

SMD POWER/BACKLIGHT INDUCTORS

RSB402,402L,403,403C,403CL,803,805,805C,811,1306,1306C Series

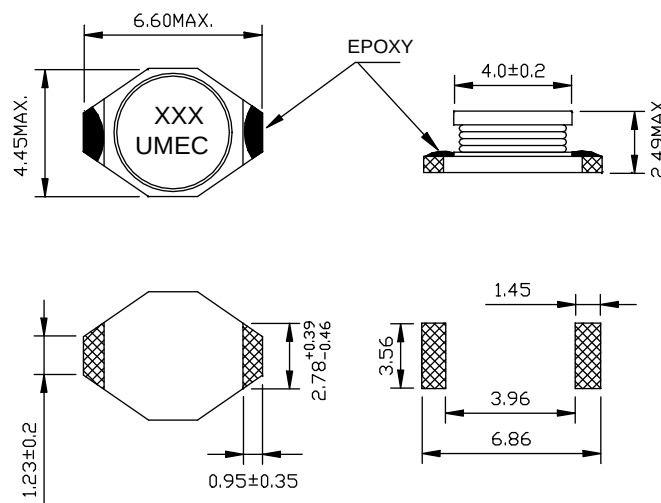
- 1 Tiny and low-profile inductors that are designed for PCMCIA Type II and other space-conscious applications. Only 2.49mm high.
- 1 RSB402 series is ideal for DC-DC conversion in NB computers, pagers, PDAs, flash memory programmers, and all types of battery powered equipment.
- 1 Operating temperature range: -40°C to +85°C
- 1 Tape and Reel package.

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ. (MHz)	I_{sat}^2 (Adc)	I_{rms}^3 (Arms)
RSB402-1R0	1R0	1.0	0.09	180	2.3	2.7
RSB402-1R5	1R5	1.5	0.09	140	2.1	2.5
RSB402-2R2	2R2	2.2	0.10	125	1.8	2.1
RSB402-3R3	3R3	3.3	0.12	100	1.6	1.9
RSB402-4R7	4R7	4.7	0.13	80	1.2	1.8
RSB402-6R8	6R8	6.8	0.165	60	0.96	1.6
RSB402-100	100	10	0.19	50	0.88	1.5
RSB402-150	150	15	0.32	40	0.72	1.1
RSB402-220	220	22	0.54	30	0.56	1.0
RSB402-330	330	33	0.74	20	0.46	0.9

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. Inductance drop=10% typ. at rated I_{sat} .
- 3. $\Delta T=40^\circ\text{C}$ rise typ. at I_{rms} .

DIMENSION & DRAWING



DATA SHEET 07-30 JUL./02
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UNIVERSAL MICROELECTRONICS CO.,LTD.
TEL:886-4-23590096 FAX:886-4-23590129

3,27TH RD.,TAICHUNG INDUSTRIAL PARK,
TAICHUNG,TAIWAN,R.O.C

SMD POWER/BACKLIGHT INDUCTORS

RSB402,402L,403,403C,403CL,803,805,805C,811,1306,1306C Series

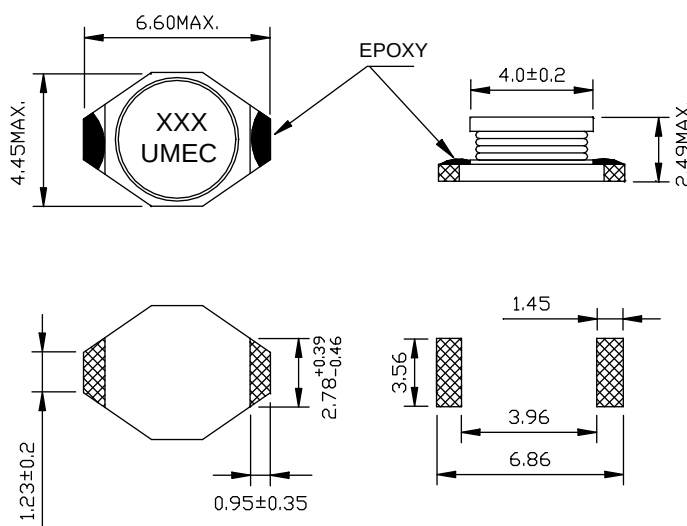
- 1 These low profile series has the high breakdown voltage ratings required for backlight applications. Only 2.49mm high, Standard inductance values range from 1 to 6.8mH and custom value are available to meet specific requirement.
- 1 Operating temperature range: -40°C to +85°C
- 1 The insulation of core-winding should be 10MΩmin.

