INDUCTORS
POWER MAGNETICS

Pulse
A TECHNITROL COMPANY

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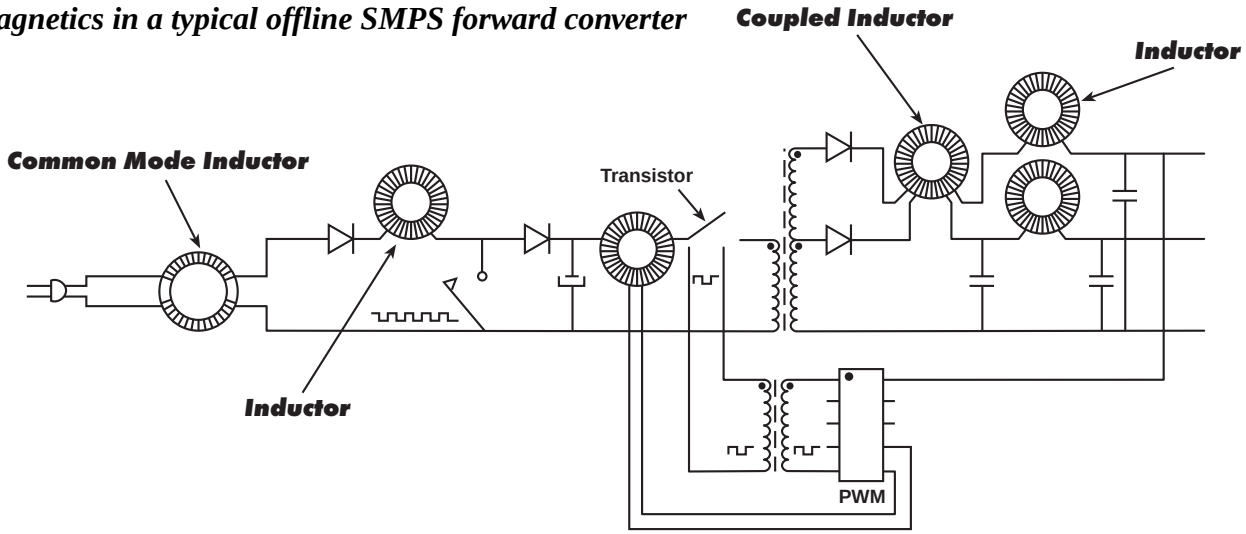
Magnetics in a typical offline SMPS forward converter



MINIATURE SURFACE MOUNT POWER INDUCTORS

Pulse
A TECHNITROL COMPANY

- Reliable self-leads
- Very small size and cost-effective
- High energy storage and low DC resistance
- Ideal for DC/DC conversion in notebook computers, PDAs, step-up or step-down converters

Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

Pulse Part Number	Reference Values			Control Values		Calculation Data	CoilCraft Part Number
	I_{DC} (amp)	L @ I_{DC} ±15% (µH)	ET (V-µsec)	L w/o DC ±15% (µH)	DCR ±15% (mΩ)	ET_{10} (V-µsec)	
ROS 1							
P0430T	2.00	0.6	0.8	0.7	14	476.2	DT1608C-102
P0431T	1.90	0.9	0.8	1.1	18	370.4	DT1608C-152
P0432T	1.50	1.0	1.2	1.1	18	370.4	DT1608C-222
P0433T	1.20	1.7	1.8	1.9	28	277.8	DT1608C-332
P0434T	1.20	2.2	1.8	2.6	34	238.1	DT1608C-472
P0435T	1.00	3.2	2.3	3.9	40	196.1	DT1608C-682
P0436T	0.70	5.1	3.1	6.0	73	158.7	DT1608C-103
P0437T	0.60	6.3	3.3	7.1	100	144.9	DT1608C-153
P0438T	0.50	10.4	4.4	12.2	140	111.1	DT1608C-223
P0439T	0.45	12.7	5.0	14.7	155	101.0	DT1608C-333
P0440T	0.34	20.7	6.5	23.8	250	79.4	DT1608C-473
P0441T	0.29	30	8.4	33.8	280	66.7	DT1608C-683
P0442T	0.24	42.2	9.8	49	440	55.6	DT1608C-194
P0443T	0.20	62	12	72	650	45.7	DT1608C-154
P0444T	0.17	93	14	110	1050	37.0	DT1608C-224
P0445T	0.16	104	15	122	1065	35.1	DT1608C-334
P0446T	0.14	150	18	179	1600	29.0	DT1608C-474
ROS 2							
P0450T	5	0.6	3.0	0.64	7.6	181.8	DT3316P-102
P0451T	5	0.79	3.1	0.86	8.7	151.5	DT3316P-152
P0452T	5	1.29	0.5	1.5	11.4	113.6	DT3316P-222
P0453T	5	1.8	1.0	2.3	13	90.9	DT3316P-332
P0454T	3	2.1	7.5	2.3	13	90.9	DT3316P-472
P0455T	2.5	4.4	10.5	5.13	23	60.6	DT3316P-682
P0456T	2	5.6	13	6.3	26	56.8	DT3316P-103
P0457T	1.8	6.6	14	7.5	33	50.5	DT3316P-153
P0458T	1.5	10.7	15	13.2	70	39.5	DT3316P-223
P0459T	1.3	13.5	21	15.5	60	35.0	DT3316P-333
P0460T	1	27	31	34	90	24.6	DT3316P-473
P0461T	0.9	46	39	57.2	123	18.9	DT3316P-683
P0462T	0.8	48	35	62.5	240	18.2	DT3316P-194
P0463T	0.6	82	55	100	245	14.0	DT3316P-154
P0464T	0.5	90	54	103	305	14.2	DT3316P-224
P0465T	0.4	162	78	180	481	10.0	DT3316P-334
P0466T	0.35	215	87	254	682	8.7	DT3316P-474
P0467T	0.3	320	105	380	1030	7.0	DT3316P-684
P0468T	0.25	420	130	500	1200	6.1	DT3316P-105

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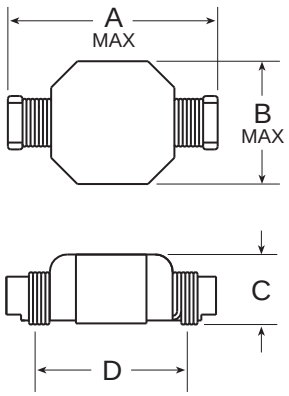
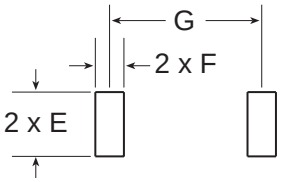
MINIATURE SURFACE MOUNT POWER INDUCTORS

Notes:

1. Temperature rise is 55° C in typical buck or boost circuits with the rated I_{DC} current and reference ET applied to the inductor.
2. Total loss in the inductor is 80 mWatts (ROS 1) and 280 mWatts (ROS 2) for 55°C temperature rise above ambient.
3. To estimate temperature rise in a given application, you must determine the total losses (copper losses + core losses) and apply the following formula:
   ROS 1: TempRise (C) = (Total Losses (mW))$^{.833}$ x 1.45
   ROS 2: TempRise (C) = (Total Losses (mW))$^{.833}$ x .508
4. To determine copper losses, calculate:
   CopperLoss (mW) = I_{DC}^2 x DCR
5. For core loss in mWatts, using frequency f (in Hz) and operating flux density B (in Gauss), calculate:
   ROS 1: CopperLoss (mW) = .127 x 10^{-10} x $f^{1.26}$ x $B^{2.11}$
   ROS 2: CopperLoss (mW) = .887 x 10^{-10} x $f^{1.26}$ x $B^{2.11}$
6. For flux density (B), calculate ET (V-µsec) for the application, and multiply by ET_{10} factor from the table.

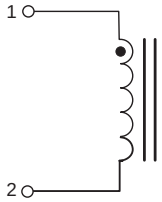
Mechanical





Suggested Pad Layout

Schematic



Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

PKG	A	B	C	D	E	F	G
ROS 1	.360 9,14	.210 5,33	.125 3,18	.260 6,60	.110 2,79	.050 1,27	.260 6,60
ROS 2	.550 13,97	.400 10,16	.210 5,33	.400 10,16	.115 2.92	.060 1,52	.439 11,15

	ROS 1	ROS 2
Weight	0.29 grams	1.1 grams
Tape & Reel	2000/reel	600/reel

LOW PROFILE SELF-LEADED SURFACE MOUNT INDUCTORS

Pulse
A TECHNITROL COMPANY

NEW!

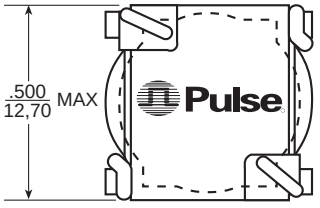
- Materials meet UL94V-0 rating
- Suited for IR and vapor reflow solder
- Fits in half inch high boards for use in lap-top and notebook computers
- Frequency range of up to 1 MHz
- Patented, low profile, self-leaded design

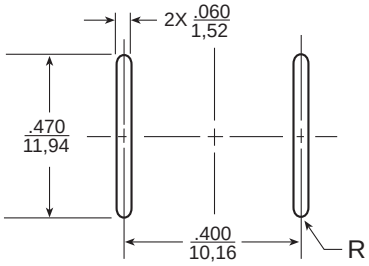
Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

Part Number	Reference Values				Control Values		Calculation Data	
	I_{DC} (amp)	L @ DC L_{DC} (µH)	ET (V-µsec)	Storage Capacity (µJ)	L w/o DC L_0 ±20% (µH)	DCR MAX (mΩ)	100 Gauss ET_{100} (V-µsec)	1 Amp DC H_1 (Orsted)
P0153	0.53	439	1.3	61.6	472	1520	17.83	80.37
P0152	0.65	305	1.6	64.4	331	972	14.94	67.34
P0151	0.81	200	1.9	65.6	220	673	12.17	54.85
P0150	0.99	137	2.4	67.0	152	425	10.12	45.61
P0149	1.23	90	3.0	67.8	100	285	8.19	36.93
P0148	1.35	75	3.2	67.9	83	220	7.47	33.67
P0147	1.65	50	4.0	68.6	56	135	6.15	27.69
P0146	2.43	23	5.8	66.9	25	74	4.10	18.46
P0145	3.13	13.3	7.5	64.9	14.6	46	3.13	14.12
P0144	3.80	9.4	9.1	67.7	10.4	32	2.65	11.95

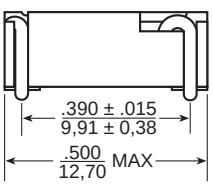
Notes:
1. The reference inductance is a typical value at the AC and DC excitation listed.
2. Temperature rise is 50°C in typical buck or boost circuits at 250 KHz and with the reference ET applied to the inductor.
3. Total loss in the inductor is 380 mWatts for 50°C temperature rise above ambient.
4. To estimate temperature rise in a given application, determine copper and core losses, divide by 380 and multiply by 50.
5. For the copper loss (mW), calculate $I_{DC}^2 \times R_N$ with R_N in mΩ.
6. The maximum DCR listed is approximately 17% over the nominal DCR ($R_{N)}$.
7. For core loss (mW), using frequency (f, Hertz) and operating flux density (B, Gauss), calculate $6.11 \times 10^{-18} \times B^{2.7} \times f^{2.04}$.
8. For flux density (B, Gauss), calculate ET (V-µsec) for the application, divide by ET_{100} from the table, and multiply by 100.
9. Limit the DC bias (H) to 46 Orsteds. Calculate H (Orsted) by multiplying H_1 from the table by I_{DC} of the application.

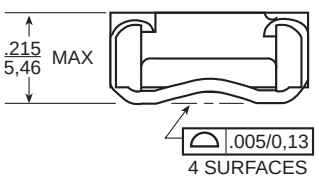
Mechanical



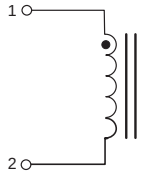


Suggested Pad Layout





Schematic



Weight . . . . . .1.5 grams
Tape & Reel 500/reel
Tube 40/tube

Dimensions: Inches / mm

Unless otherwise specified all tolerances are ± .010 / 0,25

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LOW PROFILE SELF-LEADED SMT DUAL INDUCTORS

Pulse
A TECHNITROL COMPANY

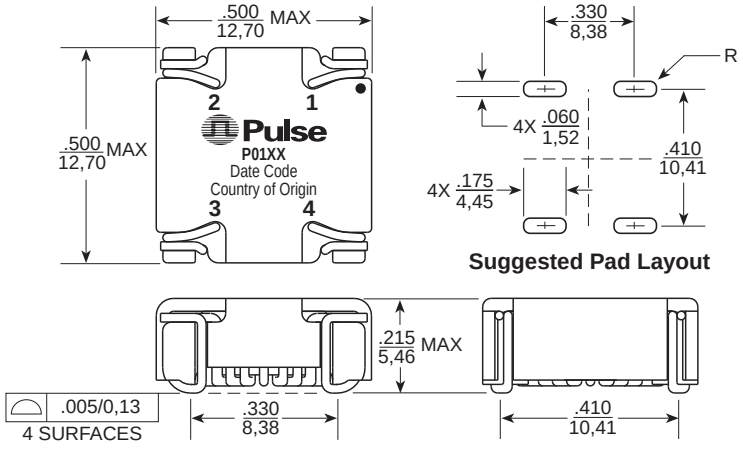
- Materials meet UL94V-0 rating
- Suited for IR and vapor reflow solder
- Frequency range of up to 1 MHz
- Can be used as a simple inductor, 1:1 coupled inductor, or 1:1 transformer

Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

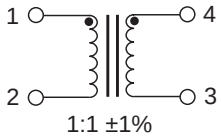
ID		Reference Values			Control Values		Calculation Data	
Part Number	Hookup	I_{DC} (amp)	L @ DC L_{DC} (µH)	ET (V-µsec)	L w/o DC L_0 ±20% (µH)	DCR (MAX) (mΩ)	100 Gauss ET_{100} (V-µsec)	1 Amp DC H_1 (Orsted)
P0183	Series	0.61	336.7	92.43	364.0	1295	15.66	70.59
P0182	Series	0.74	245.3	81.70	270.2	897	13.50	60.82
P0181	Series	0.90	170.3	68.99	190.3	603	11.33	51.05
P0180	Series	1.08	117.3	57.00	131.0	424	9.40	42.36
P0183	Parallel	1.22	84.2	46.22	91.0	324	7.83	35.30
P0179	Series	1.32	79.0	46.90	88.2	265	7.71	34.75
P0182	Parallel	1.48	61.3	40.85	67.5	224	6.75	30.41
P0178	Series	1.56	56.2	39.46	62.8	181	6.51	29.32
P0181	Parallel	1.80	42.6	34.49	47.6	151	5.66	25.52
P0177	Series	1.92	37.3	32.25	41.7	119	5.30	23.89
P0180	Parallel	2.16	29.3	28.50	32.8	106	4.70	21.18
P0176	Series	2.60	20.0	23.43	22.1	76.0	3.86	17.38
P0179	Parallel	2.64	19.7	23.45	22.1	66.3	3.86	17.38
P0178	Parallel	3.12	14.1	19.73	15.7	45.3	3.25	14.66
P0175	Series	3.60	9.6	15.62	10.4	43.6	2.65	11.95
P0177	Parallel	3.84	9.3	16.12	10.4	29.8	2.65	11.95
P0174	Series	4.15	7.8	14.61	8.6	30.3	2.41	10.86
P0176	Parallel	5.20	5.0	11.72	5.5	19.0	1.93	8.69
P0175	Parallel	7.20	2.4	7.81	2.6	10.9	1.33	5.97
P0174	Parallel	8.30	2.0	7.31	2.2	7.6	1.20	5.43

NOTES:
1. The reference inductance at rated DC current is a typical value.
2. Temperature rise is 50°C in typical buck or boost circuits at 250 KHz and with the reference ET applied to the inductor.
3. Total loss in the inductor is 380 mWatts for a 50°C temperature rise above ambient.
4. To estimate temperature rise in a given application, determine copper and core losses, divide by 380 and multiply by 50.
5. For the copper loss, calculate $I_{DC}{}^2 X R_N$.
6. For core loss, using frequency (f) and operating flux density (B), calculate $6.11 \times 10^{-18} \times B^{2.7} \times f^{2.04}$.
7. For flux density (B), calculate ET (V-µsec) for the application, divide by ET_{100} from the table, and multiply by 100.
8. Limit the DC bias (H) to 46 orsteds. Calculate H by multiplying H_1 from the table by I_{DC} of the application.
9. The maximum DCR listed is approximately 17% over the nominal DCR.
10. Add suffix **"T"** to part number for tape and reel package (i.e. P0183**T**).

Mechanical



Schematic



Weight . . . . . 1.5 grams
Tape & Reel 500/reel
Tube 40/tube

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

LOW PROFILE SELF-LEADED POWER INDUCTORS

Designed for PCMCIA Applications

Pulse
A TECHNITROL COMPANY

NEW!

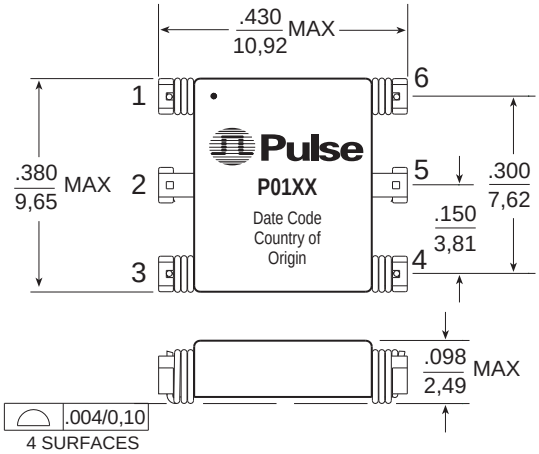
- Small PCMCIA size (.38" X .43" X .098")
- Frequency range: 100 KHz to 1 MHz
- Up to 3 amps rated DC current
- Surface mount, pick and placeable

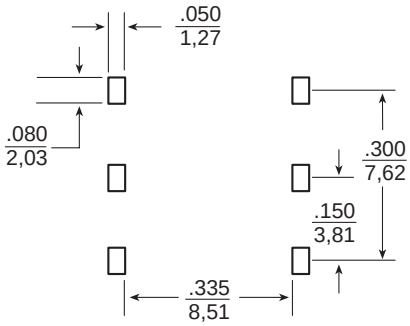
Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

ID		Reference Values			Control Values		Calculation Data	
Part Number	Hookup	I_{DC} (amp)	L @ DC L_{DC} (µH)	ET (V-µsec)	L w/o DC L_0 ±20% (µH)	DCR (MAX) (mΩ)	100 Gauss ET_{100} (V-µsec)	1 Amp DC H_1 (Orsted)
P0108	Series	0.27	122.6	16.55	137.8	1545	2.77	102.50
P0107	Series	0.33	88.5	14.60	100.5	1068	2.37	87.55
P0106	Series	0.40	60.1	12.03	69.1	720	1.96	72.60
P0116	Series	0.44	43.6	9.59	46.9	692	1.62	59.79
P0108	Parallel	0.54	30.7	8.28	34.4	382	1.38	51.25
P0105	Series	0.62	20.1	6.22	21.6	325	1.10	40.57
P0107	Parallel	0.66	22.1	7.30	25.1	267	1.18	43.77
P0104	Series	0.73	15.7	5.74	17.3	236	0.98	36.30
P0106	Parallel	0.80	15.0	6.01	17.3	180	0.98	36.30
P0103	Series	0.86	12.1	5.21	13.5	170	0.87	32.03
P0116	Parallel	0.88	10.9	4.80	11.7	173	0.81	29.89
P0102	Series	1.03	9.0	4.63	10.1	121	0.75	27.76
P0101	Series	1.23	6.4	3.92	7.2	86	0.63	23.49
P0105	Parallel	1.24	5.0	3.11	5.4	81	0.55	20.29
P0100	Series	1.41	5.2	3.67	6.0	66	0.58	21.35
P0104	Parallel	1.46	3.9	2.87	4.3	59	0.49	18.15
P0103	Parallel	1.72	3.0	2.60	3.4	42	0.43	16.01
P0102	Parallel	2.06	2.2	2.32	2.5	30	0.38	13.88
P0101	Parallel	2.46	1.6	1.96	1.8	22	0.32	11.74
P0100	Parallel	2.82	1.3	1.83	1.5	16	0.29	10.68

NOTES:
1. The reference inductance at rated DC current is a typical value.
2. Temperature rise is 50°C in typical buck or boost circuits at 500 KHz and with the reference ET applied to the inductor.
3. Total loss in the inductor is 95 mWatts for 50°C temperature rise above ambient.
4. To estimate temperature rise in a given application, determine copper and core losses, divide by 95 and multiply by 50.
5. For the copper loss, calculate $I_{DC}{}^2 X R_N$.
6. For R_N, multiply DCR_{MAX} by 0.85.
7. For core loss, using frequency (f) and operating flux density (B), calculate $747 \times 10^{-21} \times B^{2.7} \times f^{2.04}$.
8. For flux density (B), calculate ET (V-µsec) for the application, divide by ET_{100} from the table, and multiply by 100.
9. Limit the DC bias (H) to 31 orsteds. Calculate H by multiplying H_1 from the table by I_{DC} of the application.
10. Add suffix **"T"** to part number for tape and reel package (i.e. P0100**T**).

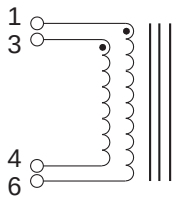
Mechanical





SUGGESTED PAD LAYOUT

Schematic



Weight.....0.25 grams
Tape & Reel.....1250/reel
Tube.....55/tube

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

HIGH AND LOW CURRENT COUPLED INDUCTORS

Pulse
A TECHNITROL COMPANY

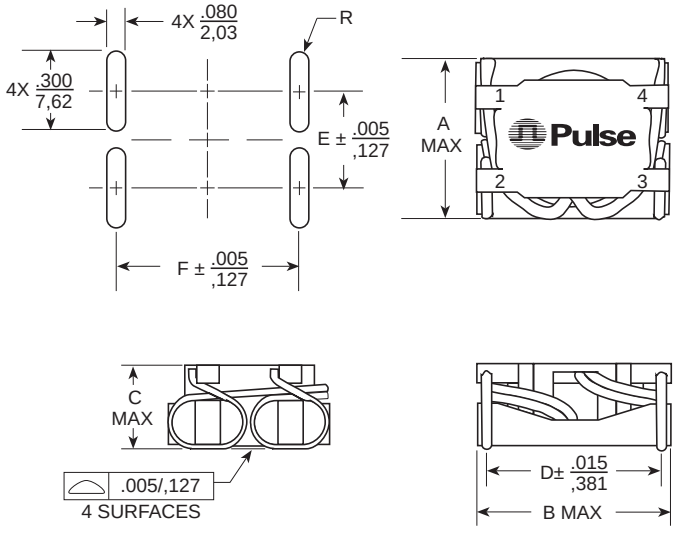
- Self-leaded, surface mount
- Suited for IR and vapor phase reflow soldering
- Frequency range up to 1 MHz

Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

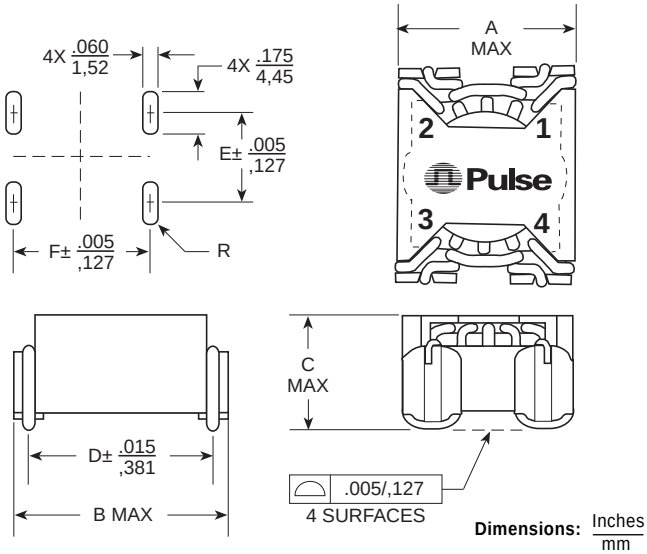
Part Number	I_{DC} (Amps)	$L_{W/DC}$ (µH)	ET (V-µ sec)	Size Code	$L_{W/oDC}$ (µH ± 20%)	Max DCR (mΩ)
PE-53361	23.8	.53	1.00	HCCI-44	.88	1.7
PE-53362	21.0	1.10	1.75	HCCI-50	2.10	3.0
PE-53363	22.4	2.10	3.25	HCCI-68	4.00	3.4
PE-53717	1.1	43.6	7.83	LCCI-37	77.0	309
PE-53718	2.7	21.9	6.90	LCCI-44	39.5	90.5
PE-53719	6.4	4.025	3.135	LCCI-50	6.575	23

Mechanicals

HCCI



LCCI



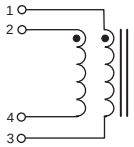
Dimensions: Inches / mm

Size Codes

	HCCI-44	HCCI-50	HCCI-68	LCCI-37	LCCI-44	LCCI-50
A	.715/18,16	.800/20,32	1.000/25,40	.560/14,22	.590/14,99	.670/17,02
B	.865/21,97	.910/23,11	1.110/28,19	.645/16,38	.715/18,16	.770/19,56
C	.390/9,91	.390/9,91	.390/9,91	.350/8,89	.390/9,91	.390/9,91
D	.760/10,30	.800/20,32	1.000/25,40	.520/13,21	.600/15,24	.650/16,51
E	.360/9,14	.440/11,18	.620/15,75	.340/8,64	.370/9,40	.445/11,30
F	.770/19,56	.810/20,57	1.010/25,65	.530/13,46	.610/15,49	.660/16,76

Schematics

HCCI



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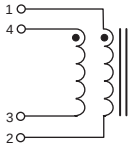

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SURFACE MOUNT INDUCTORS SELF-LEADED

Electrical Information

- Materials meet UL94V-0 rating
- Suited for IR and vapor reflow solder
- Fits in half inch high boards for use in lap-top and notebook computers
- Frequency range of up to 1 MHz
- Patented, low profile, self-leaded design

Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

Reference Values[1]				Control Values			Calculation Data		
Pulse Part Number	I_{DC}[2] (Amps)	L with DC L_{DC} (µH)	ET	Size Code	L w/o DC L_O (µH ± 20%)	DCR R_{DC} (mΩ MAX)	100 Gauss ET_{100} (V-µSec)	1 Amp DC H_I (Orsted)	DCR R_N (mΩ NOM)
PE-53600	1.40	6.20	1.33	LCI-20	7.0	70.0	0.94	21.9	60.3
PE-53601	1.00	17.6	2.40	LCI-20	22.7	125	1.68	39.3	109
PE-53602	1.40	29.7	4.60	LCI-30	35.3	166	4.12	23.2	141
PE-53604	1.30	58.1	7.83	LCI-37	73.0	290	7.09	28.8	233
PE-53606	0.94	114	10.0	LCI-30	167	380	8.97	50.5	330
PE-53608	0.90	192	15.7	LCI-37	292	560	14.2	57.7	472
PE-53611	0.72	383	23.5	LCI-37	672	862	21.3	86.5	750
PE-53613	0.74	645	36.5	LCI-44	1134	1250	37.2	84.4	1040
PE-53614	0.71	1070	54.4	LCI-50	1950	1700	56.9	95.7	1480
PE-53630	3.4	1.01	0.532	LCI-20	1.10	11.0	0.37	8.74	12.5
PE-53631	2.8	9.4	2.70	LCI-30	12.3	43.4	2.42	13.7	37.8
PE-53632	2.7	16.2	4.29	LCI-37	21.9	63.0	3.88	15.8	54.7
PE-53633	2.7	29.1	6.90	LCI-44	40.5	85.0	7.02	15.9	75.8
PE-53634	2.6	50.0	10.5	LCI-50	72.9	133	11.0	18.5	115
PE-53650	4.8	3.8	1.76	LCI-30	5.20	17.3	1.58	8.87	14.8
PE-53651	5.4	5.1	2.51	LCI-37	7.5	17.7	2.27	9.25	14.3
PE-53652	5.5	9.0	4.06	LCI-44	14.0	22.3	4.13	9.38	19.3
PE-53653	5.1	16.1	6.27	LCI-50	25.9	32.0	6.55	11.0	30.3
PE-53661	8.0	2.5	1.77	LCI-37	3.80	8.3	1.61	6.53	7.20
PE-53662	7.8	4.9	3.04	LCI-44	7.9	12.4	3.10	7.03	10.5
PE-53663	7.2	9.3	4.92	LCI-50	16.0	18.7	5.15	8.67	16.3
PE-53680	11.5	1.32	1.33	HCI-37	2.10	4.0	1.20	4.90	3.39
PE-53681	11.4	2.5	2.23	HCI-44	4.20	5.4	2.27	5.16	4.64
PE-53682	10.4	4.7	3.58	HCI-50	8.4	8.3	3.75	6.30	7.18
PE-53683	10.9	9.4	6.84	HCI-68	17.6	12.3	7.93	6.24	10.7
PE-53690	14.3	0.81	1.035	HCI-37*	1.25	2.5	0.94	381	2.16
PE-53691	13.9	1.68	1.83	HCI-44*	2.80	3.6	1.86	4.22	3.16
PE-53692	12.4	3.5	3.13	HCI-50*	6.5	6.6	3.28	5.52	5.75
PE-53700	15.4	5.2	5.21	HCI-68*	10.5	6.2	6.04	4.75	5.30

NOTES:

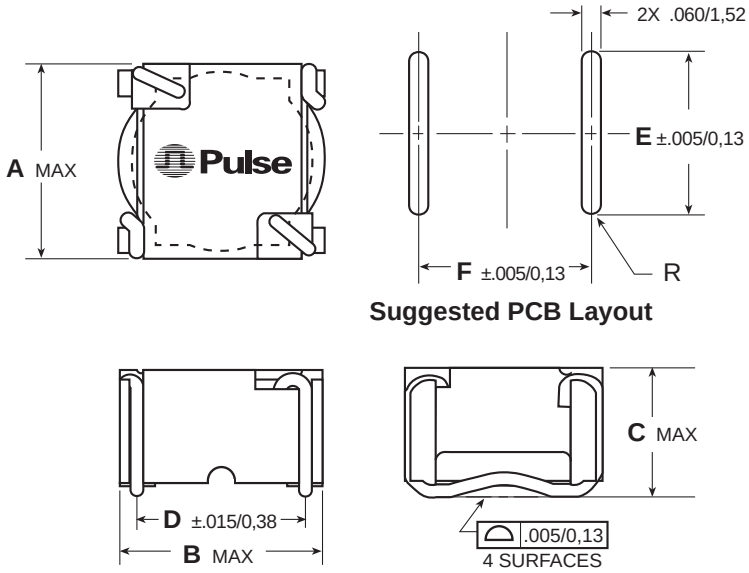
1. Reference values are for an inductor with a 55°C temperature rise. The core loss is 10% of the copper loss at the ET listed and 500 KHz.
2. Core does not saturate abruptly. The ET and DC current are limited by the desired inductance and temperature rise.
3. The temperature rise is directly proportional to the total watts loss (I^2R plus core loss). The core loss (mW/cc) equals $9.07 \times 10^{-10} f^{1.26} B^{2.11}$. B is the operating flux density (Gauss) due to ripple voltage and f is the operating frequency (Hertz) of the ripple current.
4. Standard packaging is in tubes. Optional 13" Tape & Reel packaging can be ordered by adding a "T" suffix to the part number, (i.e. PE-53600**T**).

SURFACE MOUNT INDUCTORS
SELF-LEADED

Mechanical Information

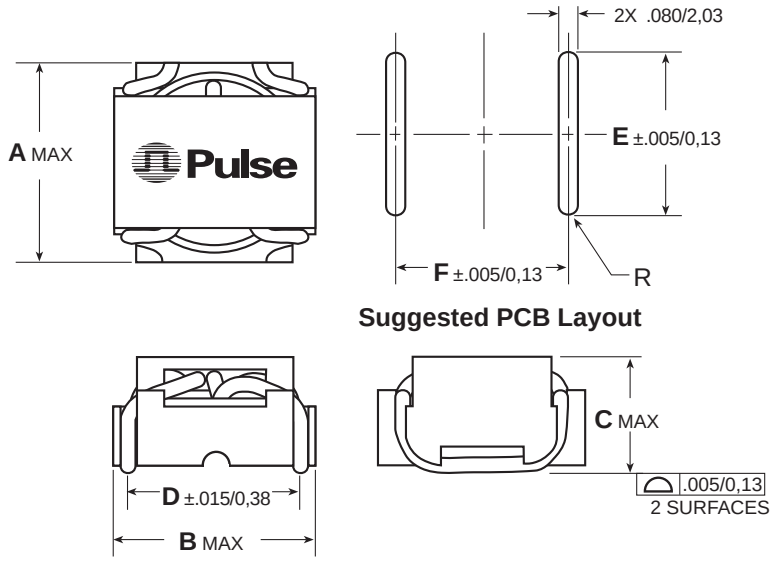
Mechanicals

Low Current Inductors (LCI)



PKG	A	B	C	D	E	F
LCI-20	.340 8,64	.340 8,64	.270 6,86	.260 6,60	.300 7,62	.270 6,86
LCI-30	.435 11,05	.440 11,18	.360 9,14	.350 8,89	.400 10,16	.360 9,14
LCI-37	.560 14,22	.565 14,35	.360 9,14	.450 11,43	.520 13,21	.460 11,68
LCI-44	.590 14,99	.615 15,62	.390 9,91	.500 12,70	.550 13,97	.510 12,95
LCI-50	.670 17,02	.700 17,78	.390 9,91	.580 14,73	.620 15,75	.590 14,99

High Current Inductors (HCI)



PKG	A	B	C	D	E	F
HCI-37	.615 15,62	.600 15,24	.370 9,40	.500 12,70	.440 11,18	.500 12,70
HCI-44	.665 16,89	.665 16,89	.390* 9,91	.560 14,22	.490 12,45	.570 14,48
HCI-50	.740 18,80	.740 18,80	.390* 9,91	.630 16,00	.560 14,22	.640 16,26
HCI-68	.940 23,88	.940 23,88	.390* 9,91	.820 20,83	.700 17,78	.830 21,08

* Dimension “C” is .400/10,16 for the marked models because of heavier wire gage.

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

INDUCTORS DESIGNED FOR NATIONAL'S 150 KHz SIMPLE SWITCHER™

Pulse
A TECHNITROL COMPANY

- Tested and recommended by National Semiconductor
- Base material meets flammability requirements of UL 94V-0
- Available in surface mount and through hole versions

Electrical Specifications @ 25°C— Operating Temperature -30° to +130° C

Pulse THT Part Number	Pulse SMT Part Number	National Part Number	In Circuit Operating Parameters[1]			Nominal DCR (Ω)	Package	
			Nominal Inductance (µH)	Rated Current (Amps DC)	Max[2] ETOP (V-µSec)		Through Hole	Surface Mount
PE-53801	**PE-53801S**	LM259X-L1	259	0.13	23.1	3.4	LP-25	LCI-20
PE-53802	**PE-53802S**	LM259X-L2	178	0.16	16.5	2.8	LP-25	LCI-20
PE-53803	**PE-53803S**	LM259X-L3	118	0.2	13.2	1.8	LP-25	LCI-20
PE-53804	**PE-53804S**	LM259X-L4	79	0.25	9.9	1.5	LP-25	LCI-20
PE-53805	**PE-53805S**	LM259X-L5	55	0.3	6.6	1.0	LP-25	LCI-20
PE-53806	**PE-53806S**	LM259X-L6	39	0.34	6.6	.80	LP-25	LCI-20
PE-53807	**PE-53807S**	LM259X-L7	26	0.45	6.6	.62	LP-25	LCI-20
PE-53808	**PE-53808S**	LM259X-L8	374	0.2	75.9	2.7	LP-30	LCI-30
PE-53809	**PE-53809S**	LM259X-L9	256	0.25	33	2.2	LP-30	LCI-30
PE-53810	**PE-53810S**	LM259X-L10	176	0.3	26.4	1.4	LP-30	LCI-30
PE-53811	**PE-53811S**	LM259X-L11	118	0.38	19.8	1.2	LP-30	LCI-30
PE-53812	**PE-53812S**	LM259X-L12	78	0.46	16.5	0.8	LP-30	LCI-30
PE-53813	**PE-53813S**	LM259X-L13	55	0.56	13.2	0.5	LP-30	LCI-30
PE-53814	**PE-53814S**	LM259X-L14	39	0.68	9.9	0.3	LP-30	LCI-30
PE-53815	**PE-53815S**	LM259X-L15	26	0.84	6.6	0.2	LP-30	LCI-30
PE-53816	**PE-53816S**	LM259X-L16	17	1.02	6.6	0.1	LP-30	LCI-30
PE-53817	**PE-53817S**	LM259X-L17	375	0.36	75.9	1.3	LP-37	LCI-37
PE-53818	**PE-53818S**	LM259X-L18	252	0.44	49.5	0.9	LP-37	LCI-37
PE-53819	**PE-53819S**	LM259X-L19	173	0.54	36.3	0.6	LP-37	LCI-37
PE-53820	**PE-53820S**	LM259X-L20	115	0.67	29.7	0.4	LP-37	LCI-37
PE-53821	**PE-53821S**	LM259X-L21	78	0.82	23.1	0.3	LP-37	LCI-37
PE-53822	**PE-53822S**	LM259X-L22	54	1.0	16.5	0.2	LP-37	LCI-37
PE-53823	**PE-53823S**	LM259X-L23	38	1.2	13.2	0.1	LP-37	LCI-37
PE-53824	**PE-53824S**	LM259X-L24	26	1.48	9.9	0.1	LP-37	LCI-37
PE-53825	**PE-53825S**	LM259X-L25	18	1.81	9.9	0.06	LP-37	LCI-37
PE-53826	**PE-53826S**	LM259X-L26	377	0.68	75.9	1.0	LP-44	LCI-44
PE-53827	**PE-53827S**	LM259X-L27	248	0.83	72.6	0.6	LP-44	LCI-44
PE-53828	**PE-53828S**	LM259X-L28	168	1.02	56.1	0.4	LP-44	LCI-44
PE-53829	**PE-53829S**	LM259X-L29	112	1.26	42.9	0.3	LP-44	LCI-44
PE-53830	**PE-53830S**	LM259X-L30	77	1.54	33	0.2	LP-44	LCI-44
PE-53831	**PE-53831S**	LM259X-L31	53	1.87	26.4	0.13	LP-44	LCI-44
PE-53932	**PE-53932S**	LM259X-L32	37	2.24	19.8	0.10	LP-44	LCI-44
PE-53933	**PE-53933S**	LM259X-L33	24	2.74	16.5	0.07	LP-44	LCI-44
PE-53934	**PE-53934S**	LM259X-L34	17	3.0	13.2	0.05	KM-10	LCI-44
PE-53935	**PE-53935S**	LM259X-L35	250	1.5	72.6	0.23	KM-30	HCI-68
PE-54036	**PE-54036S**	LM259X-L36	168	1.81	75.9	0.18	KM-30	HCI-68
PE-54037	**PE-54037S**	LM259X-L37	114	2.22	62.7	0.10	KM-30	HCI-68
PE-54038	**PE-54038S**	LM259X-L38	77	2.7	52.8	0.09	KM-30	HCI-68
PE-54039	**PE-54039S**	LM259X-L39	53	3.0	42.9	0.08	KM-30	HCI-68
PE-54040	**PE-54040S**	LM259X-L40	38	3.0	29.7	0.05	KM-30	HCI-68
PE-54041	**PE-54041S**	LM259X-L41	25	3.0	19.8	0.04	KM-20	LCI-50
PE-54042	—	LM259X-L42	167	2.5	75.9	0.14	KM-40	—
PE-54043	—	LM259X-L43	110	3.0	75.9	0.09	KM-40	—
PE-54044	**PE-54044S**	LM259X-L44	77	3.0	59.4	0.08	KM-30	HCI-68
PE-53900	—	LM258X-L	19	4.5	32[3]	0.02	KM-30	—

Notes :
1. Inductance values may vary ±20%.
2. ETop rated at 150 KHz except where designated.
3. ETop rated at 100 KHz.
4. SIMPLE SWITCHER™ is a trademark of National Semiconductor Corporation.

