

# DP02 Series Unshielded Power Inductors

## Features

- Unshielded, leaded drum core
- High current output, Low DCR
- Wide range of inductance

## Applications

- High power supplies
- Power amplifiers
- SCR and TRIAC controls
- Speaker crossover networks and filters

## Environmental Data

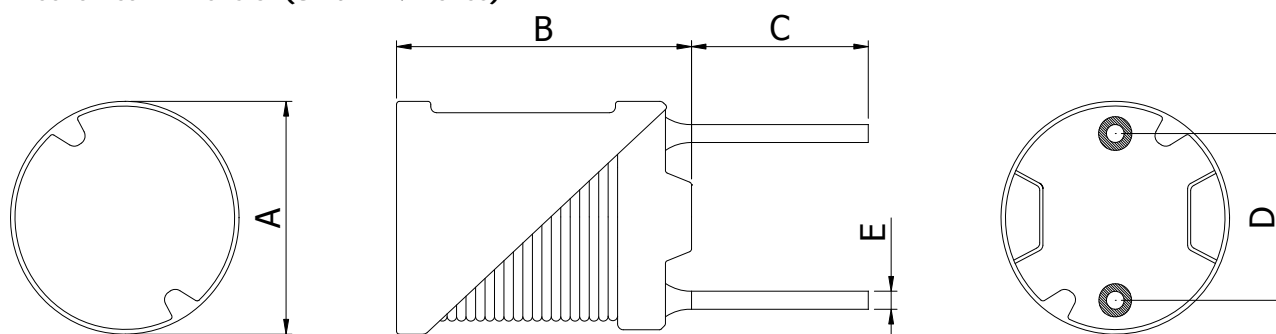
- Storage temperature range: -55°C to + 130°C
- Operating temperature range: -55°C to + 130°C  
(including coil's self-temperature rise)
- Moisture sensitivity level: 1
- RoHS&HF compliance

## Packaging

- Tray and carton box packaging

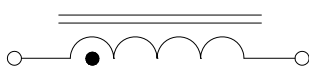


## Mechanical Dimension (Unit: mm/inches)



Type	A Max.	B Max.	C	D	E Nom.
DP02-0609	6.0 0.237	8.5 0.335	3.5±0.5 0.138±0.02	2.5±0.5 0.099±0.02	0.5 0.02
DP02-0807	7.5 0.296	7.0 0.276	3.5±0.5 0.138±0.02	4.0±0.5 0.158±0.02	0.5 0.02
DP02-0908	9.0 0.355	8.0 0.315	3.5±0.5 0.138±0.02	5.0±0.5 0.198±0.02	0.7 0.028
DP02-0910	9.0 0.355	10.0 0.394	3.5±0.5 0.138±0.02	5.0±0.5 0.198±0.02	0.7 0.028
DP02-1014	9.5 0.374	13.5 0.532	3.5±0.5 0.138±0.02	5.0±0.5 0.198±0.02	0.7 0.028
DP02-1211	11.5 0.453	11.0 0.433	3.5±0.5 0.138±0.02	5.0±0.5 0.198±0.02	0.7 0.028

## Electrical Schematic



## Part Number Description

**DP02 - 0609 3R3 M**  
 ①      ②      ③      ④

- ① Type
- ② Dimensions
- ③ Inductance value
- ④ Tolerance code

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-06093R3M	3.3	0.017	0.020	4.0	5.2	6.0	5.70
DP02-06094R7M	4.7	0.028	0.034	3.7	4.4	5.0	4.40
DP02-06095R6M	5.6	0.029	0.035	3.1	3.9	4.4	4.30
DP02-06096R8M	6.8	0.032	0.038	2.8	3.4	4.0	4.20
DP02-06098R2M	8.2	0.038	0.046	2.7	3.2	3.5	3.80
DP02-0609100M	10	0.053	0.064	2.6	3.0	3.2	3.30
DP02-0609120M	12	0.062	0.074	2.5	2.8	3.1	3.00
DP02-0609150M	15	0.071	0.085	2.2	2.5	2.8	2.60
DP02-0609180M	18	0.087	0.104	2.0	2.3	2.5	2.50
DP02-0609220M	22	0.101	0.120	1.7	2.1	2.2	2.40
DP02-0609270M	27	0.125	0.150	1.6	1.9	2.1	2.10
DP02-0609330M	33	0.153	0.184	1.5	1.7	1.8	1.90
DP02-0609390M	39	0.193	0.232	1.3	1.5	1.7	1.60
DP02-0609470M	47	0.232	0.278	1.2	1.4	1.5	1.50
DP02-0609560M	56	0.274	0.329	1.1	1.3	1.4	1.30
DP02-0609680M	68	0.347	0.416	1.0	1.2	1.3	1.25
DP02-0609820M	82	0.397	0.476	0.82	0.96	1.1	1.20
DP02-0609101K	100	0.451	0.541	0.80	0.92	1.0	1.05
DP02-0609121K	120	0.604	0.725	0.78	0.85	0.93	0.96
DP02-0609151K	150	0.693	0.832	0.70	0.80	0.88	0.90
DP02-0609181K	180	0.877	1.052	0.60	0.75	0.80	0.85
DP02-0609221K	220	1.017	1.220	0.56	0.65	0.72	0.75
DP02-0609331K	330	1.281	1.537	0.50	0.55	0.60	0.65
DP02-0609471K	470	2.248	2.698	0.42	0.47	0.50	0.51
DP02-0609561K	560	2.891	3.469	0.38	0.42	0.45	0.45
DP02-0609681K	680	3.203	3.844	0.34	0.38	0.41	0.43
DP02-0609821K	820	4.038	4.846	0.32	0.35	0.37	0.37
DP02-0609102K	1000	4.688	5.626	0.28	0.32	0.35	0.35

