

SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI-E TYPE

FEATURES

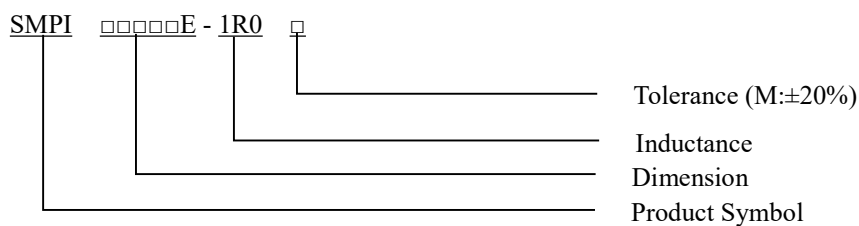
- ◆ Magnetic shielding structure: excellent resistance to electromagnetic interference (EMI).
- ◆ Die-casting by low loss alloy powder: low impedance.
- ◆ High efficiency, wide application frequency and application scope.



APPLICATIONS

- ◆ Servers.
- ◆ Graphics cards.
- ◆ Various categories of consumer electronics.

ORDERING CODE



SHAPES

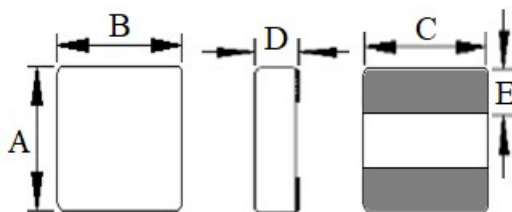


Fig 1.

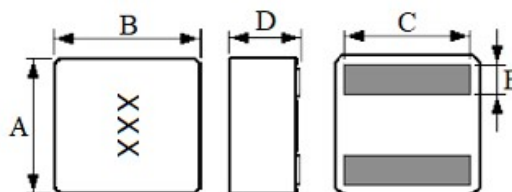


Fig 2.



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DIMENSIONS (UNIT: mm)

Part No.	Fig.	A	B	C (REF)	D(MAX)	E (REF)
SMPI 02010E	1	2.0 ± 0.3	1.6 ± 0.3	1.6	1.1	0.7
SMPI 02510E	1	2.5 ± 0.3	2.0 ± 0.3	2.0	1.1	0.7
SMPI 02512E	1	2.5 ± 0.3	2.0 ± 0.3	2.0	1.3	0.7
SMPI 03212E	1	3.2 ± 0.3	2.5 ± 0.3	2.5	1.3	1.0
SMPI 03220E	1	3.2 ± 0.3	2.5 ± 0.3	2.5	2.1	1.0
SMPI 04010E	1	4.0 ± 0.3	4.0 ± 0.3	4.0	1.1	1.2
SMPI 04012E	1	4.0 ± 0.3	4.0 ± 0.3	4.0	1.3	1.2
SMPI 04020E	1	4.0 ± 0.3	4.0 ± 0.3	4.0	2.1	1.2
SMPI 04030E	1	4.0 ± 0.3	4.0 ± 0.3	4.0	3.1	1.2
SMPI 04040E	1	4.0 ± 0.3	4.0 ± 0.3	4.0	4.1	1.2
SMPI 05050E	2	5.5 ± 0.3	5.6 ± 0.3	4.3	5.0	1.2
SMPI 06030E	2	6.4 ± 0.3	6.6 ± 0.3	5.3	3.1	1.4
SMPI 06060E	2	6.4 ± 0.3	6.6 ± 0.3	5.3	6.1	1.4
SMPI 07070E	2	7.2 ± 0.5	7.5 ± 0.5	6.2	7.1	1.7
SMPI 10100E	2	10.5 ± 0.5	11.6 ± 0.5	8.3	10.1	2.2
SMPI 15080E	2	15.5 ± 0.5	16.5 ± 0.5	13.2	8.1	3.2
SMPI 15100E	2	15.8 ± 0.5	16.5 ± 0.5	13.2	10.1	3.2

ELECTRICAL CHARACTERISTICS FOR SMPI 02010E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI02010E-R24M	0.24	100KHz/1V	6.3	7.2	20
SMPI02010E-R33M	0.33	100KHz/1V	5.0	7.1	30
SMPI02010E-R47M	0.47	100KHz/1V	4.5	7.0	35
SMPI02010E-R68M	0.68	100KHz/1V	4.0	4.5	52
SMPI02010E-1R0M	1.00	100KHz/1V	3.0	3.5	76
SMPI02010E-1R5M	1.50	100KHz/1V	2.1	3.0	120
SMPI02010E-2R2M	2.20	100KHz/1V	1.6	2.4	204

