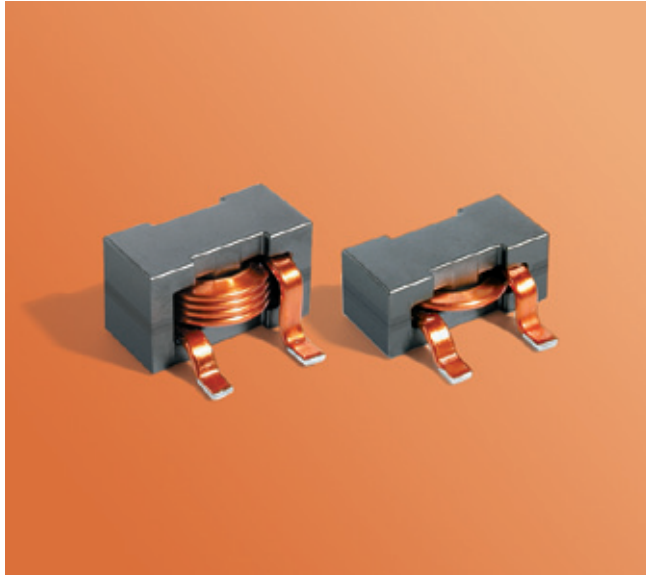


High Reliability Power Inductors MS63xPTA MS64xPTA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Tin-lead (Sn-Pb) termination for the best possible board adhesion
- Designed for high current power supply applications
- Flat wire windings provide exceptionally low DCR
- Isat ratings as high as 100 A

Core material Ferrite

Terminations Tin-lead over copper.

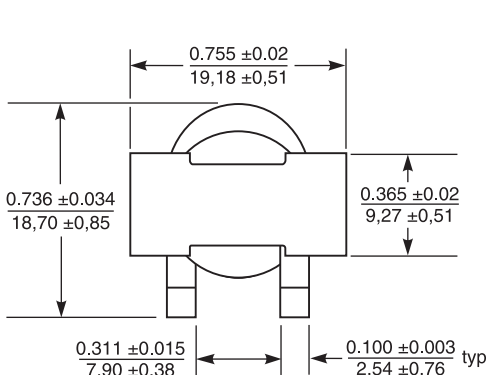
Ambient temperature -55°C to +105°C with Irms current, +105°C to +155°C with derated current

Storage temperature Component: -55°C to +155°C.
Tape and reel packaging: -55°C to +80°C

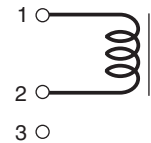
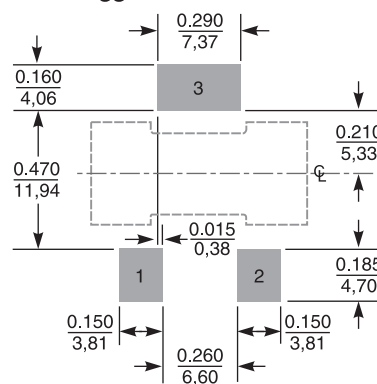
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

PCB washing Only pure water or alcohol recommended

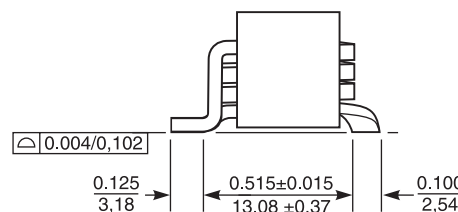
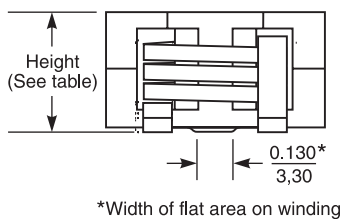


Suggested Land Pattern



Caution:

Terminal 3 is provided for mounting stability only. This terminal is connected to the winding of the inductor and must not be connected to ground or any circuitry.