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-08073R3M	3.3	0.013	0.016	4.0	5.0	5.5	5.8
DP02-08074R7M	4.7	0.019	0.023	3.3	4.2	4.8	4.8
DP02-08075R6M	5.6	0.021	0.025	3.2	3.8	4.2	4.6
DP02-08076R8M	6.8	0.027	0.032	3.0	3.5	3.8	4.1
DP02-08078R2M	8.2	0.030	0.036	2.8	3.3	3.7	3.9
DP02-0807100M	10	0.036	0.043	2.4	2.9	3.2	3.5
DP02-0807120M	12	0.041	0.049	2.3	2.7	2.9	3.3
DP02-0807150M	15	0.049	0.059	2.2	2.5	2.6	3.0
DP02-0807180M	18	0.061	0.073	2.0	2.3	2.4	2.7
DP02-0807220M	22	0.067	0.080	1.7	2.0	2.1	2.6
DP02-0807270M	27	0.081	0.097	1.6	1.7	1.9	2.3
DP02-0807330M	33	0.102	0.122	1.5	1.6	1.7	2.1
DP02-0807390M	39	0.112	0.134	1.3	1.5	1.6	2.0
DP02-0807470M	47	0.138	0.166	1.2	1.4	1.5	1.8
DP02-0807560M	56	0.167	0.200	1.1	1.2	1.3	1.6
DP02-0807680M	68	0.209	0.251	0.95	1.15	1.25	1.40
DP02-0807820M	82	0.247	0.296	0.90	1.05	1.12	1.35
DP02-0807101K	100	0.287	0.344	0.82	0.97	1.02	1.25
DP02-0807121K	120	0.367	0.440	0.75	0.87	0.95	1.10
DP02-0807151K	150	0.428	0.514	0.65	0.75	0.85	1.00
DP02-0807181K	180	0.600	0.720	0.62	0.72	0.77	0.87
DP02-0807221K	220	0.642	0.770	0.55	0.63	0.68	0.84
DP02-0807331K	330	1.016	1.219	0.50	0.55	0.60	0.67
DP02-0807471K	470	1.381	1.657	0.40	0.45	0.47	0.57
DP02-0807561K	560	1.574	1.889	0.35	0.40	0.42	0.54
DP02-0807681K	680	1.957	2.348	0.33	0.37	0.40	0.48
DP02-0807821K	820	2.428	2.914	0.30	0.35	0.37	0.43
DP02-0807102K	1000	2.834	3.400	0.28	0.32	0.34	0.40

