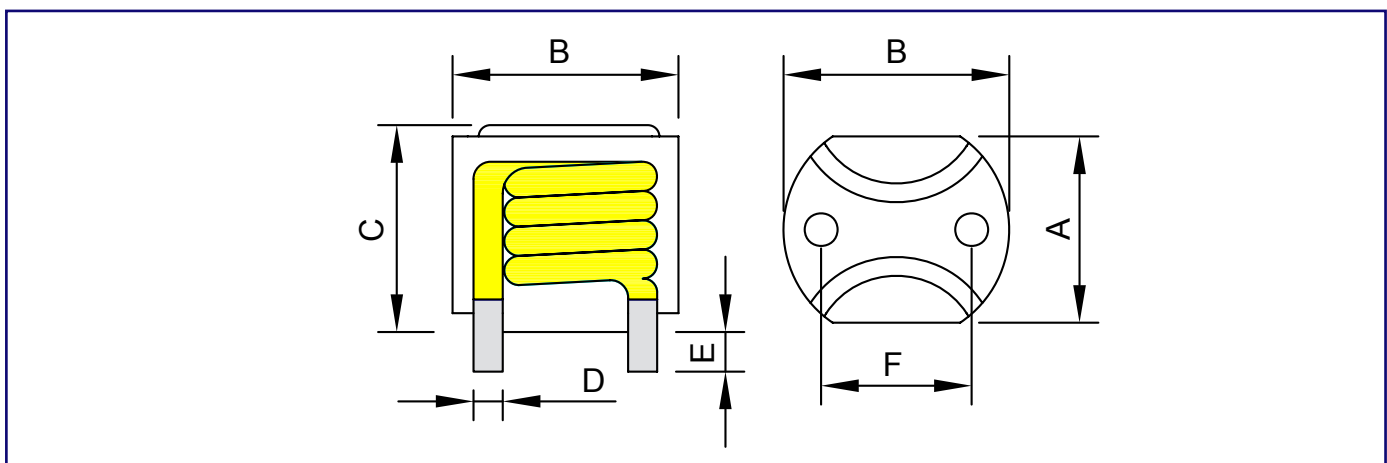


▶ (TCDA1312) Configurations & Dimensions



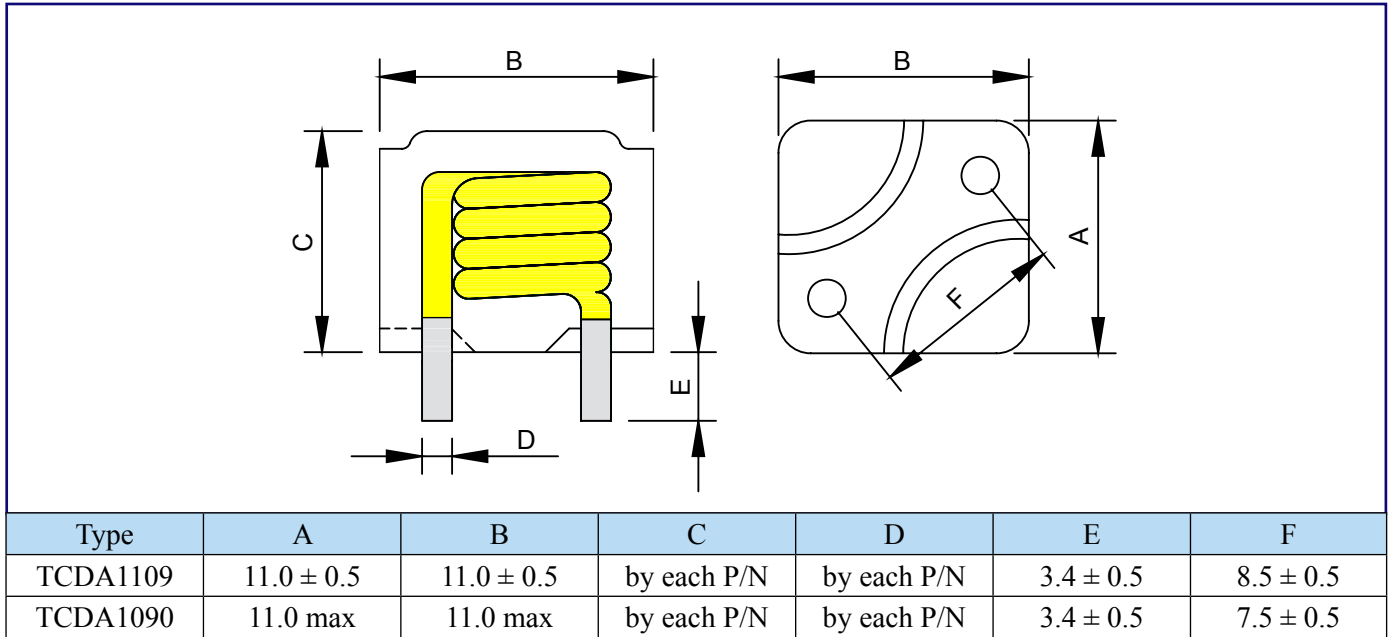
Type	A	B	C	D	E	F
TCDA1312	12.0 ± 0.5	13.0 ± 0.5	by each P/N	by each P/N	3.4 ± 0.5	10.0 ± 0.5

