

# MOX-SPHC-SERIES

## Ultra High Current Surface Mount Power Inductors

MoxiE's MOX-SPHC series of surface mount ultra high current inductors feature a low profile package with shielded construction.

### Features:

- Low cost.
- RoHS compliant.
- Handles high transient current spikes without any saturation.
- Low profile package design.
- Composite construction provides ultra low buzz noise.
- MoxiE Inductor Corporation custom designs available.

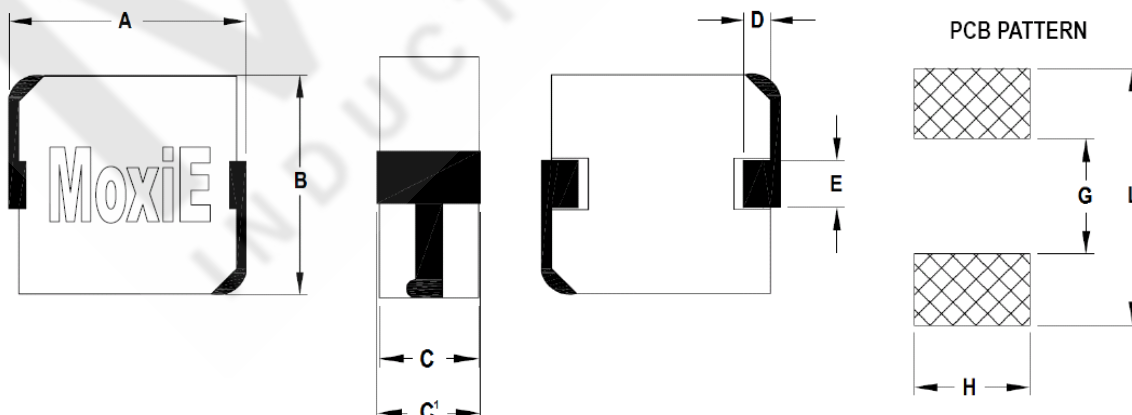


## PART NUMBERS

MOXIE PART NUMBER	A (MAX.)	B (MAX.)	C' (MAX.)	C (MAX.)	D	E	G (REF.)	H (REF.)	L (REF.)
MOX-SPHC-1407	13.70	13.70	7.00	6.50	2.50 ± 0.5	3.00 ± 0.5	8.10	3.40	13.80
MOX-SPHC-1405	13.90	13.50	5.20	5.00	2.50 ± 0.5	3.00 ± 0.5	7.00	4.50	15.00
MOX-SPHC-1403	13.90	13.50	3.70	3.50	2.50 ± 0.5	3.00 ± 0.5	7.00	4.50	15.00
MOX-SPHC-1205	11.80	10.50	5.00	4.80	2.20 ± 0.5	2.90 ± 0.5	5.40	4.50	12.40
MOX-SPHC-1204	11.80	10.50	4.20	4.00	2.20 ± 0.5	2.90 ± 0.5	5.40	4.50	12.40
MOX-SPHC-0905	9.50	9.00	5.20	5.00	2.20 ± 0.5	2.90 ± 0.5	4.00	4.00	10.00
MOX-SPHC-0805A	7.80	7.00	5.20	5.00	1.60 ± 0.5	2.10 ± 0.5	3.70	3.50	8.70
MOX-SPHC-0805B	7.80	7.00	5.20	5.00	1.60 ± 0.5	2.10 ± 0.5	3.70	3.50	8.70
MOX-SPHC-0804	7.80	7.00	4.20	4.00	1.60 ± 0.5	2.10 ± 0.5	3.70	3.50	8.70
MOX-SPHC-0803	7.80	7.00	3.20	3.00	1.60 ± 0.5	2.10 ± 0.5	3.70	3.50	8.70
MOX-SPHC-0802	7.80	7.00	2.00	1.80	1.60 ± 0.5	2.10 ± 0.5	3.70	3.40	7.40



## MECHANICAL DIMENSIONS





## ELECTRICAL SPECIFICATIONS

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-1407-R47M	0.47	41	65	1.2
MOX-SPHC-1407-R68M	0.68	35	60	1.6
MOX-SPHC-1407-1R0M	1.00	32	50	2.1
MOX-SPHC-1407-1R5M	1.50	27	48	2.6
MOX-SPHC-1407-2R2M	2.20	22	40	4.2
MOX-SPHC-1407-3R3M	3.30	18	35	6.8
MOX-SPHC-1407-4R7M	4.70	15	30	11.2
MOX-SPHC-1407-6R8M	6.80	12	21	14
MOX-SPHC-1407-100M	10.0	10	16	16.8

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-1405-R47M	0.47	38	65	1.3
MOX-SPHC-1405-R68M	0.68	34	54	1.7
MOX-SPHC-1405-1R0M	1.00	29	50	2.5
MOX-SPHC-1405-1R5M	1.50	23	48	4.1
MOX-SPHC-1405-2R2M	2.20	20	32	5.5
MOX-SPHC-1405-3R3M	3.30	15	32	9.2
MOX-SPHC-1405-4R7M	4.70	12	27	15.0
MOX-SPHC-1405-6R8M	6.80	11	21	18.5
MOX-SPHC-1405-100M	10.00	9	16	25.5

### MOXIE NOTES:

OPERATING TEMPERATURE: -55°C TO +125°C.