| | Maximum height | Weight |
|--------|----------------|---------------|
| 630PTA | 0.34 / 8,64 | 6.65 – 6.89 g |
| 632PTA | 0.37 / 9,40 | 7.46 – 7.90 g |
| 637PTA | 0.42 / 10,67 | 8.63 – 9.08 g |
| 641PTA | 0.47 / 11,94 | 9.92 – 10.3 g |
| 645PTA | 0.51 / 12,95 | 10.8 – 11.4 g |
| 648PTA | 0.55 / 13,97 | 11.7 – 12.4 g |

Dimensions are in inches/mm

Enhanced crush-resistant packaging

- MS630PTA 200 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 9.25 pocket depth
- MS632PTA 200 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 10.5 pocket depth
- MS637PTA 170 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 11.6 pocket depth
- MS641PTA 150 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 13.0 pocket depth
- MS645PTA 150 per 13" reel; Plastic tape: 44 mm wide, 0.5 mm thick, 4 mm pocket spacing, 14.0 pocket depth
- MS648PTA 125 per 13" reel; Plastic tape: 44 mm wide, 0.5 mm thick, 4 mm pocket spacing, 15.0 pocket depth



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MS63xPTA, MS64xPTA Series

| Part number ¹ | L ±20% ² (μH) | DCR (mΩ) ³ | | SRF (MHz) ⁴ | | Isat ⁵ (A) | Irms (A) ⁶ | | Height (mm) |
|--------------------------|--------------------------------|--------------------------|-------|---------------------------|-----|--------------------------|-----------------------|--------------|----------------|
| | | max | typ | min | typ | | 20°C rise | 40°C rise | |
| MS630PTA301MSZ | 0.30 | 0.740 | 0.630 | 385 | 550 | 100 | 41 | 54 | 8,64 |
| MS632PTA301MSZ | 0.30 | 1.00 | 0.900 | 127 | 182 | 100 | 36 | 45 | 9,40 |
| MS630PTA501MSZ | 0.50 | 0.740 | 0.630 | 380 | 544 | 60 | 41 | 54 | 8,64 |
| MS632PTA501MSZ | 0.50 | 1.00 | 0.900 | 104 | 148 | 81 | 36 | 45 | 9,40 |
| MS637PTA501MSZ | 0.50 | 1.34 | 1.20 | 113 | 161 | 100 | 30 | 40 | 10,67 |
| MS630PTA601MSZ | 0.60 | 0.740 | 0.630 | 454 | 648 | 49 | 41 | 54 | 8,64 |
| MS632PTA601MSZ | 0.60 | 1.00 | 0.900 | 80 | 115 | 70 | 36 | 45 | 9,40 |
| MS637PTA601MSZ | 0.60 | 1.34 | 1.20 | 87 | 124 | 90 | 30 | 40 | 10,67 |
| MS641PTA601MSZ | 0.60 | 1.60 | 1.44 | 80 | 115 | 97 | 25 | 35 | 11,94 |
| MS630PTA681MSZ | 0.68 | 0.740 | 0.630 | 318 | 454 | 45 | 41 | 54 | 8,64 |
| MS632PTA681MSZ | 0.68 | 1.00 | 0.900 | 95 | 136 | 62 | 36 | 45 | 9,40 |
| MS637PTA681MSZ | 0.68 | 1.34 | 1.20 | 95 | 135 | 78 | 30 | 40 | 10,67 |
| MS641PTA681MSZ | 0.68 | 1.60 | 1.44 | 72 | 103 | 85 | 25 | 35 | 11,94 |
| MS645PTA681MSZ | 0.68 | 1.82 | 1.70 | 73 | 104 | 98 | 23 | 30 | 12,95 |
