

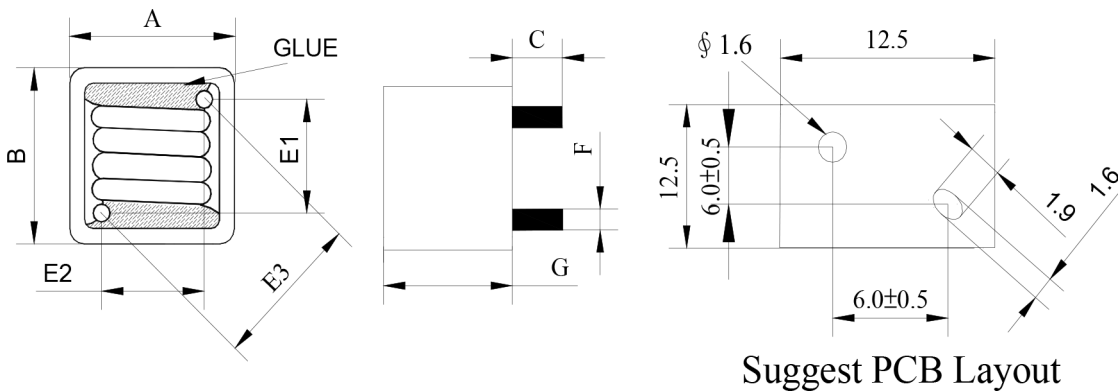
# Unshielded Power Inductors - Radial Leaded

**multicomp** PRO

RoHS  
Compliant



## Mechanical Dimensions



Suggest PCB Layout

Part Number	A	B	C	E1	E2	E3	F	G
MP005780	12 (Max.)		9 (Max.)	6 ±0.5		8.5 ±0.5	Ø1.3 ±0.1	3.5 ±0.5
MP005781	11.5 ±0.3		8.5 ±0.5	5.4 ±0.5	6.6 ±0.5		Ø1.1 ±0.1	
MP005782	12 (Max.)	12 (Max.)	9 (Max.)	6.7 ±0.5	5.8 ±0.5	8.9 ±0.5	Ø0.9 ±0.1	
MP005783				5.7 ±0.5	6.3 ±0.5	8.5 ±0.5	Ø1.5 ±0.1	
MP005784	11.7 (Max.)		8.5 (Max.)	6.4 ±0.5			9 ±0.5	
MP005785				5.7 ±0.5	8.5 ±0.5		Ø1.5 ±0.1	

## Electrical Characteristics

Part Number	L ± Tol	DCR (mΩ)	Isat (A)	Irms (A)	Op. Temp
MP005780	1μH ±20%	1.45 ±8%	40	35	-20°C to 125°C.
MP005781	1.4μH ±15%	2.1 ±7%	50	43	-55°C to +130°C
MP005782	2.5μH ±20%	4.7 ±8%	25	15	-20°C to 125°C.
MP005783	470nH ±15%	0.8 ±8%	50	38	-40°C to 125°C.
MP005784	800nH ±20%	1.3 ±8%	45	31	-25°C to 125°C.
MP005785	470nH ±15%	0.8 ±8%	50	38	-55°C to +130°C

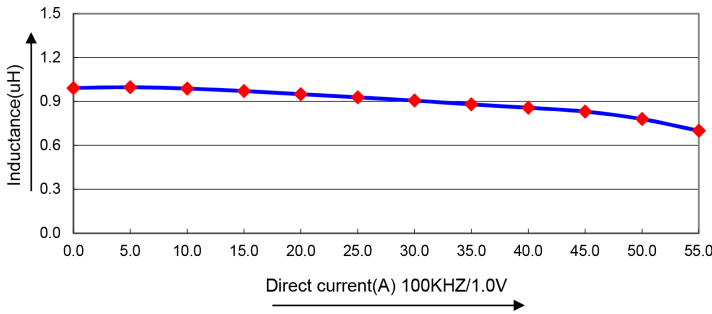
Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

