

### APS Series

#### Features

- Alloy powder Inductor.
- 100% lead (Pb)-free.
- Lowest DCR/uH, in this package size.
- Handles high transient current spikes without saturation.
- Ultra low buzz noise, due to composite construction.

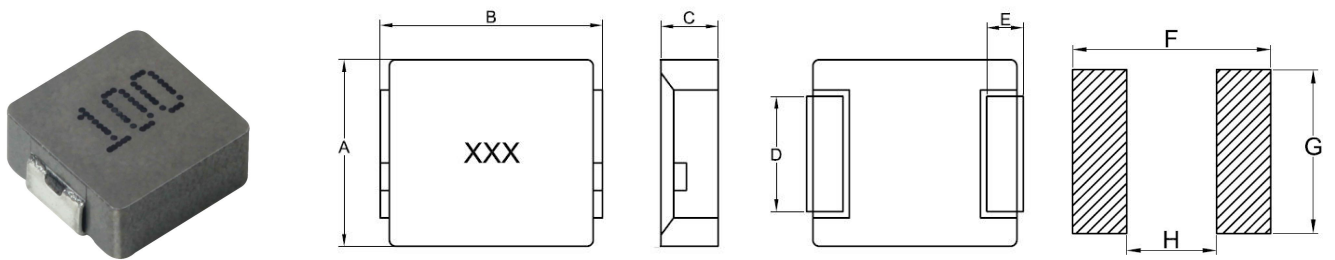
#### Applications

- Notebook/Desktop/Server applications.
- Low profile, high current power supplies.
- DC/DC converter for Field Programmable Gate Array(FPGA).

#### Test Equipment and Conditions

- All test data is referenced to 25°C ambient.
- Operating Temperature Range-40°C to +125°C.
- DC current(A)that will cause an approximate $\Delta T$  of 40°C.
- DC current(A)that will cause Lo to drop approximately 40%.
- The part temperature(ambient + temp rise)should not exceed.
- RoHS compliance.
- Qualified to AEC-Q200.

#### External Dimensions (Unit:m/m)



Type	A	B	C	D Typ.	E Typ.	F Typ.	G Typ.	H Typ.	Q'Ty/Reel
APS03A20	3.2±0.3	3.8Max	2.0Max	1.2	0.7	4.1	1.45	1.9	3000
APS04A12	4.2±0.3	4.8Max	1.2Max	2.0	0.8	5.2	2.5	2.2	3000
APS04A20	4.2±0.3	4.8Max	2.0Max	2.0	0.8	5.2	2.5	2.2	3000
APS05A18	5.2±0.3	5.8Max	1.8Max	2.2	1.2	6.0	2.5	2.2	2000
APS05A30	5.2±0.3	5.8Max	3.0Max	2.2	1.2	6.0	2.5	2.2	2000
APS07A12	6.6±0.3	7.7Max	1.2Max	3.0	1.6	8.4	3.5	3.7	1500
APS07A18	6.6±0.3	7.7Max	1.8Max	3.0	1.6	8.4	3.5	3.7	1500
APS07A24	6.6±0.3	7.7Max	2.4Max	3.0	1.6	8.4	3.5	3.7	1500
APS07A30	6.6±0.3	7.7Max	3.0Max	3.0	1.6	8.4	3.5	3.7	1000
APS07A40	6.6±0.3	7.7Max	4.0Max	3.0	1.6	8.4	3.5	3.7	1000
APS07A50	6.6±0.3	7.7Max	5.0Max	3.0	1.7	8.4	3.5	3.6	1000
APS10A40	10.0±0.5	11.5Max	4.0Max	3.0	2.0	13.5	4.1	5.4	500
APS13A50	12.6±0.3	13.9Max	5.0Max	5.0	2.0	14.5	5.0	8.0	500
APS13A60	12.6±0.3	13.9Max	6.0Max	5.0	2.0	14.5	5.0	8.0	500
APS17A70	16.9±0.3	17.5Max	7.0Max	11.9	2.1	20.0	12.3	12.4	200

### Part Number Code

APS   03   A   20   M   R47  
 A      B      C      D      E      F

A: Series Name                      Super Power Inductor  
 B: Dimensions(mm)                03: 3.2 x 3.8  
 C: Materials                         NO use  
 D: Thickness(mm)                 20: 2.0 Max  
 E: Tolerance                         M:  $\pm 20\%$   
 F: Inductance                        R47=0.47uH

