

POWER INDUCTOR**P7609 Family****Features**

- * Current to 3.8A
- * Low DCR (to 30mΩ)
- * Low profile (to 2.2mm)
- * Surface Mount
- * Flat top for pick & place
- * Electroplated terminals

Applications

- * DC-DC Converters
- * Notebook and handheld equipment
- * LCD TV sets
- * Consumer products

DESCRIPTION

The P7609 family comprises medium current, unshielded power inductors available in eight low profile sizes (2.2-5.4mm). The range covers three decades of values from 1μH to 820μH, and provides very cost-effective and compact solutions for medium power applications.

In this family the electrodes are directly plated onto the ferrite. Such terminations provide excellent solderability, terminal strength and heat resistance.

The parts are suitable for conventional placement and reflow (Pb-free versions available on request).



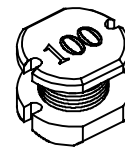
P7609-032



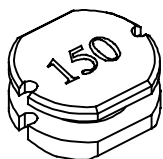
P7609-043



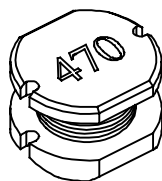
P7609-052



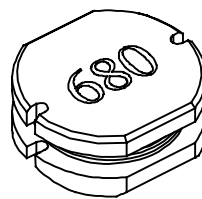
P7609-054



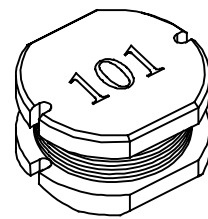
P7609-073



P7609-075



P7609-104



P7609-105

SPECIFICATIONS**Electrical****032 size**

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-032-1R0M	1.0 \pm 20%	0.04	1.50
P7609-032-1R4M	1.4 \pm 20%	0.05	1.50
P7609-032-2R8M	1.8 \pm 20%	0.06	0.80
P7609-032-2R2M	2.2 \pm 20%	0.08	0.75
P7609-032-2R7M	2.7 \pm 20%	0.10	0.75
P7609-032-3R3M	3.3 \pm 20%	0.15	0.60
P7609-032-3R9M	3.9 \pm 20%	0.20	0.50
P7609-032-4R7M	4.7 \pm 20%	0.20	0.50
P7609-032-5R6M	5.6 \pm 20%	0.23	0.45
P7609-032-6R8M	6.8 \pm 20%	0.25	0.40
P7609-032-8R2M	8.2 \pm 20%	0.30	0.40
P7609-032-100M	10 \pm 20%	0.35	0.35
P7609-032-120M	12 \pm 20%	0.40	0.35
P7609-032-150M	15 \pm 20%	0.50	0.30
P7609-032-180M	18 \pm 20%	0.55	0.30
P7609-032-220M	22 \pm 20%	0.60	0.30
P7609-032-270M	27 \pm 20%	0.70	0.30
P7609-032-330M	33 \pm 20%	1.0	0.25
P7609-032-390M	39 \pm 20%	1.2	0.25
P7609-032-470M	47 \pm 20%	1.5	0.20
P7609-032-560M	56 \pm 20%	1.8	0.20
P7609-032-680M	68 \pm 20%	2.0	0.18
P7609-032-820M	82 \pm 20%	2.5	0.16
P7609-032-101M	100 \pm 20%	3.0	0.15
P7609-032-121M	120 \pm 20%	3.5	0.14
P7609-032-151M	150 \pm 20%	4.0	0.13
P7609-032-181M	180 \pm 20%	5.0	0.12
P7609-032-221M	220 \pm 20%	5.5	0.10
P7609-032-271M	270 \pm 20%	6.0	0.10
P7609-032-331M	330 \pm 20%	7.0	0.10
P7609-032-391M	390 \pm 20%	8.0	0.10
P7609-032-471M	470 \pm 20%	12.0	0.09