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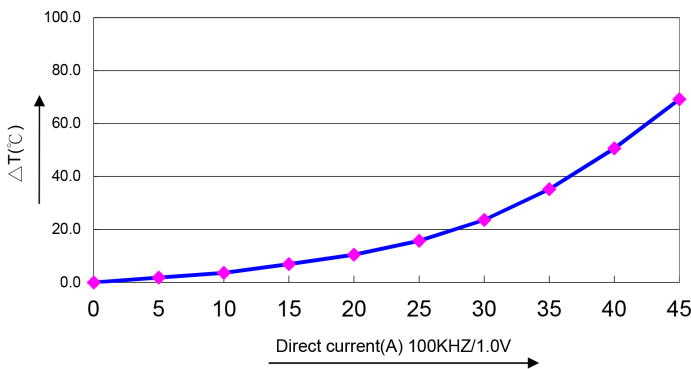
# Unshielded Power Inductors - Radial Leaded

## Test Curve

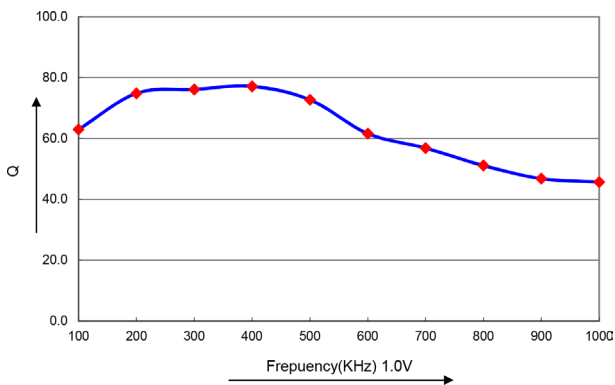
MP005780



Direct current(A)	0	5	10	15	20	25	30	35	40	45	50	55
Inductance(uH)	0.99	1	0.99	0.97	0.95	0.93	0.91	0.88	0.86	0.83	0.78	0.7



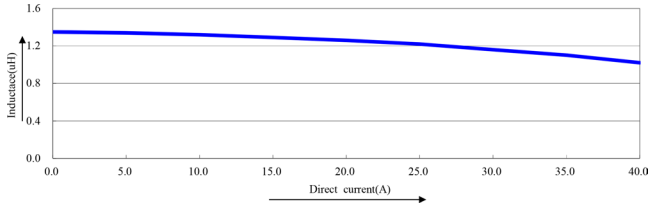
Direct current (A)	0	5	10	15	20	25	30	35	40	45
temperature (°C)	0	1.8	3.6	6.9	10.5	15.7	23.6	35.2	50.6	69.2



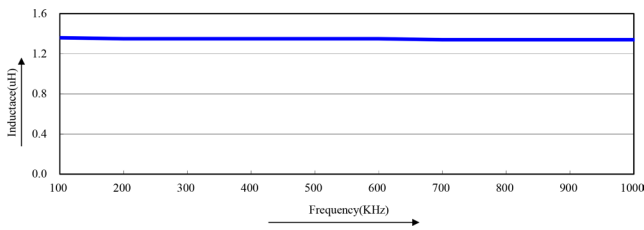
Frequency(KHz)	100	200	300	400	500	600	700	800	900	1000
Quality Factor	63	74.8	76.1	77.1	72.7	61.6	56.8	51.1	46.8	45.7