ELECTRICAL CHARACTERISTICS FOR SMPI 02510E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI02510E-R33M	0.33	100KHz/1V	6.5	8.5	22
SMPI02510E-R47M	0.47	100KHz/1V	4.5	6.5	25
SMPI02510E-1R0M	1.00	100KHz/1V	3.5	4.5	52
SMPI02510E-1R5M	1.50	100KHz/1V	3.0	3.5	105
SMPI02510E-2R2M	2.20	100KHz/1V	2.3	3.0	118
SMPI02510E-3R3M	3.30	100KHz/1V	1.8	2.3	175
SMPI02510E-4R7M	4.70	100KHz/1V	1.6	1.8	235



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ELECTRICAL CHARACTERISTICS FOR SMPI 02512E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI02512E-R22M	0.22	100KHz/1V	9.0	10.0	13
SMPI02512E-R33M	0.33	100KHz/1V	6.5	9.0	20
SMPI02512E-R47M	0.47	100KHz/1V	5.5	8.0	26
SMPI02512E-R68M	0.68	100KHz/1V	5.2	6.5	35
SMPI02512E-1R0M	1.00	100KHz/1V	5.0	5.5	37
SMPI02512E-1R5M	1.50	100KHz/1V	3.2	5.0	70
SMPI02512E-2R2M	2.20	100KHz/1V	2.6	3.5	92
SMPI02512E-3R3M	3.30	100KHz/1V	2.0	3.0	138
SMPI02512E-4R7M	4.70	100KHz/1V	1.8	2.5	190
SMPI02512E-6R8M	6.80	100KHz/1V	1.6	2.0	275
SMPI02512E-100M	10.0	100KHz/1V	1.2	1.5	405

ELECTRICAL CHARACTERISTICS FOR SMPI 03212E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI03212E-R10M	0.10	100KHz/1V	8.5	16.0	13
SMPI03212E-R22M	0.22	100KHz/1V	8.0	14.0	14
SMPI03212E-R47M	0.47	100KHz/1V	6.0	12.0	24
SMPI03212E-R56M	0.56	100KHz/1V	5.0	10.0	30
SMPI03212E-R68M	0.68	100KHz/1V	4.5	8.0	32
SMPI03212E-1R0M	1.00	100KHz/1V	4.0	7.0	35
SMPI03212E-1R5M	1.50	100KHz/1V	3.5	6.0	62
SMPI03212E-2R2M	2.20	100KHz/1V	3.0	4.5	75
SMPI03212E-3R3M	3.30	100KHz/1V	2.5	3.5	127
SMPI03212E-4R7M	4.70	100KHz/1V	2.0	3.0	192
SMPI03212E-6R8M	6.80	100KHz/1V	2.0	2.8	210
SMPI03212E-100M	10.00	100KHz/1V	1.8	2.5	322



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ELECTRICAL CHARACTERISTICS FOR SMPI 03220E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI03220E-R47M	0.47	100KHz/1V	7.0	12.0	13
SMPI03220E-R68M	0.68	100KHz/1V	6.5	11.0	16
SMPI03220E-1R0M	1.00	100KHz/1V	5.4	10.0	22
SMPI03220E-1R5M	1.50	100KHz/1V	4.5	7.5	31
SMPI03220E-2R2M	2.20	100KHz/1V	4.0	7.0	46
SMPI03220E-3R3M	3.30	100KHz/1V	3.0	5.5	65
SMPI03220E-4R7M	4.70	100KHz/1V	2.8	4.5	120
SMPI03220E-6R8M	6.80	100KHz/1V	2.3	4.0	170

ELECTRICAL CHARACTERISTICS FOR SMPI 04010E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI04010E-1R0M	1.0	100KHz/1V	3.5	7.0	46
SMPI04010E-1R5M	1.5	100KHz/1V	3.4	5.0	70
SMPI04010E-2R2M	2.2	100KHz/1V	3.2	4.5	85
SMPI04010E-3R3M	3.3	100KHz/1V	2.8	4.0	120
SMPI04010E-4R7M	4.7	100KHz/1V	2.5	3.0	160
SMPI04010E-6R8M	6.8	100KHz/1V	2.0	2.5	185
SMPI04010E-100M	10.0	100KHz/1V	1.5	2.0	330

ELECTRICAL CHARACTERISTICS FOR SMPI 04012E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI04012E-R25M	0.25	100KHz/0.1V	8.0	11.0	10
SMPI04012E-R47M	0.47	100KHz/0.1V	7.0	9.5	25
SMPI04012E-R68M	0.68	100KHz/0.1V	6.0	8.0	30
SMPI04012E-1R0M	1.0	100KHz/0.1V	5.0	7.0	33
SMPI04012E-1R5M	1.5	100KHz/0.1V	4.2	6.5	55
SMPI04012E-2R2M	2.2	100KHz/0.1V	4.0	6.0	63
SMPI04012E-3R3M	3.3	100KHz/0.1V	3.5	5.0	90
SMPI04012E-4R7M	4.7	100KHz/0.1V	3.0	4.5	110
SMPI04012E-5R6M	5.6	100KHz/0.1V	2.5	4.0	140
SMPI04012E-6R8M	6.8	100KHz/0.1V	2.3	3.5	160
SMPI04012E-100M	10.0	100KHz/0.1V	1.8	2.5	240



