

SHIELDED POWER INDUCTOR

P7607 Family

Features

- * Lead-free (Pb-free)
- * RoHS compliant
- * Magnetic Shielding
- * High Current (to 5A)
- * Low DCR (to 19mΩ)
- * Low profile (2.5 - 5mm)
- * Wide range (1μH – 1000μH)
- * Surface Mount
- * Flat top for pick & place

Applications

- * DC-DC Converters
- * High Current/Low Voltage Converters
- * Notebook and handheld equipment
- * Hard Disk drives

DESCRIPTION

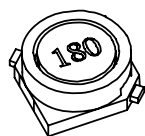
The P7607 family comprises high current, shielded power inductors.

Components are available in eight mechanical sizes and offer compact solutions for applications requiring high energy storage.

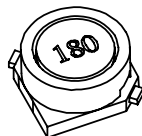
Three PCB footprints are provided and height is available as low as 2.5mm (0602 size).

All sizes cover a wide range of values spanning three decades (1μH – 1000μH).

The family provides reliable Pb-free terminations. Parts are compliant with RoHS Directive 2002/95/EC, and suitable for Pb-free and conventional placement and reflow.



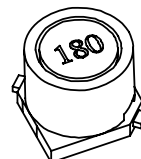
P7607-0602



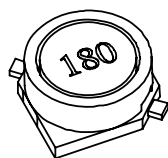
P7607-0603



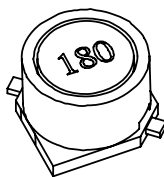
P7607-0604



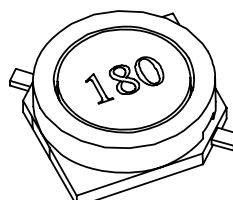
P7607-0605



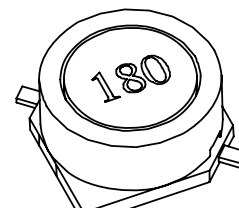
P7607-0703



P7607-0705



P7607-1003



P7607-1004

SPECIFICATIONS

Electrical

0602 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0602-1R0M	1.0 $\pm$ 20%	0.030	2.5
P7607-0602-1R5M	1.5 $\pm$ 20%	0.035	2.3
P7607-0602-2R2M	2.2 $\pm$ 20%	0.045	2.0
P7607-0602-3R3M	3.3 $\pm$ 20%	0.070	1.6
P7607-0602-4R7M	4.7 $\pm$ 20%	0.085	1.35
P7607-0602-6R8M	6.8 $\pm$ 20%	0.12	1.10
P7607-0602-100M	10 $\pm$ 20%	0.17	0.95
P7607-0602-150M	15 $\pm$ 20%	0.24	0.75
P7607-0602-220M	22 $\pm$ 20%	0.33	0.65
P7607-0602-330M	33 $\pm$ 20%	0.48	0.50
P7607-0602-470M	47 $\pm$ 20%	0.65	0.40
P7607-0602-680M	68 $\pm$ 20%	0.87	0.30
P7607-0602-101M	100 $\pm$ 20%	1.5	0.25
P7607-0602-151M	150 $\pm$ 20%	2.3	0.20
P7607-0602-221M	220 $\pm$ 20%	3.2	0.18
P7607-0602-331M	330 $\pm$ 20%	4.8	0.16
P7607-0602-471M	470 $\pm$ 20%	7.2	0.13
P7607-0602-681M	680 $\pm$ 20%	10.0	0.11
P7607-0602-102M	1000 $\pm$ 20%	15.5	0.09

