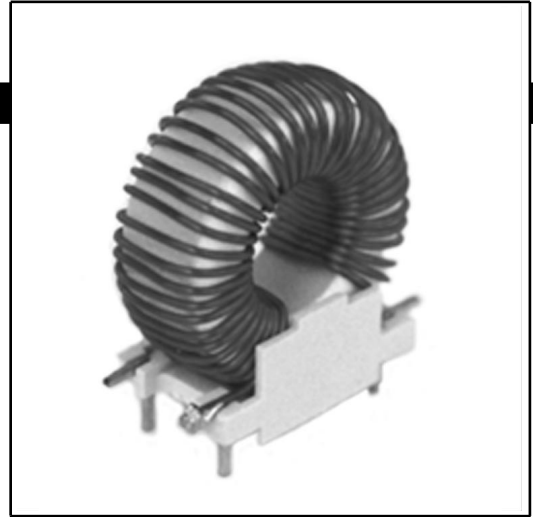


LTV Switchmode Inductors



Features:

- High DC current bias capability
- Swinging inductance ideal for switchmode output inductors
- Low radiated field due to closed magnetic path with distributed gap
- 130°C rating (ambient plus rise)
- UL94V-0 header
- Vertical design for smaller PC footprint

How to choose your model:

- Calculate the energy storage needed based on inductance and current at full load
- Choose a single layer model (LTV-xxxx1-xxxx) for highest SRF and lowest skin/proximity effect (lowest ACR), and lowest capacitance
- Choose a full coil model (LTV-xxxx0-xxxx) to maximize the energy storage capability

Notes:

1. Temperature rise is 40°C based on DC Current, no core loss, and 20°C ambient. De-rate for higher ambients and core loss
2. AC resistance (ACR) will be higher than DC resistance (DCR) due to skin/proximity effect and the amount of ripple current present
3. Inductance at different IDC levels can be calculated using the Bias Factor Curve (forthcoming)

LTV Switchmode Inductors

Figure 1

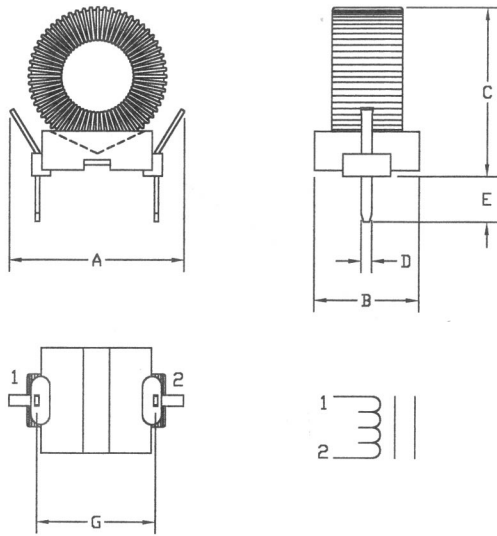


Figure 2

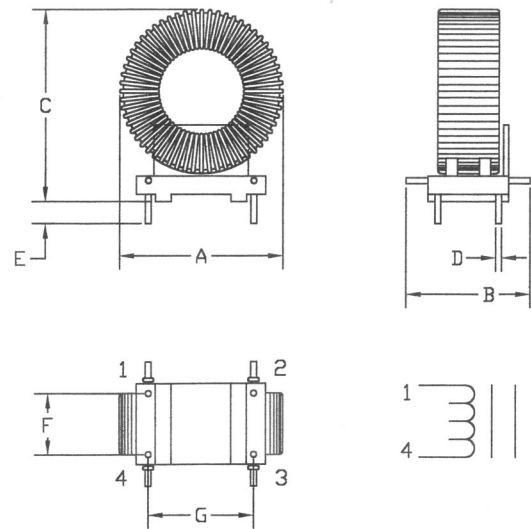
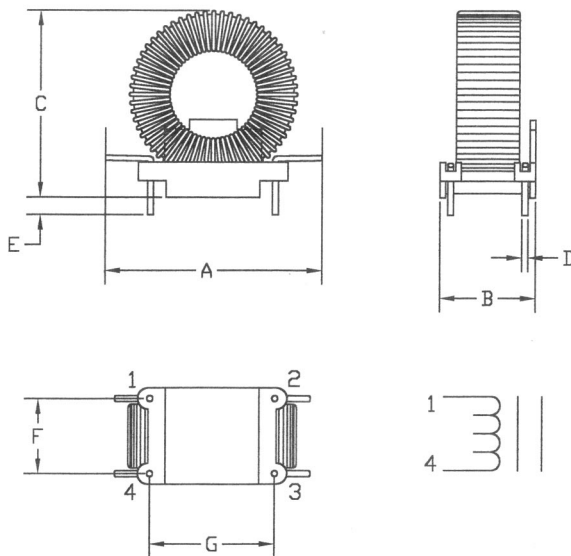


