

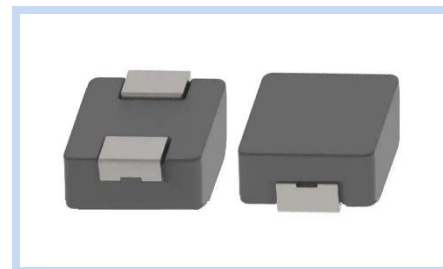
Molded Power Inductor High Current Shielded Type

PIM-053PA1 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



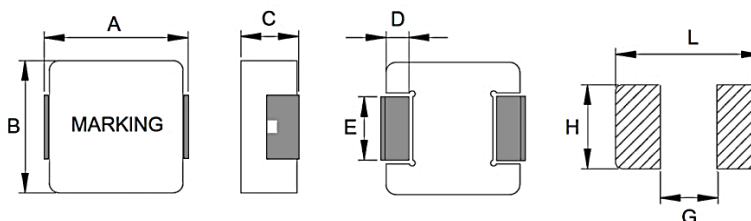
ELECTRICAL CHARACTERISTICS

Item	Inductance (μH)	Tolerance (%)	DCR Typ. (mΩ)	DCR Max. (mΩ)	I _{SAT} Typ. (A)	I _{RMS} Typ. (A)
PIM10N053PA1	0.10	±30%	2.2	2.6	40.0	24.0
PIM15N053PA1	0.15	±30%	2.5	3.0	37.0	22.0
PIM22M053PA1	0.22	±20%	3.2	3.8	32.0	19.0
PIM33M053PA1	0.33	±20%	4.3	5.0	20.0	15.0
PIM47M053PA1	0.47	±20%	6.3	7.1	18.0	13.0
PIM56M053PA1	0.56	±20%	7.8	8.6	17.0	12.0
PIM68M053PA1	0.68	±20%	8.0	9.0	15.5	11.0
PIM82M053PA1	0.82	±20%	8.8	10.0	14.0	10.0
PIM1R0M053PA1	1.0	±20%	11.0	12.7	13.0	9.0
PIM1R5M053PA1	1.5	±20%	14.4	16.6	11.5	8.0
PIM2R2M053PA1	2.2	±20%	26.0	29.2	11.0	7.0
PIM3R3M053PA1	3.3	±20%	33.0	38.0	9.0	6.0
PIM4R7M053PA1	4.7	±20%	48.0	53.0	8.0	5.5
PIM5R6M053PA1	5.6	±20%	54.0	62.0	7.3	4.7
PIM6R8M053PA1	6.8	±20%	68.0	76.2	6.0	4.2
PIM8R2M053PA1	8.2	±20%	85.0	97.0	5.0	3.8
PIM100M053PA1	10.0	±20%	104	120	4.0	3.5
PIM150M053PA1	15.0	±20%	165	190	3.2	2.7
PIM220M053PA1	22.0	±20%	217	250	2.7	2.2

Note:

1. Inductance test under 100KRz, 1.0V
2. All test data referenced to 25°C ambient
3. I_{SAT} based on inductance drop ($\Delta L/L_0: \leq 30\%$) approximately
4. I_{RMS} based on temperature rise ($\Delta T: 40^\circ\text{C}$) approximately
5. Operating temperature: -40°C ~ +125°C (Including Self-temperature rise)

DIMENSIONS



(Unit: mm)

