

Description

- Miniature surface mount design
- Inductance range from 0.470uH to 1000uH
- Current range from 19.2 to .47 Amps
- Maximum power density
- Ideal for applications requiring low inductance and high current in a miniature package
- Modified standard products are available
- Protective case eliminates core breakage
- Meets UL 94V-0 flammability standard
- Ferrite core material



Applications

- DC-DC converters on board level and industrial products

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating ambient temperature range: -40°C to +85°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds max.

Packaging

- Supplied in tape and reel packaging, 900 (UP1B), 550 (UP2B), 450 (UP3B), and 275 (UP4B) per reel

| Part Number | Inductance μH (rated) | OCL ⁽¹⁾ $\mu\text{H} \pm 20\%$ | I _{RMS} ⁽²⁾ Amperes | I _{SAT} ⁽³⁾ Amperes | DCR ⁽⁴⁾ Ohms max. |
|-------------|----------------------------------|---|---|---|------------------------------|
| UP1B-R47-R | 0.47 | 0.569 | 6.0 | 7.7 | 0.0097 |
| UP1B-1R0-R | 1.0 | 1.20 | 4.4 | 5.3 | 0.0177 |
| UP1B-1R5-R | 1.5 | 1.61 | 4.2 | 4.5 | 0.0200 |
| UP1B-2R2-R | 2.2 | 2.62 | 3.1 | 3.5 | 0.0363 |
| UP1B-3R3-R | 3.3 | 3.79 | 2.9 | 3.0 | 0.0428 |
| UP1B-4R7-R | 4.7 | 5.15 | 2.2 | 2.6 | 0.0544 |
| UP1B-6R8-R | 6.8 | 6.87 | 1.7 | 2.2 | 0.0897 |
| UP1B-100-R | 10.0 | 11.00 | 1.5 | 1.9 | 0.1107 |
| UP1B-150-R | 15.0 | 16.00 | 1.2 | 1.5 | 0.1747 |
| UP1B-220-R | 22.0 | 23.50 | 1.0 | 1.2 | 0.2541 |
| UP1B-330-R | 33.0 | 36.00 | 0.82 | 0.99 | 0.3670 |
| UP1B-470-R | 47.0 | 48.50 | 0.72 | 0.87 | 0.4740 |
| UP1B-680-R | 68.0 | 73.52 | 0.58 | 0.67 | 0.7320 |
| UP1B-101-R | 100.0 | 112.67 | 0.47 | 0.53 | 1.11 |
| UP1B-151-R | 150.0 | 152.40 | 0.40 | 0.46 | 1.61 |
| UP1B-221-R | 220.0 | 223.10 | 0.36 | 0.38 | 1.96 |
| UP1B-331-R | 330.0 | 331.90 | 0.28 | 0.31 | 3.10 |
| UP2B-R47-R | 0.47 | 0.595 | 10.6 | 11.4 | 0.0049 |
| UP2B-1R0-R | 1.0 | 1.00 | 9.3 | 9.9 | 0.0065 |
| UP2B-1R5-R | 1.5 | 1.46 | 8.3 | 7.9 | 0.0081 |
| UP2B-2R2-R | 2.2 | 2.56 | 7.2 | 6.1 | 0.0107 |
| UP2B-3R3-R | 3.3 | 3.23 | 6.5 | 5.1 | 0.0128 |
| UP2B-4R7-R | 4.7 | 4.77 | 5.5 | 4.2 | 0.0165 |
| UP2B-6R8-R | 6.8 | 6.63 | 5.0 | 3.6 | 0.0202 |
| UP2B-100-R | 10.0 | 9.73 | 4.3 | 3.3 | 0.0267 |
| UP2B-150-R | 15.0 | 15.43 | 3.5 | 2.4 | 0.0410 |
| UP2B-220-R | 22.0 | 22.50 | 2.8 | 2.0 | 0.0617 |
| UP2B-330-R | 33.0 | 33.13 | 2.1 | 1.7 | 0.0917 |
| UP2B-470-R | 47.0 | 48.65 | 1.7 | 1.4 | 0.1388 |
| UP2B-680-R | 68.0 | 68.17 | 1.5 | 1.2 | 0.1787 |
| UP2B-820-R | 82.0 | 84.1 | 1.34 | 1.03 | 0.2235 |
| UP2B-101-R | 100.0 | 102.60 | 1.2 | 0.95 | 0.2707 |
| UP2B-151-R | 150.0 | 150 | 1.0 | 0.77 | 0.4100 |

Notes: (1) Open Circuit Inductance Test Parameters: 100KHz, .250Vrms, 0.0A dc.