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current I <sub>rms</sub> (A)Typ.	Saturation Current I <sub>sat</sub> (A)Typ.
APS03A20MR47	0.47	22.80	7.20	9.30
APS03A20MR68	0.68	28.80	5.65	7.20
APS03A20M1R0	1.00	37.50	4.10	5.15
APS03A20M1R5	1.50	49.50	3.88	4.10
APS03A20M2R2	2.20	74.00	3.55	3.78
APS03A20M3R3	3.30	142.50	3.05	3.55
APS03A20M4R7	4.70	196.50	2.63	3.05
APS03A20M5R6	5.60	233.30	2.23	2.63
APS03A20M6R8	6.80	295.00	1.92	2.23
APS03A20M8R2	8.20	385.00	1.62	1.92
APS03A20M100	10.00	417.00	1.42	1.62
APS04A12MR15	0.15	8.90	7.57	15.16
APS04A12MR22	0.22	10.90	7.05	11.12
APS04A12MR33	0.33	18.80	6.55	8.48
APS04A12MR47	0.47	20.80	6.06	6.86
APS04A12MR68	0.68	35.50	4.74	6.06
APS04A12M1R0	1.00	46.50	4.55	5.55
APS04A12M1R5	1.50	74.30	3.28	4.05
APS04A12M2R2	2.20	82.70	2.77	3.54
APS04A12M4R7	4.70	193.00	1.82	2.83
APS04A20MR10	0.10	3.90	13.13	22.22
APS04A20MR22	0.22	6.50	9.60	12.62
APS04A20MR33	0.33	10.90	10.1	12.13
APS04A20MR47	0.47	13.80	7.55	9.59
APS04A20MR56	0.56	15.80	7.07	10.11
APS04A20MR68	0.68	17.80	7.07	9.10

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current Irms (A)Typ.	Saturation Current Isat (A)Typ.
APS04A20M1R0	1.00	26.70	6.05	7.07
APS04A20M1R2	1.20	26.80	6.06	7.07
APS04A20M1R5	1.50	45.50	5.05	6.05
APS04A20M2R2	2.20	57.50	4.55	5.05
APS04A20M3R3	3.30	86.50	3.35	4.05
APS04A20M4R7	4.70	104.00	2.82	3.03
APS04A20M6R8	6.80	173.00	2.42	2.52
APS04A20M100	10.00	279.00	1.61	2.22
APS05A18MR47	0.47	8.90	10.60	15.65
APS05A18MR56	0.56	9.90	9.60	15.20
APS05A18M1R0	1.00	16.80	8.08	9.10
APS05A18M1R5	1.50	25.70	7.57	9.10
APS05A18M2R2	2.20	34.70	5.05	6.56
APS05A18M3R3	3.30	57.40	4.55	5.05
APS05A18M4R7	4.70	84.10	3.53	4.05
APS05A18M6R8	6.80	118.90	2.82	3.43
APS05A18M100	10.00	153.00	2.52	3.03
APS05A30MR10	0.10	2.90	25.30	33.40
APS05A30MR20	0.20	3.80	14.15	14.65
APS05A30MR47	0.47	8.10	11.12	12.15
APS05A30MR68	0.68	11.80	9.10	11.60
APS05A30M1R0	1.00	13.80	8.60	11.12
APS05A30M1R2	1.20	15.80	8.60	11.12
APS05A30M1R5	1.50	24.70	8.30	8.60
APS05A30M2R2	2.20	28.80	7.05	7.60
APS05A30M3R3	3.30	37.60	5.55	6.05
APS05A30M4R7	4.70	59.00	4.55	5.05
APS05A30M6R8	6.80	89.00	3.53	4.05
APS05A30M100	10.00	124.00	3.23	3.54
APS07A12MR56	0.56	15.40	8.08	11.11
APS07A12MR68	0.68	17.30	7.05	9.09
APS07A12M1R0	1.00	28.70	6.05	7.57
APS07A12M2R2	2.20	57.00	4.05	5.05
APS07A12M3R3	3.30	91.00	3.53	4.05