Figure 3



LTV Switchmode Inductors

Precision Model Size	Figure Number	Data on Page		A MAX	B MAX	C MAX	D DIA MAX	E MIN	F NOM	G NOM
LTV-1812x-xxxx	1	4	mm in	17.8 .700	12.3 .484	20.7 .815	1.17 .046	5.20 .205	-	12.70 .500
LTV-2318x-xxxx	2	5	mm in	23.2 .913	18.4 .724	27.2 1.07	1.05 .041	3.30 .130	6.35 .250	15.24 .600
LTV-3316x-xxxx	3	6	mm in	33.0 1.30	15.6 .614	36.3 1.43	1.30 .051	4.57 .180	10.16 .400	20.32 .800
LTV-3621x-xxxx	3	7	mm in	35.6 1.40	20.7 .815	38.6 1.52	1.30 .051	4.57 .180	15.24 .600	22.86 .900
LTV-4521x-xxxx	3	8	mm in	45.2 1.78	20.7 .815	48.3 1.90	1.30 .051	4.57 .180	15.24 .600	22.86 .900

Notes:

1. "A" and "C" are reduced for layer coils in lower current ranges.
2. Other vertical sizes available on request.
3. Horizontal version of all sizes available on request.

LTV Switchmode Inductors, Toroid, Full Coil Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-18120-0530	1	52.8	33.3	0.054	2.79	15.8	129
LTV-18120-0890	1	89.2	55.5	0.086	2.20	20.5	134
LTV-18120-0141	1	144	89.6	0.137	1.74	26.0	135
LTV-18120-0261	1	261	158	0.228	1.35	35.1	144
LTV-18120-0431	1	429	260	0.369	1.06	44.9	146
LTV-18120-0701	1	703	421	0.586	0.840	57.5	148
LTV-18120-0122	1	1160	694	0.953	0.659	74.1	150
LTV-18120-0192	1	1850	1090	1.45	0.534	93.4	155
LTV-18120-0312	1	3070	1820	2.42	0.414	120	156
LTV-18120-0472	1	4720	2800	3.77	0.331	149	153
LTV-18120-0722	1	7200	4280	5.77	0.268	184	153
LTV-18120-0123	1	11500	6850	9.24	0.212	233	154

LTV Switchmode Inductors, Toroid, Single Layer Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-18121-04R0	1	4.00	2.40	0.0035	11.0	4.34	145
LTV-18121-05R6	1	5.58	3.35	0.0049	9.25	5.13	143
LTV-18121-07R4	1	7.43	4.57	0.0069	7.79	5.91	138
LTV-18121-0110	1	10.7	6.58	0.0100	6.47	7.10	137
LTV-18121-0150	1	14.6	9.13	0.0143	5.38	8.28	132
LTV-18121-0190	1	19.0	12.1	0.0202	4.53	9.46	124
LTV-18121-0260	1	25.9	16.8	0.0292	3.77	11.0	119
LTV-18121-0340	1	33.8	22.5	0.0411	3.18	12.6	113
LTV-18121-0430	1	42.8	29.1	0.0575	2.68	14.2	104
LTV-18121-0560	1	55.5	38.3	0.0813	2.26	16.2	97
LTV-18121-0730	1	72.9	51.7	0.117	1.88	18.5	91
LTV-18121-0890	1	89.2	64.7	0.160	1.61	20.5	83
LTV-18121-0121	1	115	85.1	0.228	1.35	23.5	77
LTV-18121-0141	1	144	109	0.315	1.15	26.0	72
LTV-18121-0191	1	186	142	0.451	0.958	29.6	65
LTV-18121-0231	1	233	183	0.634	0.808	33.1	59
LTV-18121-0291	1	285	229	0.865	0.692	36.7	55
LTV-18121-0361	1	364	296	1.24	0.580	41.4	50