(2) RMS current for an approximate ΔT of 40°C. at an ambient temperature of 85°C.

(3) Peak current for approximately 30% rolloff UP1B, 3B, 4B. 10% rolloff UP2B @ 20°C

(4) DCR limits 20°C.

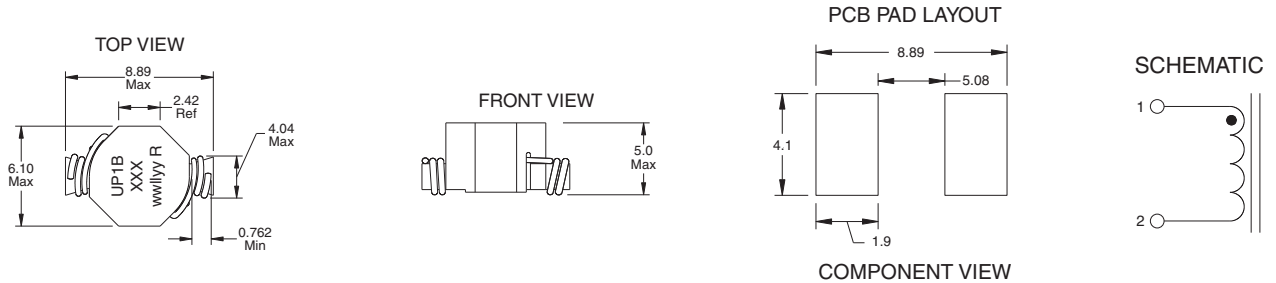
| Part Number | Inductance μH (rated) | OCL ⁽¹⁾ $\mu\text{H}\pm 20\%$ | I _{RMS} ⁽²⁾ Amperes | I _{SAT} ⁽³⁾ Amperes | DCR ⁽⁴⁾ Ohms max. |
|-------------|----------------------------------|--|---|---|------------------------------|
| UP2B-221-R | 220.0 | 223 | 0.773 | 0.637 | 0.6717 |
| UP2B-331-R | 330.0 | 338 | 0.676 | 0.510 | 0.8783 |
| UP2B-471-R | 470.0 | 471 | 0.553 | 0.427 | 1.31 |
| UP2B-681-R | 680.0 | 700 | 0.452 | 0.355 | 1.97 |
| UP2B-821-R | 820.0 | 823 | 0.423 | 0.334 | 2.24 |
| UP2B-102-R | 1000.0 | 1005 | 0.369 | 0.300 | 2.96 |
| UP3B-R47-R | 0.47 | 0.452 | 16.0 | 25.1 | 0.0021 |
| UP3B-1R0-R | 1.0 | 1.34 | 12.5 | 15.3 | 0.0034 |
| UP3B-1R5-R | 1.5 | 2.08 | 10.0 | 12.0 | 0.0053 |
| UP3B-2R2-R | 2.2 | 3.01 | 9.2 | 10.2 | 0.0074 |
| UP3B-3R3-R | 3.3 | 3.96 | 8.0 | 9.3 | 0.0083 |
| UP3B-4R7-R | 4.7 | 5.00 | 6.5 | 7.7 | 0.0114 |
| UP3B-6R8-R | 6.8 | 7.70 | 5.8 | 6.2 | 0.0183 |
| UP3B-100-R | 10.0 | 11.00 | 4.3 | 5.2 | 0.0260 |
| UP3B-150-R | 15.0 | 16.38 | 3.9 | 4.3 | 0.0317 |
| UP3B-220-R | 22.0 | 23.93 | 3.1 | 3.7 | 0.0490 |
| UP3B-330-R | 33.0 | 33.85 | 2.4 | 3.0 | 0.0688 |
| UP3B-470-R | 47.0 | 51.00 | 1.9 | 2.4 | 0.1082 |
| UP3B-680-R | 68.0 | 69.50 | 1.6 | 2.0 | 0.1558 |
| UP3B-101-R | 100.0 | 101.40 | 1.4 | 1.8 | 0.2053 |
| UP3B-151-R | 150.0 | 152.9 | 1.2 | 1.4 | 0.2960 |
| UP3B-331-R | 330.0 | 332.80 | 0.75 | 0.98 | 0.7330 |
| UP4B-R47-R | 0.47 | 0.473 | 19.2 | 51.7 | 0.0019 |
| UP4B-1R0-R | 1.0 | 0.916 | 17.3 | 37.3 | 0.0023 |
| UP4B-1R5-R | 1.5 | 1.52 | 13.4 | 28.9 | 0.0039 |
| UP4B-2R2-R | 2.2 | 2.27 | 12.0 | 23.7 | 0.0048 |
| UP4B-3R3-R | 3.3 | 3.14 | 11.0 | 20.2 | 0.0057 |
| UP4B-4R7-R | 4.7 | 5.34 | 8.6 | 15.6 | 0.0093 |
| UP4B-6R8-R | 6.8 | 6.66 | 8.3 | 14.1 | 0.0100 |
| UP4B-100-R | 10.0 | 9.77 | 6.8 | 11.5 | 0.0150 |
| UP4B-150-R | 15.0 | 15.61 | 5.5 | 9.1 | 0.0230 |
| UP4B-220-R | 22.0 | 22.61 | 4.5 | 7.6 | 0.0340 |
| UP4B-330-R | 33.0 | 34.30 | 3.7 | 6.1 | 0.0520 |
| UP4B-470-R | 47.0 | 48.10 | 3.1 | 5.2 | 0.0740 |
| UP4B-680-R | 68.0 | 69.14 | 2.4 | 4.3 | 0.1200 |
| UP4B-101-R | 100.0 | 99.42 | 2.0 | 3.6 | 0.1700 |
| UP4B-151-R | 150.0 | 146.90 | 1.7 | 3.0 | 0.2392 |
| UP4B-221-R | 220.0 | 221.40 | 1.4 | 2.4 | 0.3571 |
| UP4B-331-R | 330.0 | 330.00 | 1.1 | 2.0 | 0.5800 |
| UP4B-471-R | 470.0 | 470.10 | 0.91 | 1.7 | 0.8330 |