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INDUCTORS DESIGNED FOR NATIONAL'S 150 KHz SIMPLE SWITCHER™

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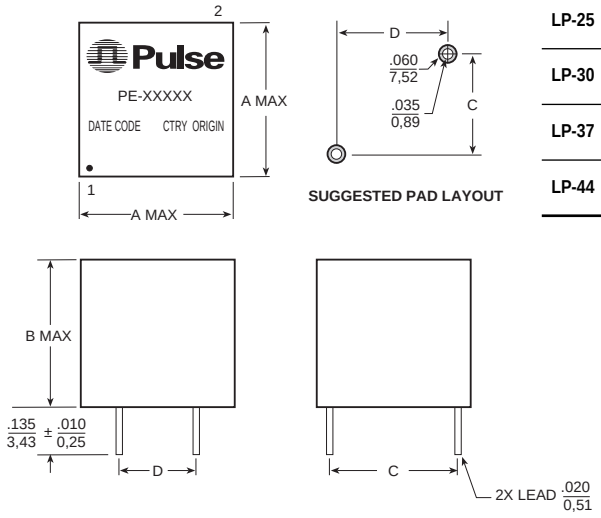
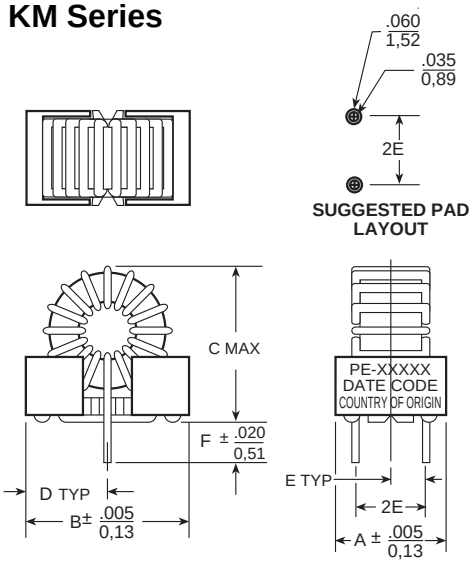
Mechanicals

LP Series



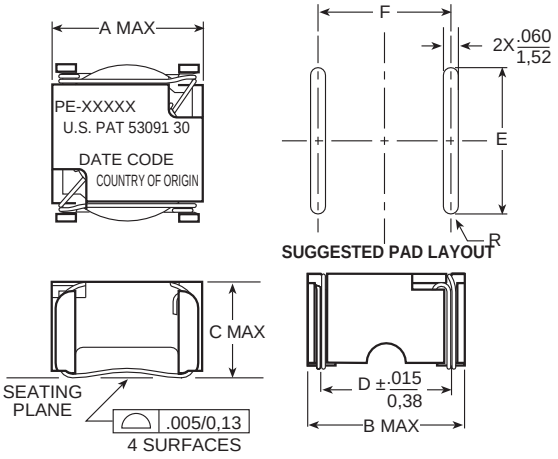
PKG	A	B	C	D
LP-25	.360 9,14	.310 7,87	.250 6,35	.250 6,35
LP-30	.400 10,16	.300 7,62	.300 7,62	.300 7,62
LP-37	.495 12,57	.375 9,52	.375 9,52	.375 9,52
LP-44	.635 16,13	.365 9,27	.500 12,7	.300 7,62

KM Series



PKG	A	B	C	D	E	F
KM-10	.340 8,64	.580 14,73	.650 16,51	.290 7,37	.110 2,79	.130 3,30
KM-20	.450 11,43	.650 16,51	.700 17,73	.325 8,26	.150 3,81	.130 3,30
KM-30	.450 11,43	830 21,08	.950 24,13	.415 10,54	.150 3,81	.130 3,30
KM-40	.600 15,24	.950 24,13	1.00 25,4	.475 12,07	.225 5,72	.130 3,30

LCI Series

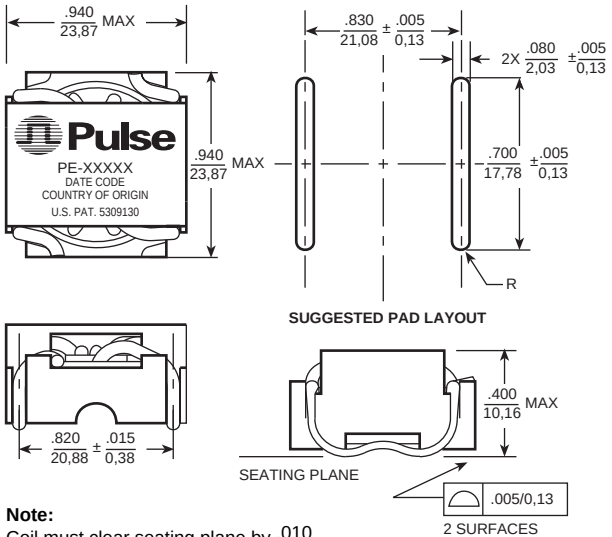


Notes:

1. Dimension "D" is measured across terminal blocks only.
2. Coil must clear seating plane by .010 / 0,25 MIN.

PKG	A	B	C	D	E	F
LCI-20	.340 8,64	.340 8,64	.270 6,86	.260 6,60	.300 7,62	.270 6,86
LCI-30	.435 11,05	.440 11,18	.360 9,14	.350 8,89	.400 10,16	.360 9,14
LCI-37	.565 14,35	.570 14,48	.360 9,14	.450 11,43	.520 13,21	.460 11,68
LCI-44	.600 15,24	.620 15,75	.390 9,91	.500 12,7	.550 13,97	.510 12,95
LCI-50	.670 17,02	.700 17,78	.390 9,91	.580 14,73	.620 15,75	.590 14,99

HCI-68



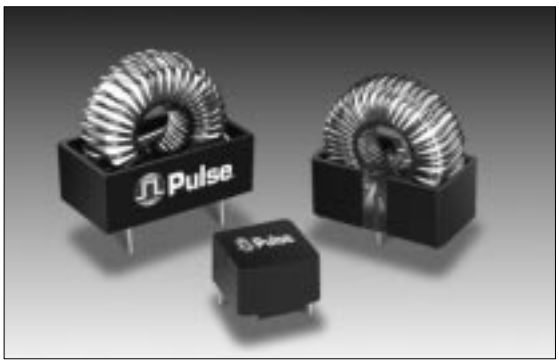
Note:
Coil must clear seating plane by .010 / 0,25 MIN

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

INDUCTORS DESIGNED FOR NATIONAL'S 50 KHz SIMPLE SWITCHER™

Pulse
A TECHNITROL COMPANY



- Designed for use with National's device numbers LM2574/LM2575/LM2576
- Base material meets flammability requirements of UL 94V-0
- Performance verified by National Semiconductor

Electrical Specifications @ 25°C— Operating Temperature -30° to +130° C

Part Identification		Reference Operating Values[1]			Design Control Values			
Part Number	Inductor Code	Inductance Typical (µH)	I_{DC} (Amps)	ET_{OP} (V-µSec)	Inductance No DC[2] (µH ± 20%)	DCR (Ω MAX)	Package Style	Lead Diameter
PE-53112	L47	47	3.0	90	38	0.05	KM-2.0	.025
PE-92114K	L68	68	3.0	90	55	0.02	KM-4.0	.040
PE-92108K	L100	100	3.0	90	91	0.04	KM-4.0	.032
PE-53113	L150	150	2.0	90	130	0.10	KM-4.0	.025
PE-52626	L220	220	1.4	90	230	0.38	Low Profile	.025 SQ.
PE-53145	L220	220	1.4	90	176	0.14	KM-3.0	.020
PE-52627	L330	330	0.9	90	302	0.74	Low Profile	.025 SQ.
PE-53146	L330	330	0.9	90	267	0.18	KM-3.0	.020
PE-53114	L470	470	0.64	90	426	0.16	KM-4.0	.025
PE-52629	L680	680	.85	90	657	1.25	Low Profile	.025 SQ.
PE-53115	H150	150	3.0	200	136	0.10	KM-4.0	.025
PE-53116	H220	220	3.0	200	167	0.07	KM-5.0	.032
PE-53117	H330	330	3.0	200	292	0.15	KM-5.0	.025
PE-53118	H470	470	2.0	200	369	0.17	KM-5.0	.025
PE-53119	H680	680	1.3	200	562	0.20	KM-5.0	.025
PE-53120	H1000	1000	0.95	200	762	0.24	KM-5.0	.025
PE-53121	H1500	1500	0.62	200	1150	1.00	Case	.032
PE-53122	H220	2200	0.42	200	1730	1.80	Case	.032

NOTES:

1. Typical inductance occurs at the I_{DC} and ET_{OP} values shown.
2. The control value of inductance is measured at B_{OP} equal to or less than 10 gauss (10 mV @ 20 KHz) without DC current.
3. Inductance decreases with higher values of DC current and increases with lower values of DC current.
4. Inductance increases with increase in B_{OP} or ET_{OP}.
5. SIMPLE SWITCHER™ is a trademark of National Semiconductor Corporation.

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INDUCTORS DESIGNED FOR NATIONAL'S 50 KHz SIMPLE SWITCHER™

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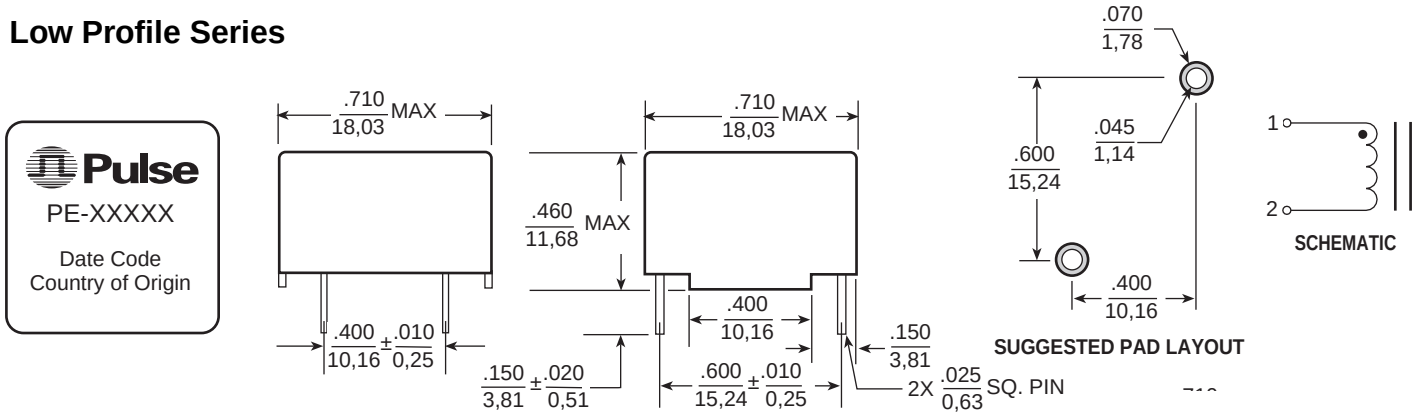
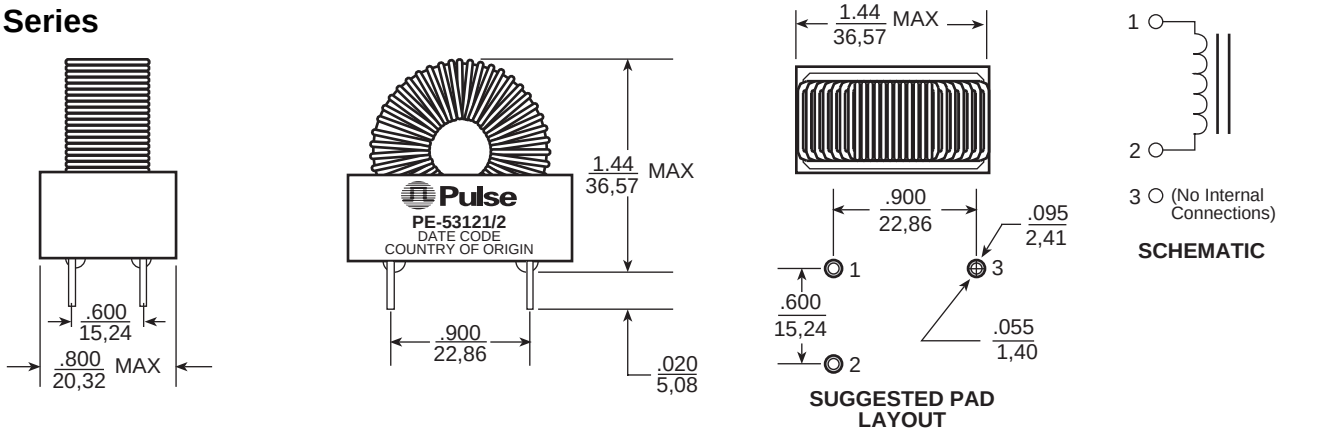
Mechanicals

Low Profile Series



Case Series

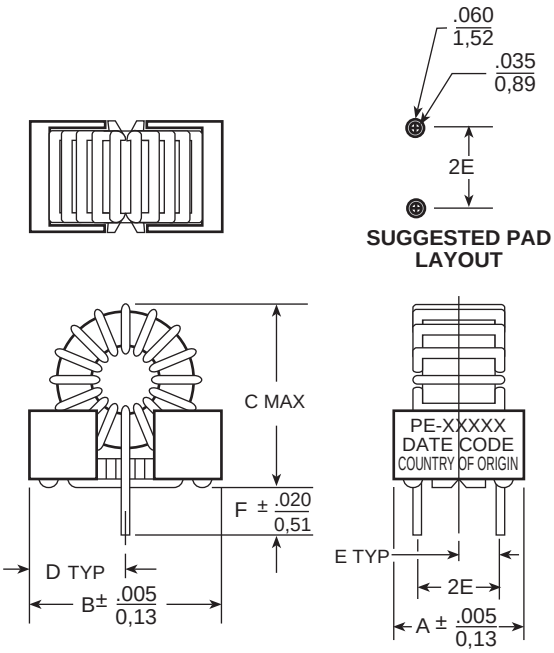


KlipMount Series

PKG	A	B	C	D	E	F
KM-2.0	.450 11,43	.650 16,51	.700 17,73	.325 8,26	.150 3,81	.130 3,30
KM-3.0	.450 11,43	.830 21,08	.950 24,13	.415 10,54	.150 3,81	.130 3,30
KM-4.0	.600 15,24	.950 24,13	1.00 25,4	.475 12,07	.225 5,72	.130 3,30
KM-5.0	.700 17,73	1.30 33,02	1.40 35,56	.625 15,88	.250 6,35	.130 3,30

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25



INDUCTOR FOR HARRIS SEMICONDUCTOR

Portable Power Converter HIP 5020 Eval 1

Pulse
A TECHNITROL COMPANY

NEW!

