

## PIL 30/40/50 Series

### Low Profile SMD Inductors for Power Line

#### FEATURES

- The PIL series are characterized by low profile, low RDC to provide low loss solution.
- Miniature size for tiny portable DC toDC converter line.
- High magnetic shield construction for EMI protection.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.



#### APPLICATIONS

Low profile/ low DC resistance suitable for Portable telephones, hard disk drives, PDA, DSC and other electronic equipments.

#### PRODUCT IDENTIFICATION

PIL 3010 - 1R0 M - T

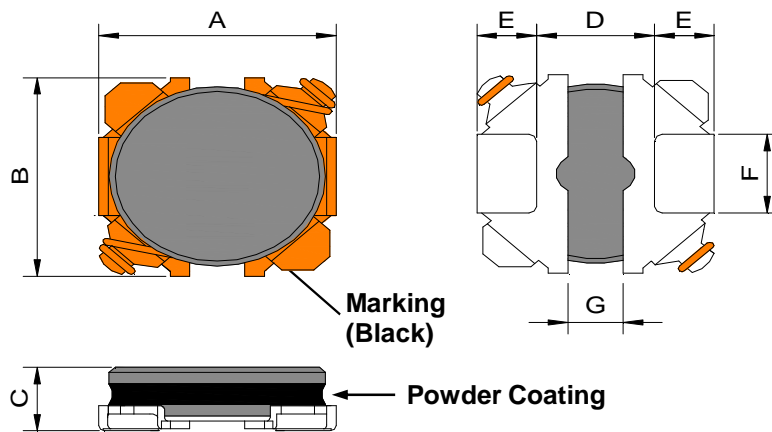
(1) (2) (3) (4) (5)

(1) Product name (2) Shapes and Dimensions (3) Inductance (3R3 : 3.3uH ; 100 : 10uH) (4) Tolerance (M : ± 20%, N : ± 30%)

(5) Packaging style (T : taping ; None : Bulk)

#### DIMENSIONS AND RECOMMENDED FOOTPRINT(mm)

PIL30/40/50 Series



Type	3010	3012	3015	3020	4010	4012	4015	4018	5010	5012	5015	5020
A	3.0±0.2	3.0±0.2	3.0±0.2	3.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	5.0±0.2	5.0±0.2	5.0±0.2	5.0±0.2
B	2.9±0.2	2.9±0.2	2.9±0.2	2.9±0.2	3.9±0.2	3.9±0.2	3.9±0.2	3.9±0.2	4.9±0.2	4.9±0.2	4.9±0.2	4.9±0.2
C	1.0 max	1.2 max	1.5 max	2.0 max	1.0 max	1.2 max	1.5 max	2.0 max	1.0 max	1.2 max	1.5 max	2.0 max
D	1.5	1.5	1.5	1.5	2.1	2.1	2.1	2.1	2.7	2.7	2.7	2.7
E	0.76	0.76	0.76	0.76	0.96	0.96	0.96	0.96	1.16	1.16	1.16	1.16
F	1.2	1.2	1.2	1.2	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.0
G	0.7	0.7	0.7	0.7	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.5

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### ELECTRICAL CHARACTERISTICS