| MS630PTA801MSZ | 0.80 | 0.740 | 0.630 | 397 | 567 | 38 | 41 | 54 | 8,64 |
| MS632PTA801MSZ | 0.80 | 1.00 | 0.900 | 64 | 92 | 53 | 36 | 45 | 9,40 |
| MS637PTA801MSZ | 0.80 | 1.34 | 1.20 | 79 | 113 | 70 | 30 | 40 | 10,67 |
| MS641PTA801MSZ | 0.80 | 1.60 | 1.44 | 64 | 91 | 75 | 25 | 35 | 11,94 |
| MS645PTA801MSZ | 0.80 | 1.82 | 1.70 | 65 | 93 | 85 | 23 | 30 | 12,95 |
| MS648PTA801MSZ | 0.80 | 2.15 | 1.94 | 73 | 104 | 98 | 21 | 27 | 13,97 |
| MS630PTA901MSZ | 0.90 | 0.740 | 0.630 | 390 | 557 | 33 | 41 | 54 | 8,64 |
| MS632PTA901MSZ | 0.90 | 1.00 | 0.900 | 67 | 96 | 48 | 36 | 45 | 9,40 |
| MS637PTA901MSZ | 0.90 | 1.34 | 1.20 | 73 | 104 | 62 | 30 | 40 | 10,67 |
| MS641PTA901MSZ | 0.90 | 1.60 | 1.44 | 60 | 85 | 69 | 25 | 35 | 11,94 |
| MS645PTA901MSZ | 0.90 | 1.82 | 1.70 | 69 | 98 | 73 | 23 | 30 | 12,95 |
| MS648PTA901MSZ | 0.90 | 2.15 | 1.94 | 71 | 102 | 87 | 21 | 27 | 13,97 |
| MS630PTA102MSZ | 1.0 | 0.740 | 0.630 | 342 | 488 | 29 | 41 | 54 | 8,64 |
| MS632PTA102MSZ | 1.0 | 1.00 | 0.900 | 57 | 81 | 42 | 36 | 45 | 9,40 |
| MS637PTA102MSZ | 1.0 | 1.34 | 1.20 | 68 | 97 | 56 | 30 | 40 | 10,67 |
| MS641PTA102MSZ | 1.0 | 1.60 | 1.44 | 53 | 75 | 64 | 25 | 35 | 11,94 |
| MS645PTA102MSZ | 1.0 | 1.82 | 1.70 | 69 | 98 | 68 | 23 | 30 | 12,95 |
| MS648PTA102MSZ | 1.0 | 2.15 | 1.94 | 62 | 88 | 70 | 21 | 27 | 13,97 |
| MS630PTA122MSZ | 1.2 | 0.740 | 0.630 | 57 | 81 | 28 | 41 | 54 | 8,64 |
| MS632PTA122MSZ | 1.2 | 1.00 | 0.900 | 48 | 69 | 37 | 36 | 45 | 9,40 |
| MS637PTA122MSZ | 1.2 | 1.34 | 1.20 | 57 | 81 | 49 | 30 | 40 | 10,67 |
| MS641PTA122MSZ | 1.2 | 1.60 | 1.44 | 51 | 73 | 54 | 25 | 35 | 11,94 |
| MS645PTA122MSZ | 1.2 | 1.82 | 1.70 | 57 | 82 | 58 | 23 | 30 | 12,95 |
| MS648PTA122MSZ | 1.2 | 2.15 | 1.94 | 55 | 78 | 63 | 21 | 27 | 13,97 |
| MS630PTA202MSZ | 2.0 | 0.740 | 0.630 | 28 | 40 | 16 | 41 | 54 | 8,64 |
| MS632PTA202MSZ | 2.0 | 1.00 | 0.900 | 34 | 48 | 27 | 36 | 45 | 9,40 |
| MS637PTA202MSZ | 2.0 | 1.34 | 1.20 | 39 | 56 | 37 | 30 | 40 | 10,67 |
| MS641PTA202MSZ | 2.0 | 1.60 | 1.44 | 36 | 51 | 35 | 25 | 35 | 11,94 |
| MS645PTA202MSZ | 2.0 | 1.82 | 1.70 | 43 | 61 | 40 | 23 | 30 | 12,95 |
| MS648PTA202MSZ | 2.0 | 2.15 | 1.94 | 43 | 62 | 45 | 21 | 27 | 13,97 |
| MS645PTA362MSZ | 3.6 | 1.82 | 1.70 | 27 | 38 | 25 | 23 | 30 | 12,95 |
| MS645PTA402MSZ | 4.0 | 1.82 | 1.70 | 25 | 35 | 20 | 23 | 30 | 12,95 |
| MS648PTA402MSZ | 4.0 | 2.15 | 1.94 | 25 | 36 | 25 | 21 | 27 | 13,97 |
| MS645PTA472MSZ | 4.7 | 1.82 | 1.70 | 21 | 30 | 18 | 23 | 30 | 12,95 |

