

**SHIELDED POWER INDUCTOR****P7603 Family****Features**

- \* Magnetic Shielding
- \* High Current (to 10A)
- \* Low DCR (to 7mΩ)
- \* Low profile (4.6-8mm)
- \* Surface Mount
- \* Flat top for pick & place
- \* Pb-free

**Applications**

- \* DC-DC Converters
- \* High Current/Low Voltage Converters
- \* Voltage Regulator Modules
- \* Notebook and handheld equipment
- \* LCD television displays

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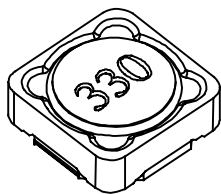
**DESCRIPTION**

The P7603 family comprises high current, shielded power inductors.

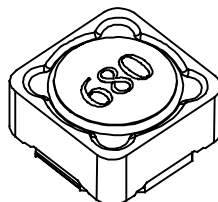
Components are available in three mechanical sizes, suitable for low-profile high current applications.

The three sizes share a common PCB pad layout, but differ in height and power handling.

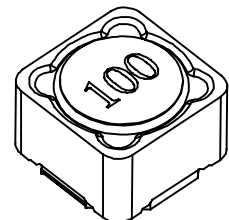
The family employs heavy gauge wire to minimize DCRs, and provides reliable self-leaded Pb-free terminations suitable for Pb-free and conventional placement and reflow.



P7603-1204



P7603-1205



P7603-1207

**SPECIFICATIONS****Electrical**

1204 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR ( $\text{m}\Omega$ ) Max	Rated Current $I_{\text{DC}}$ (A) <sup>(2)</sup>
P7603-1204-3R3M	3.3 $\pm$ 20%	15	6.5
P7603-1204-4R7M	4.7 $\pm$ 20%	18	5.7
P7603-1204-6R8M	6.8 $\pm$ 20%	23	4.9
P7603-1204-100M	10 $\pm$ 20%	28	4.5
P7603-1204-120M	12 $\pm$ 20%	38	4.0
P7603-1204-150M	15 $\pm$ 20%	52	3.2
P7603-1204-180M	18 $\pm$ 20%	60	3.1
P7603-1204-220M	22 $\pm$ 20%	70	2.9
P7603-1204-270M	27 $\pm$ 20%	80	2.8
P7603-1204-330M	33 $\pm$ 20%	97	2.7
P7603-1204-390M	39 $\pm$ 20%	132	2.1
P7603-1204-470M	47 $\pm$ 20%	150	1.9
P7603-1204-560M	56 $\pm$ 20%	190	1.8
P7603-1204-680M	68 $\pm$ 20%	220	1.5
P7603-1204-820M	82 $\pm$ 20%	260	1.3
P7603-1204-101M	100 $\pm$ 20%	308	1.2
P7603-1204-121M	120 $\pm$ 20%	380	1.1
P7603-1204-151M	150 $\pm$ 20%	520	0.95
P7603-1204-181M	180 $\pm$ 20%	600	0.85
P7603-1204-221M	220 $\pm$ 20%	700	0.80
P7603-1204-271M	270 $\pm$ 20%	860	0.60
P7603-1204-331M	330 $\pm$ 20%	980	0.50

**Notes**

1. Inductance measured at 100kHz, 1V.
2. Rated current,  $I_{\text{DC}}$ , is the current at which the temperature rise is 40°C (max) or the DC current at which the zero-current inductance drops by 20%, whichever current is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