# Unshielded Power Inductors - Radial Leaded

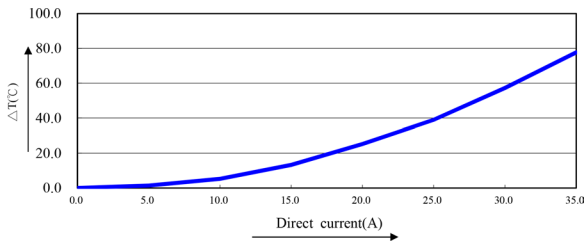
## MP005781



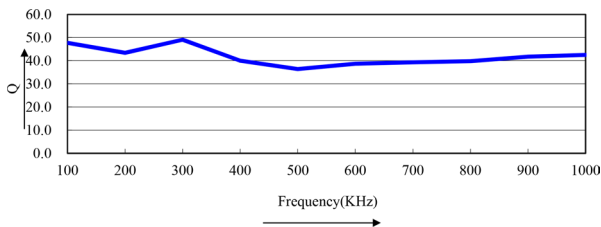
Direct current(A)	0	5	10	15	20	25	30	35	40
Inductance(uH)	1.35	1.34	1.32	1.29	1.26	1.22	1.16	1.1	1.02



Frequency(KHz)	100	200	300	400	500	600	700	800	900	1000
Inductance(uH)	1.36	1.35	1.35	1.35	1.35	1.35	1.34	1.34	1.34	1.34



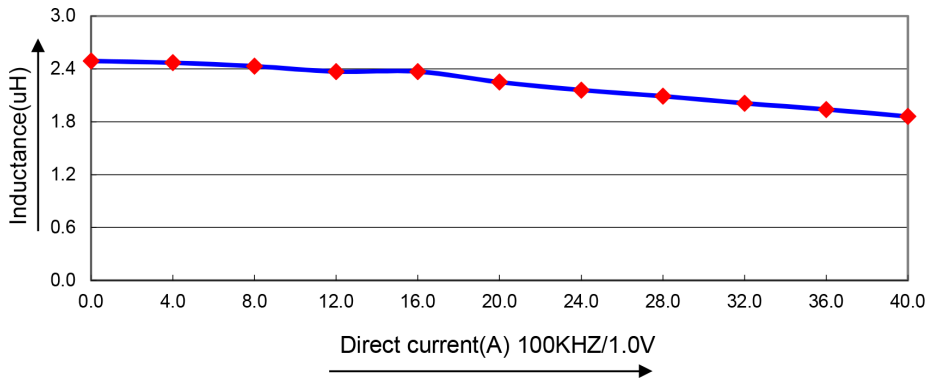
Direct current(A)	0	5	10	15	20	25	30	35
$\Delta T(^{\circ}C)$	0	1.4	5.3	13.3	25.2	39	57.3	77.7



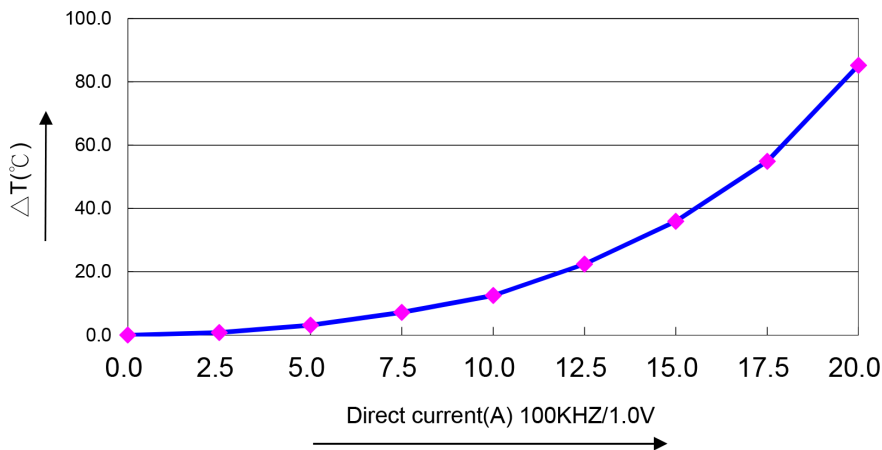
Frequency(KHz)	100	200	300	400	500	600	700	800	900	1000
Q	47.7	43.44	49.1	40.02	36.42	38.7	39.3	39.8	41.75	42.55

