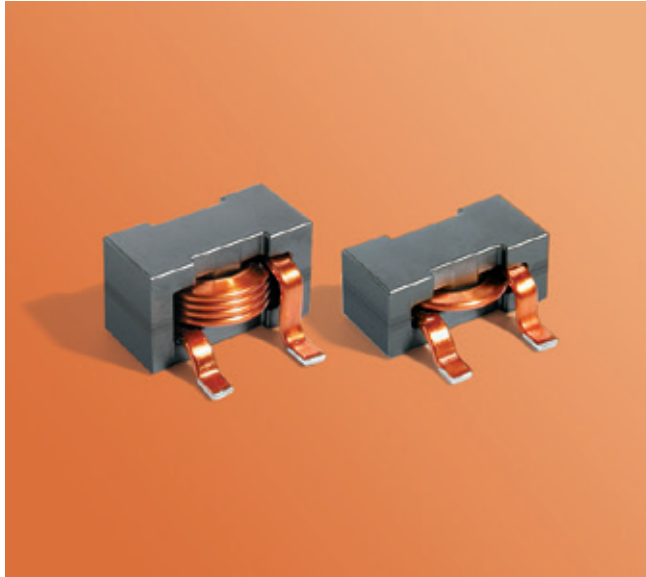


# High Reliability Power Inductors MS63xPTA MS64xPTA



- 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

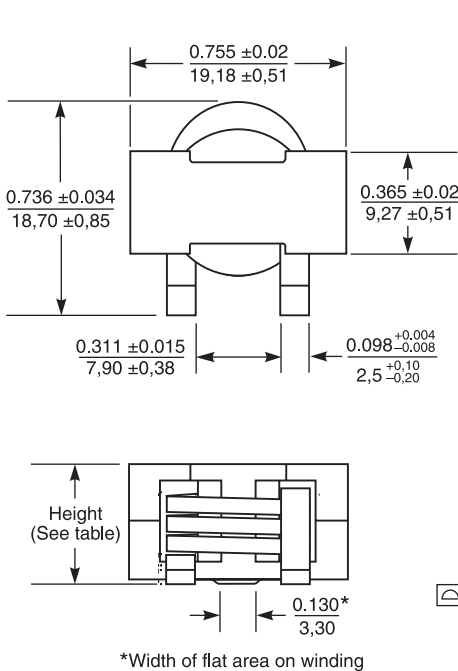
**Maximum part temperature** +155°C (ambient + temp rise).