1205 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR ( $\text{m}\Omega$ ) Max	Rated Current $I_{\text{DC}}$ (A) <sup>(2)</sup>
P7603-1205-1R5Y	1.5 $\pm$ 25%	12	8.0
P7603-1205-2R2Y	2.2 $\pm$ 25%	14	7.0
P7603-1205-3R1Y	3.1 $\pm$ 25%	17	6.0
P7603-1205-4R4Y	4.4 $\pm$ 25%	20	5.0
P7603-1205-5R2Y	5.2 $\pm$ 25%	21	4.4
P7603-1205-7R5Y	7.5 $\pm$ 25%	24	4.2
P7603-1205-100M	10 $\pm$ 20%	25	4.0
P7603-1205-120M	12 $\pm$ 20%	27	3.5
P7603-1205-150M	15 $\pm$ 20%	30	3.3
P7603-1205-180M	18 $\pm$ 20%	34	3.0
P7603-1205-220M	2 $\pm$ 20%	36	2.8
P7603-1205-270M	27 $\pm$ 20%	51	2.3
P7603-1205-330M	33 $\pm$ 20%	57	2.1
P7603-1205-390M	39 $\pm$ 20%	68	2.0
P7603-1205-470M	47 $\pm$ 20%	75	1.8
P7603-1205-560M	56 $\pm$ 20%	110	1.7
P7603-1205-680M	68 $\pm$ 20%	120	1.5
P7603-1205-820M	82 $\pm$ 20%	140	1.4
P7603-1205-101M	100 $\pm$ 20%	160	1.3
P7603-1205-121M	120 $\pm$ 20%	170	1.1
P7603-1205-151M	150 $\pm$ 20%	230	1.0
P7603-1205-181M	180 $\pm$ 20%	290	0.90
P7603-1205-221M	220 $\pm$ 20%	400	0.80
P7603-1205-271M	270 $\pm$ 20%	460	0.75
P7603-1205-331M	330 $\pm$ 20%	510	0.68
P7603-1205-391M	390 $\pm$ 20%	690	0.65
P7603-1205-471M	470 $\pm$ 20%	770	0.58
P7603-1205-561M	560 $\pm$ 20%	860	0.54
P7603-1205-681M	680 $\pm$ 20%	1200	0.48
P7603-1205-821M	820 $\pm$ 20%	1340	0.43
P7603-1205-102M	1000 $\pm$ 20%	1530	0.40

## Notes

5. Inductance measured at 1kHz, 1V (<10 $\mu\text{H}$ , 100kHz).
6. Rated current,  $I_{\text{DC}}$ , is the current at which the temperature rise is 40°C (max) or the DC current at which the zero-current inductance drops by 20%, whichever current is less.
7. Operating temperature -25°C to +85°C.
8. For non-standard inductance values, please contact Profec.

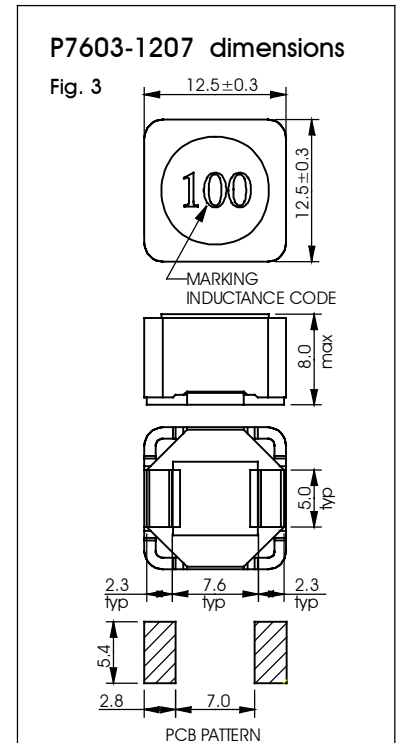
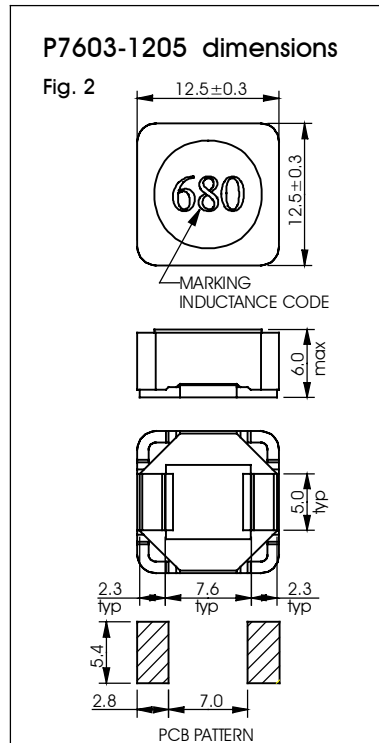
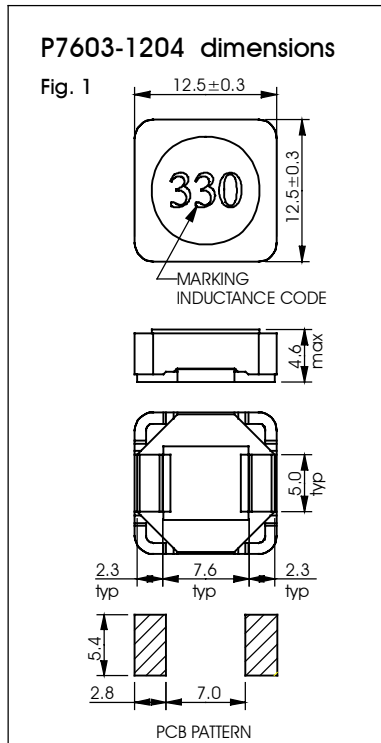
1207 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR ( $\text{m}\Omega$ ) Max	Rated Current $I_{\text{DC}}$ (A) <sup>(2)</sup>
P7603-1207-1R2Y	1.2 $\pm$ 30%	7.0	9.8
P7603-1207-2R7Y	2.7 $\pm$ 30%	11.5	8.0
P7603-1207-3R9Y	3.9 $\pm$ 30%	13.5	7.5
P7603-1207-4R7Y	4.7 $\pm$ 30%	15.8	6.8
P7603-1207-6R6Y	6.6 $\pm$ 30%	17.6	6.6
P7603-1207-7R6Y	7.6 $\pm$ 30%	20.0	5.9
P7603-1207-100M	10 $\pm$ 20%	21.6	5.4
P7603-1207-120M	12 $\pm$ 20%	24.3	4.9
P7603-1207-150M	15 $\pm$ 20%	27.0	4.5
P7603-1207-180M	18 $\pm$ 20%	39.2	3.9
P7603-1207-220M	22 $\pm$ 20%	43.2	3.6
P7603-1207-270M	27 $\pm$ 20%	45.9	3.4
P7603-1207-330M	33 $\pm$ 20%	64.8	3.0
P7603-1207-390M	39 $\pm$ 20%	72.9	2.7
P7603-1207-470M	47 $\pm$ 20%	100	2.5
P7603-1207-560L	56 $\pm$ 15%	110	2.3
P7603-1207-680L	68 $\pm$ 15%	140	2.1
P7603-1207-820L	82 $\pm$ 15%	160	1.9
P7603-1207-101L	100 $\pm$ 15%	220	1.7
P7603-1207-121L	120 $\pm$ 15%	250	1.6
P7603-1207-151L	150 $\pm$ 15%	280	1.4
P7603-1207-181K	180 $\pm$ 10%	350	1.3
P7603-1207-221K	220 $\pm$ 10%	390	1.1
P7603-1207-271K	270 $\pm$ 10%	560	1.0
P7603-1207-331K	330 $\pm$ 10%	640	0.95
P7603-1207-391K	390 $\pm$ 10%	700	0.88
P7603-1207-471K	470 $\pm$ 10%	980	0.79
P7603-1207-561K	560 $\pm$ 10%	1070	0.73
P7603-1207-681K	680 $\pm$ 10%	1460	0.67
P7603-1207-821K	820 $\pm$ 10%	1640	0.60
P7603-1207-102K	1000 $\pm$ 10%	1820	0.55