- Note 1:** Measured at 10 kHz, 0.1 Vrms, without DC current
- Note 2:** Nominal, measured with DC bias current = rated current
- Note 3:** Total Irms (IDC and ripple current included)
- Note 4:** Refer to DC Bias Curve for L vs. IDC (page X)
- Note 5:** Rated current value, 40°C temperature rise

LTV Switchmode Inductors, Toroid, Full Coil Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-23180-0450	2	45.4	28.9	0.0261	5.01	8.62	362
LTV-23180-0740	2	73.9	46.6	0.0403	4.03	11.0	378
LTV-23180-0131	2	130	79.3	0.0665	3.14	14.6	391
LTV-23180-0221	2	221	135	0.109	2.45	19.0	405
LTV-23180-0381	2	381	229	0.177	1.92	25.0	422
LTV-23180-0631	2	630	375	0.285	1.52	32.1	433
LTV-23180-0112	2	1060	624	0.462	1.19	41.6	442
LTV-23180-0182	2	1750	1030	0.750	0.935	53.5	450
LTV-23180-0282	2	2780	1630	1.18	0.746	67.5	453
LTV-23180-0462	2	4570	2650	1.90	0.587	86.5	456
LTV-23180-0732	2	7270	4220	2.98	0.469	109	464
LTV-23180-0123	2	11800	6770	4.82	0.369	139	461

LTV Switchmode Inductors, Toroid, Single Layer Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-23181-0120	2	12.2	7.38	0.0060	10.5	4.46	407
LTV-23181-0160	2	15.6	9.72	0.0083	8.91	5.05	386
LTV-23181-0220	2	21.6	13.6	0.0120	7.39	5.95	371
LTV-23181-0290	2	28.6	18.3	0.0171	6.2	6.84	351
LTV-23181-0390	2	39.4	25.6	0.0242	5.2	8.03	346
LTV-23181-0520	2	51.9	34.7	0.0351	4.32	9.21	324
LTV-23181-0660	2	66.2	45.0	0.0495	3.64	10.4	298
LTV-23181-0860	2	86.4	59.6	0.0699	3.06	11.9	279
LTV-23181-0111	2	109	77.7	0.0983	2.58	13.4	258
LTV-23181-0151	2	146	106	0.142	2.15	15.5	245
LTV-23181-0191	2	188	139	0.201	1.80	17.6	225
LTV-23181-0241	2	235	177	0.281	1.53	19.6	207
LTV-23181-0301	2	296	226	0.396	1.29	22.0	188
LTV-23181-0371	2	372	291	0.550	1.09	24.7	173
LTV-23181-0481	2	477	382	0.789	0.911	28.0	158
LTV-23181-0581	2	584	472	1.10	0.773	30.9	141
LTV-23181-0731	2	727	603	1.51	0.659	34.5	131
LTV-23181-0911	2	913	767	2.13	0.554	38.7	117

- Note 1:** Measured at 10 kHz, 0.1 Vrms, without DC current
Note 2: Nominal, measured with DC bias current = rated current
Note 3: Total Irms (IDC and ripple current included)
Note 4: Refer to DC Bias Curve for L vs. IDC (page X)
Note 5: Rated current value, 40°C temperature rise