Notes: (1) Open Circuit Inductance Test Parameters: 100KHz, .250Vrms, 0.0Aac.
(2) RMS current for an approximate ΔT of 40°C. at an ambient temperature of 85°C.

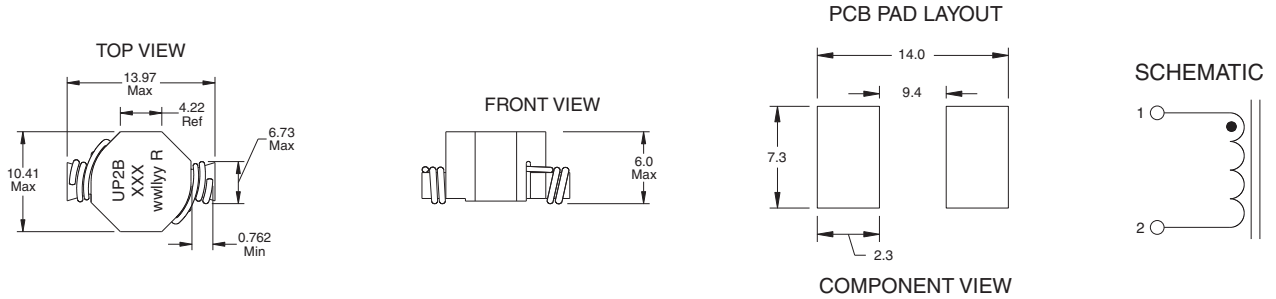
(3) Peak current for approximately 30% rolloff UP1B, 3B, 4B. 10% rolloff UP2B @ 20°C
(4) DCR limits 20°C.