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

0603 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0603-1R0M	1.0 $\pm$ 20%	0.019	2.40
P7607-0603-1R5M	1.5 $\pm$ 20%	0.025	2.20
P7607-0603-2R2M	2.2 $\pm$ 20%	0.032	1.90
P7607-0603-3R3M	3.3 $\pm$ 20%	0.050	1.50
P7607-0603-4R7M	4.7 $\pm$ 20%	0.060	1.30
P7607-0603-6R8M	6.8 $\pm$ 20%	0.070	1.20
P7607-0603-100M	10 $\pm$ 20%	0.12	1.00
P7607-0603-120M	12 $\pm$ 20%	0.13	0.90
P7607-0603-150M	15 $\pm$ 20%	0.15	0.80
P7607-0603-180M	18 $\pm$ 20%	0.16	0.75
P7607-0603-220M	22 $\pm$ 20%	0.23	0.65
P7607-0603-270M	27 $\pm$ 20%	0.25	0.60
P7607-0603-330M	33 $\pm$ 20%	0.34	0.55
P7607-0603-390M	39 $\pm$ 20%	0.38	0.52
P7607-0603-470M	47 $\pm$ 20%	0.42	0.50
P7607-0603-560M	56 $\pm$ 20%	0.57	0.48
P7607-0603-680M	68 $\pm$ 20%	0.62	0.45
P7607-0603-820M	82 $\pm$ 20%	0.90	0.40
P7607-0603-101M	100 $\pm$ 20%	0.99	0.35
P7607-0603-121M	120 $\pm$ 20%	1.15	0.30
P7607-0603-151M	150 $\pm$ 20%	1.75	0.28
P7607-0603-181M	180 $\pm$ 20%	1.95	0.26
P7607-0603-221M	220 $\pm$ 20%	2.20	0.22
P7607-0603-271M	270 $\pm$ 20%	2.50	0.20
P7607-0603-331M	330 $\pm$ 20%	3.20	0.18
P7607-0603-391M	390 $\pm$ 20%	3.50	0.17
P7607-0603-471M	470 $\pm$ 20%	4.95	0.16
P7607-0603-561M	560 $\pm$ 20%	5.35	0.15
P7607-0603-681M	680 $\pm$ 20%	6.30	0.14
P7607-0603-821M	820 $\pm$ 20%	8.20	0.13
P7607-0603-102M	1000 $\pm$ 20%	9.20	0.12

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

0604 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0604-1R0M	1.0 $\pm$ 20%	0.022	2.50
P7607-0604-1R5M	1.5 $\pm$ 20%	0.025	2.20
P7607-0604-2R2M	2.2 $\pm$ 20%	0.030	1.90
P7607-0604-3R3M	3.3 $\pm$ 20%	0.035	1.70
P7607-0604-4R7M	4.7 $\pm$ 20%	0.050	1.30
P7607-0604-6R8M	6.8 $\pm$ 20%	0.055	1.10
P7607-0604-100M	10 $\pm$ 20%	0.065	1.00
P7607-0604-120M	12 $\pm$ 20%	0.090	0.90
P7607-0604-150M	15 $\pm$ 20%	0.10	0.80
P7607-0604-180M	18 $\pm$ 20%	0.11	0.70
P7607-0604-220M	22 $\pm$ 20%	0.15	0.65
P7607-0604-270M	27 $\pm$ 20%	0.17	0.60
P7607-0604-330M	33 $\pm$ 20%	0.22	0.55
P7607-0604-390M	39 $\pm$ 20%	0.24	0.50
P7607-0604-470M	47 $\pm$ 20%	0.30	0.47
P7607-0604-560M	56 $\pm$ 20%	0.34	0.42
P7607-0604-680M	68 $\pm$ 20%	0.39	0.40
P7607-0604-820M	82 $\pm$ 20%	0.50	0.35
P7607-0604-101M	100 $\pm$ 20%	0.57	0.32
P7607-0604-121M	120 $\pm$ 20%	0.63	0.30
P7607-0604-151M	150 $\pm$ 20%	0.90	0.27
P7607-0604-181M	180 $\pm$ 20%	0.99	0.25
P7607-0604-221M	220 $\pm$ 20%	1.15	0.22
P7607-0604-271M	270 $\pm$ 20%	1.55	0.20
P7607-0604-331M	330 $\pm$ 20%	1.76	0.18
P7607-0604-391M	390 $\pm$ 20%	2.6	0.17
P7607-0604-471M	470 $\pm$ 20%	3.0	0.16
P7607-0604-561M	560 $\pm$ 20%	3.3	0.15
P7607-0604-681M	680 $\pm$ 20%	3.7	0.13
P7607-0604-821M	820 $\pm$ 20%	4.9	0.12
P7607-0604-102M	1000 $\pm$ 20%	5.7	0.11

