



Power Inductors

Large Current Power Inductor - TCDA Series / 大电流功率电感

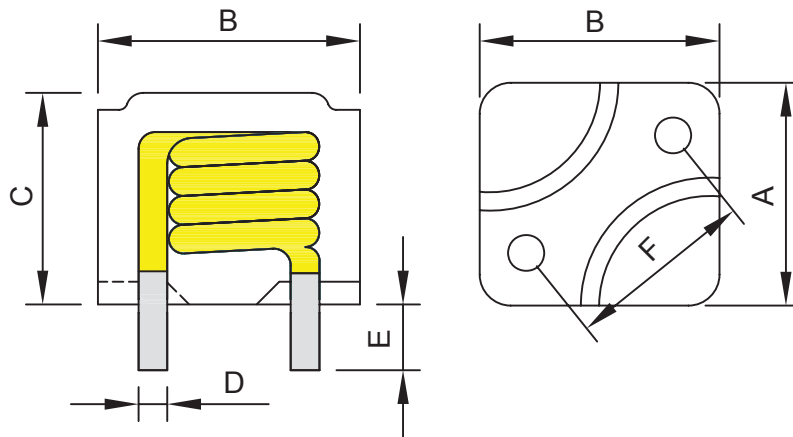
► Features

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

► Applications

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

► TCDA1312 Configurations & Dimensions (unit: mm)



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



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► Electrical Characteristics for TCDA1312 Series

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

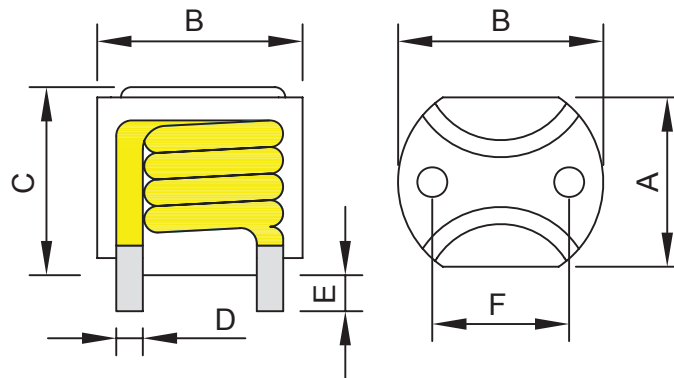
Note: All test Data is referenced to 25°C ambient.

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 Configurations & Dimensions (unit: mm)



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



► Electrical Characteristics for TCDA1210 Series

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)		
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

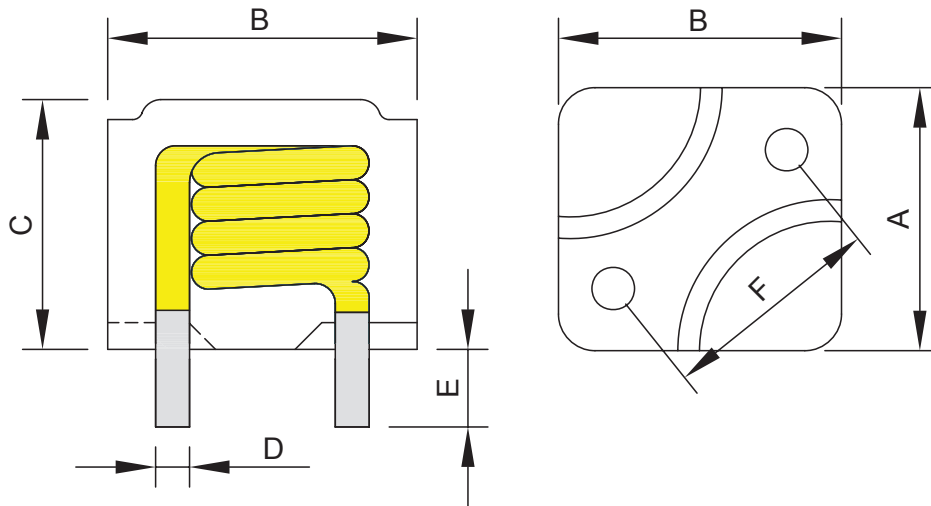
Note: All test Data is referenced to 25°C ambient.

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

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

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

► TCDA1109 & TCDA1090 Configurations & Dimensions (unit: mm)



Type	A	B	C	D	E	F
TCDA1109	11.0 ± 0.5	11.0 ± 0.5	by each P/N	by each P/N	3.4 ± 0.5	8.5 ± 0.5
TCDA1090	11.0 max	11.0 max	by each P/N	by each P/N	3.4 ± 0.5	7.5 ± 0.5



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► Electrical Characteristics for TCDA1109 Series

Part Number	L0 Inductance (μH) $\pm 20\%$ @0A	C (max) (mm)	D ± 0.1 (mm)	DCR (m Ω)		Heat Rating Current I _{dc} (Amp) Typical	Saturation Current I _{sat} (Amp) Typical
				(Typical)	(Max)		
TCDA1109-R25M	0.25	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 L₀ to drop approximately 20%.

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

► Electrical Characteristics for TCDA1090 Series

Part Number	L0 Inductance (μH) $\pm 20\%$ @0A	C (max) (mm)	D ± 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	9	1.4	0.45	0.60	40	50
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	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.





Power Inductors

► How to Order

TCDA 1312 - R22 M
① ② ③ ④

① Large Current Power Inductor : TCDA

② Size : 1312,1210,1109,1090

③ Inductance

Code	Inductance
R22	0.22 μ H
1R0	1.00 μ H

④ Tolerance

Code	Tolerance
M	20%