▶ (TCDA1210) Configurations & Dimensions

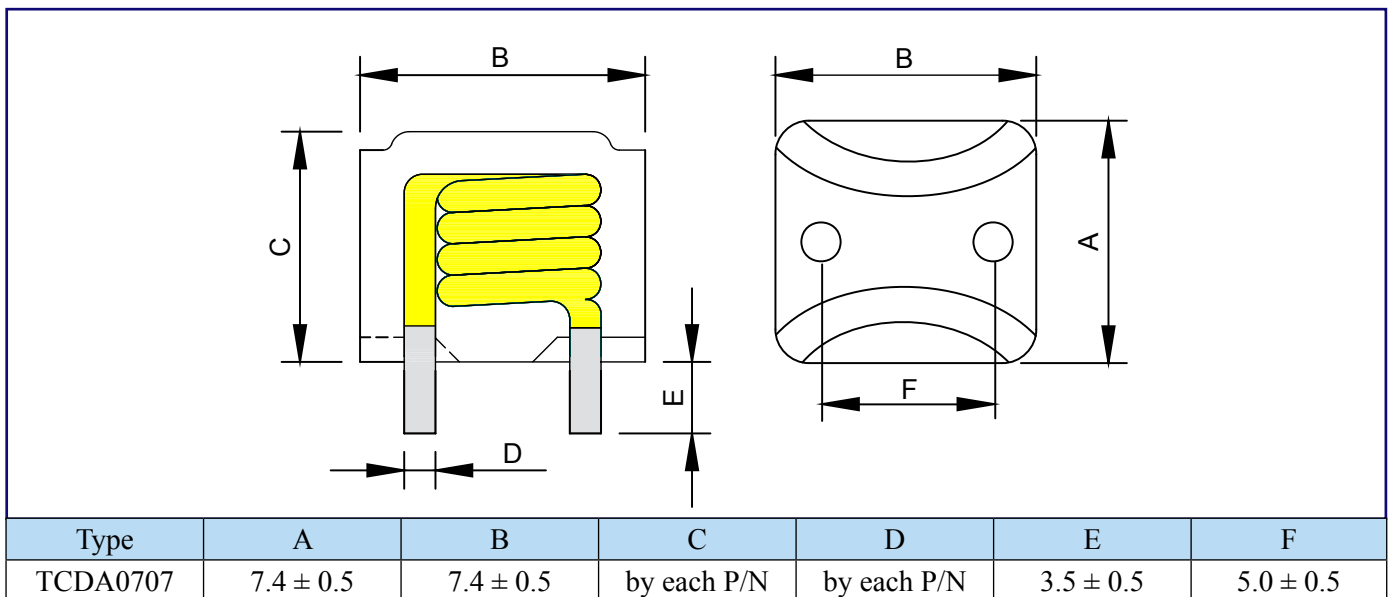


Type	A	B	C	D	E	F
TCDA1210	10.2 ± 0.5	12.3 ± 0.5	by each P/N	by each P/N	3.5 ± 0.5	8.0 ± 0.5