- Surface mount, self-leaded inductor
- Solution based on efficiency, using Allied Microlite core
- Designed for Notebooks, portables and PCAs
- Wide variety of other inductor sizes and values available

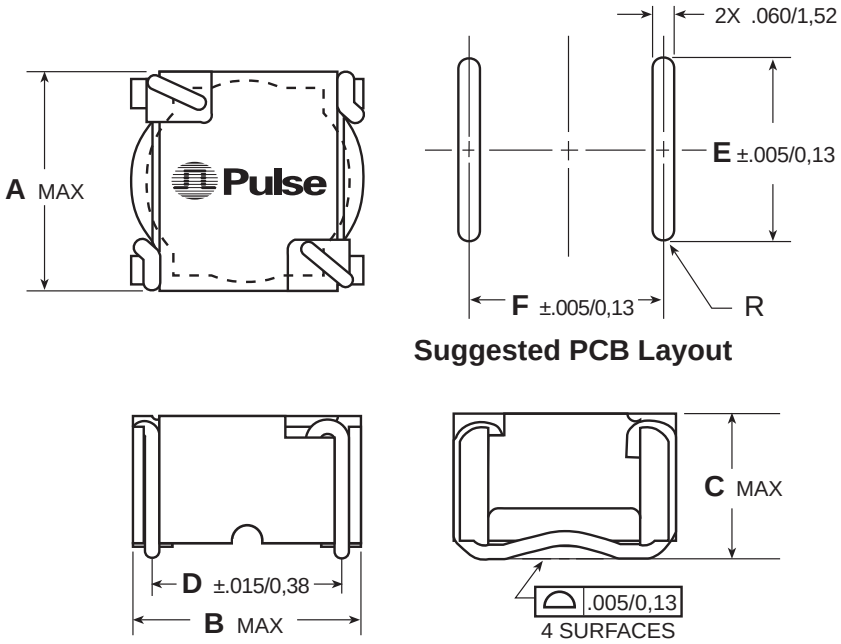
Electrical Specifications @ 25°C — Operating Temperature -30°C to +130°C

Pulse Part Number	Reference Values				Control Values		Calculation Data	
	I_{DC} (amp)	L @ DC L_{DC} (µH)	ET (V-µsec)	Storage Capacity (µJoules)	L w/o DC L_0±20% (µH)	DCR MAX (mΩ)	100 Gauss ET_{100} (V-µsec)	1 Amp DC H_1 (Orsted)
P0119	4.96	7.4	14.34	90.43	12.7	18.2	1.20	7.42

NOTES:

1. The reference inductance is a typical value at the AC and DC excitation listed.
2. Temperature rise is 55° C in typical buck or boost circuits at 200 KHz and with the reference ET applied to the inductor.
3. Total loss in the inductor is 423 mWatts for 55°C temperature rise above ambient.
4. To estimate temperature rise in a given application, determine the total losses (copper losses + core losses), divide by 423 and multiply by 55.
5. To determine copper losses, calculate:
   CopperLoss (mW) = I_{DC}^2 x R_N (with R_N in mΩ).
6. The maximum DCR listed is approximately 17% over the nominal DCR (R_N).
7. For core loss in mWatts, using frequency (f, Hz) and operating flux density (B, Gauss), calculate: $0.342 \times 10^{-12} \times B^{2.13} \times f^{1.52}$.
8. For flux density (B, Gauss), calculate ET (V-µsec) for the application, divide by ET_{100} factor from the table and multiply by 100.
9. For estimating L with DC current, calculate H by multiplying H_1 from the table by I_{DC} of the application. Using H determine the DC perm Factor (F_{UDC}). Multiply L w/o DC by F_{UDC} for L @ DC.

Mechanical



Suggested PCB Layout

Schematic

Weight . . . . . 2.4 grams
Tube 30/tube

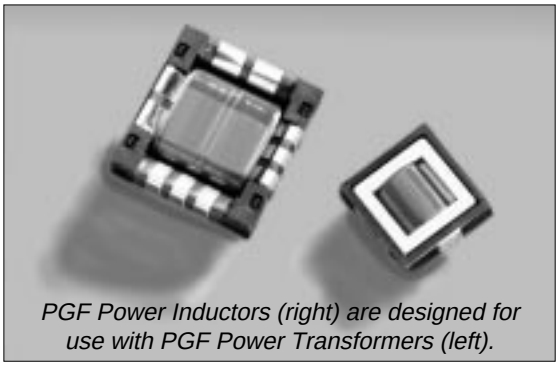
A	B	C	D	E	F
.565 14,35	.570 14.48	.360 9,14	.450 11.43	.520 13.21	.460 11.68

Dimensions: Inches / mm
Unless otherwise specified, all tolerances are ± .010 / 0,25

12220 WORLD TRADE DRIVE, SAN DIEGO, CALIFORNIA 92128 • TEL 619-674-8100 • FAX 619-674-8262 • http://www.pulseeng.com

PGF POWER INDUCTORS

High Current, Low Profile, High Frequency

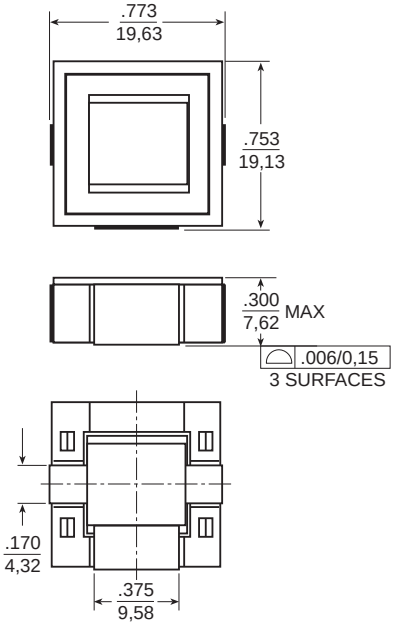


PGF Power Inductors (right) are designed for use with PGF Power Transformers (left).

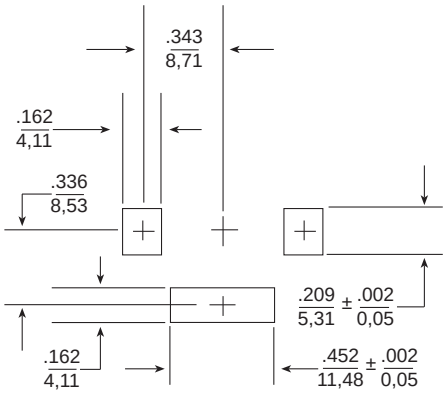
- 15 AMP current capability
- Surface mount
- Heat sinkable

Electrical Specifications* @ 25°C — Operating Temperature -20°C to +85°C						
Part Number	**Inductance ± 30% at 0 ADC** (µH)	**Inductance ±30% at IDC** (µH)	**IDC** (MAX ADC at ET MAX)	**ET MAX*** (V-µSec)	**F0** (KHz)	**DCR MAX.** (milli Ohms)
PE-53974	3.2	1.75	15	6	200-750	4.3
PE-53975	6.7	3.5	10	9	150-750	8.4

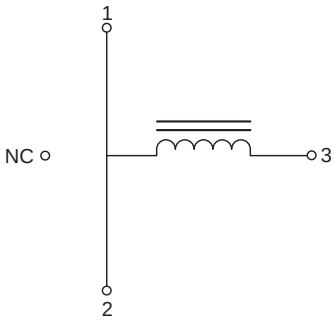
Mechanical



Footprint



Schematic



Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

Application

These inductors are designed for high current at high ripple frequency. Overall height is 300 mils ±10%. The PE-53974 and PE-53975 power inductors are designed to be used with the PE-68471 and PE-68472 surface mount power transformers.

***NOTE:** Specifications are tabulated for 250 KHz operation at 45°C temperature rise with convection cooling only. Heatsinked applications provide higher current and Volt-Microsecond capability.

LOW PROFILE SELF-LEADED CURRENT SENSE INDUCTORS

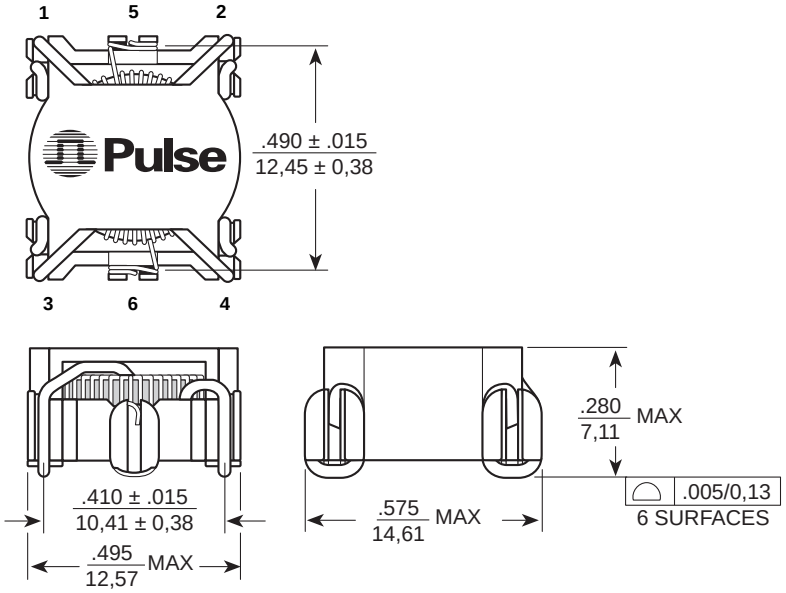
- Self-leaded, surface mount
- Suited for IR and vapor phase reflow soldering
- Designed for switching power supply applications

Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

Part Number	I (Amps)	R_T (Ω)	Droop (%)	L_S (mH MIN)	R_S (Ω MAX)	Turns (N_S)	Hipot (V_{RMS})
PE-68210	15.3	25	1.3	3.8	.38	50	500
PE-68280	16.3	50	0.7	14.8	.93	100	500
PE-68383	16.4	100	0.3	59.2*	3.9	200	500

NOTES:
1. Inductance is measured at 100 KHz, 20 mVrms. *10KHz, 60 mVrms.
2. Hipot is 500 Vrms, measured at 60 Hz, 2 seconds.
3. I, R_T, and Droop are reference values only.
4. Reference values are for the one turn winding connected in parallel for unipolar operation at 200 KHz.

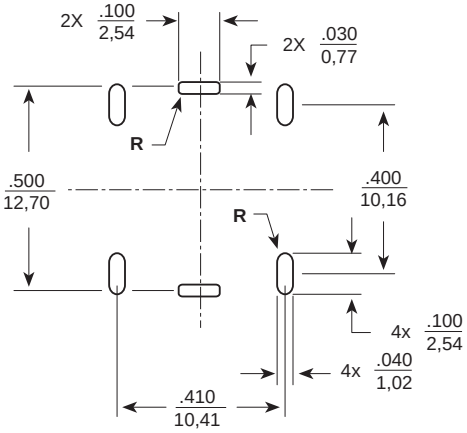
Mechanical



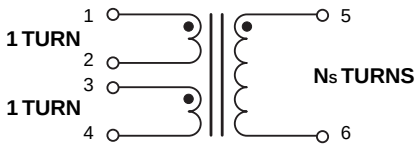
Unless otherwise specified, all tolerances are ± 0.005 / 0,127

Dimensions: Inches / mm

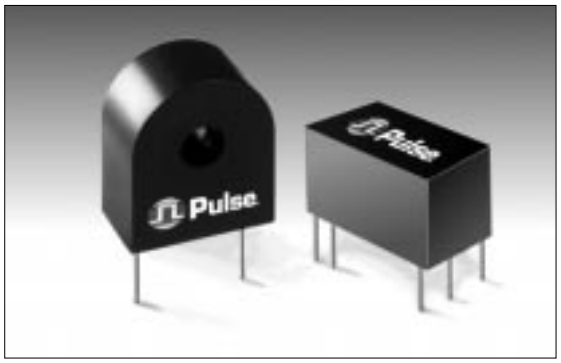
Footprint



Schematic



THOUGH HOLE CURRENT SENSE TRANSFORMERS AND INDUCTORS



- VDE Approved
- Designed for switching power supply applications
- Transformer meets IEC950 insulation requirements
- Frequency range from 20 KHz to 200 KHz

Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

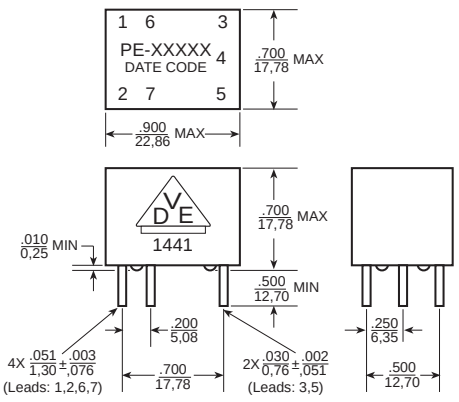
Part Number Transformer with 2-1 T Primaries	Schem. Figure	Part Number Transformer with 1T Primary	Schem. Figure	Part Number Inductor without Primary	Schem. Figure	Turns N_S	Secondary Inductance MH (MIN)	Secondary Inductance Test Voltage (15.75 KHz)	RS (Ω MAX)	RT (Ω NOM)	Primary Unipolar Amp µ Sec. Rating (MAX)	Primary Bipolar Amp µ Sec. Rating (MAX)
—	1C	**PE-63586**	1A	**PE-51686**	2A	50	5.0	0.5	0.7	50	150	300
PE-64487	1C	**PE-63587**	1A	**PE-51687**	2A	100	20.0	1.0	1.40	100	300	600
PE-64488	1C	**PE-63588**	1A	**PE-51688**	2A	200	80.0	2.0	4.50	200	600	1200
PE-64517	1D	**PE-63617**	1B	**PE-51717**	2B	50CT	5.0	0.5	0.7	50	150	300
PE-64518	1D	**PE-63618**	1B	**PE-51718**	2B	100CT	20.0	1.0	1.40	100	300	600
PE-64519	1D	**PE-63619**	1B	**PE-51719**	2B	200CT	80.0	2.0	4.50	200	600	1200
—	—	**PE-63691**	1B	—	—	300CT	180.0	3.0	11.0	300	900	1800

NOTES:

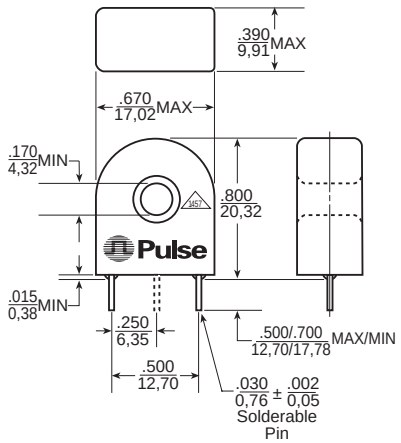
1. Maximum ratings specified with rated secondary terminating resistance and 1 turn primary.
2. Amp-microsecond (AµSec.) rating of primary equals volt microsecond (VµSec.) rating of secondary when secondary is terminated in rated resistance. (Amp—microseconds is equal to the product of a square pulse of current in amps, times the current pulse width in microseconds.
3. Maximum operating temperature 105°C (ambient plus rise).
4. When terminated with rated terminating resistance, the inductor scale factor is Vout = 1 volt per amp. for center tapped units terminating resistance for each half of winding is listed value divided by two.
5. 1 turn primary peak sense current is 20 amps for all parts listed above.

Mechanicals

Transformer



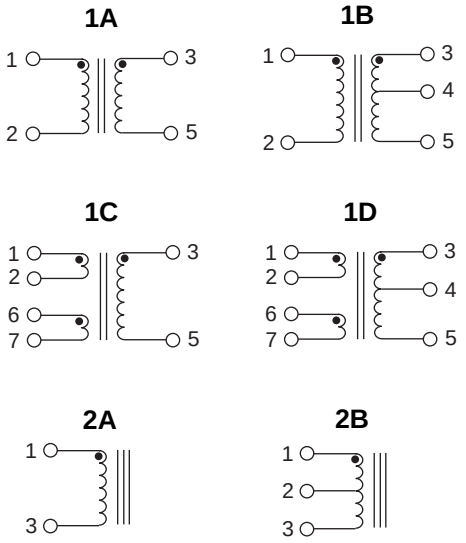
Inductor



Unless otherwise specified, all tolerances are ± .005 / 0,13

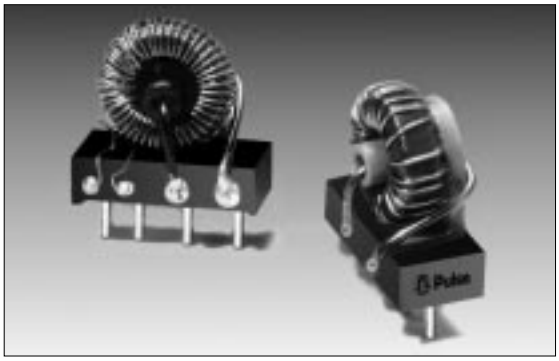
Dimensions: Inches / mm

Schematics



500 KHz CURRENT SENSE TRANSFORMERS & INDUCTORS

Through Hole Package



- Frequency range from 200 to 500 KHz
- 1250 V_{RMS} isolation
- 20 Amp peak sense current

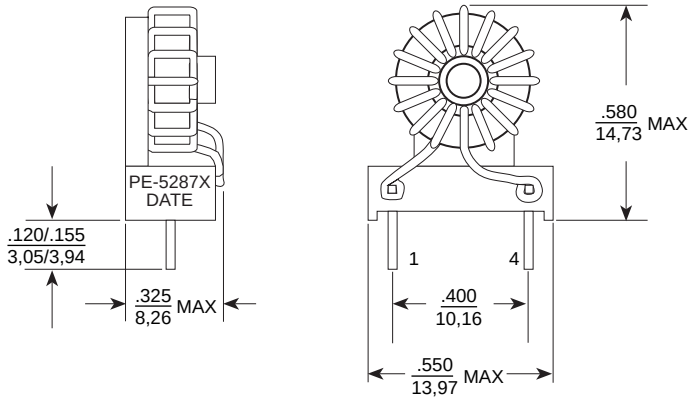
Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

Part Number Inductor	Part Number Transformer	RT[1] (Ω)	Secondary Turns[2] N_S	Secondary Inductance[3] (µH MIN)	DCR Secondary (Ω MAX)	DCR Primary (Ω)	Vs (mV)
PE-52876	**PE-64976**	1.50	10	150	.055	.006	30
PE-52877	**PE-64977**	3.00	20	600	.097	.006	60
PE-52878	**PE-64978**	7.50	50	4000	.240	.006	160

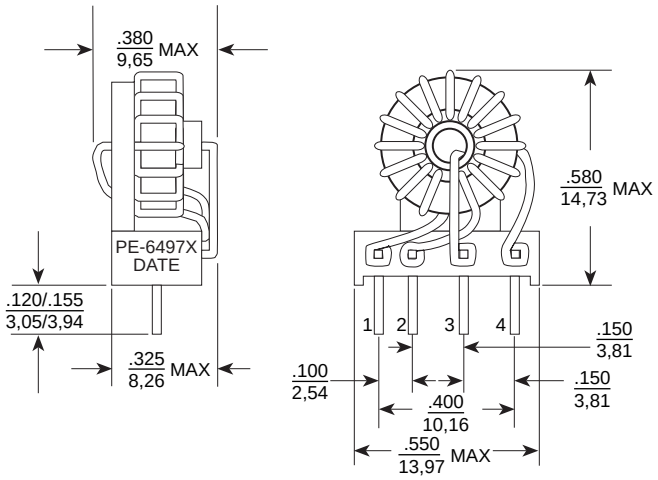
NOTES: 1. Terminating resistance for .15 Volt/Amp
2. ± 1 turn
3. @ 100 KHz, @ Vs

Mechanicals

Inductor



Transformer

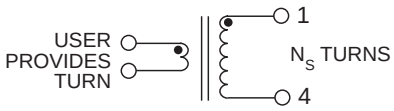


Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

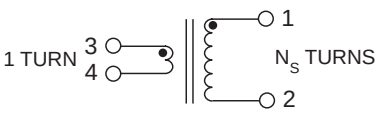
Schematics

Inductor



PE-52876, PE-52877, PE-52878

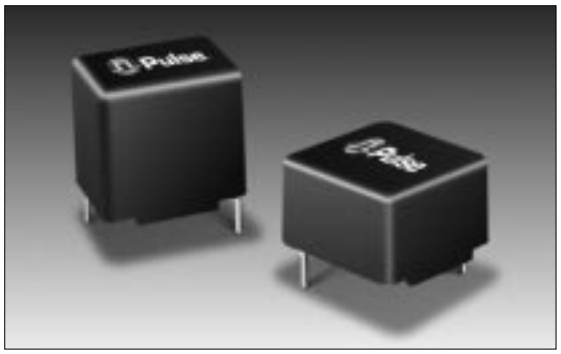
Transformer



PE-64976, PE-64977, PE-64978

STANDARD LOW POWER INDUCTORS

Switch Mode Power Converters and Ripple Filters



- Designed for general purpose use
- High inductance stability with varying volt-seconds and load currents
- Compact, standard packages
- Low profile or vertical packages

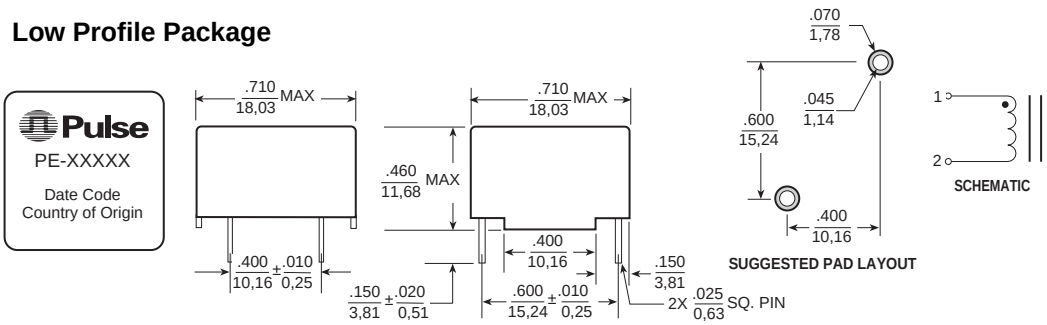
Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

Reference Operating Values						Design Control Values		
Low Profile Part Number	Vertical Part Number	Inductance Typical (µH)	I_{DC} (AMPS)[1]	Maximum ET_{OP}[2] (V-µSec)	Energy Storage (µJ)[1]	Inductance No DC (µH ± 20%)	20 KHz Test mV No DC	DCR (Ω MAX)
PE-52625	**PE-52645**	150	1.7	80	215	145	110	.42
PE-52626	**PE-52646**	220	1.5	90	240	226	140	.42
PE-52627	**PE-52647**	330	1.0	100	165	316	170	.78
PE-52628	**PE-52648**	470	.90	120	190	480	210	1.26
PE-52629	**PE-52649**	680	.85	175	245	690	250	1.50
PE-52630	**PE-52650**	820	.75	175	230	780	270	2.40
PE-52631	**PE-52651**	1000	.50	175	125	975	300	2.60

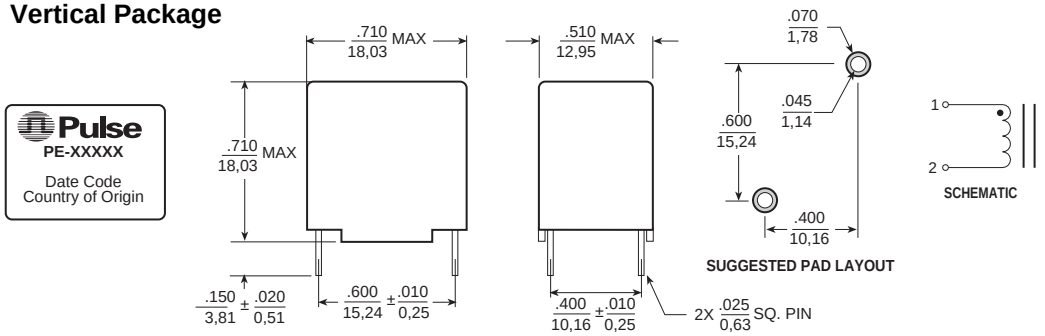
NOTES: 1. I_{DC} rated for 40°C Temperature rise @ low ET_{OP}. 2. Derate current 20% at this ET_{OP}.

Mechanicals

Low Profile Package



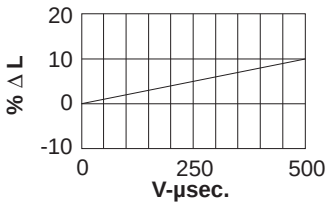
Vertical Package



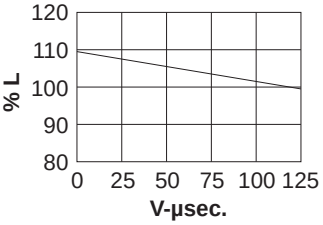
Unless otherwise specified, all tolerances are ± .010 0,25

Dimensions: inches / mm

Inductance Characteristics



Inductance Variance vs. E.T.



