

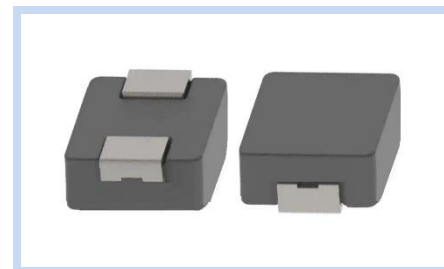
Molded Power Inductor High Current Shielded Type

PIM-0312A1 series

MERITEK

FEATURE

- High Current, Low DCR, High Efficiency
- Minimized Acoustic and Leakage Flux Noise
- Shielded and Compact Construction Design
- Application: Notebook, PC, Servers, DC/DC Converter, High Current Converter, Battery Powered Devices



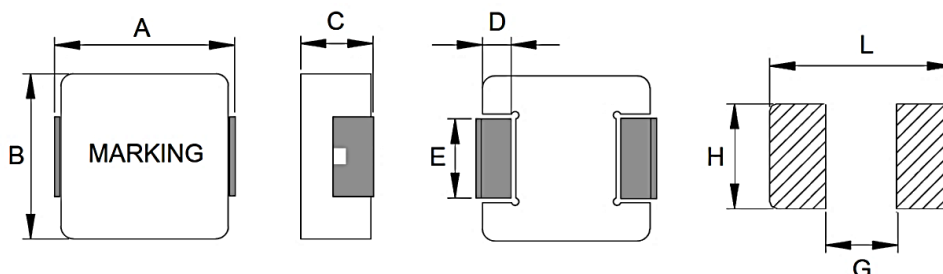
ELECTRICAL CHARACTERISTICS

Item	Inductance (μH)	Tolerance (%)	DCR Typ. (mΩ)	DCR Max. (mΩ)	I _{SAT} Typ. (A)	I _{RMS} Typ. (A)
PIMR22M0312A1	0.22	±20%	14	17	10.0	6.50
PIMR33M0312A1	0.33	±20%	16	20	9.20	6.20
PIMR36M0312A1	0.36	±20%	18.5	23	8.50	6.00
PIMR47M0312A1	0.47	±20%	25	30	7.20	5.00
PIMR56M0312A1	0.56	±20%	31	36	6.60	4.50
PIMR68M0312A1	0.68	±20%	34	40	6.10	4.00
PIMR82M0312A1	0.82	±20%	41	48	5.80	3.50
PIM1R0M0312A1	1.0	±20%	50	60	5.50	3.30
PIM1R5M0312A1	1.5	±20%	71	85	4.00	3.00
PIM2R2M0312A1	2.2	±20%	98	115	3.40	2.70
PIM3R3M0312A1	3.3	±20%	191	210	3.10	2.00
PIM4R7M0312A1	4.7	±20%	266	293	2.80	1.60
PIM5R6M0312A1	5.6	±20%	310	360	2.20	1.50
PIM6R8M0312A1	6.8	±20%	360	400	2.00	1.40
PIM8R2M0312A1	8.2	±20%	420	463	1.70	1.20
PIM100M0312A1	10.0	±20%	498	550	1.40	1.00

Note:

1. Inductance test under 100KRz, 1.0V
2. All test data referenced to 25°C ambient
3. I_{SAT} based on inductance drop (ΔL/L0: ≤30%) approximately
4. I_{RMS} based on temperature rise (ΔT: 40 °C) approximately
5. Operating temperature: -40°C ~ +125°C (Including Self-temperature rise)

DIMENSIONS



(Unit: mm)