1. When ordering, please specify testing code:

MS648PTA472MSZ

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10004

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. DCR measured on a Keithley 580 micro-ohmmeter.

4. SRF measured using an Agilent/HP 8753D network analyzer.

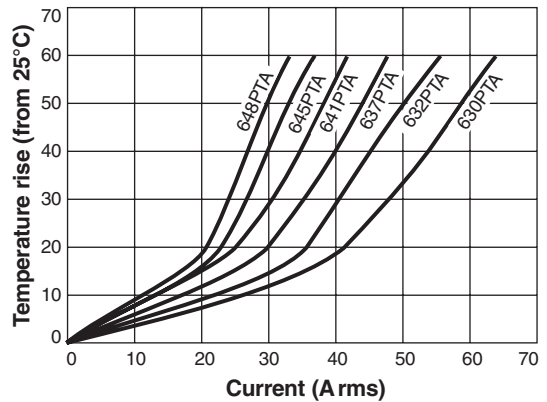
5. DC current at which the inductance drops 10% (typ) from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient. When Irms is greater than Isat, Isat is the more critical specification, and Irms is shown in gray type. See Temperature Rise vs Current curve below.

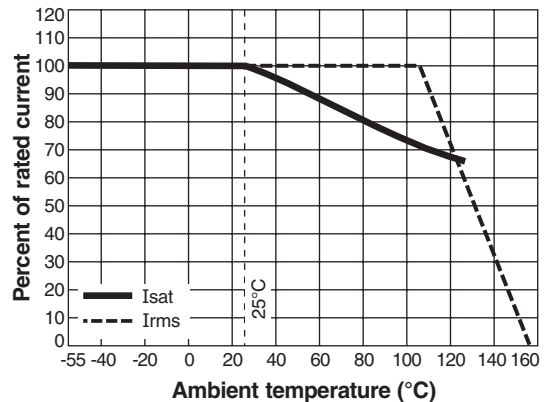
7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Temperature Rise vs Current



