

# THT/SMT POWER INDUCTORS

## Toroid - Designed for National's 150kHz Simple Switcher™



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 -40° to +130° C<sup>7</sup>

Pulse <sup>6</sup> THT Part Number	Pulse <sup>5,6</sup> SMT Part Number	National Part Number	In Circuit Operating Parameters <sup>1</sup>			Nominal DCR (Ω)	Package		
			Nominal Inductance (μH)	Rated Current (A <sub>DC</sub> )	Max <sup>2</sup> E <sub>TOP</sub> (V-μSec)		Through Hole	Surface Mount	Lead Diameter
PE-53801NL	PE-53801SNL	LM259X-L1	259	0.13	23.1	3.4	LP-25	LCI-20	—
PE-53802NL	PE-53802SNL	LM259X-L2	178	0.16	16.5	2.8	LP-25	LCI-20	—
PE-53803NL	PE-53803SNL	LM259X-L3	118	0.2	13.2	1.8	LP-25	LCI-20	—
PE-53804NL	PE-53804SNL	LM259X-L4	79	0.25	9.9	1.5	LP-25	LCI-20	—
PE-53805NL	PE-53805SNL	LM259X-L5	55	0.3	6.6	1.0	LP-25	LCI-20	—
PE-53806NL	PE-53806SNL	LM259X-L6	39	0.34	6.6	.80	LP-25	LCI-20	—
PE-53807NL	PE-53807SNL	LM259X-L7	26	0.45	6.6	.62	LP-25	LCI-20	—
PE-53808NL	PE-53808SNL	LM259X-L8	374	0.2	75.9	2.7	LP-30	LCI-30	—
PE-53809NL	PE-53809SNL	LM259X-L9	256	0.25	33	2.2	LP-30	LCI-30	—
PE-53810NL	PE-53810SNL	LM259X-L10	176	0.3	26.4	1.4	LP-30	LCI-30	—
PE-53811NL	PE-53811SNL	LM259X-L11	118	0.38	19.8	1.2	LP-30	LCI-30	—
PE-53812NL	PE-53812SNL	LM259X-L12	78	0.46	16.5	0.8	LP-30	LCI-30	—
PE-53813NL	PE-53813SNL	LM259X-L13	55	0.56	13.2	0.5	LP-30	LCI-30	—
PE-53814NL	PE-53814SNL	LM259X-L14	39	0.68	9.9	0.3	LP-30	LCI-30	—
PE-53815NL	PE-53815SNL	LM259X-L15	26	0.84	6.6	0.2	LP-30	LCI-30	—
PE-53816NL	PE-53816SNL	LM259X-L16	17	1.02	6.6	0.1	LP-30	LCI-30	—
PE-53817NL	PE-53817SNL	LM259X-L17	375	0.36	75.9	1.3	LP-37	LCI-37	—
PE-53818NL	PE-53818SNL	LM259X-L18	252	0.44	49.5	0.9	LP-37	LCI-37	—
PE-53819NL	PE-53819SNL	LM259X-L19	173	0.54	36.3	0.6	LP-37	LCI-37	—
PE-53820NL	PE-53820SNL	LM259X-L20	115	0.67	29.7	0.4	LP-37	LCI-37	—
PE-53821NL	PE-53821SNL	LM259X-L21	78	0.82	23.1	0.3	LP-37	LCI-37	—
PE-53822NL	PE-53822SNL	LM259X-L22	54	1.0	16.5	0.2	LP-37	LCI-37	—
PE-53823NL	PE-53823SNL	LM259X-L23	38	1.2	13.2	0.1	LP-37	LCI-37	—
PE-53824NL	PE-53824SNL	LM259X-L24	26	1.48	9.9	0.1	LP-37	LCI-37	—
PE-53825NL	PE-53825SNL	LM259X-L25	18	1.81	9.9	0.06	LP-37	LCI-37	—
PE-53826NL	PE-53826SNL	LM259X-L26	377	0.68	75.9	1.0	LP-44	LCI-44	—
PE-53827NL	PE-53827SNL	LM259X-L27	248	0.83	72.6	0.6	LP-44	LCI-44	—
PE-53828NL	PE-53828SNL	LM259X-L28	168	1.02	56.1	0.4	LP-44	LCI-44	—
PE-53829NL	PE-53829SNL	LM259X-L29	112	1.26	42.9	0.3	LP-44	LCI-44	—
PE-53830NL	PE-53830SNL	LM259X-L30	77	1.54	33	0.2	LP-44	LCI-44	—
PE-53831NL	PE-53831SNL	LM259X-L31	53	1.87	26.4	0.13	LP-44	LCI-44	—
PE-53932NL	PE-53932SNL	LM259X-L32	37	2.24	19.8	0.10	LP-44	LCI-44	—
PE-53933NL	PE-53933SNL	LM259X-L33	24	2.74	16.5	0.07	LP-44	LCI-44	—
PE-53934NL	PE-53934SNL	LM259X-L34	17	3.0	13.2	0.05	KM-1.0	LCI-44	.023
PE-53935NL	PE-53935SNL	LM259X-L35	250	1.5	72.6	0.23	KM-3.0	HCI-68	.023
PE-54036NL	PE-54036SNL	LM259X-L36	168	1.81	75.9	0.18	KM-3.0	HCI-68	.023
PE-54037NL	PE-54037SNL	LM259X-L37	114	2.22	62.7	0.10	KM-3.0	HCI-68	.025
PE-54038NL	PE-54038SNL	LM259X-L38	77	2.7	52.8	0.09	KM-3.0	HCI-68	.025
PE-54039NL	PE-54039SNL	LM259X-L39	53	3.0	42.9	0.08	KM-3.0	HCI-68	.025
PE-54040NL	PE-54040SNL	LM259X-L40	38	3.0	29.7	0.05	KM-3.0	HCI-68	.028
PE-54041NL	PE-54041SNL	LM259X-L41	25	3.0	19.8	0.04	KM-2.0	LCI-50	.028
PE-54042NL	—	LM259X-L42	167	2.5	75.9	0.14	KM-4.0	—	.028
PE-54043NL	—	LM259X-L43	121	3.0	75.9	0.09	KM-4.0	—	.031
PE-54044NL	PE-54044SNL	LM259X-L44	77	3.0	59.4	0.08	KM-3.0	HCI-68	.025
PE-53900NL	—	LM258X-L	19	4.5	32 <sup>3</sup>	0.02	KM-3.0	—	.035