Notes

1. Inductance measured at 1V, 8MHz (<10 μH), 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

043 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-043-1R0M	1.0 \pm 20%	0.033	3.80
P7609-043-1R4M	1.4 \pm 20%	0.038	3.30
P7609-043-2R8M	1.8 \pm 20%	0.042	2.91
P7609-043-2R2M	2.2 \pm 20%	0.047	2.60
P7609-043-2R7M	2.7 \pm 20%	0.052	2.43
P7609-043-3R3M	3.3 \pm 20%	0.058	2.15
P7609-043-3R9M	3.9 \pm 20%	0.076	1.98
P7609-043-4R7M	4.7 \pm 20%	0.094	1.70
P7609-043-5R6M	5.6 \pm 20%	0.101	1.60
P7609-043-6R8M	6.8 \pm 20%	0.117	1.41
P7609-043-8R2M	8.2 \pm 20%	0.132	1.26
P7609-043-100M	10 \pm 20%	0.182	1.15
P7609-043-120M	12 \pm 20%	0.21	1.05
P7609-043-150M	15 \pm 20%	0.24	0.92
P7609-043-180M	18 \pm 20%	0.34	0.84
P7609-043-220M	22 \pm 20%	0.38	0.76
P7609-043-270M	27 \pm 20%	0.52	0.71
P7609-043-330K	33 \pm 10%	0.54	0.64
P7609-043-390K	39 \pm 10%	0.59	0.59
P7609-043-470K	47 \pm 10%	0.85	0.54
P7609-043-560K	56 \pm 10%	0.94	0.50
P7609-043-680K	68 \pm 10%	1.12	0.46

Notes

1. Inductance measured at 1V, 8MHz (<10 μH), 2.5MHz (10-82 μH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

052 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-052-1R0M	1.0 \pm 20%	0.03	1.5
P7609-052-1R4M	1.4 \pm 20%	0.04	1.5
P7609-052-2R8M	1.8 \pm 20%	0.05	1.5
P7609-052-2R2M	2.2 \pm 20%	0.06	1.5
P7609-052-2R7M	2.7 \pm 20%	0.07	1.5
P7609-052-3R3M	3.3 \pm 20%	0.08	1.5
P7609-052-3R9M	3.9 \pm 20%	0.09	1.0
P7609-052-4R7M	4.7 \pm 20%	0.10	1.0
P7609-052-5R6M	5.6 \pm 20%	0.11	1.0
P7609-052-6R8M	6.8 \pm 20%	0.14	0.70
P7609-052-8R2M	8.2 \pm 20%	0.15	0.65
P7609-052-100M	10 \pm 20%	0.30	0.60
P7609-052-120M	12 \pm 20%	0.35	0.60
P7609-052-150M	15 \pm 20%	0.40	0.55
P7609-052-180M	18 \pm 20%	0.45	0.50
P7609-052-220M	22 \pm 20%	0.50	0.50
P7609-052-270M	27 \pm 20%	0.55	0.45
P7609-052-330M	33 \pm 20%	0.60	0.40
P7609-052-390M	39 \pm 20%	0.70	0.35
P7609-052-470M	47 \pm 20%	0.80	0.30
P7609-052-560M	56 \pm 20%	0.90	0.25
P7609-052-680M	68 \pm 20%	1.2	0.25
P7609-052-820M	82 \pm 20%	1.5	0.22
P7609-052-101M	100 \pm 20%	2.0	0.21
P7609-052-121M	120 \pm 20%	3.0	0.20
P7609-052-151M	150 \pm 20%	4.0	0.18
P7609-052-181M	180 \pm 20%	4.0	0.15
P7609-052-221M	220 \pm 20%	4.5	0.15
P7609-052-271M	270 \pm 20%	5.0	0.15
P7609-052-331M	330 \pm 20%	6.0	0.14
P7609-052-391M	390 \pm 20%	6.5	0.14
P7609-052-471M	470 \pm 20%	7.0	0.12
P7609-052-561M	560 \pm 20%	8.0	0.12

