




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° C⁷

| Pulse ⁶ THT Part Number | Pulse ^{5,6} SMT Part Number | National Part Number | In Circuit Operating Parameters ¹ | | | Nominal DCR (Ω) | Package | | |
|--|--|----------------------------|--|--|--------------------------------------|-----------------------|-----------------|------------------|------------------|
| | | | Nominal Inductance (μH) | Rated Current (A _{DC}) | Max ² ETOP (V-μSec) | | Through Hole | Surface Mount | Lead Diameter |
| 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-1.0 | LCI-44 | .023 |
| PE-53935 | PE-53935S | LM259X-L35 | 250 | 1.5 | 72.6 | 0.23 | KM-3.0 | HCI-68 | .023 |
| PE-54036 | PE-54036S | LM259X-L36 | 168 | 1.81 | 75.9 | 0.18 | KM-3.0 | HCI-68 | .023 |
| PE-54037 | PE-54037S | LM259X-L37 | 114 | 2.22 | 62.7 | 0.10 | KM-3.0 | HCI-68 | .025 |
| PE-54038 | PE-54038S | LM259X-L38 | 77 | 2.7 | 52.8 | 0.09 | KM-3.0 | HCI-68 | .025 |
| PE-54039 | PE-54039S | LM259X-L39 | 53 | 3.0 | 42.9 | 0.08 | KM-3.0 | HCI-68 | .025 |
| PE-54040 | PE-54040S | LM259X-L40 | 38 | 3.0 | 29.7 | 0.05 | KM-3.0 | HCI-68 | .028 |
| PE-54041 | PE-54041S | LM259X-L41 | 25 | 3.0 | 19.8 | 0.04 | KM-2.0 | LCI-50 | .028 |
| PE-54042 | — | LM259X-L42 | 167 | 2.5 | 75.9 | 0.14 | KM-4.0 | — | .028 |
| PE-54043 | — | LM259X-L43 | 121 | 3.0 | 75.9 | 0.09 | KM-4.0 | — | .031 |
| PE-54044 | PE-54044S | LM259X-L44 | 77 | 3.0 | 59.4 | 0.08 | KM-3.0 | HCI-68 | .025 |
| PE-53900 | — | LM258X-L | 19 | 4.5 | 32 ³ | 0.02 | KM-3.0 | — | .035 |

Notes :

1. Inductance values may vary ±20%.
2. ETop rated at 150kHz except where designated.
3. ETop rated at 100kHz.
4. SIMPLE SWITCHER™ is a trademark of National Semiconductor Corp.
5. For SMT parts, optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PE-53801S becomes PE-53801ST).
6. Pulse complies to industry standard tape and reel specification EIA481. RoHS compliant parts are being introduced. Please contact Pulse for RoHS compliant part availability. If available, order part by adding the suffix "NL" to the part number (i.e. PE-53801 becomes PE-53801NL and PE-53801T becomes PE-53801NLT).
7. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

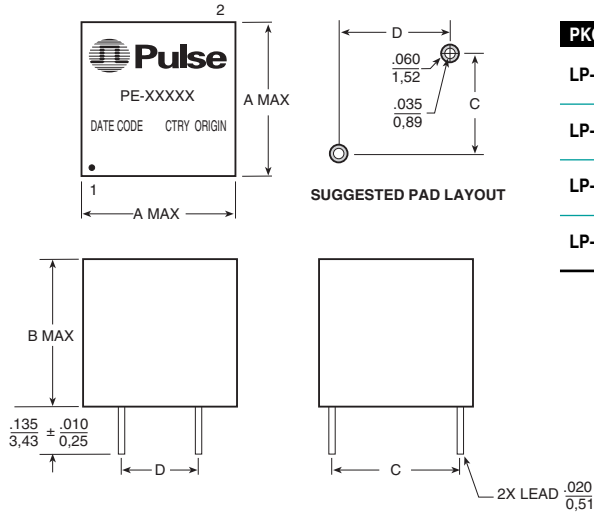
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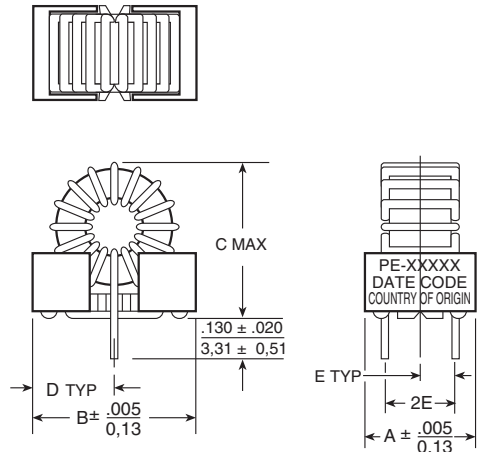
Mechanicals