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (mH)	DCR(Ω) max.	I_{sat}^2 (mA)	I_{rms}^3 (mA)
RSB402L-102	102	1.0	19	100	150
RSB402L-152	152	1.5	21	75	140
RSB402L-222	222	2.2	42	60	100
RSB402L-332	332	3.3	52	50	90
RSB402L-472	472	4.7	80	45	75
RSB402L-682	682	6.8	125	40	60

1. Inductance tested at 100KHz, 0.1V, L_S
2. Inductance drop=10% typ.
3. $\Delta T=40^\circ\text{C}$ rise typ. at I_{rms} .

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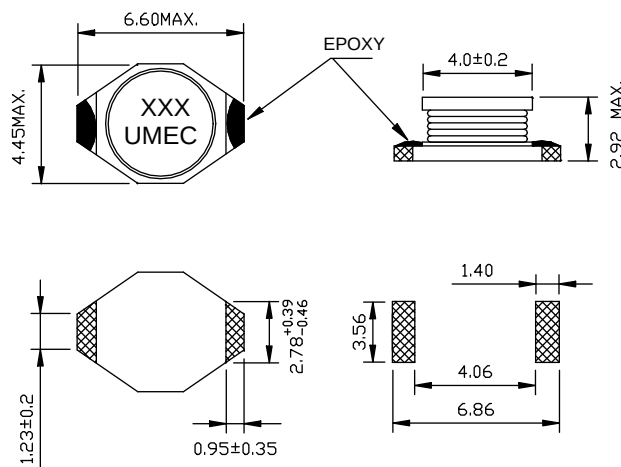
- 1 These series are high energy storage and very low resistance suit for DC-DC conversion in NB computers, PDAs, step-up or step-down converters, flash memory programmers, etc.
- 1 Operating temperature range: -40°C to +85°C
- 1 Tape and Reel package.

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\% ^1$ (μ H)	DCR(Ω) max.	SRF typ. (MHz)	I_{sat}^2 (Adc)	I_{rms}^3 (Arms)
RSB403-1R0	1R0	1.0	0.05	130	2.90	2.9
RSB403-1R5	1R5	1.5	0.05	115	2.60	2.8
RSB403-2R2	2R2	2.2	0.07	90	2.30	2.4
RSB403-3R3	3R3	3.3	0.08	70	2.00	2.0
RSB403-4R7	4R7	4.7	0.09	50	1.50	1.5
RSB403-6R8	6R8	6.8	0.13	45	1.20	1.4
RSB403-100	100	10	0.16	35	1.10	1.1
RSB403-150	150	15	0.23	30	0.90	1.2
RSB403-220	220	22	0.37	20	0.70	0.8
RSB403-330	330	33	0.51	15	0.58	0.6
RSB403-470	470	47	0.64	14	0.50	0.5
RSB403-680	680	68	0.86	11	0.40	0.4
RSB403-101	101	100	1.27	9	0.31	0.3
RSB403-151	151	150	2.00	6	0.27	0.25
RSB403-221	221	220	3.11	5.5	0.22	0.2
RSB403-331	331	330	3.80	5	0.18	0.16
RSB403-471	471	470	5.06	4	0.16	0.15
RSB403-681	681	680	9.20	3	0.14	0.12
RSB403-102	102	1000	13.8	2	0.10	0.07

1. Inductance tested at 100KHz, 0.1V, L_s
2. Inductance drop=10% typ. at rated I_{sat} .
3. $\Delta T=15^\circ\text{C}$ rise typ. at I_{rms} .