▶ (TCDA1109 & TCDA1090) Configurations & Dimensions



▶ Large Current (TCDA0707) Configurations & Dimensions



▶ (TCDA1312) Electrical Characteristics

Part Number	L0 Inductance (μH) ±20% @0A	C (max) (mm)	D ± 0.1 (mm)	DCR (mΩ)		Heat Rating Current Idc (Amp) Typical	Saturation Current Isat (Amp) Typical
				(Typical)	(Max)		
TCDA1312-R22M	0.22	9	1.7	0.40	0.55	45	60
TCDA1312-R30M	0.30	9	1.7	0.55	0.70	40	60
TCDA1312-R33M	0.33	9	1.7	0.55	0.70	40	60
TCDA1312-R39M	0.39	9	1.7	0.55	0.70	40	60
TCDA1312-R47M	0.47	10	1.7	0.70	0.80	40	60
TCDA1312-R50M	0.50	10	1.7	0.70	0.80	40	60
TCDA1312-R56M	0.56	10	1.7	0.70	0.80	40	60
TCDA1312-R60M	0.60	10	1.7	0.70	0.80	40	60
TCDA1312-R68M	0.68	10	1.7	0.70	0.80	40	50
TCDA1312-R80M	0.8	10	1.7	0.70	0.85	40	50
TCDA1312-1R0M	1.0	10	1.5	1.20	1.35	30	50
TCDA1312-1R2M	1.2	10	1.5	1.20	1.50	30	40
TCDA1312-1R5M	1.5	10	1.4	1.50	1.70	25	30
TCDA1312-2R0M	2.0	10	1.2	2.90	3.30	17	25
TCDA1312-2R2M	2.2	10	1.2	2.90	3.30	17	25

Note: All test Data is referenced to 25°C ambient.

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C.

Typical Saturation DC Current would cause Lo to drop approximately 20%.

Operating Temperature Range: -25°C to +125°C.

▶ (TCDA1210) Electrical Characteristics

Part Number	L0 Inductance (μH) ±20% @0A	C (max) (mm)	D ± 0.1 (mm)	DCR (mΩ)		Heat Rating Current I _{dc} (Amp) Typical	Saturation Current I _{sat} (Amp) Typical
				(Typical)	(Max)		
TCDA1210-R22M	0.22	7.5	1.4	0.5	0.6	38	56
TCDA1210-R33M	0.33	8.6	1.4	0.7	0.8	33	48
TCDA1210-R39M	0.39	8.6	1.4	0.7	0.8	33	45
TCDA1210-R47M	0.47	10	1.5	0.85	1.0	30	40
TCDA1210-R56M	0.56	10	1.5	0.85	1.0	30	40
TCDA1210-R68M	0.68	10	1.5	0.85	1.0	30	40
TCDA1210-R80M	0.8	10	1.4	1.25	1.45	26	36
TCDA1210-1R0M	1.0	10	1.2	1.75	2.0	24	32
TCDA1210-1R2M	1.0	10	1.2	1.75	2.0	24	30
TCDA1210-1R5M	1.5	10	1.0	3.0	3.5	22	30
TCDA1210-2R2M	2.2	10	1.0	3.8	4.6	20	25
TCDA1210-2R8M	2.8	10	1.0	4.5	5.0	18	20
TCDA1210-3R3M	3.3	10	0.8	6.4	7.2	14	16
TCDA1210-4R7M	4.7	10	0.8	8.3	9.8	12	15

Note: All test Data is referenced to 25°C ambient.

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C.

Typical Saturation DC Current would cause L₀ to drop approximately 20%.

Operating Temperature Range: -25°C to +125°C.

▶ (TCDA1109) Electrical Characteristics

Part Number	L0 Inductance (μH) $\pm 20\%$ @0A	C (max) (mm)	D ± 0.1 (mm)	DCR (m Ω)		Heat Rating Current Idc (Amp) Typical	Saturation Current Isat (Amp) Typical
				(Typical)	(Max)		
TCDA1109-R25M	0.25 (T1.5)	8	1.4	0.50	0.60	50	60
TCDA1109-R25M	0.25 (T2.5)	8	1.5	0.70	0.80	45	60
TCDA1109-R30M	0.30	8	1.5	0.70	0.80	45	60
TCDA1109-R33M	0.33	8	1.5	0.70	0.80	45	60
TCDA1109-R36M	0.36	8	1.5	0.70	0.80	45	60
TCDA1109-R40M	0.40	8	1.5	0.70	0.80	45	60
TCDA1109-R47M	0.47	9	1.5	0.90	1.00	40	60
TCDA1109-R50M	0.50	9	1.5	0.90	1.00	40	60
TCDA1109-R56M	0.56	9	1.5	0.90	1.00	40	50
TCDA1109-R60M	0.60	9	1.5	0.90	1.00	40	50
TCDA1109-R68M	0.68	9	1.5	0.90	1.00	40	40
TCDA1109-R80M	0.8	10	1.4	1.30	1.60	25	45
TCDA1109-1R0M	1.0	10	1.4	1.40	1.80	25	45
TCDA1109-1R5M	1.5	10	1.2	2.20	2.50	21	32
TCDA1109-2R0M	2.0	10	1.0	3.30	4.00	15	27
TCDA1109-2R2M	2.2	10	1.0	4.50	5.00	15	40
TCDA1109-2R5M	2.5	10	1.0	4.50	5.00	15	30

Note: All test Data is referenced to 25°C ambient.