Notes

1. Inductance measured at 1V, 8MHz (<10 μH), 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

054 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-054-100M	10 \pm 20%	0.10	1.44
P7609-054-120M	12 \pm 20%	0.12	1.40
P7609-054-150M	15 \pm 20%	0.14	1.30
P7609-054-180M	18 \pm 20%	0.15	1.23
P7609-054-220M	22 \pm 20%	0.18	1.11
P7609-054-270M	27 \pm 20%	0.20	0.97
P7609-054-330K	33 \pm 10%	0.23	0.88
P7609-054-390K	39 \pm 10%	0.32	0.80
P7609-054-470K	47 \pm 10%	0.37	0.72
P7609-054-560K	56 \pm 10%	0.42	0.68
P7609-054-680K	68 \pm 10%	0.46	0.61
P7609-054-820K	82 \pm 10%	0.60	0.58
P7609-054-101K	100 \pm 10%	0.70	0.52
P7609-054-121K	120 \pm 10%	0.93	0.48
P7609-054-151K	150 \pm 10%	1.1	0.40
P7609-054-181K	180 \pm 10%	1.4	0.38
P7609-054-221K	220 \pm 10%	1.6	0.35

Notes

1. Inductance measured at 1V, 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

073 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-073-100M	10 \pm 20%	0.080	1.44
P7609-073-120M	12 \pm 20%	0.090	1.39
P7609-073-150M	15 \pm 20%	0.104	1.24
P7609-073-180M	18 \pm 20%	0.11	1.12
P7609-073-220M	22 \pm 20%	0.13	1.07
P7609-073-270M	27 \pm 20%	0.15	0.97
P7609-073-330M	33 \pm 20%	0.17	0.85
P7609-073-390M	39 \pm 20%	0.22	0.74
P7609-073-470M	47 \pm 20%	0.25	0.68
P7609-073-560K	56 \pm 10%	0.28	0.64
P7609-073-680K	68 \pm 10%	0.33	0.59
P7609-073-820K	82 \pm 10%	0.41	0.54
P7609-073-101K	100 \pm 10%	0.48	0.51
P7609-073-121K	120 \pm 10%	0.54	0.49
P7609-073-151K	150 \pm 10%	0.76	0.40
P7609-073-181K	180 \pm 10%	1.02	0.36
P7609-073-221K	220 \pm 10%	1.20	0.31
P7609-073-271K	270 \pm 10%	1.31	0.29
P7609-073-331K	330 \pm 10%	1.50	0.28

Notes

1. Inductance measured at 1V, 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

075 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-075-100M	10 \pm 20%	0.07	2.3
P7609-075-120M	12 \pm 20%	0.08	2.0
P7609-075-150M	15 \pm 20%	0.09	1.8
P7609-075-180M	18 \pm 20%	0.10	1.6
P7609-075-220M	22 \pm 20%	0.11	1.5
P7609-075-270M	27 \pm 20%	0.12	1.3
P7609-075-330M	33 \pm 20%	0.13	1.2
P7609-075-390M	39 \pm 20%	0.16	1.1
P7609-075-470K	47 \pm 10%	0.18	1.1
P7609-075-560K	56 \pm 10%	0.24	0.94
P7609-075-680K	68 \pm 10%	0.28	0.85
P7609-075-820K	82 \pm 10%	0.37	0.78
P7609-075-101K	100 \pm 10%	0.43	0.72
P7609-075-121K	120 \pm 10%	0.47	0.66
P7609-075-151K	150 \pm 10%	0.64	0.58
P7609-075-181K	180 \pm 10%	0.71	0.51
P7609-075-221K	220 \pm 10%	0.96	0.49
P7609-075-271K	270 \pm 10%	1.1	0.42
P7609-075-331K	330 \pm 10%	1.3	0.40
P7609-075-391K	390 \pm 10%	1.8	0.36
P7609-075-471K	470 \pm 10%	2.0	0.34

Notes

1. Inductance measured at 1V, 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

104 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-104-100M	10 \pm 20%	0.053	2.38
P7609-104-120M	12 \pm 20%	0.061	2.13
P7609-104-150M	15 \pm 20%	0.070	1.87
P7609-104-180M	18 \pm 20%	0.081	1.73
P7609-104-220M	22 \pm 20%	0.088	1.60
P7609-104-270M	27 \pm 20%	0.10	1.44
P7609-104-330M	33 \pm 20%	0.12	1.26
P7609-104-390M	39 \pm 20%	0.15	1.20
P7609-104-470M	47 \pm 20%	0.17	1.10
P7609-104-560K	56 \pm 10%	0.20	1.01
P7609-104-680K	68 \pm 10%	0.23	0.91
P7609-104-820K	82 \pm 10%	0.25	0.85
P7609-104-101K	100 \pm 10%	0.35	0.74
P7609-104-121K	120 \pm 10%	0.40	0.69
P7609-104-151K	150 \pm 10%	0.55	0.61
P7609-104-181K	180 \pm 10%	0.62	0.56
P7609-104-221K	220 \pm 10%	0.72	0.53
P7609-104-271K	270 \pm 10%	0.95	0.45
P7609-104-331K	330 \pm 10%	1.10	0.42
P7609-104-391K	390 \pm 10%	1.25	0.38
P7609-104-471K	470 \pm 10%	1.53	0.35
P7609-104-561K	560 \pm 10%	1.91	0.32