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SMD POWER/BACKLIGHT INDUCTORS

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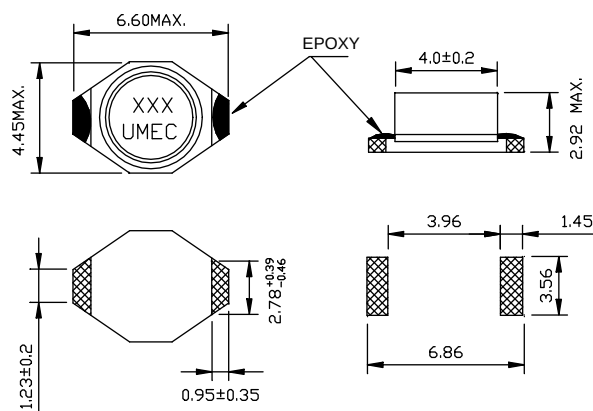
- 1 These series offer the highest efficiency, smallest size and lowest cost of any comparable part. DCR is 10 to 60% lower than other inductors, with greatest improvements seen at values from 100 to 10,000uH.
- 1 These shielded, ultraminiature inductors can help achieve significantly longer battery life in handheld communication devices and other portable products.
- 1 Operating temperature range: -40°C to +85°C
- 1 Tape and Reel package.

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^{1}$ (μ H)	Q min	DCR(Ω) max.	SRF typ. (MHz)	I(A) Max.
RSB403C-1R0	1R0	1.0	30@200KHz	0.040	250	3.0
RSB403C-1R5	1R5	1.5	30@200KHz	0.045	125	2.8
RSB403C-2R2	2R2	2.2	40@200KHz	0.050	120	1.8
RSB403C-3R3	3R3	3.3	40@200KHz	0.055	120	1.6
RSB403C-4R7	4R7	4.7	40@200KHz	0.060	105	1.4
RSB403C-6R8	6R8	6.8	40@200KHz	0.065	50	1.2
RSB403C-100	100	10	40@200KHz	0.075	38	1.0
RSB403C-150	150	15	40@100KHz	0.090	33	0.80
RSB403C-220	220	22	40@100KHz	0.11	25	0.70
RSB403C-330	330	33	40@100KHz	0.19	20	0.60
RSB403C-470	470	47	40@100KHz	0.23	20	0.50
RSB403C-680	680	68	40@100KHz	0.29	15	0.40
RSB403C-101	101	100	40@100KHz	0.48	10	0.30
RSB403C-151	151	150	40@100KHz	0.59	9	0.26
RSB403C-221	221	220	40@100KHz	0.77	6	0.22
RSB403C-331	331	330	40@100KHz	1.4	5	0.20
RSB403C-471	471	470	40@100KHz	1.8	4	0.19
RSB403C-681	681	680	40@100KHz	2.2	3	0.18
RSB403C-102	102	1000	40@100KHz	3.4	2	0.15
RSB403C-152	152	1500	50@100KHz	4.2	2	0.12
RSB403C-222	222	2200	50@100KHz	8.5	2	0.10
RSB403C-332	332	3300	50@100KHz	11.0	1	0.08
RSB403C-472	472	4700	50@100KHz	13.9	1	0.06
RSB403C-682	682	6800	50@100KHz	25.0	1	0.04
RSB403C-103	103	10000	50@100KHz	32.8	0.8	0.02