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

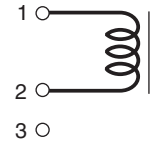
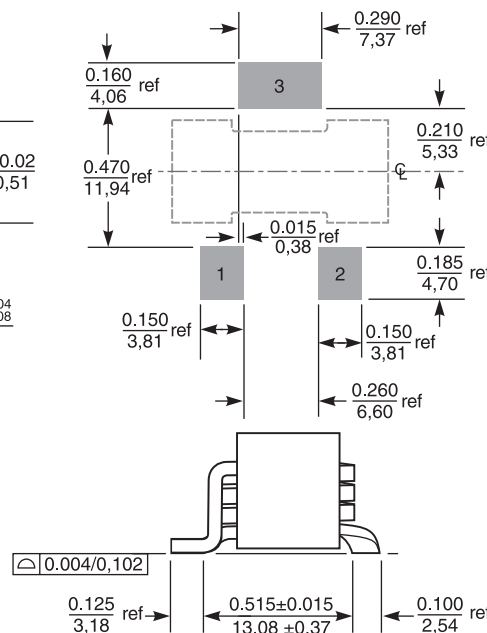
**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**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	6.40 – 6.89 g
632PTA	0.37 / 9,40	7.10 – 8.30 g
637PTA	0.42 / 10,67	8.10 – 9.70 g
641PTA	0.47 / 11,94	9.10 – 10.8 g
645PTA	0.51 / 12,95	9.50 – 12.3 g
648PTA	0.55 / 13,97	10.00 – 13.3 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 <sup>1</sup>	L ±20% <sup>2</sup> (µH)	DCR (mOhms) <sup>3</sup>		SRF (MHz) <sup>4</sup>		Isat <sup>5</sup> (A)	Irms (A) <sup>6</sup>		Height (mm)
		max	typ	min	typ		20°C rise	40°C rise	
MS630PTA301MSZ	0.30	0.740	0.630	127	205	100	41	54	8,64
MS632PTA301MSZ	0.30	1.00	0.900	101	151	100	36	45	9,40
MS630PTA501MSZ	0.50	0.740	0.630	80	116	60	41	54	8,64
MS632PTA501MSZ	0.50	1.00	0.900	73	102	81	36	45	9,40
MS637PTA501MSZ	0.50	1.34	1.20	88	117	100	30	40	10,67
MS630PTA601MSZ	0.60	0.740	0.630	80	116	49	41	54	8,64
MS632PTA601MSZ	0.60	1.00	0.900	67	95	70	36	45	9,40
MS637PTA601MSZ	0.60	1.34	1.20	83	107	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	67	97	45	41	54	8,64
MS632PTA681MSZ	0.68	1.00	0.900	64	90	62	36	45	9,40
MS637PTA681MSZ	0.68	1.34	1.20	75	97	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	57	82	38	41	54	8,64
MS632PTA801MSZ	0.80	1.00	0.900	64	90	53	36	45	9,40
MS637PTA801MSZ	0.80	1.34	1.20	68	88	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	69	94	85	23	30	12,95
MS648PTA801MSZ	0.80	2.15	1.94	68	90	98	21	27	13,97
MS630PTA901MSZ	0.90	0.740	0.630	52	77	33	41	54	8,64
MS632PTA901MSZ	0.90	1.00	0.900	53	74	48	36	45	9,40
MS637PTA901MSZ	0.90	1.34	1.20	62	82	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	67	87	73	23	30	12,95
MS648PTA901MSZ	0.90	2.15	1.94	64	86	87	21	27	13,97
MS630PTA102MSZ	1.0	0.740	0.630	44	64	29	41	54	8,64
MS632PTA102MSZ	1.0	1.00	0.900	52	72	42	36	45	9,40
MS637PTA102MSZ	1.0	1.34	1.20	54	69	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	62	82	68	23	30	12,95
MS648PTA102MSZ	1.0	2.15	1.94	53	78	70	21	27	13,97
MS630PTA122MSZ	1.2	0.740	0.630	37	51	28	41	54	8,64
MS632PTA122MSZ	1.2	1.00	0.900	46	62	37	36	45	9,40
MS637PTA122MSZ	1.2	1.34	1.20	52	67	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	52	71	63	21	27	13,97
MS630PTA202MSZ	2.0	0.740	0.630	21	31	16	41	54	8,64
MS632PTA202MSZ	2.0	1.00	0.900	32	44	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	41	53	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

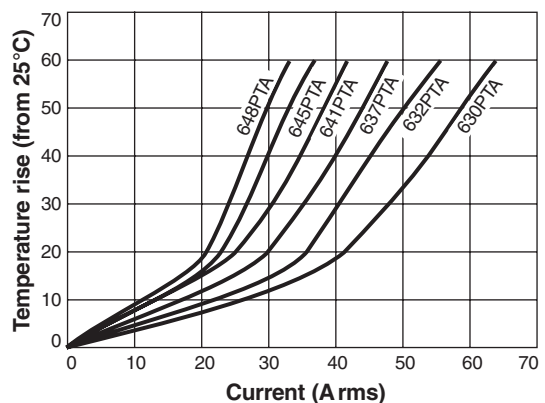
1. When ordering, please specify screening code:

**MS648PTA472MSZ**

- Screening:** Z = Unscreened  
 Y = Unscreened (SLDC Option A)  
 W = Unscreened (SLDC Option B)  
 H = Coilcraft CP-SA-10001 Group A  
 G = Coilcraft CP-SA-10001 Group A (SLDC Option A)  
 D = Coilcraft CP-SA-10001 Group A (SLDC Option B)
- 1 = EEE-INST-002 (Family 1) Level 1  
 2 = EEE-INST-002 (Family 1) Level 2  
 3 = EEE-INST-002 (Family 1) Level 3  
 4 = MIL-STD-981 (Family 04) Class B  
 5 = MIL-STD-981 (Family 04) Class S  
 F = ESCC3201 (F4 operational life performed at 105°C)
- Screening performed to the document's latest revision.
  - Lot qualification (Group B) available.
  - Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
  - Country of origin restrictions available; prefix options G or F.