LP Series



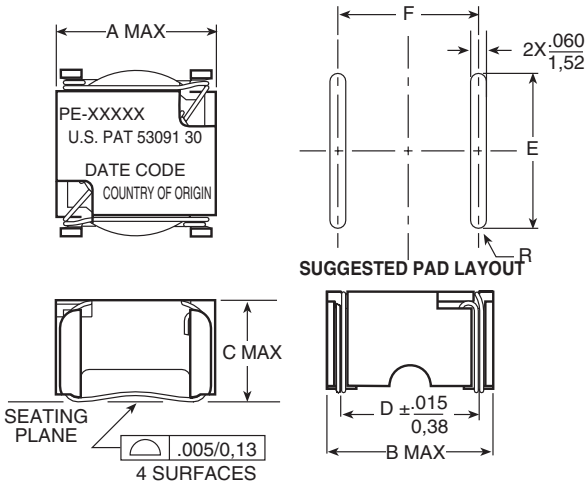
| PKG | A | B | C | D |
|-------|---------------|--------------|--------------|--------------|
| LP-25 | .360 9,14 | .310 7,87 | .250 6,35 | .250 6,35 |
| LP-30 | .400 10,16 | .300 7,62 | .300 7,62 | .300 7,62 |
| LP-37 | .495 12,57 | .375 9,52 | .375 9,52 | .375 9,52 |
| LP-44 | .635 16,13 | .365 9,27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

KM Series



| PKG | A | B | C | D | E |
|--------|---------------|---------------|---------------|---------------|--------------|
| KM-1.0 | .340 8,64 | .580 14,73 | .650 16,51 | .290 7,37 | .110 2,79 |
| KM-2.0 | .450 11,43 | .650 16,51 | .700 17,73 | .325 8,26 | .150 3,81 |
| KM-3.0 | .450 11,43 | .830 21,08 | .950 24,13 | .415 10,54 | .150 3,81 |
| KM-4.0 | .610 15,50 | .970 24,64 | 1.10 27,94 | .475 12,07 | .225 5,72 |

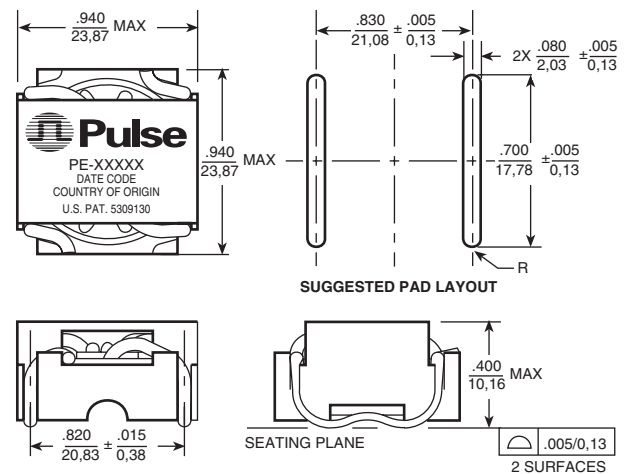
LCI Series



Notes:

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

HCI-68



Note:

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

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

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

| 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 |