Current Derating



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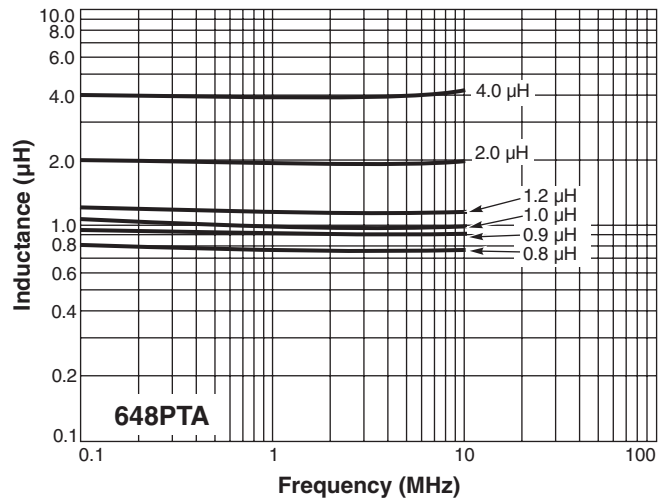
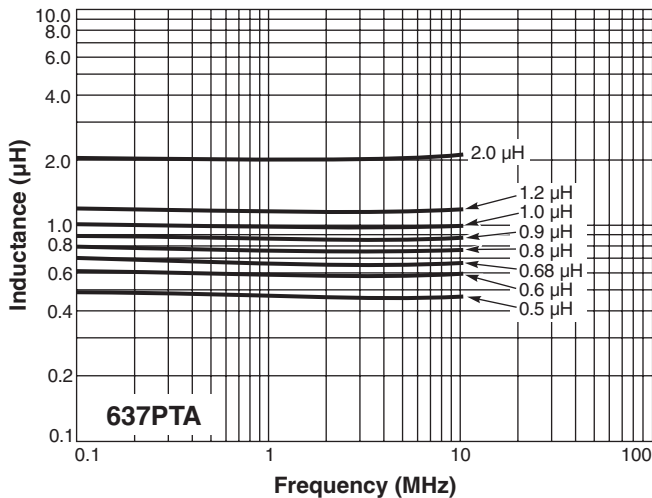
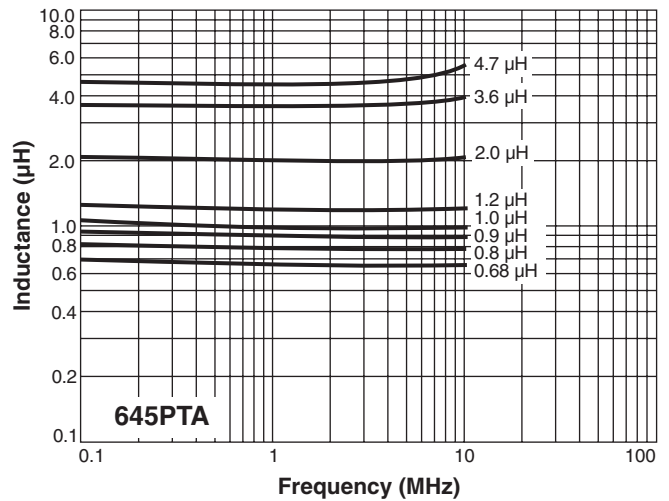