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

0605 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0605-1R0M	1.0 $\pm$ 20%	0.023	2.70
P7607-0605-1R5M	1.5 $\pm$ 20%	0.026	2.30
P7607-0605-2R2M	2.2 $\pm$ 20%	0.028	1.90
P7607-0605-3R3M	3.3 $\pm$ 20%	0.035	1.80
P7607-0605-4R7M	4.7 $\pm$ 20%	0.040	1.40
P7607-0605-6R8M	6.8 $\pm$ 20%	0.045	1.20
P7607-0605-100M	10 $\pm$ 20%	0.060	1.00
P7607-0605-120M	12 $\pm$ 20%	0.065	0.90
P7607-0605-150M	15 $\pm$ 20%	0.070	0.80
P7607-0605-180M	18 $\pm$ 20%	0.095	0.70
P7607-0605-220M	22 $\pm$ 20%	0.110	0.65
P7607-0605-270M	27 $\pm$ 20%	0.120	0.60
P7607-0605-330M	33 $\pm$ 20%	0.165	0.55
P7607-0605-390M	39 $\pm$ 20%	0.180	0.48
P7607-0605-470M	47 $\pm$ 20%	0.200	0.45
P7607-0605-560M	56 $\pm$ 20%	0.255	0.40
P7607-0605-680M	68 $\pm$ 20%	0.285	0.37
P7607-0605-820M	82 $\pm$ 20%	0.39	0.35
P7607-0605-101M	100 $\pm$ 20%	0.42	0.30
P7607-0605-121M	120 $\pm$ 20%	0.47	0.28
P7607-0605-151M	150 $\pm$ 20%	0.63	0.25
P7607-0605-181M	180 $\pm$ 20%	0.72	0.22
P7607-0605-221M	220 $\pm$ 20%	0.82	0.20
P7607-0605-271M	270 $\pm$ 20%	1.10	0.18
P7607-0605-331M	330 $\pm$ 20%	1.20	0.17
P7607-0605-391M	390 $\pm$ 20%	1.70	0.16
P7607-0605-471M	470 $\pm$ 20%	1.90	0.14
P7607-0605-561M	560 $\pm$ 20%	2.15	0.13
P7607-0605-681M	680 $\pm$ 20%	3.30	0.12
P7607-0605-821M	820 $\pm$ 20%	3.65	0.11
P7607-0605-102M	1000 $\pm$ 20%	4.15	0.10

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

0703 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0703-1R0M	1.0 $\pm$ 20%	0.019	3.25
P7607-0703-1R5M	1.5 $\pm$ 20%	0.023	3.00
P7607-0703-2R2M	2.2 $\pm$ 20%	0.033	2.55
P7607-0703-3R3M	3.3 $\pm$ 20%	0.035	2.40
P7607-0703-4R7M	4.7 $\pm$ 20%	0.046	2.10
P7607-0703-6R8M	6.8 $\pm$ 20%	0.060	1.90
P7607-0703-100M	10 $\pm$ 20%	0.090	1.50
P7607-0703-120M	12 $\pm$ 20%	0.12	1.45
P7607-0703-150M	15 $\pm$ 20%	0.13	1.20
P7607-0703-180M	18 $\pm$ 20%	0.15	1.15
P7607-0703-220M	22 $\pm$ 20%	0.19	1.05
P7607-0703-270M	27 $\pm$ 20%	0.20	1.00
P7607-0703-330M	33 $\pm$ 20%	0.28	0.90
P7607-0703-390M	39 $\pm$ 20%	0.30	0.80
P7607-0703-470M	47 $\pm$ 20%	0.34	0.75
P7607-0703-560M	56 $\pm$ 20%	0.44	0.68
P7607-0703-680M	68 $\pm$ 20%	0.50	0.65
P7607-0703-820M	82 $\pm$ 20%	0.68	0.60
P7607-0703-101M	100 $\pm$ 20%	0.76	0.50
P7607-0703-121M	120 $\pm$ 20%	0.84	0.48
P7607-0703-151M	150 $\pm$ 20%	0.94	0.45
P7607-0703-181M	180 $\pm$ 20%	1.30	0.38
P7607-0703-221M	220 $\pm$ 20%	1.5	0.35
P7607-0703-271M	270 $\pm$ 20%	2.4	0.30
P7607-0703-331M	330 $\pm$ 20%	2.6	0.28
P7607-0703-391M	390 $\pm$ 20%	3.0	0.25
P7607-0703-471M	470 $\pm$ 20%	3.3	0.23
P7607-0703-561M	560 $\pm$ 20%	5.7	0.20
P7607-0703-681M	680 $\pm$ 20%	6.1	0.18
P7607-0703-821M	820 $\pm$ 20%	6.7	0.17
P7607-0703-102M	1000 $\pm$ 20%	7.4	0.16