Part Number	Inductance( $\mu$ H)/ 100KHz	Tolerance ( $\pm$ %)	RDC ( $\Omega$ ) $\pm$ 20%	Rated DC Current		Marking
				IDC1(A)	IDC2(A)	
PIL3010-1R0□-T	1.0	N	64m	1.50	1.70	A
PIL3010-1R2□-T	1.2	N	72m	1.30	1.60	B
PIL3010-1R5□-T	1.5	N	86m	1.10	1.45	C
PIL3010-2R2□-T	2.2	N	0.12	0.95	1.25	E
PIL3010-3R3□-T	3.3	N	0.17	0.80	1.00	G
PIL3010-3R9□-T	3.9	N	0.20	0.70	0.90	H
PIL3010-4R7□-T	4.7	M	0.25	0.65	0.85	I
PIL3010-5R6□-T	5.6	M	0.30	0.60	0.78	J
PIL3010-6R8□-T	6.8	M	0.35	0.55	0.70	K
PIL3010-8R2□-T	8.2	M	0.40	0.50	0.65	L
PIL3010-100□-T	10	M	0.49	0.45	0.60	M
PIL3010-150□-T	15	M	0.68	0.38	0.50	O
PIL3010-220□-T	22	M	1.00	0.33	0.40	Q
PIL3012-R56□-T	0.56	N	38m	2.50	1.95	7
PIL3012-R68□-T	0.68	N	44m	2.10	1.85	8
PIL3012-1R0□-T	1.0	N	53m	1.90	1.70	A
PIL3012-1R2□-T	1.2	N	53m	1.90	1.70	B
PIL3012-1R5□-T	1.5	N	67m	1.70	1.55	C
PIL3012-2R2□-T	2.2	N	93m	1.30	1.40	E
PIL3012-3R3□-T	3.3	N	0.13	1.10	1.20	G
PIL3012-4R7□-T	4.7	M	0.19	0.95	0.95	I
PIL3012-5R6□-T	5.6	M	0.22	0.83	0.85	J
PIL3012-6R8□-T	6.8	M	0.26	0.80	0.80	K
PIL3012-100□-T	10	M	0.36	0.65	0.67	M
PIL3012-150□-T	15	M	0.53	0.55	0.56	O
PIL3012-220□-T	22	M	0.79	0.45	0.41	Q
PIL3012-330□-T	33	M	1.14	0.36	0.31	S
PIL3012-470□-T	47	M	1.53	0.30	0.22	U
PIL3015-R68□-T	0.68	N	38m	3.40	2.00	8
PIL3015-1R0□-T	1.0	N	44m	3.00	1.85	A
PIL3015-1R2□-T	1.2	N	55m	2.50	1.70	B
PIL3015-1R5□-T	1.5	N	71m	2.20	1.55	C
PIL3015-1R8□-T	1.8	N	79m	2.00	1.45	D
PIL3015-2R2□-T	2.2	N	99m	1.90	1.35	E
PIL3015-2R7□-T	2.7	N	0.11	1.70	1.30	F
PIL3015-3R3□-T	3.3	N	0.12	1.60	1.25	G
PIL3015-4R7□-T	4.7	M	0.18	1.30	1.05	I
PIL3015-5R6□-T	5.6	M	0.20	1.20	1.00	J
PIL3015-6R8□-T	6.8	M	0.22	1.10	0.95	K
PIL3015-100□-T	10	M	0.33	0.95	0.75	M
PIL3015-150□-T	15	M	0.54	0.70	0.60	O
PIL3015-220□-T	22	M	0.78	0.65	0.42	Q
PIL3015-470□-T	47	M	1.68	0.40	0.26	U
PIL3020-1R0□-T	1.0	N	51m	3.60	1.75	A
PIL3020-1R5□-T	1.5	N	72m	2.90	1.55	C
PIL3020-2R2□-T	2.2	N	89m	2.50	1.40	E
PIL3020-3R3□-T	3.3	N	0.13	1.90	1.20	G
PIL3020-4R7□-T	4.7	M	0.17	1.60	1.05	I
PIL3020-6R8□-T	6.8	M	0.26	1.30	0.88	K
PIL3020-8R2□-T	8.2	M	0.32	1.20	0.79	L
PIL3020-100□-T	10	M	0.36	1.10	0.73	M
PIL3020-150□-T	15	M	0.57	0.90	0.57	O
PIL3020-220□-T	22	M	0.89	0.74	0.40	Q
PIL3020-330□-T	33	M	1.11	0.62	0.36	S

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**ELECTRICAL CHARACTERISTICS**