Mechanical Diagrams

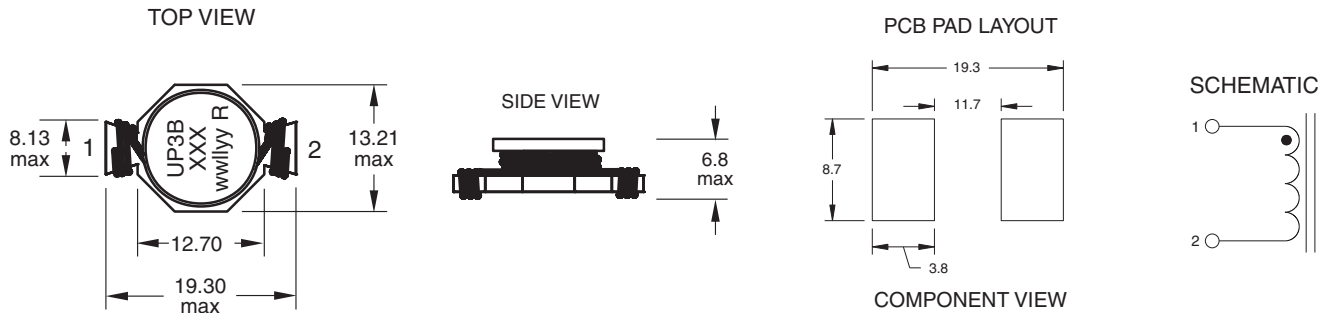
UP1B Series



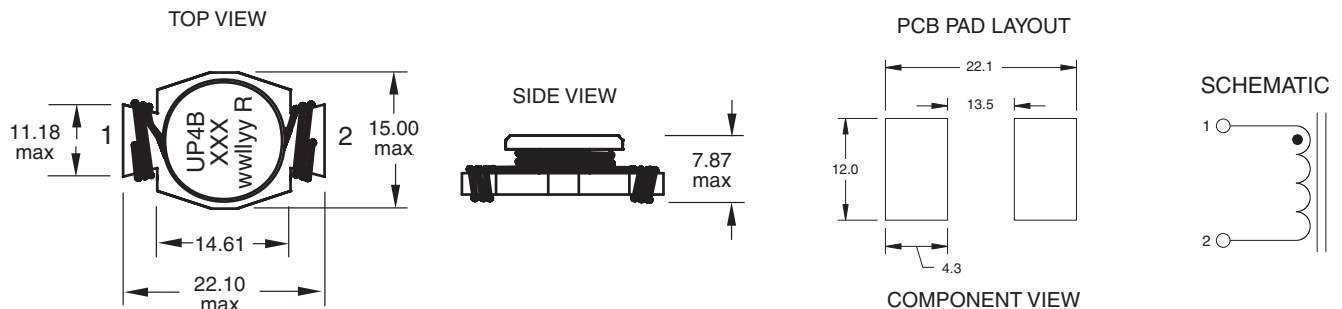
UP2B Series



UP3B Series



UP4B Series

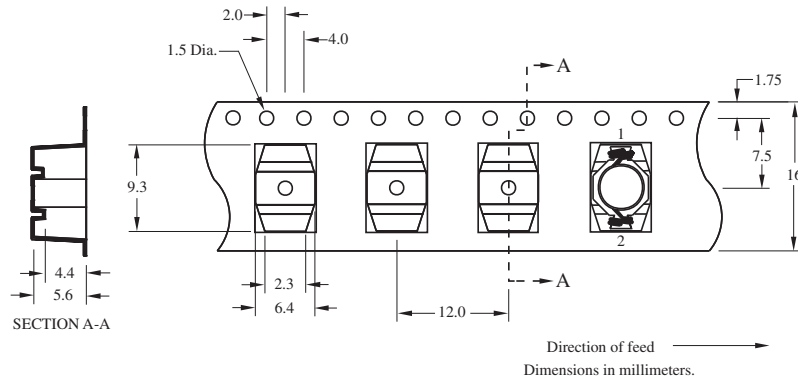


Dimensions in Millimeters.