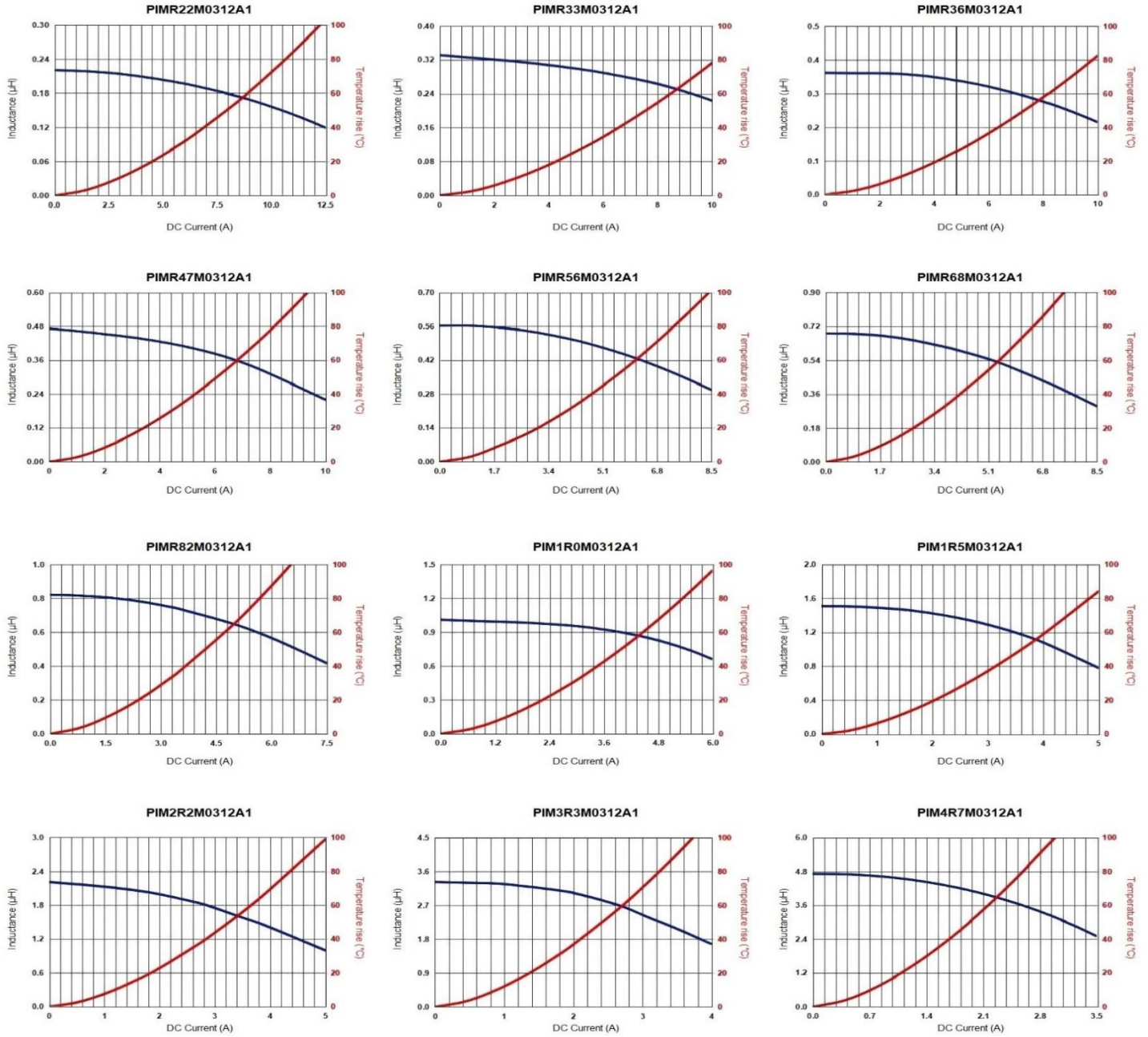
Size Code	A	B	C	D	E	L	G	H
0312	3.5±0.20	3.2±0.20	1.0±0.2	0.7±0.20	1.2±0.20	4.1	1.9	1.45

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CHARACTERISTIC CURVES

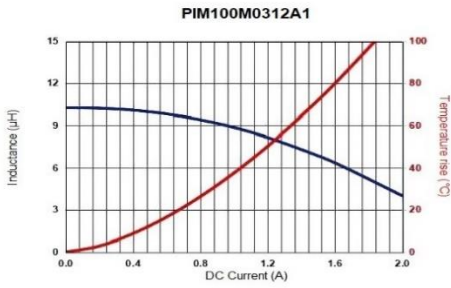
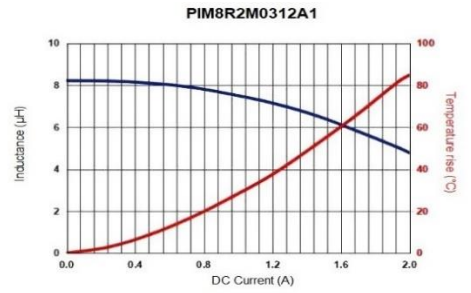
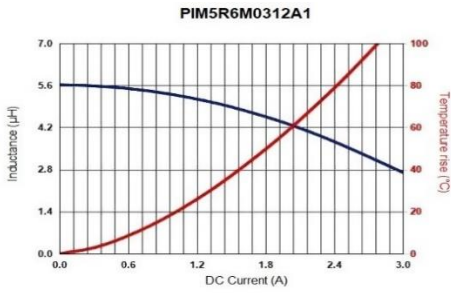