Part Number	Inductance( $\mu$ H)/ 100KHz	Tolerance ( $\pm\%$ )	RDC ( $\Omega$ ) $\pm 20\%$	Rated DC Current		Marking
				IDC1(A)	IDC2(A)	
PIL3020-470□-T	47	M	1.71	0.50	0.25	U
PIL3020-680□-T	68	M	2.24	0.28	0.20	W
PIL4010-1R0□-T	1.0	N	56m	1.40	1.70	A
PIL4010-1R5□-T	1.5	N	72m	1.20	1.60	C
PIL4010-2R2□-T	2.2	N	84m	1.10	1.55	E
PIL4010-3R3□-T	3.3	N	0.11	0.90	1.35	G
PIL4010-4R7□-T	4.7	M	0.16	0.80	1.15	I
PIL4010-6R8□-T	6.8	M	0.23	0.65	0.90	K
PIL4010-100□-T	10	M	0.31	0.50	0.75	M
PIL4010-150□-T	15	M	0.41	0.45	0.65	O
PIL4010-220□-T	22	M	0.66	0.40	0.50	Q
PIL4010-330□-T	33	M	0.96	0.30	0.38	S
PIL4010-470□-T	47	M	1.23	0.25	0.33	U
PIL4012-1R0□-T	1.0	N	42m	2.30	1.90	A
PIL4012-1R5□-T	1.5	N	57m	1.90	1.70	C
PIL4012-2R2□-T	2.2	N	86m	1.50	1.55	E
PIL4012-3R3□-T	3.3	N	0.10	1.30	1.40	G
PIL4012-4R7□-T	4.7	M	0.13	1.10	1.25	I
PIL4012-6R8□-T	6.8	M	0.18	0.95	1.05	K
PIL4012-100□-T	10	M	0.28	0.75	0.80	M
PIL4012-150□-T	15	M	0.39	0.65	0.70	O
PIL4012-220□-T	22	M	0.53	0.55	0.60	Q
PIL4012-330□-T	33	M	0.85	0.45	0.40	S
PIL4012-470□-T	47	M	1.14	0.38	0.35	U
PIL4015-1R0□-T	1.0	N	48m	3.60	1.85	A
PIL4015-1R5□-T	1.5	N	57m	2.90	1.70	C
PIL4015-2R2□-T	2.2	N	66m	2.50	1.60	E
PIL4015-3R3□-T	3.3	N	94m	2.20	1.45	G
PIL4015-4R7□-T	4.7	M	0.12	1.90	1.30	I
PIL4015-5R6□-T	5.6	M	0.14	1.60	1.20	J
PIL4015-6R8□-T	6.8	M	0.17	1.40	1.10	K
PIL4015-100□-T	10	M	0.23	1.10	0.95	M
PIL4015-150□-T	15	M	0.35	0.90	0.75	O
PIL4015-220□-T	22	M	0.49	0.80	0.63	Q
PIL4015-470□-T	47	M	1.08	0.55	0.50	U
PIL4015-101□-T	100	M	2.46	0.33	0.38	Y
PIL4018-1R0□-T	1.0	N	50m	4.70	1.85	A
PIL4018-1R5□-T	1.5	N	60m	3.70	1.70	C
PIL4018-1R8□-T	1.8	N	65m	3.40	1.65	D
PIL4018-2R2□-T	2.2	N	74m	3.20	1.60	E
PIL4018-3R3□-T	3.3	N	97m	2.70	1.45	G
PIL4018-4R7□-T	4.7	M	0.12	2.20	1.30	I
PIL4018-6R8□-T	6.8	M	0.17	1.80	1.15	K
PIL4018-100□-T	10	M	0.24	1.50	1.00	M
PIL4018-220□-T	22	M	0.49	1.00	0.63	Q
PIL4018-470□-T	47	M	1.17	0.75	0.49	U
PIL4018-101□-T	100	M	2.17	0.45	0.28	Y
PIL5010-1R0□-T	1.0	N	59m	1.80	1.90	A
PIL5010-1R5□-T	1.5	N	75m	1.50	1.70	C
PIL5010-2R2□-T	2.2	N	90m	1.20	1.60	E
PIL5010-3R3□-T	3.3	N	0.12	1.05	1.45	G
PIL5010-4R7□-T	4.7	M	0.14	0.80	1.35	I
PIL5010-6R8□-T	6.8	M	0.18	0.70	1.20	K