wwllyy = (date code) R = revision level
 xxx = Inductance value per family chart

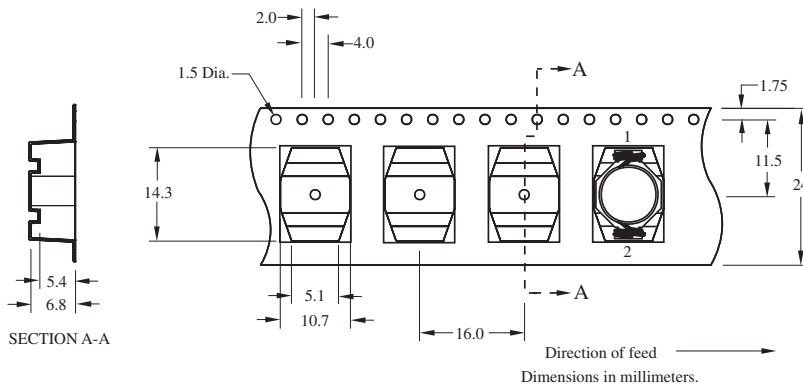
Packaging Information

UP1B Series



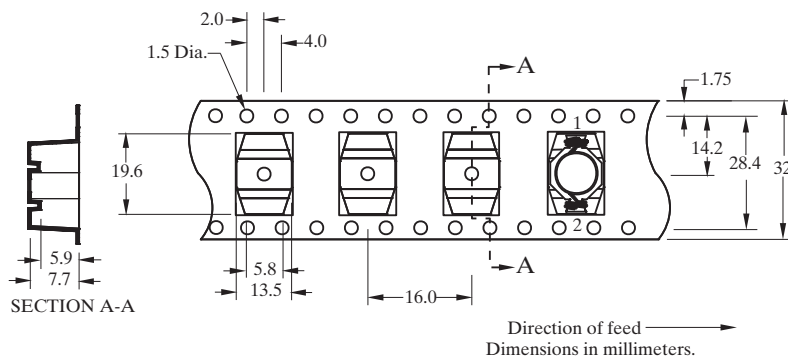
Parts packaged on 13" Diameter reel,
900 parts per reel.

UP2B Series



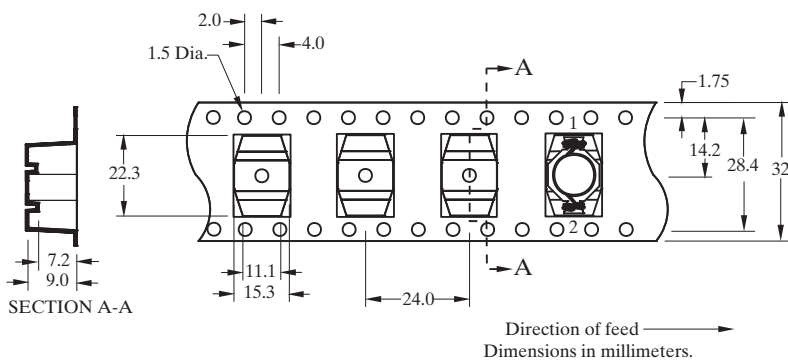
Parts packaged on 13" Diameter reel,
550 parts per reel.

UP3B Series



Parts packaged on 13" Diameter reel,
450 parts per reel.

UP4B Series

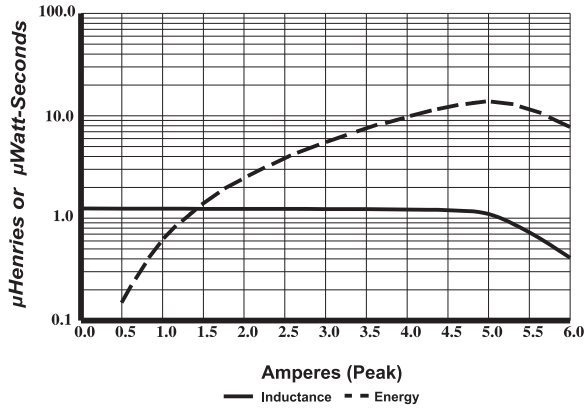


Parts packaged on 13" Diameter reel,
275 parts per reel.