# Unshielded Power Inductors - Radial Leaded

MP005782



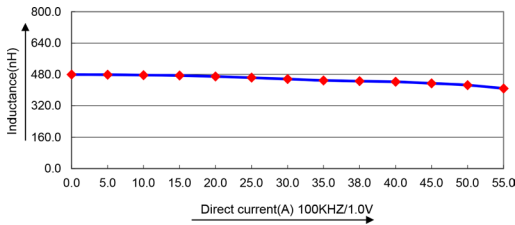
Direct current(A)	0	4	8	12	16	20	24	32	36	40
Inductance(uH)	2.49	2.47	2.43	2.37	2.37	2.25	2.16	2.01	1.94	1.86



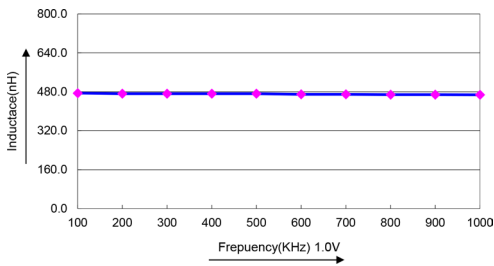
Direct current(A)	0	2.5	5	7.5	10	12.5	15	17.5	20
temperature(°C)	0	0.8	3.1	7.2	12.5	22.4	35.9	-	85.2

# Unshielded Power Inductors - Radial Leaded

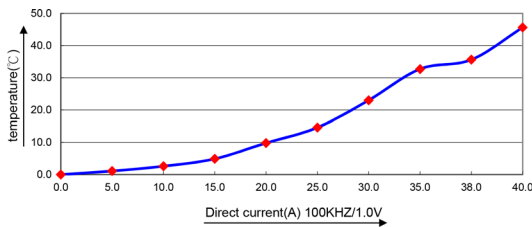
**MP005783**



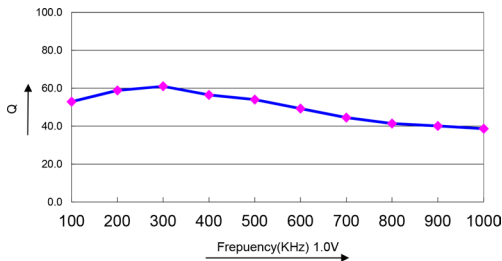
Direct current(A)	0	5	10	15	20	25	30	35	38	40	45	50	55
Inductance(nH)	479	478	476	474	469	463	456	449	445	442	434	425	408



Frequency(KHz)	100	200	300	400	500	600	700	800	900	1000
Inductance(nH)	474	472	472	472	472	469	469	468	468	467



Direct current(A)	0	5	10	15	20	25	30	35	38	40
temperature(°C)	0	1.1	2.6	4.9	9.8	14.6	23	32.7	35.6	45.6