1. Inductance tested at 100KHz, 0.1V, L_s
2. $\Delta T = 30^\circ\text{C}$ rise typ. at I

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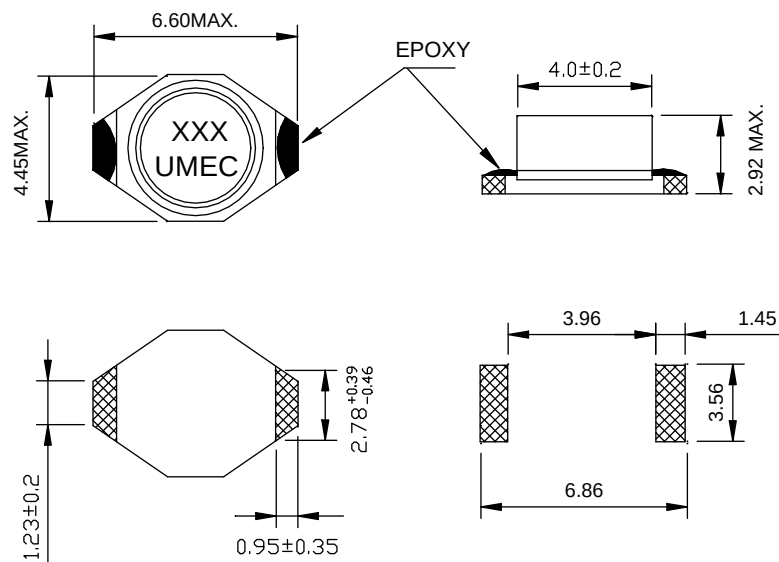
- 1 These tiny shielded inductors are specially engineered for demanding backlighting applications. They feature high breakdown voltage and exceptional efficiency:DCR is 10% to 60% lower than other inductors.
- 1 These shielded inductors are designed with a flat top and constructed of heat resistant materials to ensure trouble-free assembly and reflow operations. In addition to the standard values shown, custom inductors are also available.
- 1 Operating temperature range: -40°C to +85°C
- 1 The insulation of core-winding should be 10MΩmin.

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (mH)	DCR(Ω) max.	SRF typ. (MHz)	I_{max}^2 (mA)
RSB403CL-102	102	1.0	9	2	100
RSB403CL-152	152	1.5	11	1	80
RSB403CL-222	222	2.2	19	1	50
RSB403CL-332	332	3.3	24	1	40
RSB403CL-472	472	4.7	30	1	30
RSB403CL-682	682	6.8	56	0.9	20
RSB403CL-103	103	10.0	74	0.8	10

- 1. Inductance tested at 100KHz, 0.1V, L_S
- 2. $\Delta T=30^\circ\text{C}$ temperature rise at I_{max} .

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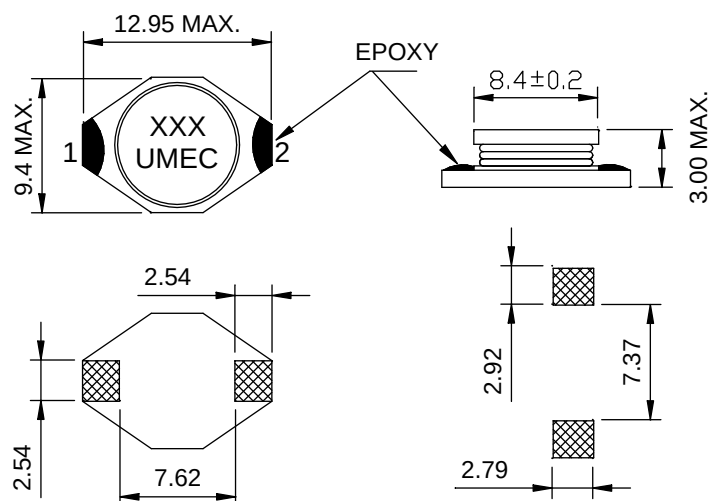
- 1 These Series of surface mount power inductors are ideal for PDA, palmtop and other handheld applications.
- 1 Inductance ratings from 10 to 1000uH and handle currents up to 2 Amps. With a height of only 3 mm, custom inductors are available to meet your exact requirements.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ (MHz)	I_{sat}^2 (A)	I_{rms}^3 (A)
RSB803-100	100	10	0.11	35	2.4	2.0
RSB803-150	150	15	0.15	33	2.0	1.5
RSB803-220	220	22	0.23	25	1.6	1.3
RSB803-330	330	33	0.30	19	1.4	1.1
RSB803-470	470	47	0.39	14	1.0	0.8
RSB803-680	680	68	0.66	12	0.9	0.7
RSB803-101	101	100	0.84	10	0.7	0.6
RSB803-151	151	150	1.2	8	0.6	0.5
RSB803-221	221	220	1.9	6	0.5	0.4
RSB803-331	331	330	2.7	5	0.4	0.3
RSB803-471	471	470	4.0	4	0.3	0.2
RSB803-681	681	680	5.3	3	0.2	0.1
RSB803-102	102	1000	8.4	2.5	0.1	0.05

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. Inductance drop=10% typ. at rated I_{sat} .
- 3. $\Delta T=30^\circ\text{C}$ rise typ. at I_{rms} .