Inductance Characteristics

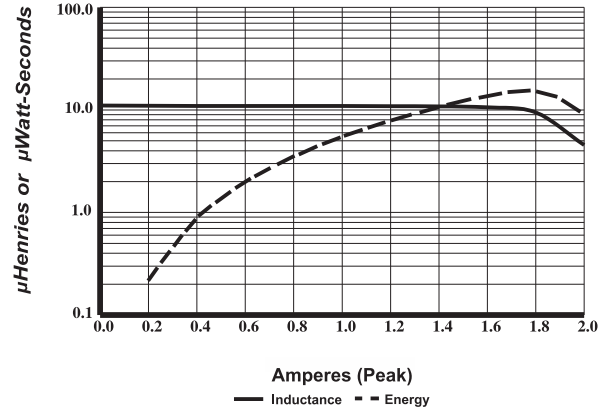
UP1B-1R0

Typical Inductance & Energy vs Saturation Current



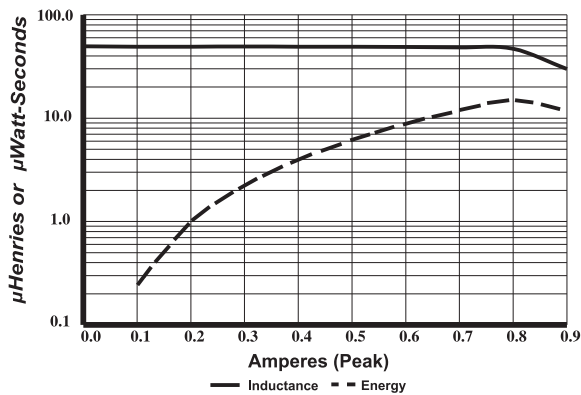
UP1B-100

Typical Inductance & Energy vs Saturation Current



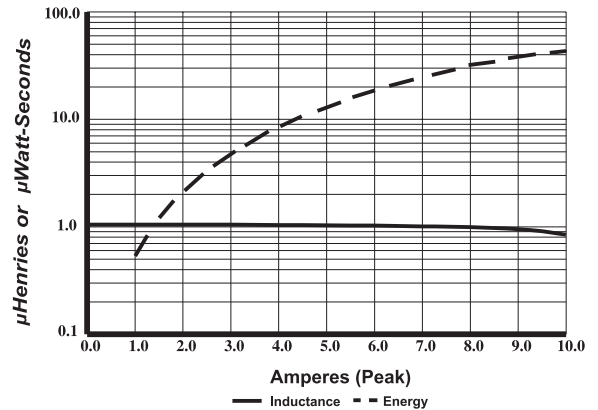
UP1B-470

Typical Inductance & Energy vs Saturation Current



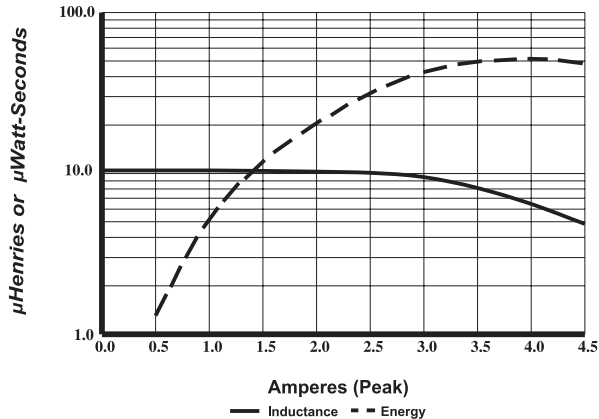
UP2B-1R0

Typical Inductance & Energy vs Saturation Current



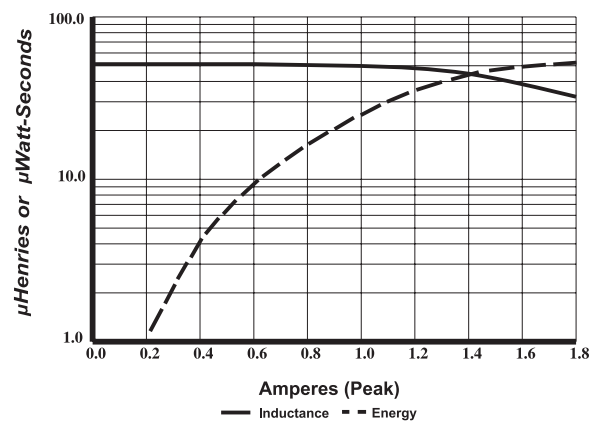
UP2B-100

Typical Inductance & Energy vs Saturation Current



UP2B-470

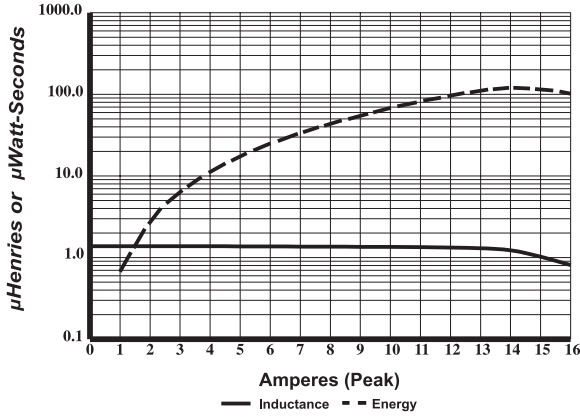
Typical Inductance & Energy vs Saturation Current