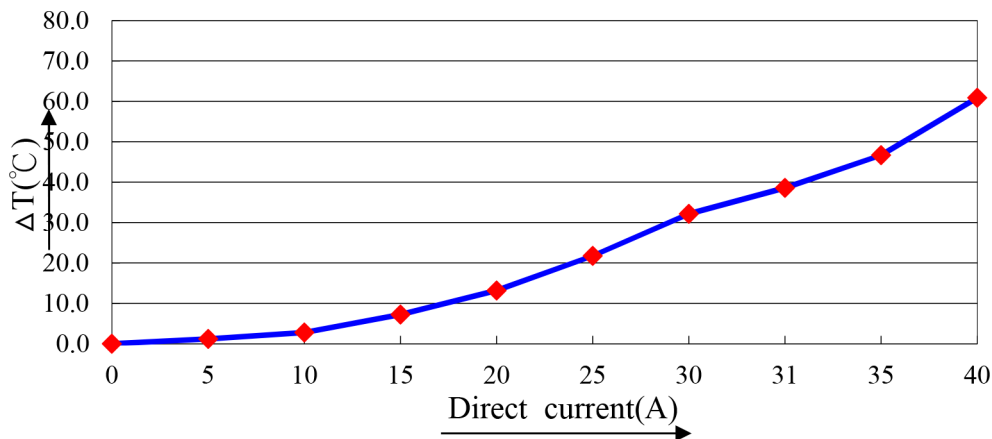
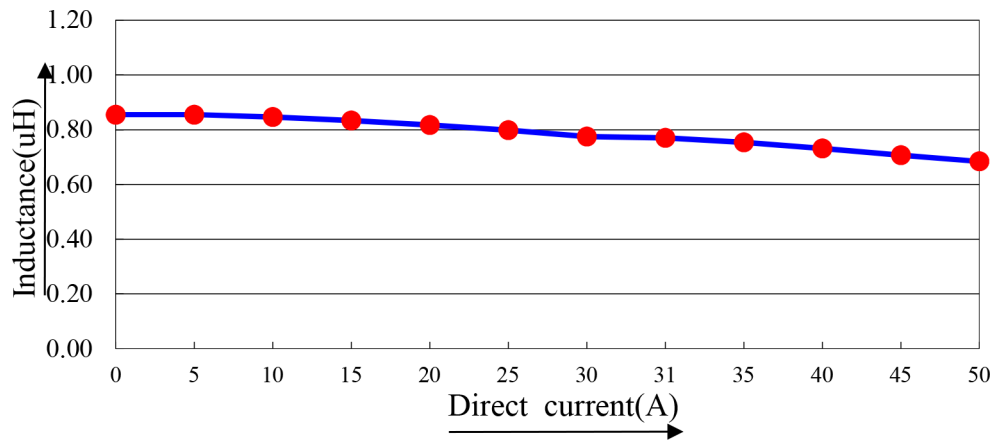


Frequency(KHz)	100	200	300	400	500	600	700	800	900	1000
Quality Factor	52.9	58.8	61	56.5	54	49.3	44.5	41.4	40.1	38.7

# Unshielded Power Inductors - Radial Leaded

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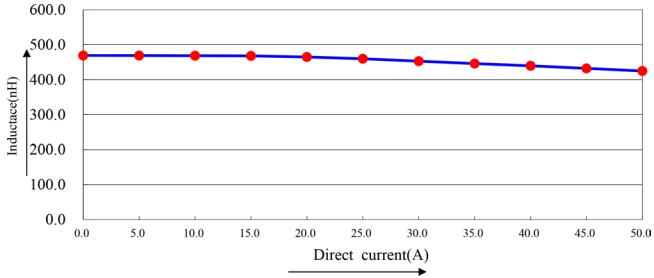
MP005784



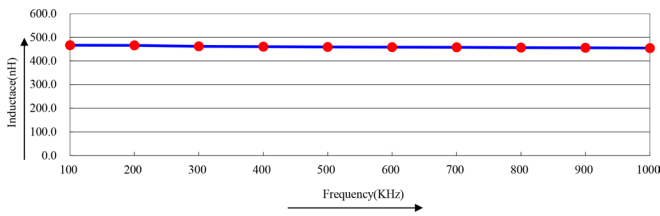
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# Unshielded Power Inductors - Radial Leaded