LTV Switchmode Inductors, Toroid, Full Coil Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-33160-0700	3	69.8	39.0	.0204	7.36	7.37	1060
LTV-33160-0121	3	115	63.2	.0323	5.84	9.48	1080
LTV-33160-0201	3	198	107	.0526	4.58	12.4	1120
LTV-33160-0351	3	347	184	.0864	3.58	16.4	1180
LTV-33160-0581	3	581	305	.139	2.82	21.3	1210
LTV-33160-0102	3	1010	524	.228	2.20	28.0	1270
LTV-33160-0172	3	1690	860	.371	1.73	36.2	1290
LTV-33160-0272	3	2680	1370	.582	1.38	45.7	1300
LTV-33160-0442	3	4410	2230	.935	1.09	58.5	1320
LTV-33160-0742	3	7350	3670	1.52	.853	75.6	1340
LTV-33160-0123	3	11700	5870	2.43	.674	95.6	1340

LTV Switchmode Inductors, Toroid, Single Layer Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-33161-0280	3	27.6	15.5	.0084	11.5	4.63	1030
LTV-33161-0390	3	38.5	21.9	.0123	9.46	5.48	980
LTV-33161-0510	3	51.3	30.2	.0175	7.94	6.32	952
LTV-33161-0660	3	65.9	39.5	.0245	6.71	7.16	889
LTV-33161-0870	3	86.7	53.3	.0348	5.73	8.21	875
LTV-33161-0111	3	110	69.3	.0485	4.77	9.27	788
LTV-33161-0141	3	143	92.2	.0685	4.01	10.5	741
LTV-33161-0191	3	185	123	.0976	3.36	12.0	694
LTV-33161-0231	3	233	157	.136	2.85	13.5	638
LTV-33161-0301	3	295	203	.192	2.40	15.2	584
LTV-33161-0381	3	383	270	.272	2.02	17.3	551
LTV-33161-0481	3	482	349	.376	1.72	19.4	516
LTV-33161-0601	3	604	450	.534	1.44	21.7	467
LTV-33161-0771	3	767	579	.743	1.22	24.4	431
LTV-33161-0951	3	948	730	1.05	1.03	27.2	387
LTV-33161-0122	3	1200	946	1.49	.862	30.5	351

- Note 1:** Measured at 10 kHz, 0.1 Vrms, without DC current
- Note 2:** Nominal, measured with DC bias current = rated current
- Note 3:** Total Irms (IDC and ripple current included)
- Note 4:** Refer to DC Bias Curve for L vs. IDC (page X)
- Note 5:** Rated current value, 40°C temperature rise

LTV Switchmode Inductors, Toroid, Full Coil Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-36210-0800	3	79.9	47.5	.0164	8.64	5.62	1770
LTV-36210-0131	3	130	77.3	.0259	6.88	7.17	1830
LTV-36210-0221	3	219	129	.0416	5.43	9.30	1900
LTV-36210-0381	3	377	215	.0679	4.25	12.2	1940
LTV-36210-0621	3	623	352	.109	3.36	15.7	1990
LTV-36210-0102	3	1050	584	.175	2.65	20.3	2050
LTV-36210-0182	3	1810	1000	.287	2.07	26.7	2140
LTV-36210-0302	3	3010	1640	.467	1.62	34.5	2160
LTV-36210-0482	3	4810	2620	.734	1.29	43.6	2180
LTV-36210-0792	3	7880	4260	1.19	1.02	55.5	2220
LTV-36210-0133	3	13100	7100	1.93	.798	72.1	2260