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-09083R3M	3.3	0.015	0.018	10.5	11.5	12.3	5.5
DP02-09084R7M	4.7	0.019	0.023	9.0	10.2	11.0	4.8
DP02-09085R6M	5.6	0.024	0.029	8.0	9.0	9.7	4.3
DP02-09086R8M	6.8	0.028	0.035	7.2	8.5	9.1	3.9
DP02-09088R2M	8.2	0.031	0.037	6.8	8.0	8.5	3.8
DP02-0908100M	10	0.041	0.050	6.0	7.2	7.6	3.3
DP02-0908120M	12	0.050	0.060	5.5	6.1	6.5	3.0
DP02-0908150M	15	0.053	0.065	4.7	5.5	6.0	2.9
DP02-0908180M	18	0.064	0.077	4.5	5.0	5.6	2.6
DP02-0908220M	22	0.078	0.095	4.2	4.7	5.0	2.4
DP02-0908270M	27	0.098	0.118	3.6	4.1	4.5	2.1
DP02-0908330M	33	0.111	0.133	3.1	3.7	4.2	2.0
DP02-0908390M	39	0.138	0.166	2.9	3.4	3.8	1.8
DP02-0908470M	47	0.156	0.187	2.8	3.2	3.5	1.7
DP02-0908560M	56	0.188	0.225	2.6	3.0	3.2	1.5
DP02-0908680M	68	0.215	0.258	2.3	2.7	2.9	1.4
DP02-0908820M	82	0.267	0.320	2.1	2.4	2.6	1.3
DP02-0908101K	100	0.328	0.394	2.0	2.2	2.3	1.18
DP02-0908121K	120	0.376	0.451	1.8	2.0	2.1	1.15
DP02-0908151K	150	0.480	0.576	1.6	1.8	2.0	0.97
DP02-0908181K	180	0.556	0.667	1.5	1.6	1.7	0.90
DP02-0908221K	220	0.688	0.826	1.3	1.5	1.6	0.81
DP02-0908331K	330	0.962	1.154	1.2	1.3	1.4	0.69
DP02-0908471K	470	1.382	1.658	0.92	1.1	1.2	0.58
DP02-0908561K	560	1.818	2.182	0.88	0.94	1.0	0.50
DP02-0908681K	680	2.321	2.785	0.80	0.90	0.95	0.44
DP02-0908821K	820	2.554	3.065	0.72	0.80	0.85	0.42
DP02-0908102K	1000	3.170	3.800	0.58	0.67	0.72	0.38

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-09103R3M	3.3	0.011	0.013	10.2	11.2	12.0	8.1
DP02-09104R7M	4.7	0.013	0.016	8.5	9.7	10.5	7.4
DP02-09105R6M	5.6	0.015	0.018	8.0	9.2	10.0	6.9
DP02-09106R8M	6.8	0.016	0.019	6.2	8.2	9.2	6.7
DP02-09108R2M	8.2	0.019	0.023	6.0	7.3	8.0	6.1
DP02-0910100M	10	0.022	0.026	5.6	6.7	7.5	5.7
DP02-0910120M	12	0.027	0.032	4.4	6.0	6.8	5.2
DP02-0910150M	15	0.035	0.042	4.2	5.6	6.1	4.6
DP02-0910180M	18	0.039	0.047	4.1	5.0	5.5	4.3
DP02-0910220M	22	0.042	0.050	4.0	4.6	5.0	4.1
DP02-0910270M	27	0.050	0.060	3.4	4.0	4.5	3.7
DP02-0910330M	33	0.057	0.068	3.0	3.8	4.2	3.5
DP02-0910390M	39	0.072	0.086	2.8	3.2	3.5	3.0
DP02-0910470M	47	0.095	0.114	2.7	3.0	3.4	2.7
DP02-0910560M	56	0.108	0.130	2.6	2.9	3.3	2.6
DP02-0910680M	68	0.138	0.165	2.2	2.6	2.9	2.3
DP02-0910820M	82	0.159	0.190	2.1	2.4	2.7	2.1
DP02-0910101K	100	0.183	0.210	1.8	2.1	2.3	2.0
DP02-0910121K	120	0.207	0.238	1.6	1.9	2.1	1.8
DP02-0910151K	150	0.255	0.293	1.5	1.7	1.9	1.7
DP02-0910181K	180	0.345	0.397	1.4	1.6	1.8	1.4
DP02-0910221K	220	0.423	0.486	1.2	1.4	1.5	1.3
DP02-0910331K	330	0.532	0.612	0.94	1.2	1.35	1.15
DP02-0910471K	470	0.813	0.935	0.84	1.0	1.15	0.90
DP02-0910561K	560	1.050	1.207	0.78	0.88	1.00	0.80
DP02-0910681K	680	1.220	1.400	0.73	0.84	0.90	0.75
DP02-0910821K	820	1.365	1.570	0.64	0.75	0.82	0.70
DP02-0910102K	1000	1.780	2.050	0.56	0.66	0.72	0.60