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CHARACTERISTIC CURVES

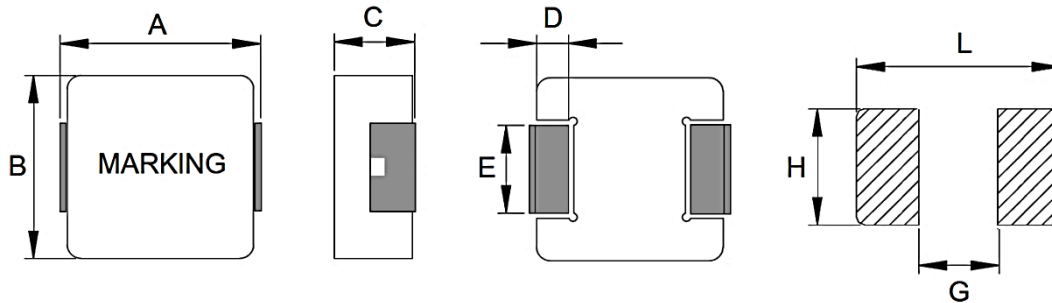


Molded Power Inductor High Current Shielded Type

PIM-0312A1 series

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DIMENSIONS – PIM-A1 series



(Unit: mm)

Size Code	A	B	C	D	E	L	G	H
0302	3.5±0.20	3.2±0.20	1.8±0.2	0.7±0.20	1.2±0.20	4.1	1.9	1.45
0312	3.5±0.20	3.2±0.20	1.0±0.2	0.7±0.20	1.2±0.20	4.1	1.9	1.45
0315	3.5±0.20	3.2±0.20	1.3±0.2	0.7±0.20	1.2±0.20	4.1	1.9	1.45
0402	4.45±0.25	4.06±0.25	1.8±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4
0412	4.45±0.25	4.06±0.25	1.0±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4
0415	4.45±0.25	4.06±0.25	1.3±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4
0502	5.7±0.30	5.2±0.20	1.8±0.2	1.1±0.30	2.5±0.30	6.2	2.2	2.8
0503	5.7±0.30	5.2±0.20	2.8±0.2	1.1±0.30	1.5±0.20	6.2	2.5	1.8
0512	5.7±0.30	5.2±0.20	1.0±0.2	1.1±0.30	2.5±0.30	6.2	2.2	2.8
0515	5.7±0.30	5.2±0.20	1.3±0.2	1.1±0.30	2.5±0.30	6.2	2.2	2.8
0518	5.7±0.30	5.2±0.20	1.6±0.2	1.1±0.30	2.5±0.30	6.2	2.2	2.8
053P	5.7±0.30	5.2±0.20	2.8±0.2	1.1±0.30	2.5±0.30	6.5	2.5	2.8
053T	4.9±0.30	4.7±0.20	2.8±0.2	1.0±0.30	1.5±0.30	7.0	3.0	2.5
0612	7.0±0.30	6.6±0.30	1.0±0.2	1.8±0.30	2.5±0.30	7.7	2.5	3.0
0615	7.0±0.30	6.6±0.30	1.3±0.2	1.8±0.30	3.0±0.30	7.7	2.5	3.5
0618	7.0±0.30	6.6±0.30	1.6±0.2	1.8±0.30	3.0±0.30	7.7	2.5	3.5
0602	7.0±0.30	6.6±0.30	1.8±0.2	1.8±0.30	3.0±0.30	7.7	2.5	3.5
0624	7.3±0.30	6.6±0.30	2.2±0.2	1.8±0.30	3.0±0.30	7.7	2.5	3.5
0603	7.3±0.30	6.6±0.30	2.8±0.2	1.8±0.30	3.0±0.30	8.4	2.5	3.5
0604	7.3±0.30	6.6±0.30	3.8±0.2	1.8±0.30	3.0±0.30	8.4	2.5	3.5
0605	7.3±0.30	6.6±0.30	4.8±0.2	1.8±0.30	3.0±0.30	8.4	2.5	3.5
0803	8.8±0.40	8.4±0.30	2.8±0.2	1.6±0.30	5.0±0.30	9.6	4.5	5.5
0840	8.8±0.40	8.4±0.30	3.8±0.2	1.6±0.30	5.0±0.30	9.6	4.5	5.5
1002	11.0±0.50	10.0±0.30	1.8±0.2	2.3±0.30	3.0±0.30	12.5	5.4	3.5
1003	11.0±0.50	10.0±0.30	2.8±0.2	2.3±0.30	3.0±0.30	13.6	5.4	3.5
1004	11.0±0.50	10.0±0.30	3.8±0.2	2.3±0.30	3.0±0.30	13.6	5.4	3.5
1005	11.0±0.50	10.0±0.30	4.8±0.2	2.3±0.30	3.0±0.30	13.6	5.4	3.5
1235	13.5±0.50	12.5±0.30	3.3±0.2	2.3±0.30	4.7±0.30	14.2	8.0	5.0
1205	13.5±0.50	12.5±0.30	4.8±0.2	2.3±0.30	4.7±0.30	14.2	8.0	5.0
1206	13.5±0.50	12.5±0.30	5.7±0.2	2.3±0.30	4.7±0.30	14.2	8.0	5.0
1265	13.5±0.50	12.5±0.30	6.2±0.3	2.3±0.30	4.7±0.30	14.2	8.0	5.0
1707	18.0 max	16.9±0.30	6.7±0.3	2.1±0.30	11.9±0.30	18.5	12.2	12.5