#### NOTES:

- Inductance values may vary ±20%.
- E<sub>TOP</sub> rated at 150kHz except where designated.
- E<sub>TOP</sub> rated at 100kHz.
- SIMPLE SWITCHER™ is a trademark of National Semiconductor Corp.
- For SMT parts, optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PE-53801SNL becomes PE-53801SNLT). Pulse complies to industry standard tape and reel specification EIA481.
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
- The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact Pulse for availability.

USA 858 674 8100 • Germany 49 7032 7806 0 • Singapore 65 6287 8998 • Shanghai 86 21 54643211 / 2 • China 86 755 33966678 • Taiwan 886 3 4641811

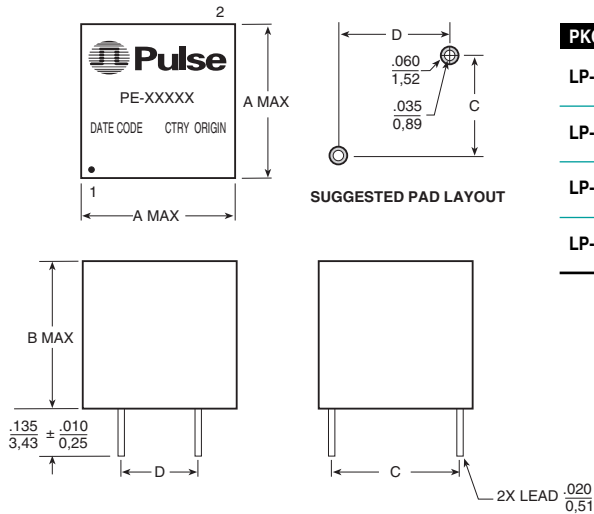
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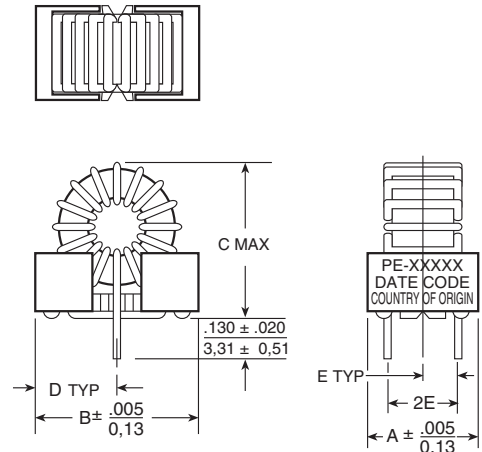
### Mechanicals