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SMD POWER/BACKLIGHT INDUCTORS

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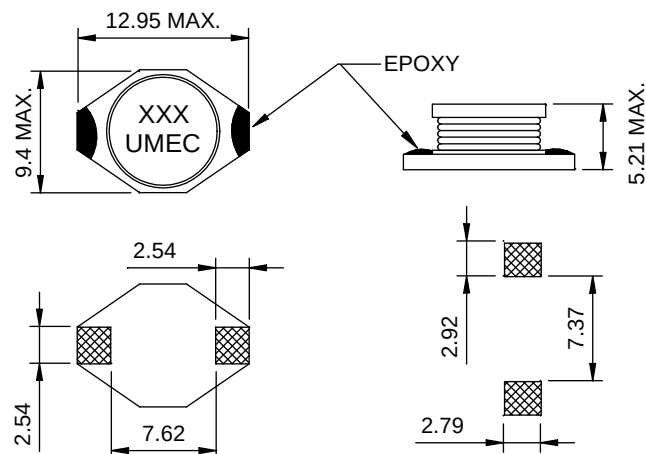
- 1 These series of surface mount power inductors is designed for the smallest possible size, lowest cost, and highest performance. Their high energy storage and very low resistance make them the ideal inductors for DC-DC conversion in NB computers, PDAs, step-up or step-down converters, flash memory programmer, etc.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ. (MHz)	I_{sat}^2 (A)	I_{rms}^3 (A)
RSB805-1R0	1R0	1.0	0.009	100	9.0	6.8
RSB805-1R5	1R5	1.5	0.010	90	8.0	6.4
RSB805-2R2	2R2	2.2	0.012	80	7.0	6.1
RSB805-3R3	3R3	3.3	0.015	65	6.4	5.4
RSB805-4R7	4R7	4.7	0.018	45	5.4	4.8
RSB805-6R8	6R8	6.8	0.027	38	4.6	4.4
RSB805-100	100	10	0.038	30	3.8	3.9
RSB805-150	150	15	0.046	27	3.0	3.1
RSB805-220	220	22	0.085	19	2.6	2.7
RSB805-330	330	33	0.10	15	2.0	2.1
RSB805-470	470	47	0.14	12	1.6	1.8
RSB805-680	680	68	0.20	10	1.4	1.5
RSB805-101	101	100	0.28	9	1.2	1.3
RSB805-151	151	150	0.40	6	1.0	1.0
RSB805-221	221	220	0.61	5	0.8	0.8
RSB805-331	331	330	1.02	4.5	0.6	0.6
RSB805-471	471	470	1.27	3.5	0.5	0.5
RSB805-681	681	680	2.02	2.5	0.4	0.4
RSB805-102	102	1000	3.00	2.0	0.3	0.3

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. Inductance drop=10% typ. at rated I_{sat} .
- 3. $\Delta T=15^\circ\text{C}$ rise typ. at I_{rms} .
- 4. SRF>13MHz measured using HP8753D network analyzer;
<13MHz using HP4192A.