**Notes**

9. Inductance measured at 1kHz, 1V (<10 $\mu\text{H}$ , 100kHz).
10. Rated current,  $I_{\text{DC}}$ , is the current at which the temperature rise is 40°C (max) or the DC current at which the zero-current inductance drops by 20%, whichever current is less.
11. Operating temperature -25°C to +85°C.
12. For non-standard inductance values, please contact Profec.

## CONSTRUCTION

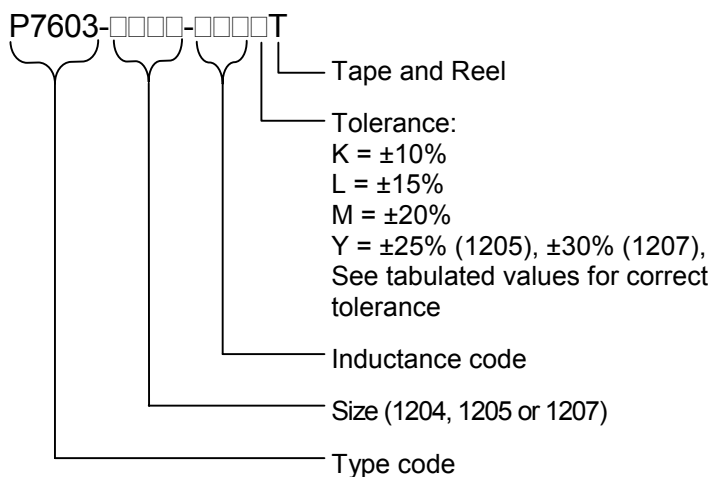


Dimensions shown are in millimetres

Terminal plating is pure tin (Sn).

Recommended reflow solder profile: 2 minutes (min) @ 100-150°C, 10 seconds (max) @ 230°C; time above 200°C 30 seconds maximum.

## ORDERING CODE



## ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40°C to +105°C
Operating temperature	-25°C to +85°C
Soldering temperature profile peak	260°C 10s

**PROFEC**  
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