LTV Switchmode Inductors, Toroid, Single Layer Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-36211-0380	3	38.0	23.0	.0081	12.3	3.87	1740
LTV-36211-0500	3	50.3	30.9	.0114	10.4	4.45	1670
LTV-36211-0640	3	64.2	40.4	.0159	8.79	5.03	1560
LTV-36211-0860	3	85.5	54.5	.0225	7.39	5.81	1490
LTV-36211-0121	3	166	75.4	.0325	6.14	6.78	1420
LTV-36211-0151	3	152	101	.0460	5.16	7.75	1350
LTV-36211-0191	3	192	130	.0643	4.37	8.72	1240
LTV-36211-0251	3	247	171	.0907	3.68	9.88	1160
LTV-36211-0321	3	320	227	.129	3.08	11.2	1080
LTV-36211-0401	3	401	290	.181	2.61	12.6	988
LTV-36211-0521	3	520	386	.257	2.19	14.3	926
LTV-36211-0651	3	654	495	.360	1.84	16.1	838
LTV-36211-0841	3	839	645	.513	1.55	18.2	776
LTV-36211-0102	3	1030	810	.708	1.32	20.1	706
LTV-36211-0132	3	1320	1060	1.02	1.10	22.9	641
LTV-36211-0162	3	1630	1330	1.40	.936	25.4	583

- Note 1:** Measured at 10 kHz, 0.1 Vrms, without DC current
Note 2: Nominal, measured with DC bias current = rated current
Note 3: Total Irms (IDC and ripple current included)
Note 4: Refer to DC Bias Curve for L vs. IDC (page X)
Note 5: Rated current value, 40°C temperature rise

LTV Switchmode Inductors, Toroid, Full Coil Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-45210-0910	3	91.3	46.5	.0133	12.2	5.16	3460
LTV-45210-0141	3	139	70.9	.0205	9.85	6.38	3440
LTV-45210-0231	3	230	116	.0323	7.83	8.20	3560
LTV-45210-0381	3	376	188	.0528	6.13	10.5	3530
LTV-45210-0631	3	626	306	.0827	4.90	13.5	3670
LTV-45210-0112	3	1080	518	.136	3.83	17.8	3800
LTV-45210-0182	3	1800	854	.217	3.03	22.9	3920
LTV-45210-0312	3	3070	1420	.352	2.37	29.9	3990
LTV-45210-0532	3	5300	2430	.585	1.84	39.3	4110
LTV-45210-0882	3	8810	4030	.946	1.45	50.7	4240

LTV Switchmode Inductors, Toroid, Single Layer Vertical

Precision Model Number	Figure Number	Inductance [uH ± 12%] (note 1)	Inductance At Rated Current (note 2)	DC Resistance [Ohms Max]	Rated Current [Amps] (note 3)	Bias Factor (note 4)	Energy Storage [uJoules] (note 5)
LTV-45211-0660	3	66.4	35.7	.0116	13.1	4.40	3060
LTV-45211-0910	3	91.3	49.5	.0168	10.9	5.16	2940
LTV-45211-0121	3	120	66.6	.0237	9.16	5.92	2800
LTV-45211-0151	3	153	87.2	.0330	7.75	6.68	2620
LTV-45211-0201	3	198	117	.0466	6.53	7.59	2490
LTV-45211-0261	3	257	155	.0660	5.48	8.65	2330
LTV-45211-0321	3	324	203	.0911	4.64	9.72	2190
LTV-45211-0421	3	421	269	.131	3.89	11.1	2040
LTV-45211-0531	3	531	349	.185	3.28	12.4	1880
LTV-45211-0671	3	669	450	.259	2.77	14.0	1730
LTV-45211-0841	3	838	578	.362	2.34	15.6	1580
LTV-45211-0112	3	1060	749	.511	1.97	17.6	1450
LTV-45211-0142	3	1360	990	.725	1.65	19.9	1350
LTV-45211-0172	3	1660	1240	1.00	1.41	22.0	1230
LTV-45211-0212	3	2100	1600	1.43	1.18	24.7	1110
LTV-45211-0262	3	2620	2040	1.97	1.00	27.6	1020

- Note 1:** Measured at 10 kHz, 0.1 Vrms, without DC current
Note 2: Nominal, measured with DC bias current = rated current
Note 3: Total Irms (IDC and ripple current included)
Note 4: Refer to DC Bias Curve for L vs. IDC (page X)
Note 5: Rated current value, 40°C temperature rise