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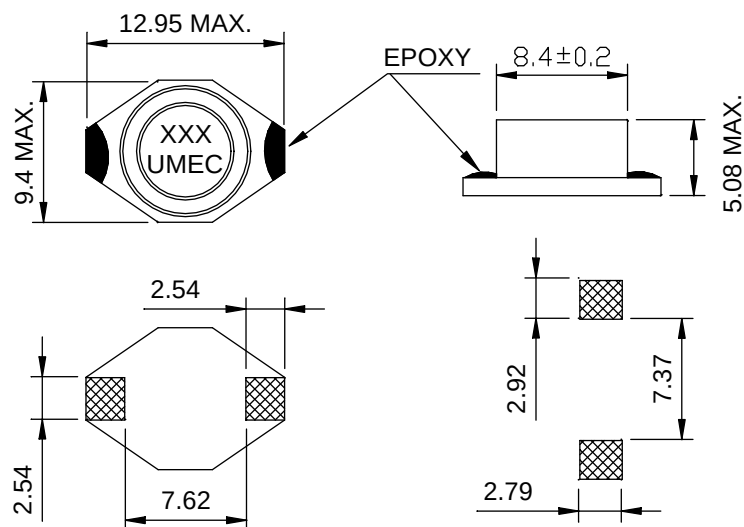
- 1 They are ideal for high performance DC-DC converter applications, especially those requiring shielding.
- 1 Saturation current ratings up to 5.6A and rms current ratings as high as 5A are available. DC resistance as low as 0.018Ω keeps power losses to a minimum.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ. (MHz)	Isat ² (A)	Irms ³ (A)
RSB805C-1R0	1R0	1.0	0.021	140	5.6	5.0
RSB805C-1R5	1R5	1.5	0.022	120	5.2	4.5
RSB805C-2R2	2R2	2.2	0.032	80	5.0	3.8
RSB805C-3R3	3R3	3.3	0.039	70	3.9	3.3
RSB805C-4R7	4R7	4.7	0.054	40	3.2	2.7
RSB805C-6R8	6R8	6.8	0.075	38	2.8	2.2
RSB805C-100	100	10.0	0.101	35	2.4	2.0
RSB805C-150	150	15.0	0.150	25	2.0	1.5
RSB805C-220	220	22.0	0.207	19	1.6	1.3
RSB805C-330	330	33.0	0.334	15	1.4	1.1
RSB805C-470	470	47.0	0.472	13	1.0	0.8

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. Inductance drop 10% typ. at Isat.
- 3. $\Delta T=15^\circ\text{C}$ rise up at Irms.

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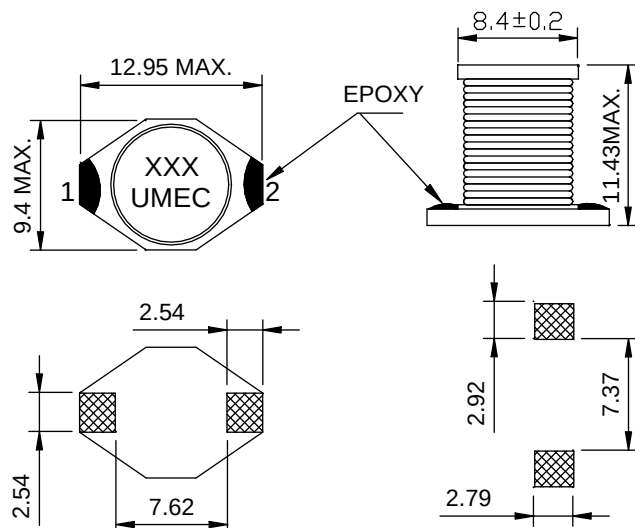
- 1 These surface mount power inductors provide excellent current carrying capabilities in a small footprint component-up to 3.5Arms with an 8Adc saturation current rating for a 10uH part.
- 1 In addition to the standard versions shown below, custom inductors are available to meet your exact requirements.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ. (MHz)	I_{sat}^2 (A)	I_{rms}^3 (A)
RSB811-100	100	10	0.040	22	8.0	3.5
RSB811-150	150	15	0.050	18	7.0	3.0
RSB811-220	220	22	0.066	11	5.5	2.5
RSB811-330	330	33	0.080	9	4.0	2.0
RSB811-470	470	47	0.110	8	3.8	1.6
RSB811-680	680	68	0.17	7	3.0	1.2
RSB811-101	101	100	0.22	5	2.5	1.2
RSB811-151	151	150	0.34	4	2.0	0.9
RSB811-221	221	220	0.44	3.5	1.6	0.7
RSB811-331	331	330	0.70	2.5	1.2	0.6
RSB811-471	471	470	0.95	2	1.0	0.3
RSB811-681	681	680	1.2	2	1.0	0.2
RSB811-102	102	1000	2.0	1.5	0.8	0.1

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. L drop 10% typ. at I_{sat} .
- 3. $\Delta T = 20^\circ\text{C}$ typ. at I_{rms} .