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ELECTRICAL CHARACTERISTICS FOR SMPI 04020E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI04020E-R22M	0.22	100KHz/1V	24.0	25.0	2.6
SMPI04020E-R47M	0.47	100KHz/1V	13.2	16.0	4.4
SMPI04020E-R68M	0.68	100KHz/1V	10.0	12.5	6.4
SMPI04020E-1R0M	1.00	100KHz/1V	14.0	11.0	8.9
SMPI04020E-1R5M	1.50	100KHz/1V	6.0	10.0	20.0
SMPI04020E-2R2M	2.20	100KHz/1V	5.0	8.0	34.0
SMPI04020E-3R3M	3.30	100KHz/1V	4.5	6.0	43.0
SMPI04020E-4R7M	4.70	100KHz/1V	4.0	5.5	63.0
SMPI04020E-5R6M	5.60	100KHz/1V	4.0	5.3	67.0
SMPI04020E-100M	10.00	100KHz/1V	3.4	4.9	125.0
SMPI04020E-220M	22.00	100KHz/1V	1.7	2.8	280.0

ELECTRICAL CHARACTERISTICS FOR SMPI 04030E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI04030E-R15M	0.15	100KHz/1V	26.0	24.0	1.9
SMPI04030E-R30M	0.30	100KHz/1V	24.0	17.0	2.9
SMPI04030E-R47M	0.47	100KHz/1V	21.2	14.2	3.9
SMPI04030E-R68M	0.68	100KHz/1V	14.0	12.0	4.8
SMPI04030E-1R0M	1.0	100KHz/1V	13.0	10.3	7.2
SMPI04030E-1R5M	1.5	100KHz/1V	10.2	8.8	10.5
SMPI04030E-2R2M	2.2	100KHz/1V	8.7	7.0	15.0
SMPI04030E-3R3M	3.3	100KHz/1V	7.5	5.3	32.0
SMPI04030E-4R7M	4.7	100KHz/1V	5.1	5.1	44.1
SMPI04030E-6R8M	6.8	100KHz/1V	4.7	4.0	70.0
SMPI04030E-8R2M	8.2	100KHz/1V	4.2	3.5	55.7
SMPI04030E-100M	10.0	100KHz/1V	3.9	3.2	99.8



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ELECTRICAL CHARACTERISTICS FOR SMPI 04040E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI04040E-R15M	0.15	100KHz/1V	30.2	21.0	1.8
SMPI04040E-R30M	0.30	100KHz/1V	24.6	15.3	2.6
SMPI04040E-R47M	0.47	100KHz/1V	20.8	12.2	3.2
SMPI04040E-R68M	0.68	100KHz/1V	18.3	10.5	4.0
SMPI04040E-1R0M	1.00	100KHz/1V	14.8	9.3	5.6
SMPI04040E-1R5M	1.50	100KHz/1V	12.5	7.9	7.9
SMPI04040E-2R2M	2.20	100KHz/1V	11.0	6.4	11.5
SMPI04040E-3R3M	3.30	100KHz/1V	8.7	5.5	16.6
SMPI04040E-4R7M	4.70	100KHz/1V	7.1	4.4	24.5
SMPI04040E-6R8M	6.80	100KHz/1V	5.6	4.0	34.7
SMPI04040E-100M	10.00	100KHz/1V	5.0	2.8	50.5

ELECTRICAL CHARACTERISTICS FOR SMPI 05050E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI05050E-1R5M	1.5	100KHz/1V	17.1	13.1	5.7
SMPI05050E-4R7M	4.7	100KHz/1V	9.7	7.0	16.0
SMPI05050E-5R6M	5.6	100KHz/1V	7.2	7.2	24.2
SMPI05050E-6R8M	6.8	100KHz/1V	6.4	6.6	28.6
SMPI05050E-8R2M	8.2	100KHz/1V	6.1	6.1	32.5
SMPI05050E-100M	10	100KHz/1V	5.0	5.4	43.0

ELECTRICAL CHARACTERISTICS FOR SMPI 06030E

Part No.	Inductance (uH) @(0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI06030E-R18M	0.18	100KHz / 1V	32	39.0	1.75
SMPI06030E-R56M	0.56	100KHz / 1V	22	29.0	3.45
SMPI06030E-1R0M	1.00	100KHz / 1V	18	23.0	6.18
SMPI06030E-2R2M	2.20	100KHz / 1V	10	16.0	14.00
SMPI06030E-3R3M	3.30	100KHz / 1V	8	12.2	20.81
SMPI06030E-4R7M	4.70	100KHz / 1V	8	9.0	28.00