Inductance Variance vs. Load Current

LOW COST INDUCTORS
Electrical Information

- Available in vertical, low profile and *Klipmount™*
- SMPS averaging filter
- Characterized for general purpose use and ripple filters
- Single-layer designs
- Can be used as differential mode inductors in EMI filters[3]

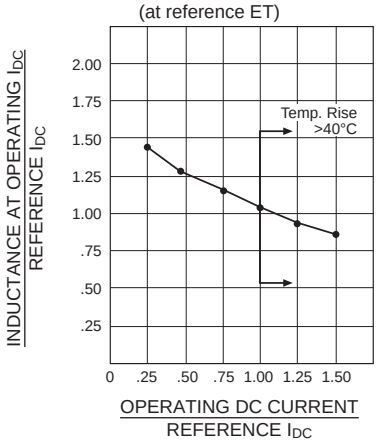
Electrical Specifications @ 25°C — Operating Temperature -30°C to 130°C

Reference Operating Values						Design Control Values					
Vertical Part Number	Low Profile Part Number	Inductance Typical (µH)[1]	I_{DC} (AMPS)	ET_{OP} (V-µSec)	Energy Storage (µJ)[4]	Inductance No DC (µHy) ±20%	20 KHz Test mV No DC[2]	DCR (Ω MAX)[5]	Coil Size Code	Klip Mount Package*	Lead Diameter (In) ±.003
PE-51591	—	20	2.0	52	40	32.8	33	.060	H	—	.020
PE-92100	—	25	2.6	30	85	20.7	22	.043	A	KM1	.020
PE-92101	**PE-92401**	50	2.6	50	169	45.7	45	.071	B	KM2	.020
PE-92102	**PE-92402**	100	2.6	90	338	94.1	90	.100	C	KM3	.020
PE-92103	—	35	2.6	55	118	28.4	36	.037	B	KM2	.025
PE-92104	**PE-92404**	70	3.0	85	315	61.0	73	.052	C	KM3	.025
PE-92105	**PE-92405**	145	3.0	140	653	141.8	140	.087	D	KM4	.025
PE-92106	—	285	3.0	300	1283	264.1	340	.140	E	KM5	.025
PE-92107	—	450	3.0	425	2025	436.3	500	.200	F	—	.025
PE-92108	**PE-92408**	100	3.6	130	648	90.7	110	.045	D	KM4	.032
PE-92109	—	165	4.0	240	1320	152.0	260	.070	E	KM5	.032
PE-92110	—	270	4.0	350	2160	263.9	400	.100	F	—	.032
PE-92111	—	40	4.0	70	320	37.9	57	.027	C	KM3	.032
PE-51590	—	22	5.0	44	275	20.3	37	.020	G	—	.032
PE-92112	**PE-92412**	100	5.0	200	1250	90.7	180	.034	E	KM5	.042
PE-92113	—	170	5.0	300	2125	159.7	310	.050	F	—	.042
PE-92114	**PE-92414**	55	5.0	100	688	54.9	88	.023	D	KM4	.042
PE-92115	—	95	7.0	225	2328	96.0	200	.025	F	—	.051
PE-92116	**PE-92416**	55	7.0	150	1348	49.1	100	.017	E	KM5	.051
PE-92117	—	55	10.0	175	2750	55.9	120	.013	F	—	.064

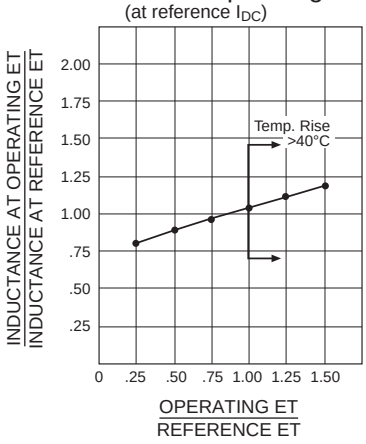
*Parts available with ***KlipMount*** option can be ordered by adding a "K" suffix to the part number (i.e. PE-92100**K**).

Relationships Between Reference and Operating Conditions

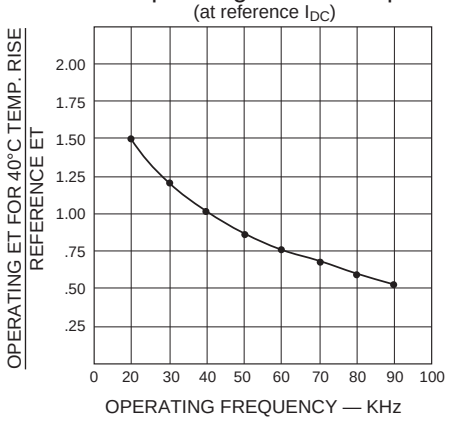
Inductance vs. DC Current
(at reference ET)



Inductance vs. Operating ET
(at reference I_{DC})



Max. Operating ET vs. Frequency
(at reference I_{DC})



LOW COST INDUCTORS
Mechanical Information

Mechanicals

- Base material meets flammability requirements of UL 94V-0
- Mechanically rigid mount
- PC board — automatic insertability
- Lowest cost

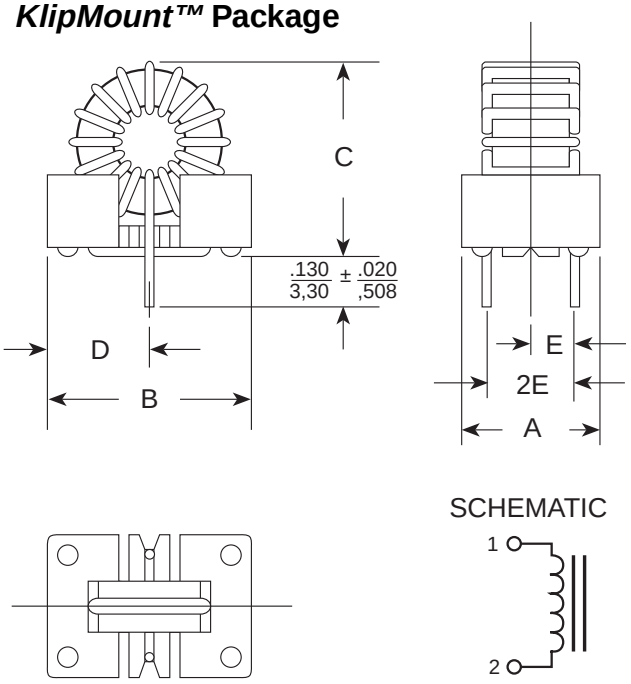
Standard Package	A	B	C	D	E
	Nom. ± .005/0,13		Nom.	Typical	
KM-1	.340 / 8,64	.580 / 14,73	.650 / 16,57	.29 / 7,37	.110 / 2,79
KM-2	.450 / 11,43	.650 / 16,51	.700 / 17,78	.325 / 8,26	.150 / 3,91
KM-3	.450 / 11,73	.830 / 21,03	.950 / 24,13	.415 / 10,54	.150 / 3,91
KM-4	.600 / 15,24	.950 / 24,13	1.10 / 27,94	.475 / 12,07	.225 / 5,72
KM-5	.700 / 17,78	1.3 / 33,02	1.40 / 35,56	.625 / 15,88	.250 / 6,35

Note: Units with large wire sizes may exceed B dimension.
KLIPMOUNT™ is a trademark of Pulse Engineering, Inc.

Dimensions: Inches / mm

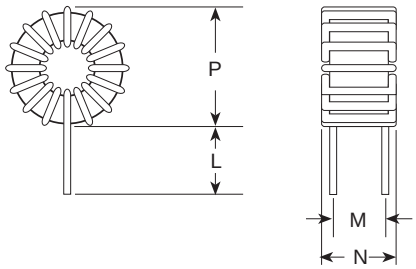
Unless otherwise specified, all tolerances are ± .010 / 0,25

KlipMount™ Package

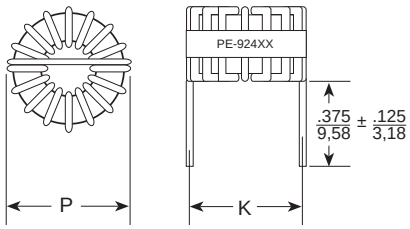


Coil Size	P (MAX)	N (MAX)	L (+.125/-.025)	M	K
A	0.55 / 13,97	0.25 / 6,35	.375 / 9,53	.180 / 4,57	—
B	0.70 / 17,78	0.38 / 9,65	.375 / 9,53	.280 / 7,11	.530 / 13,46 ± .050 / 1,27
C	0.85 / 21,59	0.41 / 10,41	.375 / 9,53	.280 / 7,11	.720 / 18,29 ± .050 / 1,27
D	1.05 / 26,27	0.55 / 13,97	.375 / 9,53	.400 / 10,16	.840 / 21,24 ± .020 / ,51
E	1.40 / 35,56	0.700 / 17,78	.375 / 9,53	.500 / 12,7	1.10 / 25,65 ± .100 / 2,54
F	1.65 / 41,91	0.700 / 17,78	.375 / 9,53	.500 / 12,7	—
G	0.85 / 21,59	0.33 / 8,38	.875 / 22,23	—	.730 / 18,29 ± .05 / 1,27
H	0.64 / 16,26	0.28 / 7,11	.875 / 22,23	—	.530 / 13,46 ± .05 / 1,27

Vertical Package



Low Profile Package

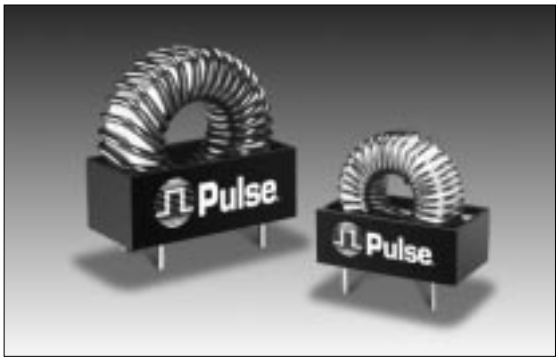


NOTES:

1. Typical Inductance occurs at I_{DC} and ET_{OP} values shown.
2. Design control test voltage critical. Inductance increases with voltage.
3. For line filter applications RMS line current is limited to specified reference DC Current.
4. $\frac{LI^2}{2}$ rating is the ability of the inductor to store energy.
5. DCR for vertical part measured close to coil. Add 10% more for Low Profile part.

TOROIDAL INDUCTORS
HIGH CURRENT

Pulse
A TECHNITROL COMPANY



- Cost-effective designs
- Semi-encapsulated construction
- Maximum operation temperature of 130°C (Ambient + Rise)
- A 2:1 inductance swing from zero to maximum current

Electrical Specifications @ 25°C

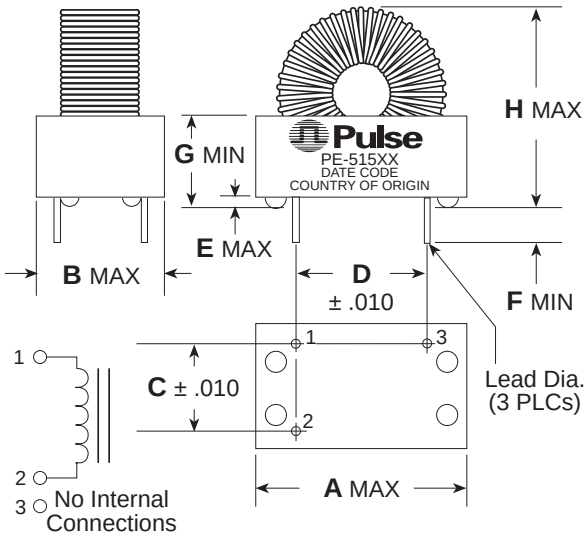
Reference Operating Values						Design Control Values				
Part Number	Inductance Typical (µH)2	I_{DC} (AMPS)	ET_{OP}1 (V-µSec)		Energy Storage (µJ MIN)3	Inductance No DC (µH) (±20%)	50 KHz Test mV No DC5	DCR (Ω MAX)	Size Code	Lead Diameter (in ±.003)
			20 KHz	40 KHz						
PE-51506	17.0	17.0	190	130	2460	40.0	140	0.0065	3	0.081
PE-51507	32.0	16.0	290	200	4100	70.7	270	0.0092	4	0.081
PE-51508	60.0	16.0	390	270	7700	120.0	470	0.012	5	0.081
PE-51509	14.0	10.0	135	95	700	28.5	73	0.009	1	0.057
PE-51510	23.0	11.0	170	120	1400	43.5	130	0.012	2	0.057
PE-51511	43.0	10.0	280	195	2150	85.5	210	0.018	3	0.057
PE-51512	90.0	10.0	430	300	4500	158.0	420	0.028	4	0.057
PE-51513	144.0	10.0	570	400	7200	262.0	700	0.032	5	0.057
PE-51514	32.0	6.6	200	140	700	60.5	110	0.025	1	0.040
PE-51515	52.0	7.0	230	160	1275	92.0	190	0.032	2	0.040
PE-51516	98.0	6.0	400	280	1765	188.0	310	0.048	3	0.040
PE-51517	175.0	6.0	620	425	3150	315.0	560	0.068	4	0.040
PE-51518	335.0	6.0	840	580	6030	571.0	1000	0.095	5	0.040
PE-51520	400	3.6	600	420	2700	688.0	640	0.130	3	0.036

Notes:

1. To prevent excessive temperature rise, limit ET_{OP} to the rated ET_{OP} specified. This is not a saturation limit. Temperature rise of inductors is 40°C MAX at MAX current and rated ET_{OP}.
2. A 2:1 nominal inductance swing from no I_{DC} to operating I_{DC} gives improved protection against current discontinuities at light loading. Inductance increases with greater ET_{OP}. Reference values occur at I_{DC} and low flux density.
3. $\frac{LI^2}{2}$ rating is the ability of the inductor to store energy.
4. Design control test voltage is critical. Inductance increases with voltage.