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-10143R3M	3.3	0.007	0.009	8.0	10.8	11.7	8.8
DP02-10144R7M	4.7	0.008	0.010	7.5	9.4	10.8	8.2
DP02-10145R6M	5.6	0.010	0.012	7.0	8.6	9.7	7.3
DP02-10146R8M	6.8	0.012	0.015	6.4	7.9	8.8	7.0
DP02-10148R2M	8.2	0.015	0.018	6.0	7.2	7.9	6.5
DP02-1014100M	10	0.017	0.020	5.4	6.4	7.0	6.0
DP02-1014120M	12	0.020	0.024	5.0	5.7	6.3	5.5
DP02-1014150M	15	0.024	0.029	4.7	5.3	5.8	5.2
DP02-1014180M	18	0.025	0.030	4.4	4.9	5.3	5.0
DP02-1014220M	22	0.031	0.037	4.0	4.5	4.9	4.6
DP02-1014270M	27	0.036	0.043	3.5	4.0	4.5	4.2
DP02-1014330M	33	0.045	0.054	3.0	3.6	4.0	3.7
DP02-1014390M	39	0.056	0.067	2.8	3.4	3.7	3.4
DP02-1014470M	47	0.064	0.077	2.6	3.0	3.3	3.0
DP02-1014560M	56	0.071	0.085	2.4	2.8	3.0	2.8
DP02-1014680M	68	0.092	0.110	2.2	2.6	2.8	2.6
DP02-1014820M	82	0.106	0.127	2.0	2.3	2.6	2.4
DP02-1014101K	100	0.141	0.169	1.9	2.1	2.4	2.2
DP02-1014121K	120	0.157	0.188	1.6	1.9	2.1	2.0
DP02-1014151K	150	0.193	0.230	1.4	1.7	1.9	1.8
DP02-1014181K	180	0.242	0.290	1.3	1.5	1.7	1.6
DP02-1014221K	220	0.278	0.334	1.1	1.4	1.5	1.4
DP02-1014331K	330	0.403	0.484	0.95	1.13	1.25	1.22
DP02-1014471K	470	0.562	0.674	0.82	0.98	1.10	1.05
DP02-1014561K	560	0.698	0.838	0.75	0.92	0.98	0.96
DP02-1014681K	680	0.867	1.000	0.68	0.82	0.90	0.86
DP02-1014821K	820	0.992	1.200	0.63	0.75	0.83	0.82
DP02-1014102K	1000	1.224	1.469	0.56	0.66	0.70	0.74

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.

# DP02 Series Unshielded Power Inductors

## Electrical Characteristic

Part Number	Inductance	DCR		Isat <sup>1</sup>	Isat <sup>2</sup>	Isat <sup>3</sup>	Irms
	L0(uH)	( $\Omega$ )Typ.	( $\Omega$ )Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.
DP02-12113R3M	3.3	0.007	0.009	10.2	12.8	14.0	9.7
DP02-12114R7M	4.7	0.010	0.012	8.0	10.0	11.0	8.5
DP02-12115R6M	5.6	0.012	0.014	7.5	9.3	10.2	7.8
DP02-12116R8M	6.8	0.014	0.017	7.0	8.8	9.5	7.2
DP02-12118R2M	8.2	0.016	0.019	6.5	8.0	8.8	6.5
DP02-1211100M	10	0.018	0.022	5.9	6.9	7.8	6.0
DP02-1211120M	12	0.021	0.025	5.8	6.5	7.2	5.5
DP02-1211150M	15	0.025	0.030	5.5	6.1	6.8	5.2
DP02-1211180M	18	0.031	0.037	4.9	5.4	5.7	4.8
DP02-1211220M	22	0.040	0.048	4.4	4.9	5.3	4.3
DP02-1211270M	27	0.044	0.055	3.9	4.4	4.9	4.0
DP02-1211330M	33	0.049	0.060	3.5	4.0	4.5	3.5
DP02-1211390M	39	0.055	0.066	3.2	3.6	3.9	3.3
DP02-1211470M	47	0.075	0.090	3.0	3.4	3.7	3.0
DP02-1211560M	56	0.083	0.100	2.7	3.0	3.3	2.8
DP02-1211680M	68	0.095	0.114	2.4	2.6	2.9	2.6
DP02-1211820M	82	0.124	0.150	2.2	2.4	2.7	2.3
DP02-1211101K	100	0.138	0.166	2.0	2.3	2.5	2.0
DP02-1211121K	120	0.168	0.200	1.9	2.1	2.3	1.8
DP02-1211151K	150	0.213	0.256	1.7	1.9	2.2	1.7
DP02-1211181K	180	0.260	0.312	1.5	1.7	1.9	1.5
DP02-1211221K	220	0.302	0.362	1.2	1.5	1.7	1.4
DP02-1211331K	330	0.445	0.534	1.0	1.2	1.4	1.25
DP02-1211471K	470	0.617	0.740	0.92	1.05	1.15	1.05
DP02-1211561K	560	0.704	0.845	0.88	0.98	1.05	0.97
DP02-1211681K	680	0.931	1.117	0.80	0.92	1.00	0.86
DP02-1211821K	820	1.074	1.289	0.74	0.83	0.90	0.80
DP02-1211102K	1000	1.271	1.525	0.68	0.78	0.84	0.72

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
- Test frequency and voltage:1KHz,0.25Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat<sup>1</sup>) will cause L0 to drop approximately 10%.
- Saturation current(Isat<sup>2</sup>) will cause L0 to drop approximately 20%.
- Saturation current(Isat<sup>3</sup>) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate  $\Delta t$  of 40°C.