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 E5061 network analyzer and impedance option using fixture CCF1592 with mask 297A1751 and shim 297A1765.  
 5. DC current at 25°C that causes a 10% (typ) inductance drop 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. This information is for reference only and does not represent absolute maximum ratings.  
 7. Electrical specifications at 25°C.  
 Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

## Temperature Rise vs Current



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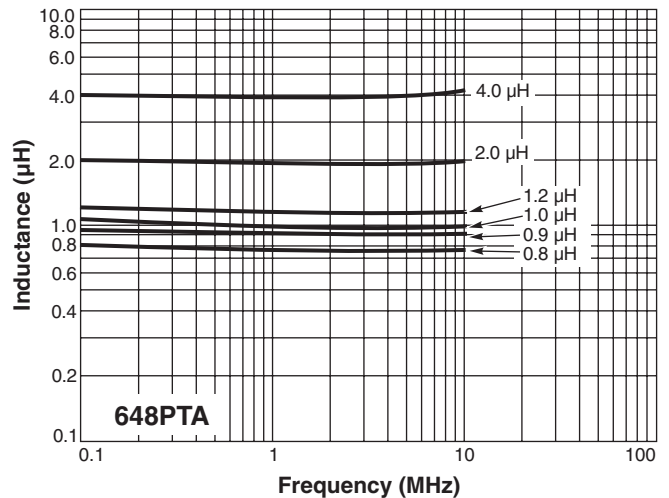
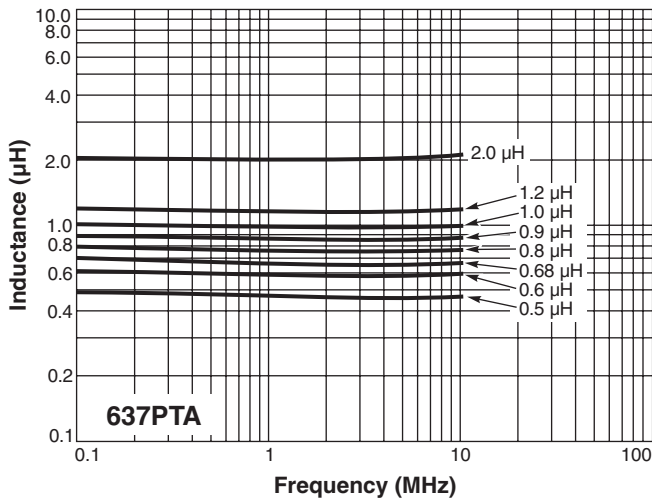
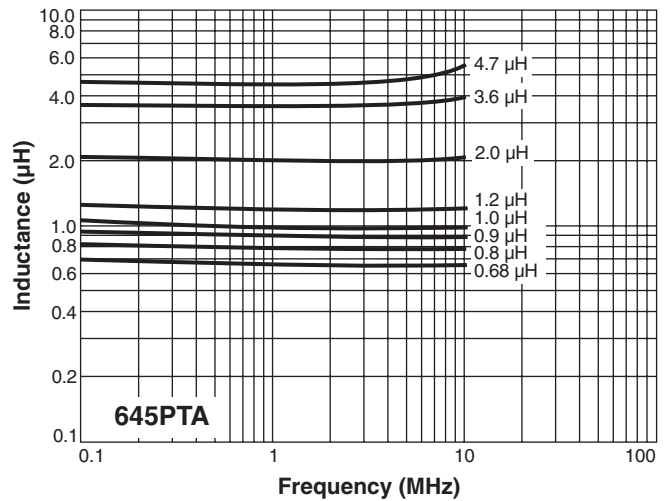
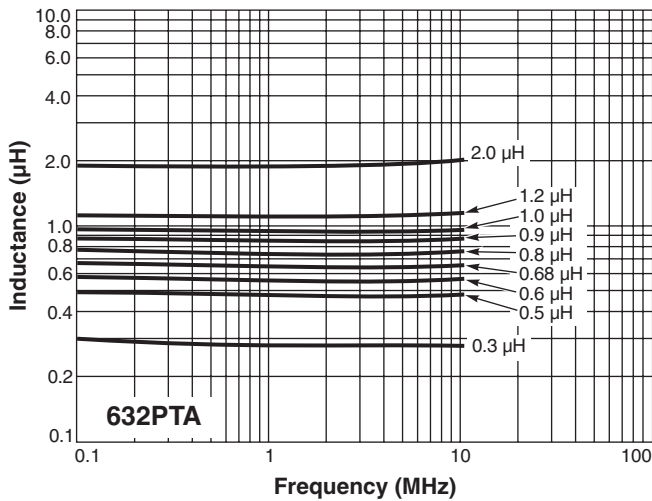
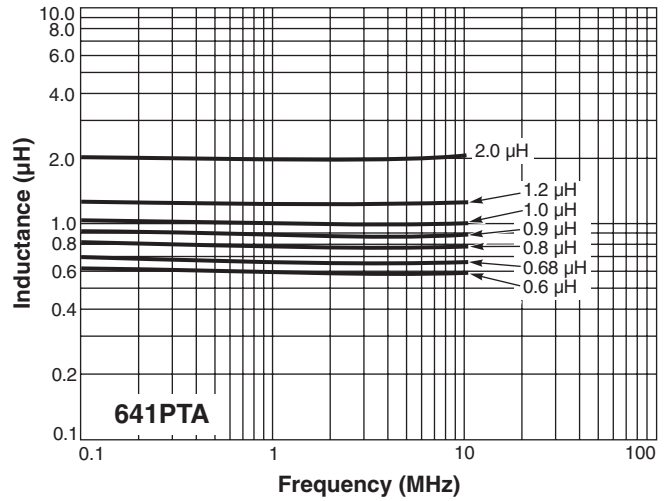
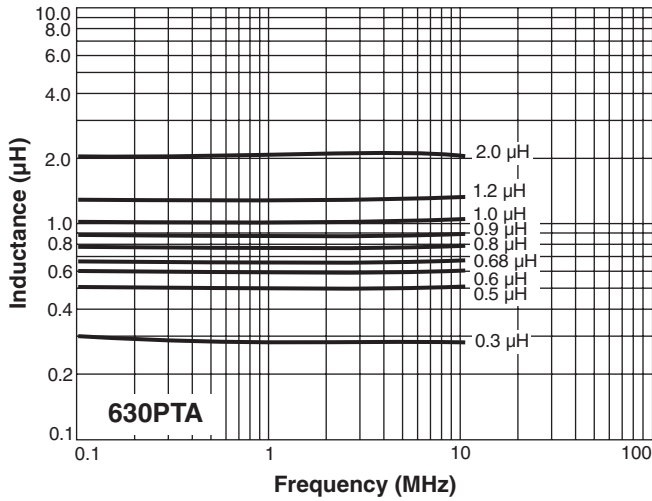
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## L vs Frequency