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

0705 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-0705-1R0M	1.0 $\pm$ 20%	0.020	3.00
P7607-0705-1R5M	1.5 $\pm$ 20%	0.023	2.90
P7607-0705-2R2M	2.2 $\pm$ 20%	0.026	2.70
P7607-0705-3R3M	3.3 $\pm$ 20%	0.030	2.50
P7607-0705-4R7M	4.7 $\pm$ 20%	0.036	2.00
P7607-0705-6R8M	6.8 $\pm$ 20%	0.045	1.90
P7607-0705-100M	10 $\pm$ 20%	0.060	1.70
P7607-0705-120M	12 $\pm$ 20%	0.065	1.55
P7607-0705-150M	15 $\pm$ 20%	0.070	1.45
P7607-0705-180M	18 $\pm$ 20%	0.080	1.20
P7607-0705-220M	22 $\pm$ 20%	0.090	1.15
P7607-0705-270M	27 $\pm$ 20%	0.120	1.00
P7607-0705-330M	33 $\pm$ 20%	0.135	0.90
P7607-0705-390M	39 $\pm$ 20%	0.150	0.85
P7607-0705-470M	47 $\pm$ 20%	0.17	0.80
P7607-0705-560M	56 $\pm$ 20%	0.23	0.70
P7607-0705-680M	68 $\pm$ 20%	0.27	0.65
P7607-0705-820M	82 $\pm$ 20%	0.30	0.57
P7607-0705-101M	100 $\pm$ 20%	0.36	0.50
P7607-0705-121M	120 $\pm$ 20%	0.40	0.47
P7607-0705-151M	150 $\pm$ 20%	0.53	0.40
P7607-0705-181M	180 $\pm$ 20%	0.60	0.38
P7607-0705-221M	220 $\pm$ 20%	0.80	0.35
P7607-0705-271M	270 $\pm$ 20%	0.90	0.32
P7607-0705-331M	330 $\pm$ 20%	1.00	0.30
P7607-0705-391M	390 $\pm$ 20%	1.40	0.27
P7607-0705-471M	470 $\pm$ 20%	1.60	0.25
P7607-0705-561M	560 $\pm$ 20%	1.75	0.22
P7607-0705-681M	680 $\pm$ 20%	2.50	0.20
P7607-0705-821M	820 $\pm$ 20%	2.80	0.19
P7607-0705-102M	1000 $\pm$ 20%	3.20	0.18