STORAGE TEMPERATURE: -55°C TO +125°C.

HUMIDITY RANGE: 50-60% RH.

ALL TEST DATA AT 25°C.

HEAT RATED CURRENT (IRMS) WILL CAUSE THE COIL TEMPERATURE TO RISE APPROXIMATELY 40°C ABOVE 25°C AMBIENT WITHOUT ANY CORE LOSS.

SATURATION CURRENT (ISAT) WILL CAUSE L<sub>o</sub> TO DROP APPROXIMATELY 20%.

PART TEMPERATURE (AMBIENT+TEMP. RISE): SHOULD NOT EXCEED 125°C UNDER WORST CASE CONDITIONS.

MOXIE INDUCTOR CORPORATION SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



## ELECTRICAL SPECIFICATIONS

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-1403-R47M	0.47	32	44	2.0
MOX-SPHC-1403-R68M	0.68	28	40	2.5
MOX-SPHC-1403-R82M	0.82	25	38	3.0
MOX-SPHC-1403-1R0M	1.00	24	36	3.5
MOX-SPHC-1403-1R5M	1.50	19	28	5.5
MOX-SPHC-1403-2R2M	2.20	16	20	8.0
MOX-SPHC-1403-3R3M	3.30	12	18	12
MOX-SPHC-1403-4R7M	4.70	10	16	15
MOX-SPHC-1403-6R8M	6.80	9	13	22
MOX-SPHC-1403-100M	10.0	7	9.5	34

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-1205-R36M	0.36	35	40	0.8
MOX-SPHC-1205-R47M	0.47	32	38	0.9
MOX-SPHC-1205-R56M	0.56	30	36	1.05
MOX-SPHC-1205-R68M	0.68	29.2	32	1.3
MOX-SPHC-1205-1R0M	1.0	24	28	2.2
MOX-SPHC-1205-1R5M	1.5	20	22	2.6
MOX-SPHC-1205-2R2M	2.2	17	20	4.0

### MOXIE NOTES:

OPERATING TEMPERATURE: -55°C TO +125°C.

STORAGE TEMPERATURE: -55°C TO +125°C.

HUMIDITY RANGE: 50-60% RH.

ALL TEST DATA AT 25°C.

HEAT RATED CURRENT (IRMS) WILL CAUSE THE COIL TEMPERATURE TO RISE APPROXIMATELY 40°C ABOVE 25°C AMBIENT WITHOUT ANY CORE LOSS.

SATURATION CURRENT (ISAT) WILL CAUSE L<sub>o</sub> TO DROP APPROXIMATELY 20%.

PART TEMPERATURE (AMBIENT+TEMP. RISE): SHOULD NOT EXCEED 125°C UNDER WORST CASE CONDITIONS.

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## ELECTRICAL SPECIFICATIONS

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-1204-R36M	0.36	28	40	1.4
MOX-SPHC-1204-R47M	0.47	26	38	1.6
MOX-SPHC-1204-R56M	0.56	25	36	1.9
MOX-SPHC-1204-R68M	0.68	23	32	2.4
MOX-SPHC-1204-1R0M	1.00	20	28	3.5
MOX-SPHC-1204-1R5M	1.50	12	20	7.5
MOX-SPHC-1204-2R2M	2.20	11.5	16.5	8.56
MOX-SPHC-1204-3R3M	3.30	10.0	14	10.0
MOX-SPHC-1204-4R7M	4.70	8.0	13	13.5
MOX-SPHC-1204-6R8M	6.80	6.5	11	24.0
MOX-SPHC-1204-100M	10.00	5.0	9	35.0

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0905-R36M	0.36	32	40	1.2
MOX-SPHC-0905-R47M	0.47	30	38	1.5
MOX-SPHC-0905-R68M	0.68	23	32	2.4
MOX-SPHC-0905-1R0M	1.0	18	22	3.8
MOX-SPHC-0905-1R5M	1.5	15	20	4.5
MOX-SPHC-0905-2R2M	2.2	12	16	5.4
MOX-SPHC-0905-3R3M	3.3	10	14	7.1
MOX-SPHC-0905-4R7M	4.7	9.0	13	12.3
MOX-SPHC-0905-6R8M	6.8	7.0	11	20.5
MOX-SPHC-0905-100M	10.0	5.0	9	26.5

### MOXIE NOTES:

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STORAGE TEMPERATURE: -55°C TO +125°C.

HUMIDITY RANGE: 50~60% RH.

ALL TEST DATA AT 25°C.

HEAT RATED CURRENT (IRMS) WILL CAUSE THE COIL TEMPERATURE TO RISE APPROXIMATELY 40°C ABOVE 25°C AMBIENT WITHOUT ANY CORE LOSS.

SATURATION CURRENT (ISAT) WILL CAUSE L<sub>o</sub> TO DROP APPROXIMATELY 20%.

PART TEMPERATURE (AMBIENT+TEMP. RISE): SHOULD NOT EXCEED 125°C UNDER WORST CASE CONDITIONS.