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ELECTRICAL CHARACTERISTICS FOR SMPI 06060E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI06060E-3R3M	3.3	100KHz/1V	13	15.0	13.0
SMPI06060E-4R7M	4.7	100KHz/1V	11	10.5	14.4
SMPI06060E-6R8M	6.8	100KHz/1V	9	9.5	20.8
SMPI06060E-8R2M	8.2	100KHz/1V	8	8.4	26.0
SMPI06060E-100M	10.0	100KHz/1V	7	7.6	29.8

ELECTRICAL CHARACTERISTICS FOR SMPI 07070E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI07070E-1R0M	1.0	100KHz/1V	25.0	34.8	2.81
SMPI07070E-2R2M	2.2	100KHz/1V	17.8	19.6	6.50
SMPI07070E-3R3M	3.3	100KHz/1V	15.1	19.4	9.42
SMPI07070E-4R7M	4.7	100KHz/1V	13.6	15.2	14.26
SMPI07070E-5R6M	5.6	100KHz/1V	11.4	13.0	15.03
SMPI07070E-6R8M	6.8	100KHz/1V	9.2	12.8	19.62
SMPI07070E-100M	10.0	100KHz/1V	9.3	7.5	20.17
SMPI07070E-120M	12.0	100KHz/1V	8.2	7.4	22.23
SMPI07070E-150M	15.0	100KHz/1V	7.4	7.0	29.52
SMPI07070E-180M	18.0	100KHz/1V	6.8	6.3	32.82
SMPI07070E-220M	22.0	100KHz/1V	6.5	5.6	39.69
SMPI07070E-330M	33.0	100KHz/1V	4.9	4.4	62.08
SMPI07070E-470M	47.0	100KHz/1V	4.1	4.2	97.07

ELECTRICAL CHARACTERISTICS FOR SMPI 10100E

Part No.	Inductance (uH) @ (0A)	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI10100E-2R2M	2.2	100KHz/1V	32.0	34.0	2.80
SMPI10100E-3R3M	3.3	100KHz/1V	25.0	27.4	4.10
SMPI10100E-4R7M	4.7	100KHz/1V	22.0	25.4	5.70
SMPI10100E-5R6M	5.6	100KHz/1V	21.2	23.6	6.93
SMPI10100E-6R8M	6.8	100KHz/1V	18.5	21.8	8.90
SMPI10100E-8R2M	8.2	100KHz/1V	17.1	18.3	12.90
SMPI10100E-100M	10.0	100KHz/1V	15.5	17.5	14.75
SMPI10100E-150M	15.0	100KHz/1V	13.8	15.5	19.30
SMPI10100E-220M	22.0	100KHz/1V	12.0	12.0	22.00



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SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI-E TYPE

ELECTRICAL CHARACTERISTICS FOR SMPI 15080E

Part No.	Inductance (uH) @0A	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI15080E-2R0M	2.0	100KHz/1V	39.9	51.0	2.29
SMPI15080E-3R0M	3.0	100KHz/1V	34.4	43.0	3.10
SMPI15080E-4R5M	4.5	100KHz/1V	27.0	34.2	4.58
SMPI15080E-5R3M	5.3	100KHz/1V	26.5	33.0	5.22
SMPI15080E-150M	15.0	100KHz/1V	15.0	18.0	15.00

ELECTRICAL CHARACTERISTICS FOR SMPI 15100E

Part No.	Inductance (uH) @0A	Test Frequency	Heat Rating Current Irms(A)	Saturation Current Isat (A) drop30%	RDC (mΩ) MAX
SMPI15100E-4R7M	4.7	100KHz/1V	29	39.0	3.8
SMPI15100E-6R8M	6.8	100KHz/1V	26	36.0	4.6
SMPI15100E-8R2M	8.2	100KHz/1V	24	30.0	7.5
SMPI15100E-100M	10.0	100KHz/1V	22	26.3	9.0
SMPI15100E-150M	15.0	100KHz/1V	18	23.0	12.4
SMPI15100E-220M	22.0	100KHz/1V	14	18.7	16.0
SMPI15100E-330M	33.0	100KHz/1V	12	16.7	20.0

Notes:

- 1) You require another part number please contact with us.
- 2) Inductance Tolerance $\pm 20\%$; Frequency Test : 100KHz/1.0v
- 3) All test data is referenced to 25°C ambient.
- 4) Irms : DC current (A) that will cause an approximate ΔT of 40°C
- 5) Isat : DC current (A) that will cause L_o to drop approximately 30%
- 6) We can design according to customer's request.



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