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

1003 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-1003-1R5M	1.5 $\pm$ 20%	0.022	4.00
P7607-1003-2R2M	2.2 $\pm$ 20%	0.025	3.50
P7607-1003-3R3M	3.3 $\pm$ 20%	0.040	3.00
P7607-1003-4R7M	4.7 $\pm$ 20%	0.045	2.50
P7607-1003-6R8M	6.8 $\pm$ 20%	0.060	2.20
P7607-1003-100M	10 $\pm$ 20%	0.070	2.00
P7607-1003-120M	12 $\pm$ 20%	0.095	1.90
P7607-1003-150M	15 $\pm$ 20%	0.12	1.70
P7607-1003-180M	18 $\pm$ 20%	0.13	1.55
P7607-1003-220M	22 $\pm$ 20%	0.18	1.45
P7607-1003-270M	27 $\pm$ 20%	0.20	1.30
P7607-1003-330M	33 $\pm$ 20%	0.21	1.10
P7607-1003-390M	39 $\pm$ 20%	0.27	1.00
P7607-1003-470M	47 $\pm$ 20%	0.30	0.85
P7607-1003-560M	56 $\pm$ 20%	0.40	0.80
P7607-1003-680M	68 $\pm$ 20%	0.44	0.75
P7607-1003-820M	82 $\pm$ 20%	0.49	0.65
P7607-1003-101M	100 $\pm$ 20%	0.67	0.60
P7607-1003-121M	120 $\pm$ 20%	0.74	0.55
P7607-1003-151M	150 $\pm$ 20%	0.79	0.50
P7607-1003-181M	180 $\pm$ 20%	1.20	0.45
P7607-1003-221M	220 $\pm$ 20%	1.35	0.40
P7607-1003-271M	270 $\pm$ 20%	1.80	0.38
P7607-1003-331M	330 $\pm$ 20%	2.00	0.32
P7607-1003-391M	390 $\pm$ 20%	2.10	0.30
P7607-1003-471M	470 $\pm$ 20%	3.50	0.28
P7607-1003-561M	560 $\pm$ 20%	3.90	0.25
P7607-1003-681M	680 $\pm$ 20%	4.10	0.22
P7607-1003-821M	820 $\pm$ 20%	4.55	0.20
P7607-1003-102M	1000 $\pm$ 20%	5.10	0.18

Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

1004 size

Part Number	Inductance (μH) ⁽¹⁾	DCR (Ω) Max	Rated Current ⁽²⁾ I_{DC} (A)
P7607-1004-1R5M	1.5 $\pm$ 20%	0.021	5.00
P7607-1004-2R2M	2.2 $\pm$ 20%	0.024	4.50
P7607-1004-3R3M	3.3 $\pm$ 20%	0.026	4.00
P7607-1004-4R7M	4.7 $\pm$ 20%	0.030	3.00
P7607-1004-6R8M	6.8 $\pm$ 20%	0.035	2.50
P7607-1004-100M	10 $\pm$ 20%	0.042	2.20
P7607-1004-120M	12 $\pm$ 20%	0.050	2.00
P7607-1004-150M	15 $\pm$ 20%	0.055	1.80
P7607-1004-180M	18 $\pm$ 20%	0.060	1.70
P7607-1004-220M	22 $\pm$ 20%	0.080	1.50
P7607-1004-270M	27 $\pm$ 20%	0.085	1.20
P7607-1004-330M	33 $\pm$ 20%	0.11	1.15
P7607-1004-390M	39 $\pm$ 20%	0.12	1.10
P7607-1004-470M	47 $\pm$ 20%	0.15	1.00
P7607-1004-560M	56 $\pm$ 20%	0.16	0.90
P7607-1004-680M	68 $\pm$ 20%	0.19	0.85
P7607-1004-820M	82 $\pm$ 20%	0.21	0.80
P7607-1004-101M	100 $\pm$ 20%	0.30	0.70
P7607-1004-121M	120 $\pm$ 20%	0.33	0.65
P7607-1004-151M	150 $\pm$ 20%	0.36	0.55
P7607-1004-181M	180 $\pm$ 20%	0.51	0.50
P7607-1004-221M	220 $\pm$ 20%	0.56	0.45
P7607-1004-271M	270 $\pm$ 20%	0.70	0.40
P7607-1004-331M	330 $\pm$ 20%	0.76	0.37
P7607-1004-391M	390 $\pm$ 20%	1.05	0.32
P7607-1004-471M	470 $\pm$ 20%	1.10	0.30
P7607-1004-561M	560 $\pm$ 20%	1.25	0.28
P7607-1004-681M	680 $\pm$ 20%	1.70	0.24
P7607-1004-821M	820 $\pm$ 20%	1.90	0.23
P7607-1004-102M	1000 $\pm$ 20%	2.15	0.22