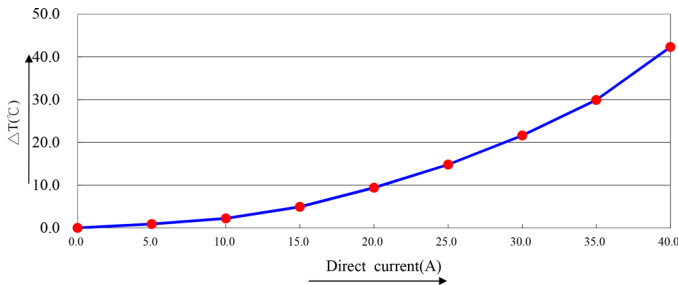
## MP005785



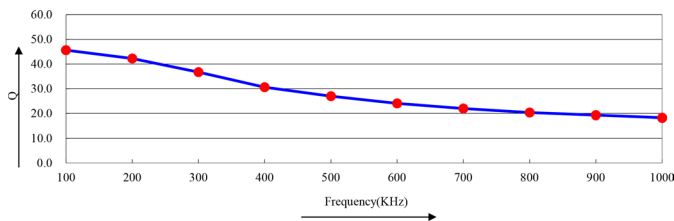
Direct current(A)	0	5	10	15	20	25	30	35	40	45	50
Inductance(nH)	469.04	468.65	468.23	467.98	464.74	459.5	452.85	446.02	439.5	432.2	424.8



Frepuency(KHz)	100	200	300	400	500	600	700	800	900	1000
Inductance(nH)	466.9	465.9	462	460.38	459.28	458.55	457.8	456.6	455.8	454.9



Direct current(A)	0	5	10	15	20	25	30	35	40
ΔT(°C)	0	0.9	2.2	4.9	9.4	14.8	21.6	29.9	42.3

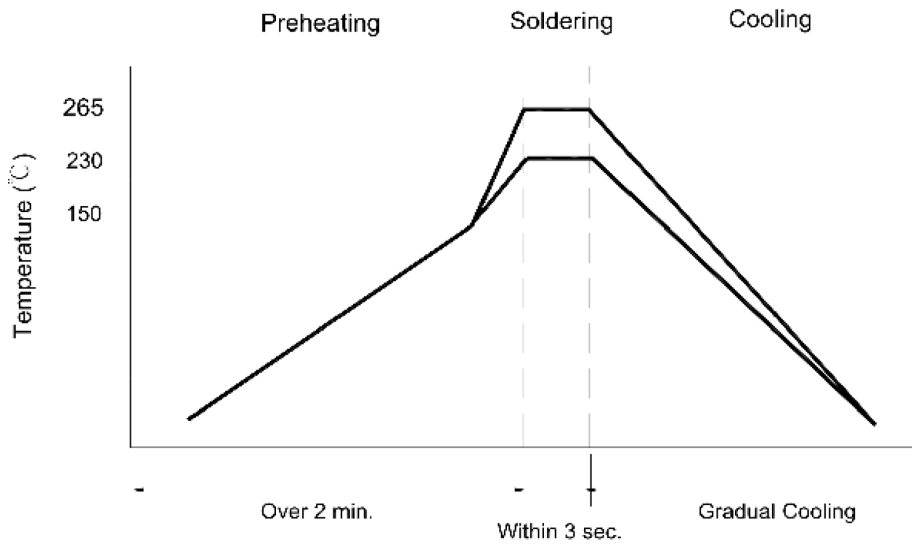


Frepuency(KHz)	100	200	300	400	500	600	700	800	900	1000
Q	45.62	42.23	36.7	30.59	26.95	24.04	21.97	20.31	19.26	18.25

# Unshielded Power Inductors - Radial Leaded



## Wave Soldering Profile



## Part Number Table

Description	Part Number
Power Inductor, Unshielded, 1 $\mu$ H, 20%, Radial Leaded	MP005780
Power Inductor, Unshielded, 1.4 $\mu$ H, 15%, Radial Leaded	MP005781
Power Inductor, Unshielded, 2.5 $\mu$ H, 20%, Radial Leaded	MP005782
Power Inductor, Unshielded, 470nH, 15%, Radial Leaded	MP005783
Power Inductor, Unshielded, 800nH, 20%, Radial Leaded	MP005784
Power Inductor, Unshielded, 470nH, 15%, Radial Leaded	MP005785

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