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Part Number	Inductance( $\mu$ H)/ 100KHz	Tolerance ( $\pm$ %)	RDC ( $\Omega$ ) $\pm$ 20%	Rated DC Current		Marking
				IDC1(A)	IDC2(A)	
PIL5010-100□-T	10	M	0.22	0.65	1.10	M
PIL5010-150□-T	15	M	0.31	0.53	0.93	O
PIL5010-220□-T	22	M	0.45	0.47	0.75	Q
PIL5010-330□-T	33	M	0.68	0.35	0.57	S
PIL5010-470□-T	47	M	1.10	0.30	0.45	U
PIL5012-1R0□-T	1.0	N	39m	2.50	2.20	A
PIL5012-1R5□-T	1.5	N	49m	2.10	2.05	C
PIL5012-2R2□-T	2.2	N	72m	1.90	1.80	E
PIL5012-3R3□-T	3.3	N	83m	1.60	1.65	G
PIL5012-4R7□-T	4.7	M	0.13	1.40	1.40	I
PIL5012-5R6□-T	5.6	M	0.14	1.20	1.35	J
PIL5012-6R8□-T	6.8	M	0.16	1.10	1.25	K
PIL5012-100□-T	10	M	0.25	0.90	1.05	M
PIL5012-150□-T	15	M	0.28	0.70	0.95	O
PIL5015-1R0□-T	1.0	N	52m	3.50	2.05	A
PIL5015-1R5□-T	1.5	N	61m	3.00	1.90	C
PIL5015-2R2□-T	2.2	N	71m	2.50	1.75	E
PIL5015-3R3□-T	3.3	N	92m	2.10	1.65	G
PIL5015-4R7□-T	4.7	M	0.10	1.90	1.55	I
PIL5015-6R8□-T	6.8	M	0.14	1.60	1.35	K
PIL5015-100□-T	10	M	0.21	1.30	1.10	M
PIL5015-150□-T	15	M	0.28	1.00	0.97	O
PIL5015-220□-T	22	M	0.40	0.80	0.79	Q
PIL5015-330□-T	33	M	0.61	0.65	0.60	S
PIL5015-470□-T	47	M	0.85	0.55	0.51	U
PIL5020-1R0□-T	1.0	N	48m	5.60	2.10	A
PIL5020-1R2□-T	1.2	N	58m	4.70	1.95	B
PIL5020-1R5□-T	1.5	N	66m	4.20	1.80	C
PIL5020-2R2□-T	2.2	N	77m	3.40	1.70	E
PIL5020-3R3□-T	3.3	N	89m	2.80	1.65	G
PIL5020-3R9□-T	3.9	N	97m	2.60	1.60	H
PIL5020-4R7□-T	4.7	M	0.11	2.40	1.50	I
PIL5020-6R8□-T	6.8	M	0.14	2.20	1.35	K
PIL5020-100□-T	10	M	0.17	2.00	1.20	M
PIL5020-150□-T	15	M	0.23	1.50	1.05	O
PIL5020-220□-T	22	M	0.35	1.20	0.85	Q
PIL5020-330□-T	33	M	0.48	1.00	0.70	S
PIL5020-470□-T	47	M	0.67	0.90	0.55	U

- When ordering, please specify tolerance and packaging codes. Ex: PIL3010-4R7M-T  
Tolerance : M= $\pm$ 20% , N = $\pm$  30%  
Packaging : Clear tape and reel { standard }.
- L, Idc : Agilent/HP 4284A , 1MHz with 200mV.
- Rdc : DIGITAL MILLIOHM METER Chroma 16502, or equivalent.
- SRF : E4991
- Idc1 : Based on Inductance decrease 30%
- Idc2 : Based on Temperature increase 40°C
- Operating temperature range from -40°C to 105°C (Including self-temperature rise)
- Storage Temp. : -40°C to +85°C

\* Parts/Reel: 3,000 Tape Width: 12mm

\* All specification are subject to change without notice. Please contact our sales representatives for details.