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C.

Typical Saturation DC Current would cause Lo to drop approximately 20%.

Operating Temperature Range: -25°C to +125°C.

▶ (TCDA1090) Electrical Characteristics

Part Number	L0 Inductance (μH) $\pm 20\%$ @0A	C (max) (mm)	D \pm 0.1 (mm)	DCR (m Ω)		Heat Rating Current I _{dc} (Amp) Typical	Saturation Current I _{sat} (Amp) Typical
				(Typical)	(Max)		
TCDA1090-R15M	0.15	9	1.4	0.45	0.60	40	60
TCDA1090-R20M	0.20	9	1.4	0.45	0.60	40	60
TCDA1090-R25M	0.25 (1.5T)	9	1.4	0.45	0.60	40	50
TCDA1090-R25M	0.25 (2.5T)	10	1.4	0.65	0.75	40	60
TCDA1090-R30M	0.30	10	1.4	0.65	0.75	40	60
TCDA1090-R33M	0.33	10	1.4	0.65	0.75	40	60
TCDA1090-R36M	0.36	10	1.4	0.65	0.75	40	50
TCDA1090-R39M	0.39	10	1.4	0.65	0.75	40	50
TCDA1090-R47M	0.47 (2.5T)	10	1.4	0.65	0.75	40	50
TCDA1090-R47M	0.47 (3.5T)	10	1.4	0.90	1.10	35	50
TCDA1090-R60M	0.60	10	1.4	0.90	1.10	35	50
TCDA1090-R68M	0.68	10	1.4	0.90	1.10	35	40
TCDA1090-R80M	0.8	10	1.4	1.10	1.30	33	40
TCDA1090-1R0M	1.0	10	1.2	1.55	1.80	27	40
TCDA1090-1R2M	1.2	10	1.2	1.90	2.20	25	30
TCDA1090-1R5M	1.5	10	1.0	2.70	3.00	21	30
TCDA1090-1R8M	1.8	10	1.0	2.70	3.00	21	30
TCDA1090-2R2M	2.2	10	1.2	3.70	4.00	18	30

Note: All test Data is referenced to 25°C ambient.

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C.

Typical Saturation DC Current would cause L₀ to drop approximately 20%.

Operating Temperature Range: -25°C to +125°C.

▶ (TCDA0707) Electrical Characteristics

Part Number	L0 Inductance (μH) $\pm 20\%$ @0A	C (max) (mm)	D ± 0.1 (mm)	DCR (m Ω)		Heat Rating Current Idc (Amp) Typical	Saturation Current Isat (Amp) Typical
				(Typical)	(Max)		
TCDA0707-R30M	0.30	8	0.8	1.80	2.60	20	36
TCDA0707-R36M	0.36	8	0.8	1.80	2.60	20	34
TCDA0707-R39M	0.39	8	0.8	1.80	2.60	20	32
TCDA0707-R47M	0.47	8	0.8	2.40	3.30	18	30
TCDA0707-R60M	0.60	8	0.8	2.40	3.30	18	28
TCDA0707-R68M	0.68	8	0.8	2.40	3.30	18	27
TCDA0707-R80M	0.8	8	0.8	3.30	4.50	16	26
TCDA0707-1R0M	1.0	8	0.8	3.30	4.50	16	25
TCDA0707-1R2M	1.2	8.5	0.8	3.30	4.50	16	24
TCDA0707-1R5M	1.5	8.5	0.8	4.00	4.80	15	20
TCDA0707-1R8M	1.8	9	0.8	4.00	4.80	15	20
TCDA0707-2R2M	2.2	10	0.8	5.00	6.00	10	15

Note: All test Data is referenced to 25°C ambient.

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C.

Typical Saturation DC Current would cause Lo to drop approximately 20%.

Operating Temperature Range: -25°C to +125°C.

▶ (TCUU98V, TCUU98H, TCUU10, TCUU16) How to Order

TCDA

❶

1312

❷

R22

❸

M

❹

❶ Part Number: TCDA

❷ Size

Code	Size
1312	12.0×13.0mm
1210	10.2×12.3mm
1109	11.0×11.0mm
1090	11.0×11.0mm
0707	7.4×7.4mm

❸ Inductance

Code	Inductance
R22	0.22μH
1R0	1.00μH

❹ Tolerance

Code	Tolerance
M	20%

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