Notes

1. Inductance measured at 1V, 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

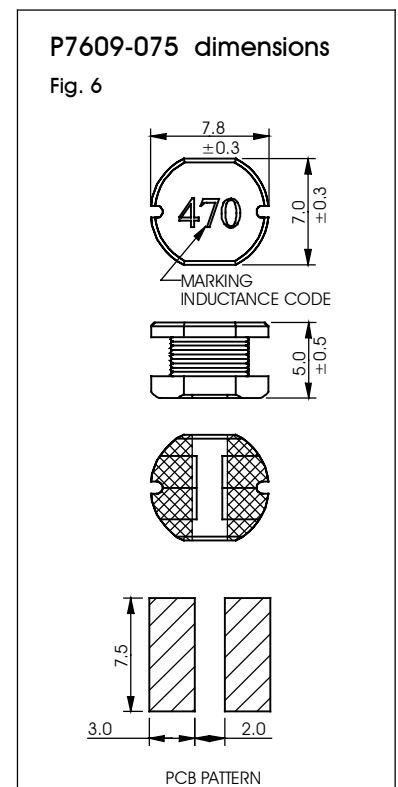
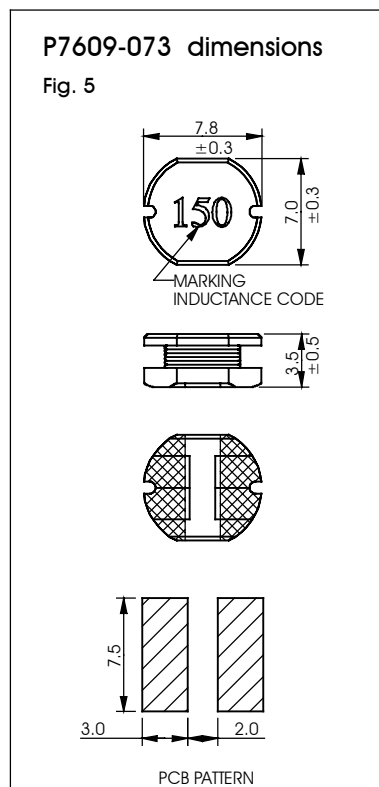
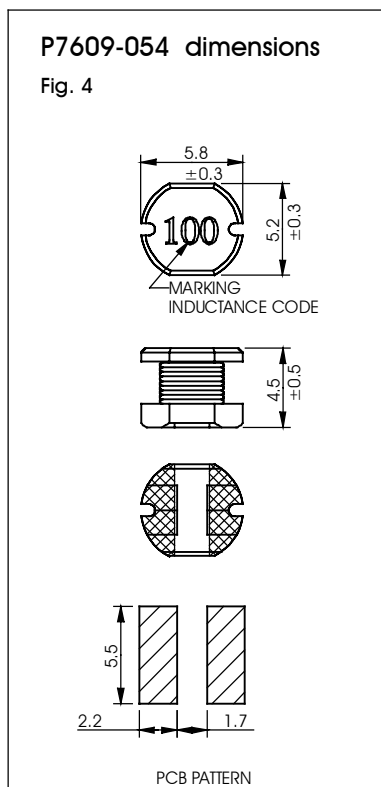
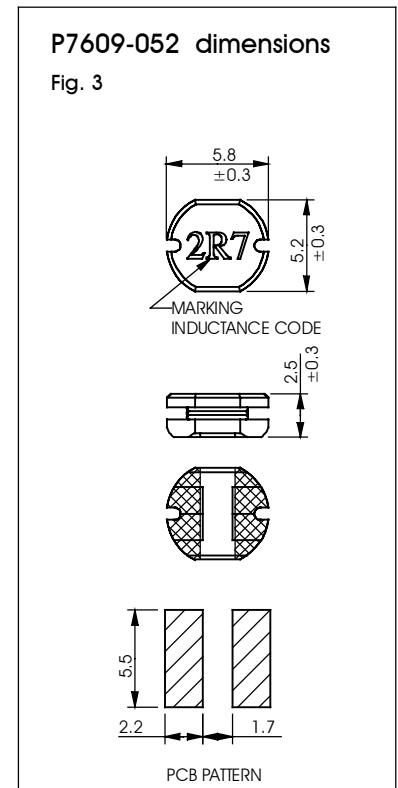
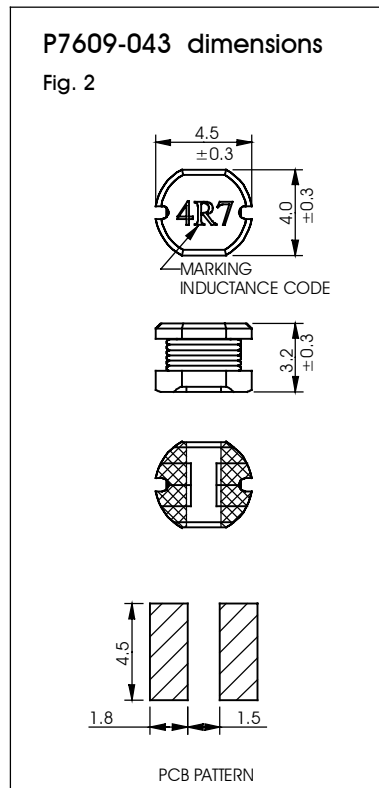
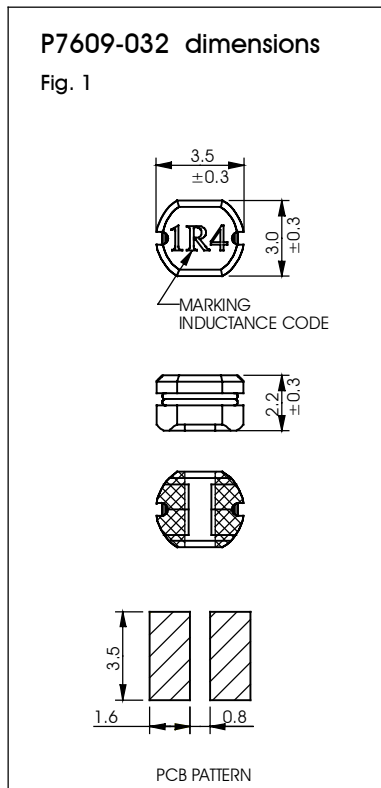
105 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7609-105-100M	10 \pm 20%	0.06	2.60
P7609-105-120M	12 \pm 20%	0.07	2.45
P7609-105-150M	15 \pm 20%	0.08	2.27
P7609-105-180M	18 \pm 20%	0.09	2.15
P7609-105-220M	22 \pm 20%	0.10	1.95
P7609-105-270M	27 \pm 20%	0.11	1.76
P7609-105-330M	33 \pm 20%	0.12	1.50
P7609-105-390M	39 \pm 20%	0.14	1.37
P7609-105-470K	47 \pm 10%	0.17	1.28
P7609-105-560K	56 \pm 10%	0.19	1.17
P7609-105-680K	68 \pm 10%	0.22	1.11
P7609-105-820K	82 \pm 10%	0.25	1.00
P7609-105-101K	100 \pm 10%	0.35	0.97
P7609-105-121K	120 \pm 10%	0.40	0.89
P7609-105-151K	150 \pm 10%	0.47	0.78
P7609-105-181K	180 \pm 10%	0.63	0.72
P7609-105-221K	220 \pm 10%	0.73	0.66
P7609-105-271K	270 \pm 10%	0.97	0.57
P7609-105-331K	330 \pm 10%	1.15	0.52
P7609-105-391K	390 \pm 10%	1.30	0.48
P7609-105-471K	470 \pm 10%	1.48	0.42
P7609-105-561K	560 \pm 10%	1.90	0.33
P7609-105-681K	680 \pm 10%	2.25	0.28
P7609-105-821K	820 \pm 10%	2.55	0.24

Notes

1. Inductance measured at 1V, 2.5MHz (10-82 μH), 1kHz (100 μH -1mH).
2. Rated Current, I_{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 10% max, whichever is lower.
3. Operating temperature -20°C to +80°C.
4. For non-standard inductance values, please contact Profec.