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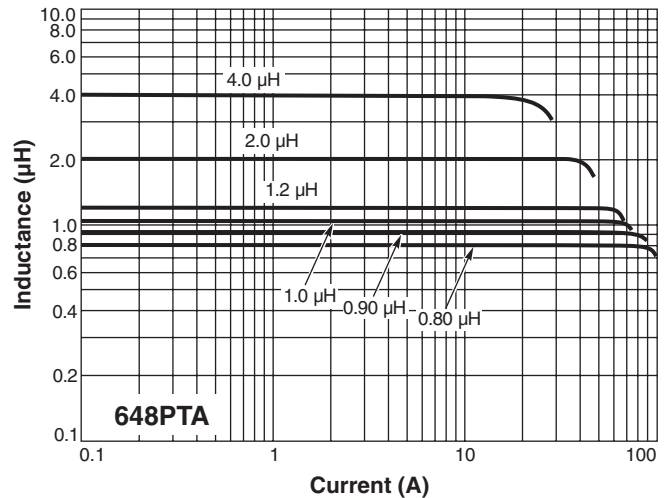
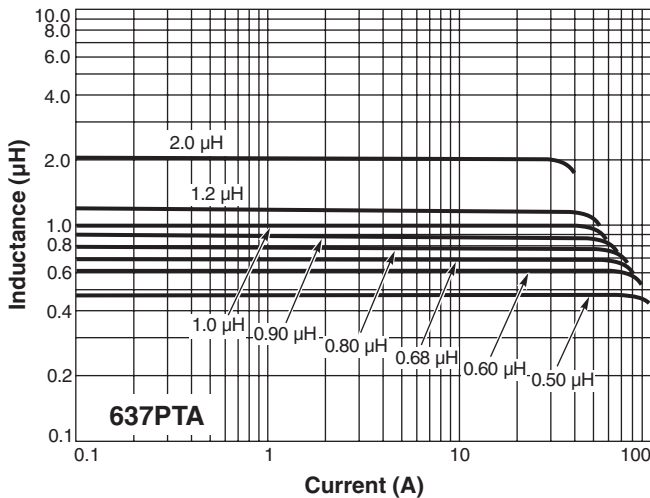
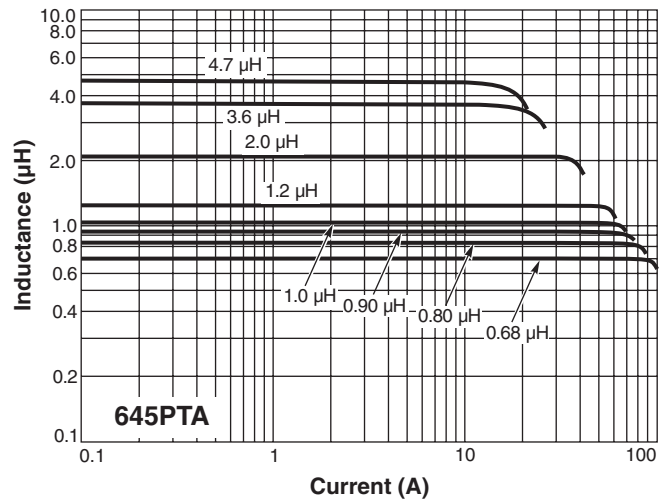
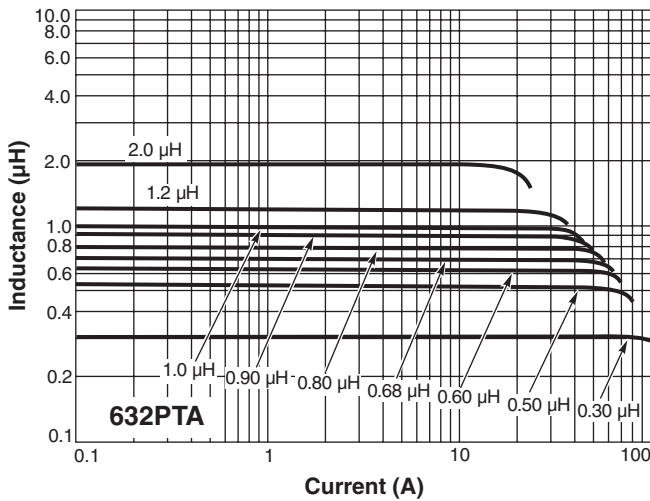
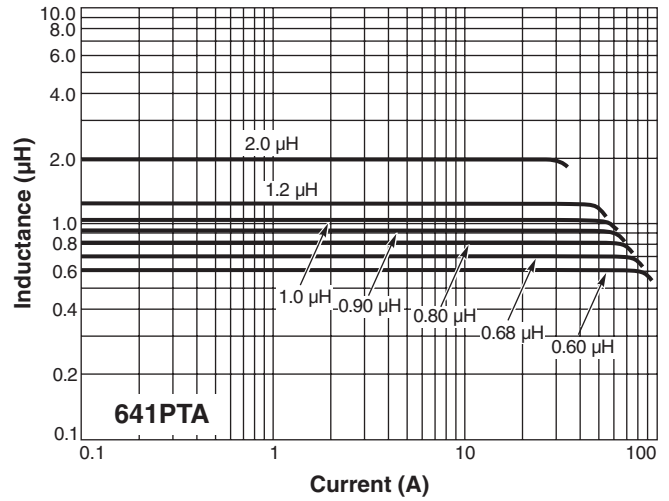
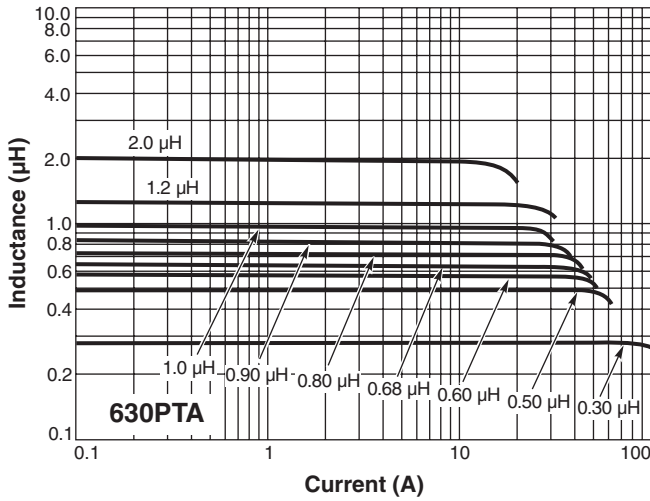
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# MS63xPTA, MS64xPTA Series

## L vs Current



CRITICAL PRODUCTS & SERVICES

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