Inductance Characteristics

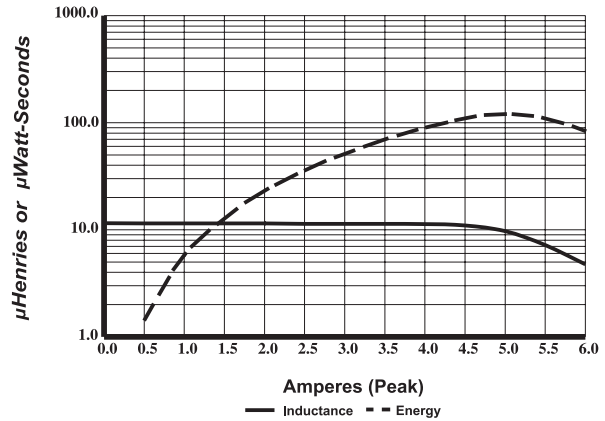
UP3B-1R0

Typical Inductance & Energy vs Saturation Current



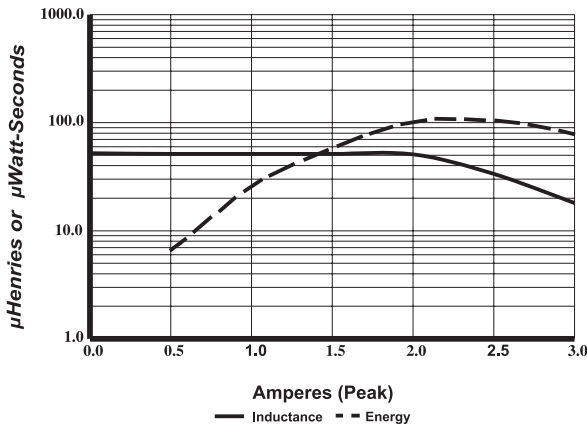
UP3B-100

Typical Inductance & Energy vs Saturation Current



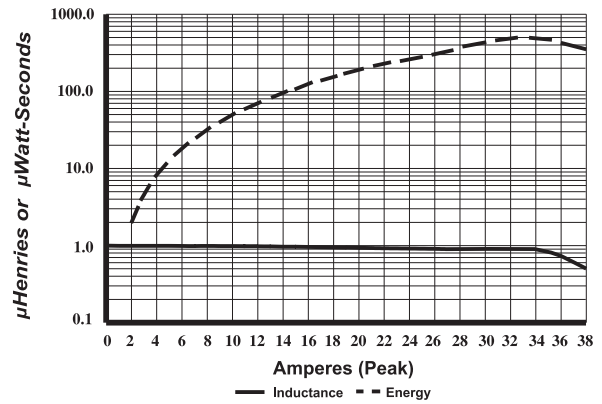
UP3B-470

Typical Inductance & Energy vs Saturation Current



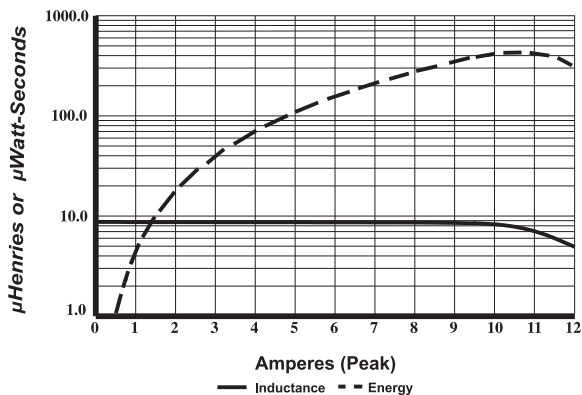
UP4B-1R0

Typical Inductance & Energy vs Saturation Current



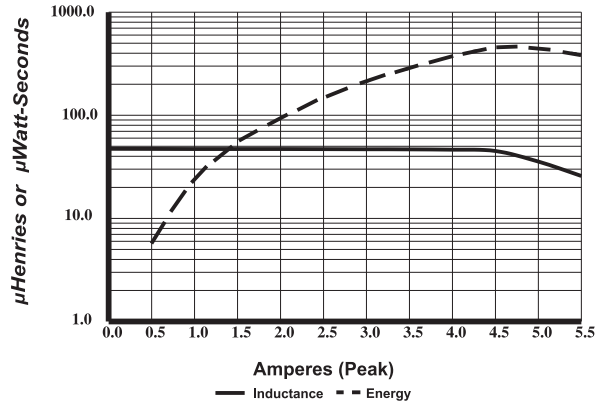
UP4B-100

Typical Inductance & Energy vs Saturation Current



UP4B-470

Typical Inductance & Energy vs Saturation Current



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