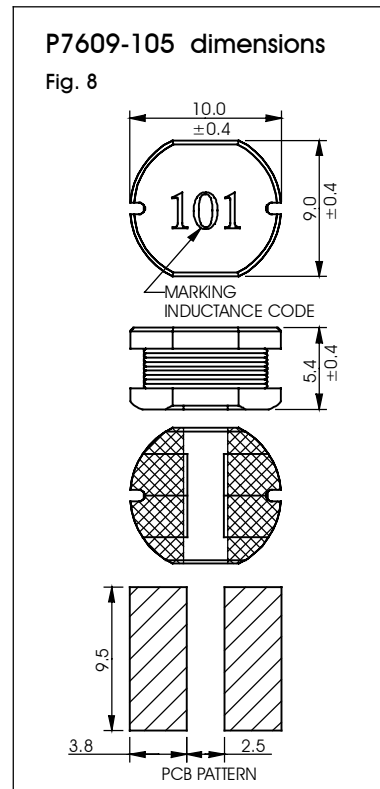
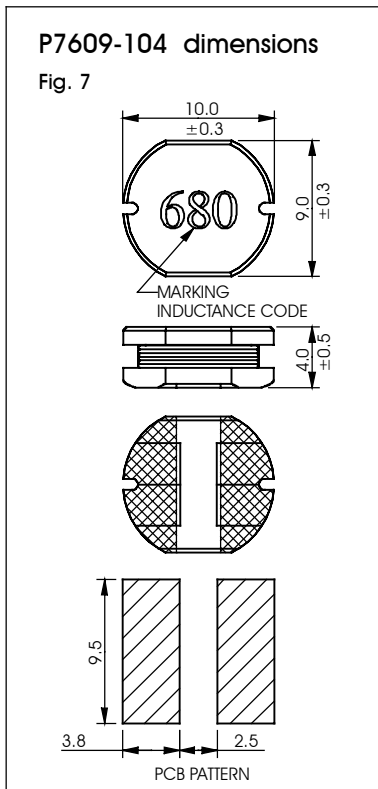
CONSTRUCTION



Dimensions shown are in millimetres.

Terminals are electroplated Sn/Pb over nickel (Ni) barrier over silver (Ag) base. Pb-free electrodes available on request.

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

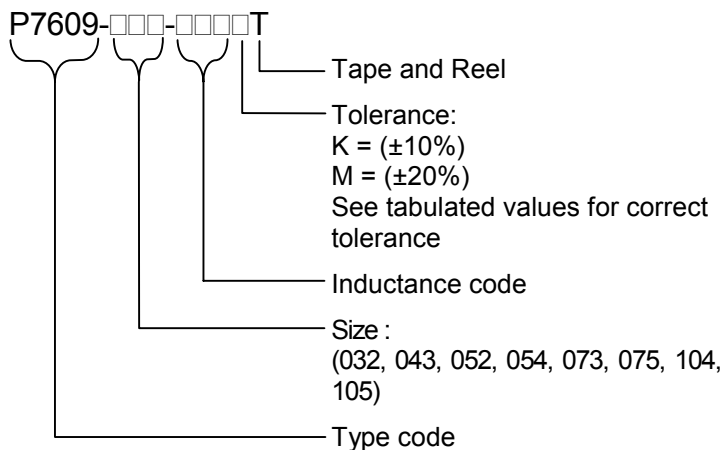


Dimensions shown are in millimetres.

Terminals are electroplated Sn/Pb over nickel (Ni) barrier over silver (Ag) base. Pb-free electrodes available on request.

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	-25°C to +85°C
Operating temperature	-20°C to +80°C
Soldering temperature profile peak	260°C 10s

PROFEC
TRANSFORMING THE FUTURE



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