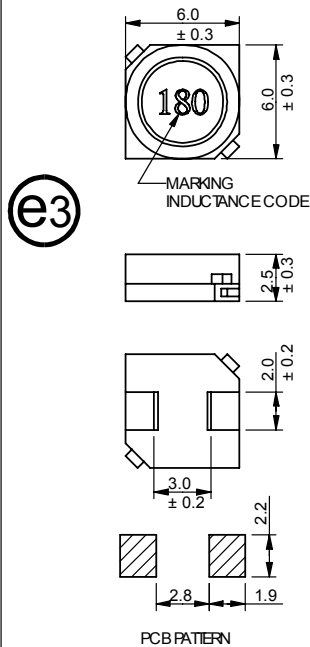
Notes

1. Inductance measured at 100kHz, 1V.
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%, whichever is less.
3. Operating temperature -25°C to +85°C.
4. For non-standard inductance values, please contact Profec.

CONSTRUCTION

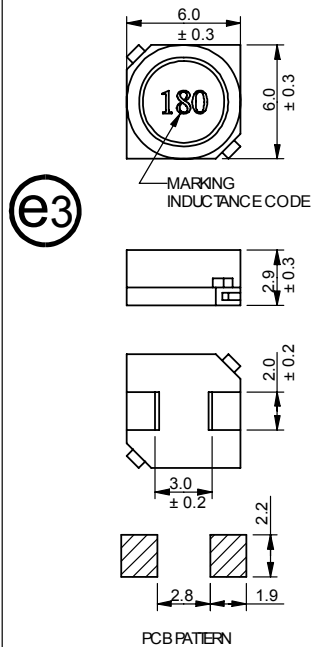
P7607-0602 dimensions

Fig. 1



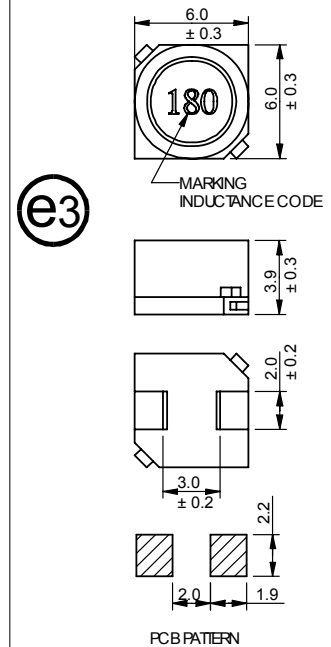
P7607-0603 dimensions

Fig. 2



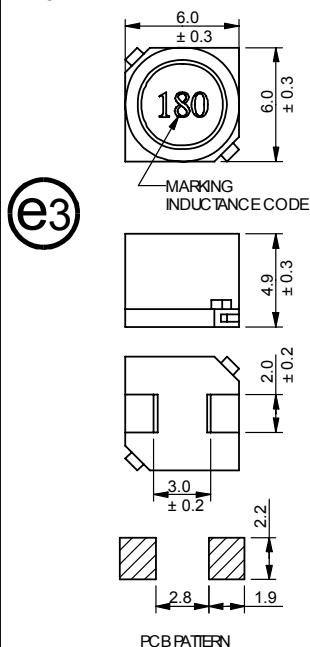
P7607-0604 dimensions

Fig. 3



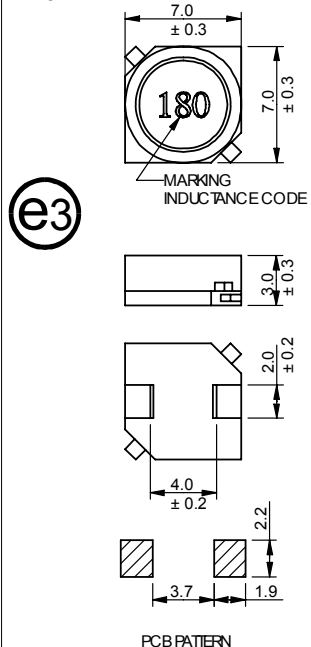
P7607-0605 dimensions

Fig. 4