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## ELECTRICAL SPECIFICATIONS

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0805A-R39M	0.39	21	30	2.6
MOX-SPHC-0805A-R68M	0.68	18	28	3.8
MOX-SPHC-0805A-1R0M	1.00	15	22	4.2
MOX-SPHC-0805A-1R5M	1.50	16	18	5.4
MOX-SPHC-0805A-2R2M	2.20	13	15	8.2
MOX-SPHC-0805A-3R3M	3.30	10	13	15.2
MOX-SPHC-0805A-4R7M	4.70	7	10	18.6
MOX-SPHC-0805A-6R8M	6.80	6	8	30.0
MOX-SPHC-0805A-100M	10.0	5	6	44.5

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0805B-R56M	0.56	20	21	3.6
MOX-SPHC-0805B-R68M	0.68	18	19	4.5
MOX-SPHC-0805B-R82M	0.82	16.5	18	4.9
MOX-SPHC-0805B-1R0M	1.0	13	15	6.5
MOX-SPHC-0805B-1R5M	1.5	12	14	9.0
MOX-SPHC-0805B-2R2M	2.2	10	10	13.6
MOX-SPHC-0805B-3R3M	3.3	8	9	20.9
MOX-SPHC-0805B-4R7M	4.7	6.5	8	30.3
MOX-SPHC-0805B-5R6M	5.6	6	7	34.4
MOX-SPHC-0805B-6R8M	6.8	5.8	6.5	44.6
MOX-SPHC-0805B-8R2M	8.2	5.5	6	45.6
MOX-SPHC-0805B-100M	10	4.5	5	71.3

### MOXIE NOTES:

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STORAGE TEMPERATURE: -55°C TO +125°C.

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SATURATION CURRENT (ISAT) WILL CAUSE L<sub>o</sub> TO DROP APPROXIMATELY 20%.

PART TEMPERATURE (AMBIENT+TEMP. RISE): SHOULD NOT EXCEED 125°C UNDER WORST CASE CONDITIONS.

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## ELECTRICAL SPECIFICATIONS

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0804-R33M	0.33	25	32	1.4
MOX-SPHC-0804-R47M	0.47	20	30	2.5
MOX-SPHC-0804-6R8M	0.68	17	28	3.8
MOX-SPHC-0804-1R0M	1.0	15	20	5.8
MOX-SPHC-0804-1R5M	1.5	16	18	8.4
MOX-SPHC-0804-2R2M	2.2	12	14	15
MOX-SPHC-0804-3R3M	3.3	10	13	18
MOX-SPHC-0804-4R7M	4.7	7	9	21
MOX-SPHC-0804-6R8M	6.8	5.5	7	30
MOX-SPHC-0804-100M	10.0	4.5	5	60

MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0803-R33M	0.33	20	30	3.9
MOX-SPHC-0803-R47M	0.47	17.5	26	4.2
MOX-SPHC-0803-R68M	0.68	15.5	23	5.5
MOX-SPHC-0803-1R0M	1.00	11	16	10
MOX-SPHC-0803-1R5M	1.50	9.0	14	15
MOX-SPHC-0803-2R2M	2.20	8.0	12	20
MOX-SPHC-0803-3R3M	3.30	6.0	10	30
MOX-SPHC-0803-4R7M	4.70	5.5	6.5	40
MOX-SPHC-0803-6R8M	6.80	4.5	6.0	60
MOX-SPHC-0803-100M	10.0	3.0	4.5	105

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MOXIE PART NUMBER	INDUCTANCE (μH) ±20% @ 0ADC	IRMS (A) MAX.	ISAT (A) MAX.	DCR (mΩ) MAX.
MOX-SPHC-0802-R33M	0.33	12	18	7
MOX-SPHC-0802-R47M	0.47	11	18	9.3
MOX-SPHC-0802-R68M	0.68	9	17	13.9
MOX-SPHC-0802-1R0M	1.00	7	14	18
MOX-SPHC-0802-1R5M	1.50	4	12	34
MOX-SPHC-0802-2R2M	2.20	5	9	46
MOX-SPHC-0802-3R3M	3.30	3.25	7	60
MOX-SPHC-0802-4R7M	4.70	3	5	78



## PACKAGING

MOXIE PART NUMBER	PACKAGING	QUANTITY PER REEL
MOX-SPHC-1407	TAPE & REEL	400 PIECES
MOX-SPHC-1405	TAPE & REEL	500 PIECES
MOX-SPHC-1403	TAPE & REEL	600 PIECES
MOX-SPHC-1205	TAPE & REEL	800 PIECES
MOX-SPHC-1204	TAPE & REEL	900 PIECES
MOX-SPHC-0905	TAPE & REEL	800 PIECES
MOX-SPHC-0805A	TAPE & REEL	800 PIECES
MOX-SPHC-0805B	TAPE & REEL	800 PIECES
MOX-SPHC-0804	TAPE & REEL	1000 PIECES
MOX-SPHC-0803	TAPE & REEL	1000 PIECES
MOX-SPHC-0802	TAPE & REEL	1500 PIECES

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