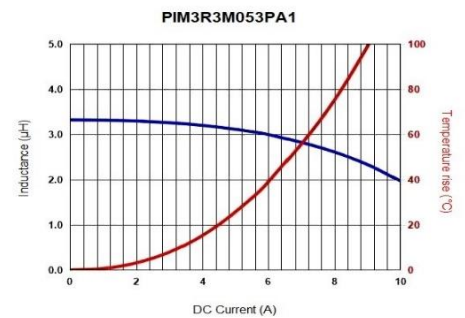
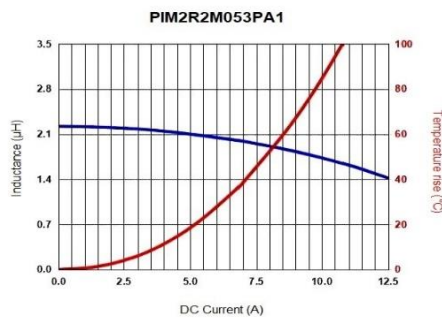
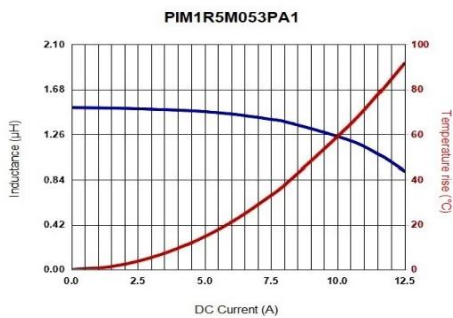
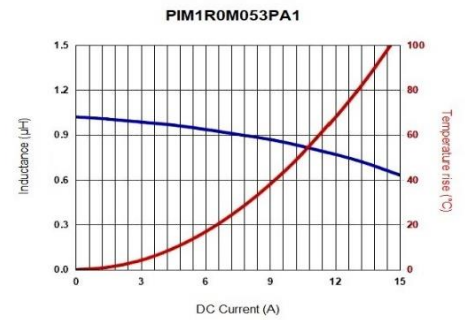
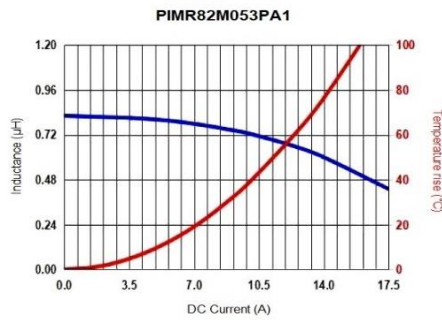
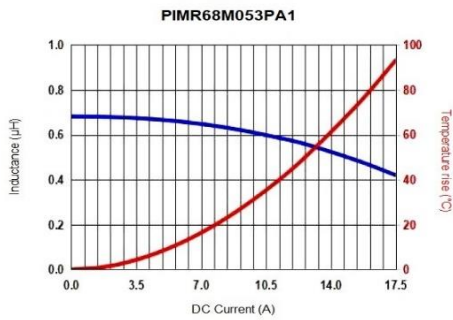
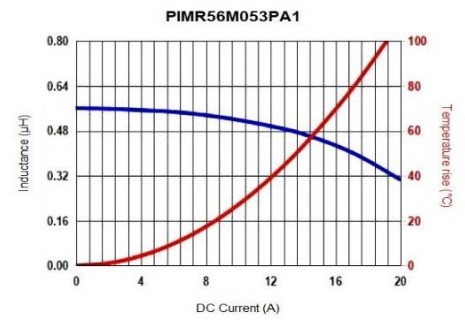
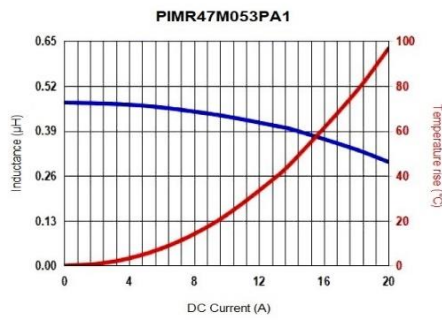
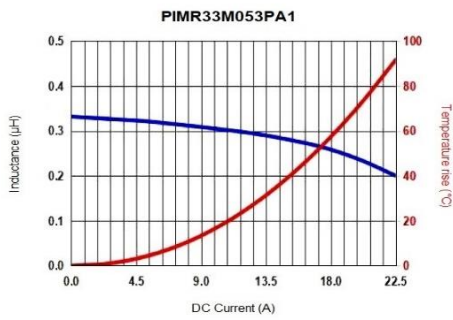
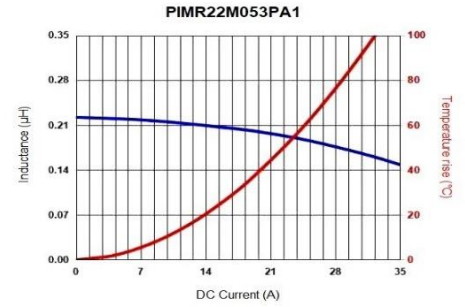
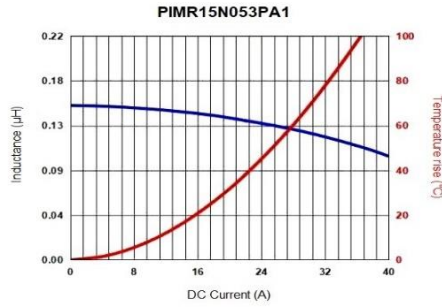
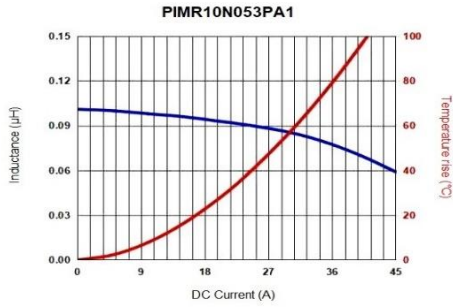
Size Code	A	B	C	D	E	L	G	H
053P	5.7±0.30	5.2±0.20	2.8±0.2	1.1±0.30	2.5±0.30	6.5	2.5	2.8