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current Irms (A)Typ.	Saturation Current Isat (A)Typ.
APS07A12M4R7	4.70	120.80	3.03	3.55
APS07A12M6R8	6.80	207.00	2.52	2.82
APS07A12M100	10.00	277.00	2.02	2.22
APS07A18MR47	0.47	8.30	11.60	18.20
APS07A18MR68	0.68	11.90	9.60	17.20
APS07A18M1R0	1.00	15.50	8.60	14.15
APS07A18M1R5	1.50	25.70	8.08	12.12
APS07A18M2R2	2.20	34.60	7.05	8.10
APS07A18M3R3	3.30	49.00	4.55	6.55
APS07A18M4R7	4.70	61.00	4.05	5.05
APS07A18M6R8	6.80	108.00	3.03	4.55
APS07A24MR22	0.22	2.90	21.22	34.35
APS07A24MR33	0.33	4.00	18.18	24.75
APS07A24MR47	0.47	5.00	15.15	22.22
APS07A24MR56	0.56	6.40	13.15	17.20
APS07A24MR68	0.68	6.90	12.15	16.15
APS07A24M1R0	1.00	13.30	9.10	16.15
APS07A24M1R5	1.50	20.00	9.10	15.15
APS07A24M2R2	2.20	27.80	7.05	14.15
APS07A24M3R3	3.30	38.50	5.55	10.10
APS07A24M4R7	4.70	59.50	5.05	7.55
APS07A24M6R8	6.80	70.00	4.05	6.06
APS07A24M100	10.00	100.00	3.13	4.05
APS07A24M150	15.00	158.00	2.52	3.33
APS07A24M220	22.00	227.00	2.02	2.52
APS07A30MR22	0.22	3.00	24.25	34.35
APS07A30MR24	0.24	3.00	23.23	26.26
APS07A30MR33	0.33	3.50	21.20	25.25
APS07A30MR47	0.47	4.00	18.20	20.20
APS07A30MR56	0.56	14.30	16.65	18.20
APS07A30MR68	0.68	5.30	16.16	17.15
APS07A30MR82	0.82	5.90	14.14	16.15
APS07A30M1R0	1.00	7.30	12.12	15.15
APS07A30M1R5	1.50	12.00	12.12	14.15

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current I <sub>rms</sub> (A)Typ.	Saturation Current I <sub>sat</sub> (A)Typ.
APS07A30M2R2	2.20	14.80	9.60	10.10
APS07A30M3R3	3.30	21.80	8.55	9.55
APS07A30M4R7	4.70	32.50	6.06	6.55
APS07A30M6R8	6.80	47.50	5.05	6.05
APS07A30M8R2	8.20	59.50	5.05	6.05
APS07A30M100	10.00	66.30	4.55	5.55
APS07A30M150	15.00	113.00	3.03	4.55
APS07A30M220	22.00	198.00	2.32	3.03
APS07A30M330	33.00	306.00	2.02	2.52
APS07A40MR22	0.22	1.70	34.20	36.35
APS07A40MR47	0.47	3.70	20.80	21.82
APS07A40MR68	0.68	4.50	18.60	19.70
APS07A40M1R0	1.00	5.70	14.50	17.65
APS07A40M1R5	1.50	9.60	12.42	15.55
APS07A40M2R2	2.20	12.80	11.41	13.45
APS07A40M3R3	3.30	19.20	10.40	12.90
APS07A40M4R7	4.70	28.80	7.27	9.30
APS07A40M100	10.00	62.30	5.15	5.15
APS07A40M150	15.00	100.00	4.15	4.64
APS07A40M220	22.00	119.80	3.63	4.14
APS07A50MR22	0.22	2.50	30.03	35.35
APS07A50MR47	0.47	4.80	20.02	21.21
APS07A50MR56	0.56	5.40	18.18	18.18
APS07A50MR68	0.68	5.90	16.16	16.16
APS07A50MR82	0.82	7.30	14.15	15.15
APS07A50M1R0	1.0	6.40	14.15	18.18
APS07A50M1R5	1.5	7.40	12.12	15.65
APS07A50M2R2	2.2	12.30	10.10	14.14
APS07A50M3R3	3.3	21.70	8.58	12.12
APS07A50M4R7	4.7	24.70	7.07	10.10
APS07A50M6R8	6.8	54.50	5.05	7.07
APS07A50M8R2	8.2	67.50	5.05	6.06
APS07A50M100	10.0	54.30	4.55	6.55
APS07A50M220	22.0	138.00	2.52	4.04