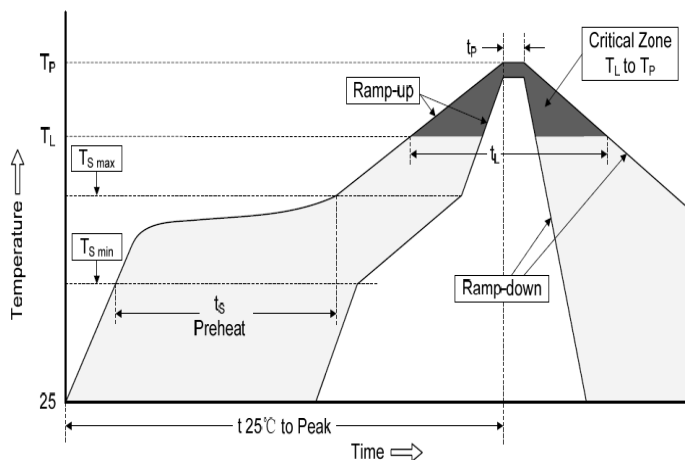
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RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	Temp. Min $T_{s(min)}$	150°C
	Temp. Max $T_{s(max)}$	200°C
	Time (min. to max.) (t_s)	60~120 seconds
Average ramp up rate $T_{s(max)}$ to T_L		3°C/second max.
Average ramp up rate T_L to peak		3°C/second max.
Reflow	Temp. (T_L)	217°C
	Time (min. to max.) (t_L)	60~150 seconds
Peak Temperature (T_P)		245°C
Time within 5°C of actual peak Temperature (t_p)		10 seconds
Ramp-down Rate		6°C/second max.
Reflow Times		3 times max.



PART NUMBERING SYSTEM

PIM 470 M 0312 A1
(1) (2) (3) (4) (5)

No	Item	Code	Description
(1)	Product Code	PIM	Power Inductor Series, Molded Surface Mount Type
(2)	Inductance	470	470: 47μH R47: 0.47μH, 2R2: 2.2μH, 100: 10μH
(3)	Tolerance	M	M: ±20% N: ±30%
(4)	Size Code	0312	0312: 3.5x1.0mm Width x Height (mm)
(5)	Series Code	A1	High Current Molded Type Internal control or project reference

*Specifications subject to change without notice.