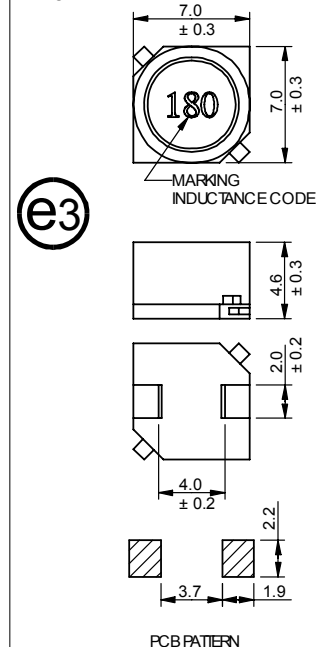
P7607-0703 dimensions

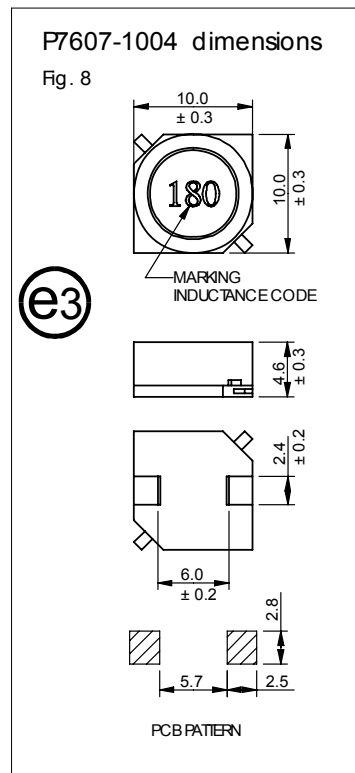
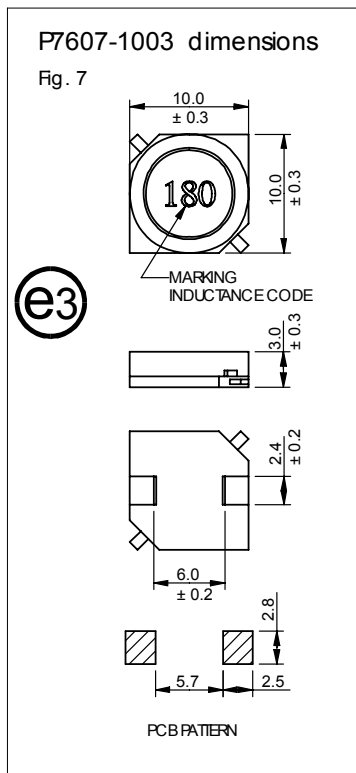
Fig. 5



P7607-0705 dimensions

Fig. 6



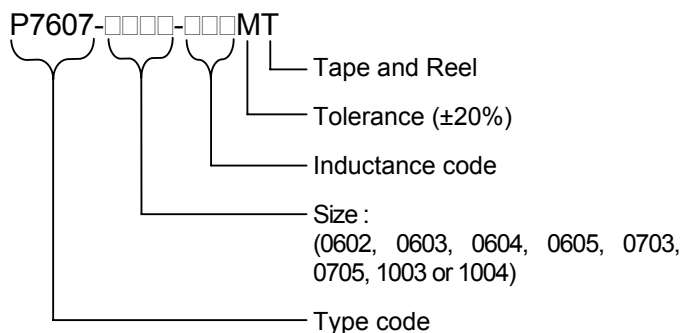


Dimensions shown are in millimetres.

Terminal plating JESD97 category = e3.

Recommended reflow solder profile:
2 minutes @ 150-200°C,
10 seconds @ 260°C;
time above 217°C 60 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
Handle in accordance with IPC/JEDEC J-STD-033 procedure for components classified as IPC/JEDEC J-STD-020 Moisture Sensitivity Level 2.	