Molded Power Inductor High Current Shielded Type

PIM-053PA1 series

MERITEK

CHARACTERISTIC CURVES

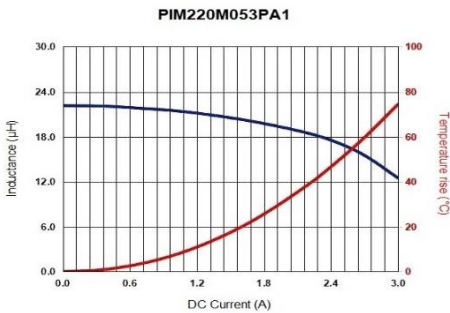
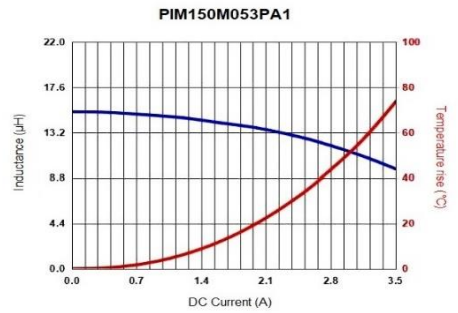
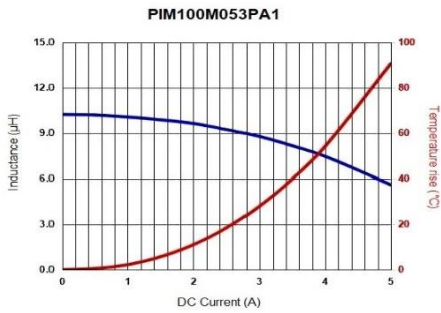
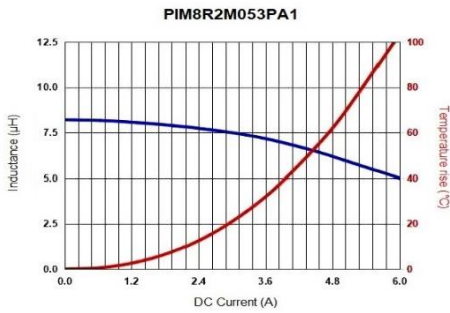
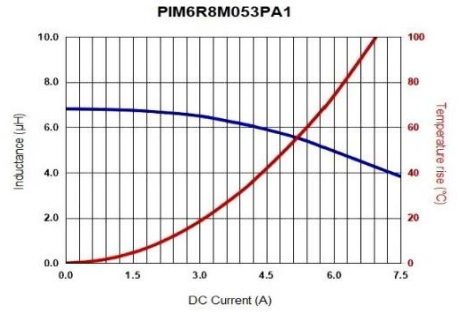
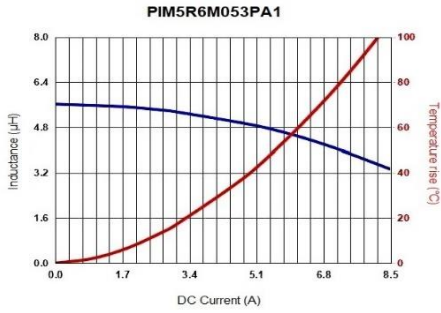
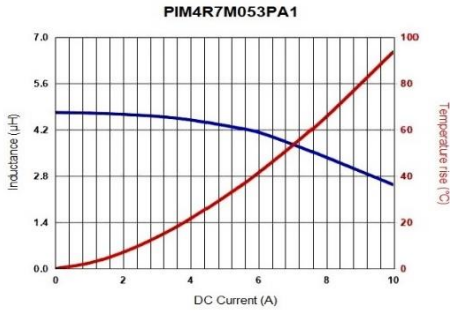