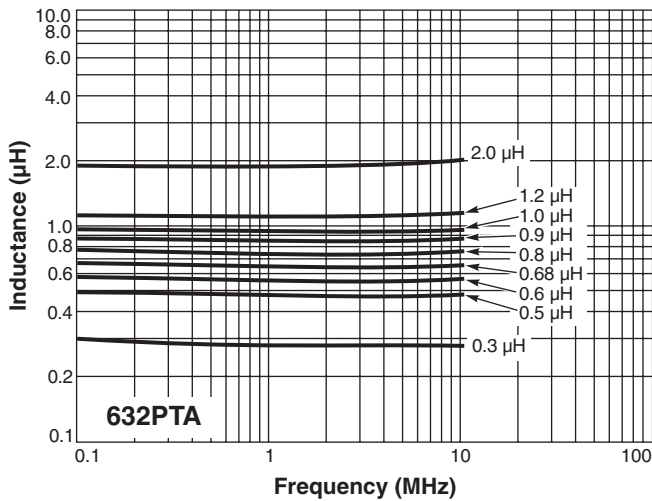
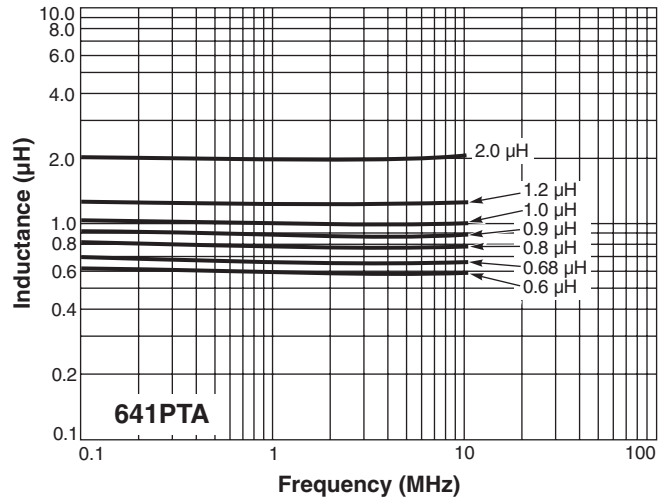
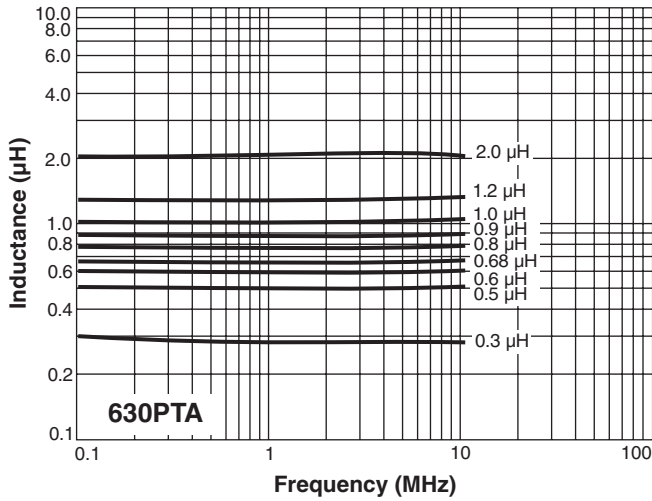
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L vs Frequency