#### LP Series



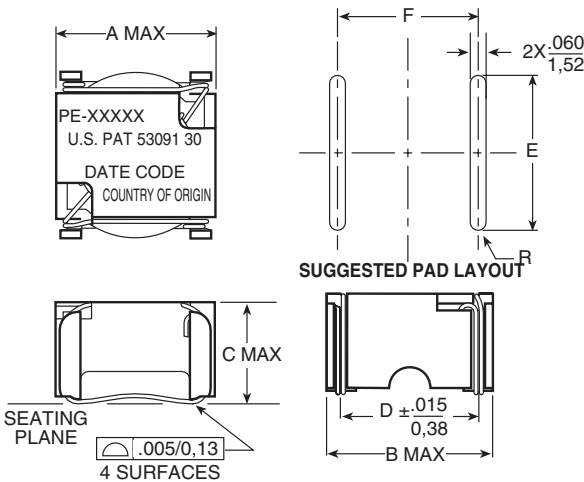
PKG	A	B	C	D
LP-25	$\frac{.360}{9,14}$	$\frac{.310}{7,87}$	$\frac{.250}{6,35}$	$\frac{.250}{6,35}$
	$\frac{.400}{10,16}$	$\frac{.300}{7,62}$	$\frac{.300}{7,62}$	$\frac{.300}{7,62}$
LP-37	$\frac{.495}{12,57}$	$\frac{.375}{9,52}$	$\frac{.375}{9,52}$	$\frac{.375}{9,52}$
	$\frac{.635}{16,13}$	$\frac{.365}{9,27}$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

#### KM Series



PKG	A	B	C	D	E
KM-1.0	$\frac{.340}{8,64}$	$\frac{.580}{14,73}$	$\frac{.650}{16,51}$	$\frac{.290}{7,37}$	$\frac{.110}{2,79}$
	$\frac{.450}{11,43}$	$\frac{.650}{16,51}$	$\frac{.700}{17,73}$	$\frac{.325}{8,26}$	$\frac{.150}{3,81}$
KM-3.0	$\frac{.450}{11,43}$	$\frac{.830}{21,08}$	$\frac{.950}{24,13}$	$\frac{.415}{10,54}$	$\frac{.150}{3,81}$
	$\frac{.610}{15,50}$	$\frac{.970}{24,64}$	$\frac{1.10}{27,94}$	$\frac{.475}{12,07}$	$\frac{.225}{5,72}$

#### LCI Series

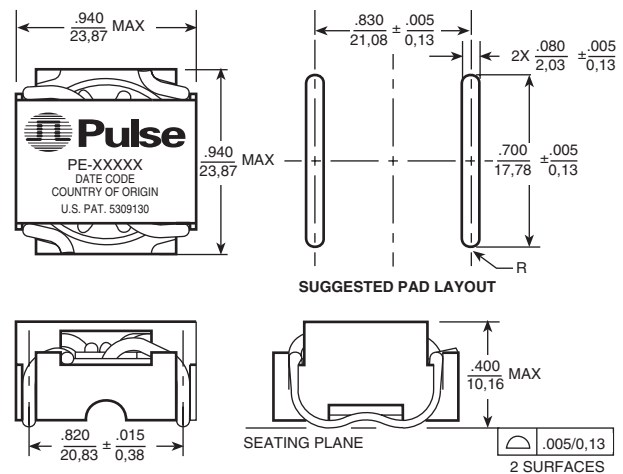


#### Notes:

1. Dimension "D" is measured across terminal blocks only.
2. Coil must clear seating plane by  $\frac{.010}{0,25}$  MIN.

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

#### HCI-68



#### Note:

Coil must clear seating plane by  $\frac{.010}{0,25}$  MIN

**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$