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current I <sub>rms</sub> (A)Typ.	Saturation Current I <sub>sat</sub> (A)Typ.
APS07A50M330	33.0	178.00	2.32	3.53
APS07A50M470	47.0	227.00	2.02	2.62
APS10A40MR15	0.15	0.60	45.45	75.75
APS10A40MR22	0.22	1.00	35.35	60.60
APS10A40MR30	0.30	1.00	35.35	50.50
APS10A40MR36	0.36	1.10	30.30	50.50
APS10A40MR47	0.47	1.60	30.30	40.40
APS10A40MR56	0.56	1.70	25.25	33.33
APS10A40MR68	0.68	2.30	23.23	30.30
APS10A40MR80	0.80	2.60	23.23	29.030
APS10A40M1R0	1.00	3.20	19.20	28.28
APS10A40M1R5	1.50	4.10	16.15	26.25
APS10A40M2R2	2.20	6.90	12.12	18.18
APS10A40M3R3	3.30	11.60	11.10	16.15
APS10A40M4R7	4.70	19.90	9.10	15.15
APS10A40M6R8	6.80	24.70	8.58	12.12
APS10A40M8R2	8.20	26.50	8.08	9.10
APS10A40M100	10.00	29.70	7.87	8.60
APS10A40M150	15.00	44.50	6.55	7.07
APS10A40M220	22.00	65.30	5.05	5.55
APS10A40M330	33.00	91.00	4.44	5.05
APS10A40M470	47.00	143.00	3.33	3.53
APS10A40M680	68.00	193.00	2.52	3.03
APS13A50MR22	0.22	0.70	50.50	75.75
APS13A50MR36	0.36	0.80	42.40	50.50
APS13A50MR47	0.47	1.10	38.38	48.50
APS13A50MR68	0.68	1.50	33.33	46.46
APS13A50MR82	0.82	1.60	30.30	39.39
APS13A50M1R0	1.00	2.20	26.26	35.35
APS13A50M1R5	1.50	3.10	23.23	33.33
APS13A50M2R2	2.20	4.90	15.15	24.25
APS13A50M3R3	3.30	6.90	14.15	22.23
APS13A50M4R7	4.70	8.90	13.13	21.20
APS13A50M6R8	6.80	17.90	12.12	16.16

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Part Number	Inductance (uH) @100KHz/1V	DC Resistance (mΩ) Max.	Heat Rating Current Irms (A)Typ.	Saturation Current Isat (A)Typ.
APS13A50M100	10.00	21.80	9.10	12.12
APS13A50M220	22.00	57.40	4.55	6.56
APS13A50M330	33.00	83.00	3.53	6.05
APS13A50M470	47.00	128.00	3.03	5.05
APS13A60M4R7	4.70	9.90	15.15	24.24
APS13A60M5R6	5.60	10.90	13.13	22.73
APS13A60M6R8	6.80	13.30	12.12	19.19
APS13A60M7R8	7.80	14.40	11.61	18.18
APS13A60M8R2	8.20	15.80	11.11	13.63
APS13A60M100	10.00	20.40	10.10	12.62
APS13A60M120	12.00	22.70	9.10	10.10
APS13A60M150	15.00	28.70	8.58	9.10
APS13A60M180	18.00	34.60	7.57	8.08
APS13A60M220	22.00	39.00	7.07	7.57
APS13A60M270	27.00	55.40	6.06	6.56
APS13A60M330	33.00	74.30	5.55	6.06
APS13A60M470	47.00	89.10	5.05	5.55
APS13A60M680	68.00	138.60	4.04	4.54
APS13A60M101	100.00	198.00	3.03	3.53
APS13A60M121	120.00	232.60	2.02	3.23
APS13A60M151	150.00	346.50	1.52	2.72
APS17A70M1R0	1.00	1.50	65.65	62.62
APS17A70M2R2	2.20	2.50	37.37	34.34
APS17A70M3R3	3.30	2.90	35.35	27.27
APS17A70M4R7	4.70	4.60	27.27	24.24
APS17A70M6R8	6.80	7.50	20.20	22.22
APS17A70M8R2	8.20	8.60	16.15	20.20
APS17A70M100	10.00	9.90	14.15	18.20
APS17A70M150	15.00	17.30	10.10	14.65
APS17A70M200	20.00	21.60	9.80	12.12
APS17A70M220	22.00	22.70	8.10	11.11
APS17A70M330	33.00	36.60	9.10	10.10
APS17A70M470	47.00	46.50	6.86	7.57
APS17A70M680	68.00	84.20	5.25	6.56
APS17A70M101	100.00	128.70	4.05	4.55