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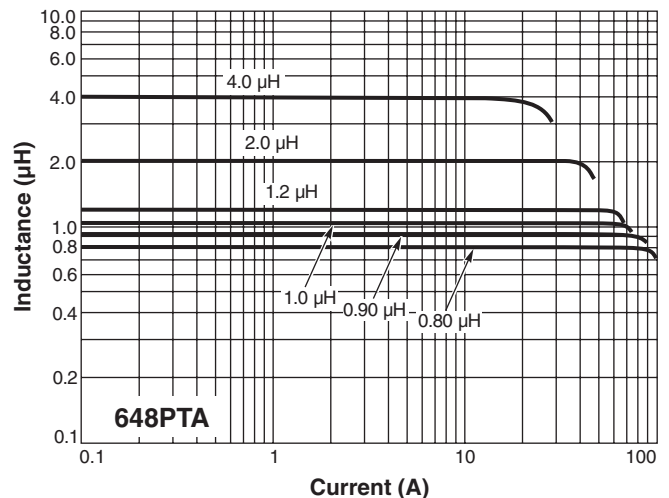
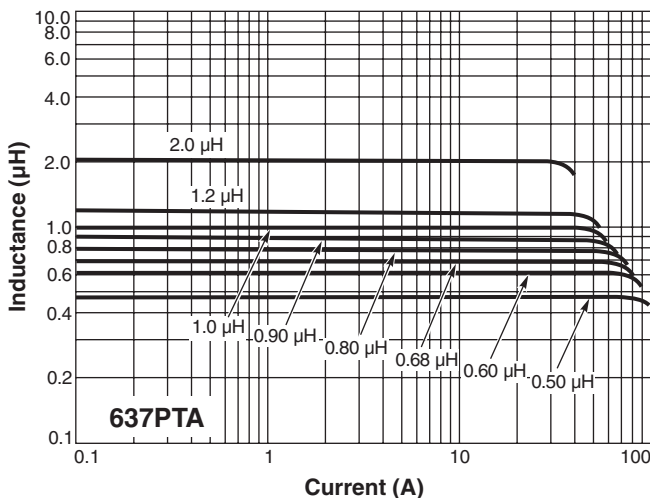
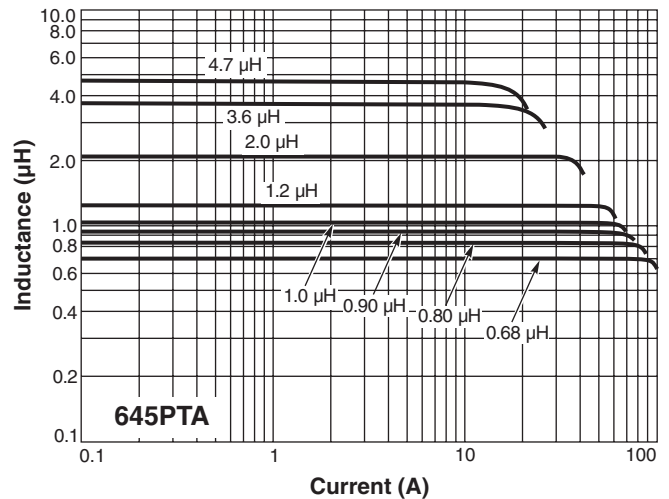
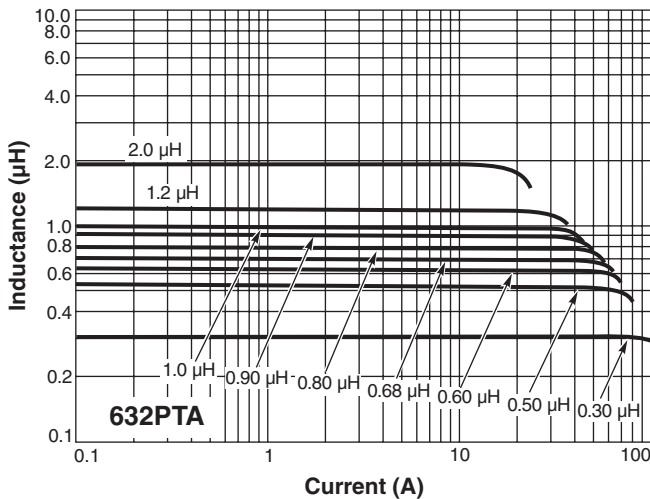
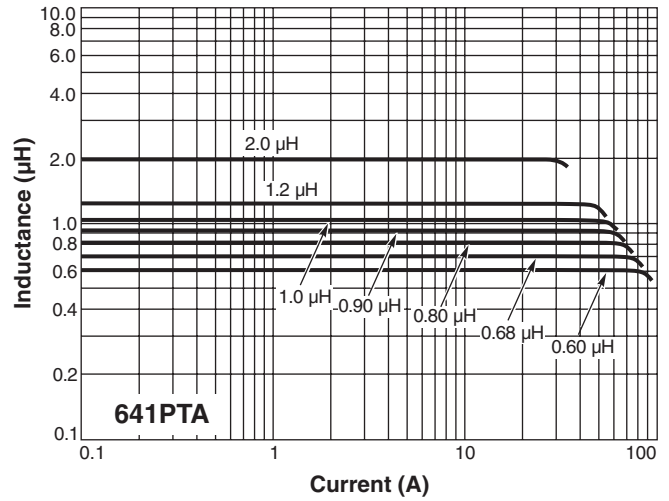
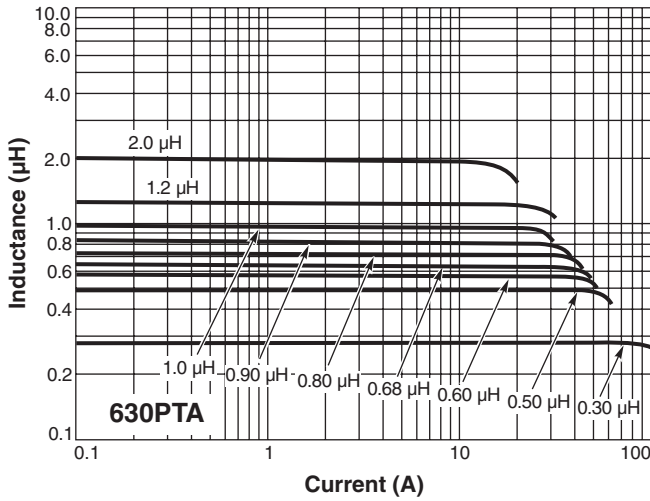
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L vs Current



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