Size Code	1	2	3	4	5	6
A	1.20/30,48	1.44/36,57	1.60/40,64	1.95/49,53	2.30/58,42	1.30/33,02
B	0.60/15,24	0.80/20,32	0.80/20,32	0.91/23,11	1.11/28,21	0.90/22,86
C	0.40/10,16	0.60/15,24	0.60/15,24	0.70/17,78	0.90/22,85	0.66/16,76
D	0.80/20,32	0.90/22,86	0.90/22,86	1.20/30,48	1.50/38,10	0.75/19,05
E	0.45/11,43	0.70/17,78	0.70/17,78	0.90/22,86	1.00/25,40	0.41/10,41
F	0.20/5,08	0.20/5,08	0.20/5,08	0.20/5,08	0.20/5,08	0.10/2,54
G	.015/0,381	0.03/0,76	0.03/0,76	0.03/0,76	0.03/0,76	.015/0,381
H	1.20/30,48	1.44/36,57	1.72/43,68	2.00/50,80	2.30/58,42	1.40/35,56

Mechanicals

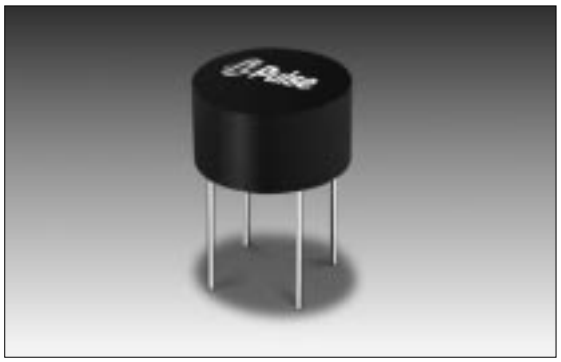


Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

TOROIDAL INDUCTORS
HIGH INDUCTANCE

Pulse
A TECHNITROL COMPANY



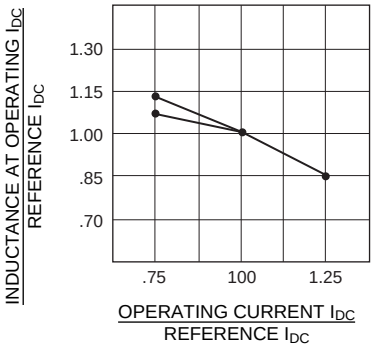
- High frequency, low loss operation (up to 100 KHz)
- Encapsulated construction
- Ambient temperature range of -55°C to +70°C
- Good inductance stability with temperature

Electrical Specifications @ 25°C

	Reference Operating Values				Design Control Values		
Part Number	Inductance Typical (mH)	I_{DC} (AMPS)	Maximum ET_{OP} (V-µSec)	Energy Storage (µJ MIN)1	Inductance No DC (mHy) (±20%)2	DCR (Ω MAX)	Size Code
PE-50500	0.5	.60	110	90	.72	0.35	7
PE-50501	1.0	.35	160	60	1.51	0.75	7
PE-50502	2.0	.25	225	60	2.88	1.30	7
PE-50503	0.5	1.75	325	765	.72	0.35	8
PE-50506	0.5	2.75	650	1890	.75	0.25	9
PE-50508	2.0	1.50	1200	2250	2.70	0.75	9

NOTES: **1.** $\frac{LI^2}{2}$ rating is the ability of the inductor to store energy. 2. Inductance measured at 0.4 Volts and 20KHz.

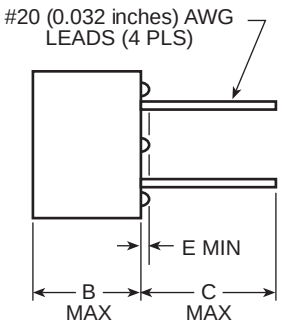
Inductance Variation with I_{DC} Change

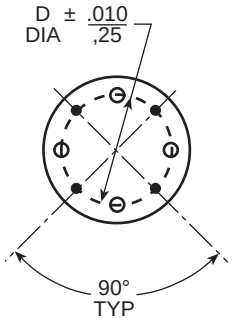


Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

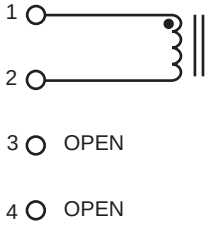
Mechanical

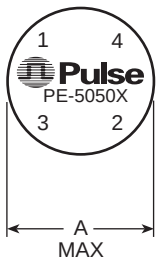




Size Code	A	B	C	D	E
7	.754 / 18,92	.400 / 10,16	.500 / 12,70	.625 / 15,87	0.03 / 0,76
8	1.140 / 28,95	.665 / 16,89	.500 / 12,70	1.00 / 25,40	0.03 / 0,76
9	1.416 / 35,96	.850 / 21,59	.500 / 12,70	1.250 / 13,75	0.03 / 0,76

Schematic





COMMON MODE EMI SUPPRESSION INDUCTORS

Pulse
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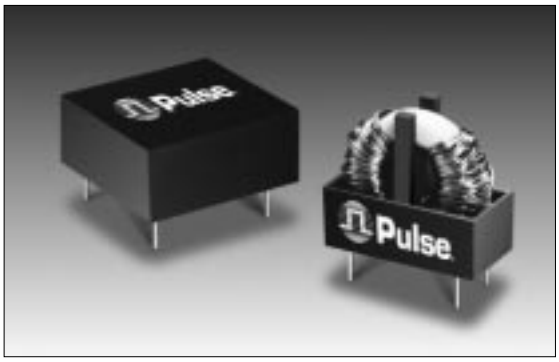


- Low profile or vertical mounting available
- Windings balanced within one percent
- For use in switching power supply input filter circuits
- Dielectric strength 1250 Vrms
- Designed with 3.0 mm minimum creep distance between windings

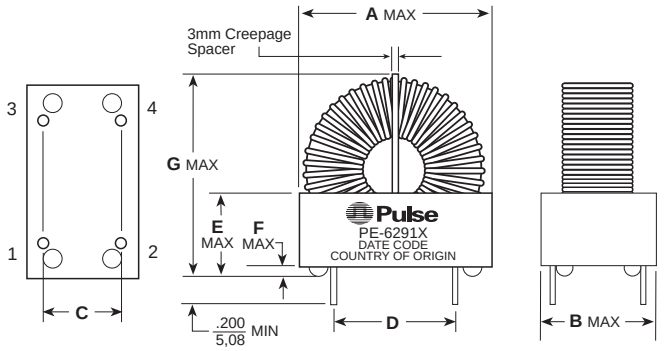
Electrical Specifications @ 25°C— Operating Temperature -30° to +130° C

Low Profile Part Number	Vertical Mount Part Number	Rated RMS Current[1] (Amps)	Load VA[2] at RMS Line 117V	Load VA[2] at RMS Line 220V	Inductance at 1KHz (mH MIN)	Test Level Volts RMS 1.0KHz	Leakage Inductance 130KHz (µH MIN)	DCR Max. each WDG (Ω)	Package Number	Lead Diameter Inches ± .003 Low Profile	Lead Diameter Inches ± .003 Vertical Mount
PE-62891	**PE-62911**	1.8	210	420	10.0	0.50	130	0.240	1	0.032	0.032
PE-62892	**PE-62912**	3.5	400	800	3.0	0.20	35	0.060	1	0.032	0.032
PE-62893	**PE-62913**	6.0	700	1400	1.0	0.08	12	0.020	1	0.036	0.036
PE-62894	**PE-62914**	2.6	300	600	16.0	1.00	180	0.160	2	0.032	0.040
PE-62895	**PE-62915**	3.2	375	750	8.0	0.50	90	0.120	2	0.032	0.040
PE-62896	**PE-62916**	5.2	600	1200	4.0	0.20	45	0.040	2	0.036	0.036
PE-62897	**PE-62917**	7.5	875	1750	2.0	0.08	25	0.020	2	0.047	0.047

NOTES: 1. Rated RMS current for 40°C rise at any input voltage. 2. **Caution** — do not exceed rated RMS current ratings.

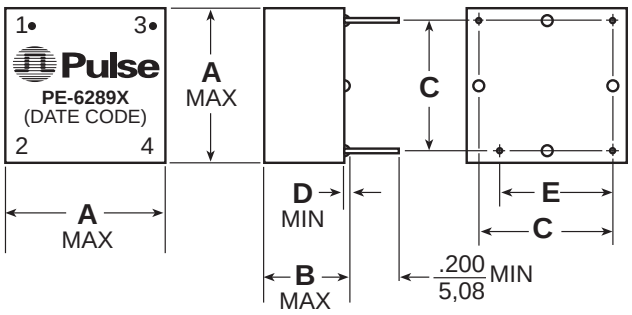
Mechanicals

Vertical Package



Package Number	A	B	C	D	E	F	G
1	1.15 / 29,21	.550 / 13,97	.400 / 10,15	.800 / 20,32	.45 / 11,43	.015 / 0,38	1.15 / 29,21
2	1.44 / 36,57	.800 / 20,32	.600 / 15,24	.900 / 22,86	.70 / 17,78	.030 / 0,76	1.50 / 38,10

Low Profile Package



Package Number	A	B	C	D	E
1	1.25 / 31,75	.600 / 15,24	1.00 / 25,40	.015 / 0,38	.900 / 22,86
2	1.50 / 38,10	.800 / 20,32	1.28 / 32,51	.010 / 0,25	1.083 / 27,50

Unless otherwise specified, all tolerances are ± .010 / 0,25

Dimensions: Inches / mm

12220 WORLD TRADE DRIVE, SAN DIEGO, CALIFORNIA 92128 • TEL 619-674-8100 • FAX 619-674-8262 • http://www.pulseeng.com

500 KHz COMMON MODE EMI INDUCTORS

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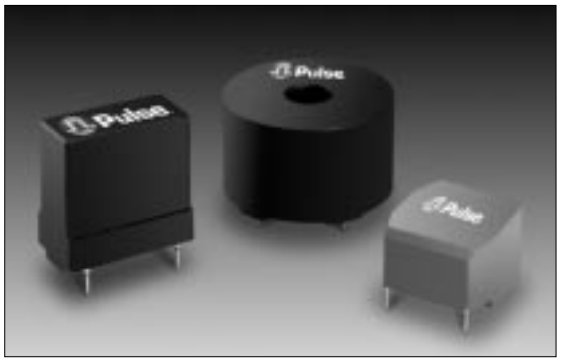
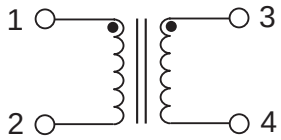


- Common mode EMI Inductors
- Designed for higher frequency power conversion
- For use in SMPS input filtering circuits

Elect. Specs. @ 25°C— Operating Temp. -30° to +130° C

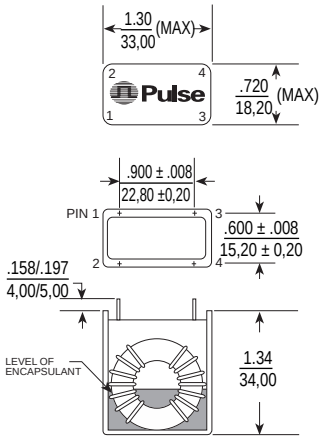
Part Number	Rated RMS Current (A.Normal)	Inductance mH (± 30%)	DCR Ohms (MAX)	Case Style	Leakage Inductance (MIN/MAX µH)	Self Resonant (KHz MIN)
PE-96161	0.5	33	1.40	3	160/320	125
PE-96165	1.0	18	0.50	1	120/320	250
PE-96166	1.0	5.6	0.30	3	30/60	850
PE-96168	2.0	15	0.29	1	100/220	250
PE-96173	3.15	5.6	0.10	1	40/80	450
PE-96175	3.15	3.3	0.07	3	15/35	1000
PE-96177	3.15	2.2	0.06	3	10/20	1400
PE-96178	3.15	1.2	0.04	3	6/15	2100
PE-96179	3.15	1.2	0.04	4	5/14	1600
PE-96181	5.0	3.9	0.06	1	25/60	650
PE-96186	6.3	2.7	0.04	1	20/45	650
PE-96187	8.0	3.3	0.033	2	20/45	600
PE-96188	10.0	1.8	0.02	2	10/25	850
PE-96189	12.5	1.5	0.015	2	10/20	900
PE-96190	15.0	1.0	0.01	2	7/15	1000

Schematic

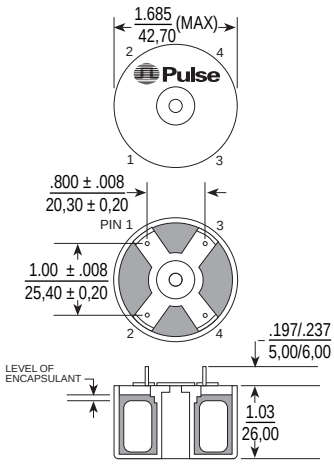


Mechanicals

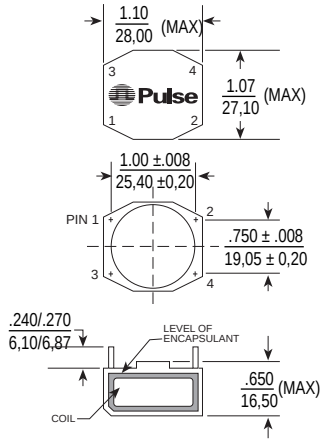
CASE 1[1]



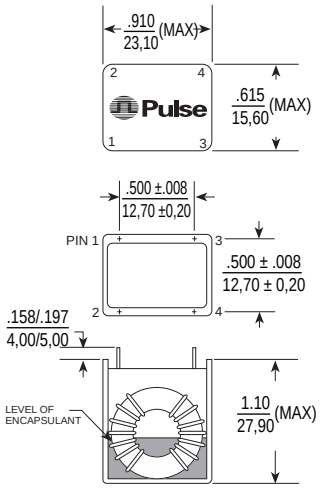
CASE 2[2]



CASE 3[1]



CASE 4[1]



Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

NOTES: 1. Leads have .031/.039 / .700/.900 diameter.

2. Self-leaded: **96187** has .036 nom. diameter leads.
96188 and **96189** have .045 nom. diameter leads.
96190 has .051 nom. diameter leads.

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