Molded Power Inductor High Current Shielded Type

PIM-053PA1 series

MERITEK

CHARACTERISTIC CURVES

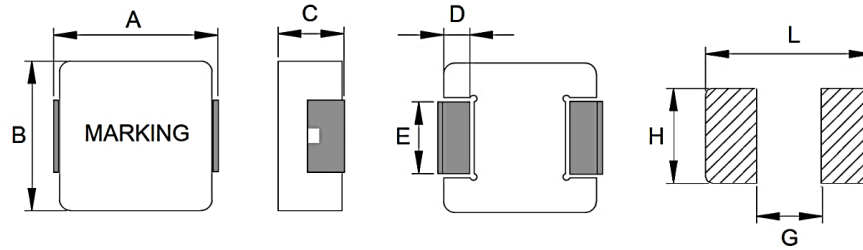


Molded Power Inductor High Current Shielded Type

PIM-053PA1 series

MERITEK

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

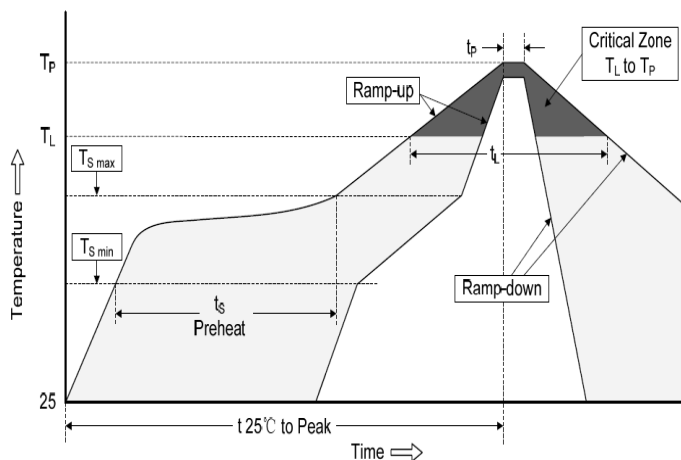
Molded Power Inductor High Current Shielded Type

PIM-053PA1 series

MERITEK

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 (1) R47 (2) M (3) 053P (4) A1 (5)

No	Item	Code	Description
(1)	Product Code	PIM	Power Inductor Series, Molded Surface Mount Type
(2)	Inductance	R47	R47: 0.47μH 2R2: 2.2μH, 100: 10μH
(3)	Tolerance	M	M: ±20% N: ±30%
(4)	Size Code	053P	053P: 5.7x2.8mm Width x Height (mm)
(5)	Series Code	A1	High Current Molded Type Internal control or project reference

*Specifications subject to change without notice.