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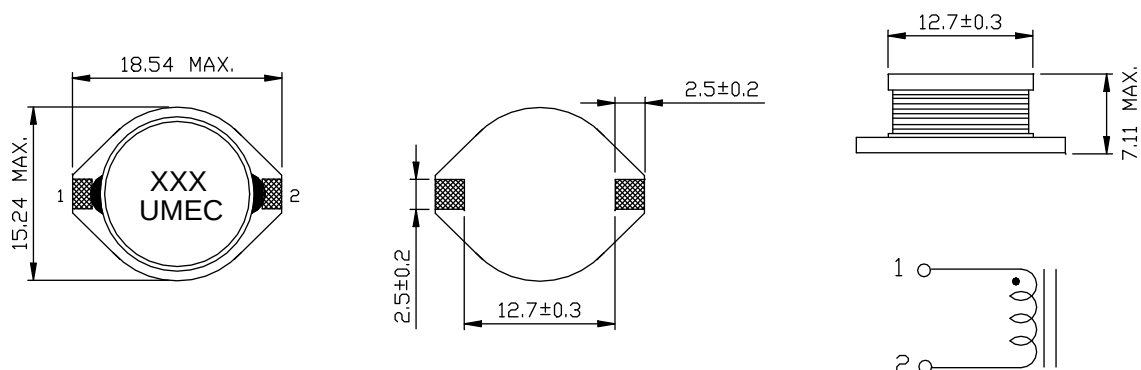
- 1 These series of surface mount power inductors is designed for the higher current requirements of the Pentium Pro and other portable and handheld devices.
- 1 The maximum rated current is 8.6Arms with a saturation current of 20Amps for a 1uH inductor. Exceptionally low dc resistance (as low as 0.009Ω) keeps power losses to a minimum.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μH)	DCR(Ω) Max.	SRF typ ² (MHz)	Isat ³ (A)	Irms ⁴ (A)
RSB1306-1R0	1R0	1.0	0.009	80	20	8.6
RSB1306-2R2	2R2	2.2	0.014	80	16	7.1
RSB1306-3R3	3R3	3.3	0.018	60	14	6.2
RSB1306-5R6	5R6	5.6	0.020	40	12	5.3
RSB1306-100	100	10	0.031	30	10	4.3
RSB1306-150	150	15	0.036	22	8.0	4.0
RSB1306-220	220	22	0.047	20	7.0	3.5
RSB1306-330	330	33	0.066	15	5.5	3.0
RSB1306-470	470	47	0.086	9	4.5	2.6
RSB1306-680	680	68	0.13	8	3.5	2.3
RSB1306-101	101	100	0.19	7	3.0	1.8
RSB1306-151	151	150	0.25	6	2.6	1.5
RSB1306-221	221	220	0.38	5	2.4	1.2
RSB1306-331	331	330	0.56	4	1.9	1.0
RSB1306-471	471	470	0.85	3	1.4	0.82
RSB1306-681	681	680	1.1	2.5	1.2	0.72
RSB1306-102	102	1000	1.8	2	1.0	0.56

1. Inductance tested at 100KHz, 0.1V, L_s
2. SRF>13MHz measured using HP8753D network analyzer;
<13MHz using HP4192A
3. Inductance drop=10% typ. at Isat.
4. $\Delta T=40^\circ\text{C}$ typ. at Irms.

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SMD POWER/BACKLIGHT INDUCTORS

RSB402,402L,403,403C,403CL,803,805,805C,811,1306,1306C Series

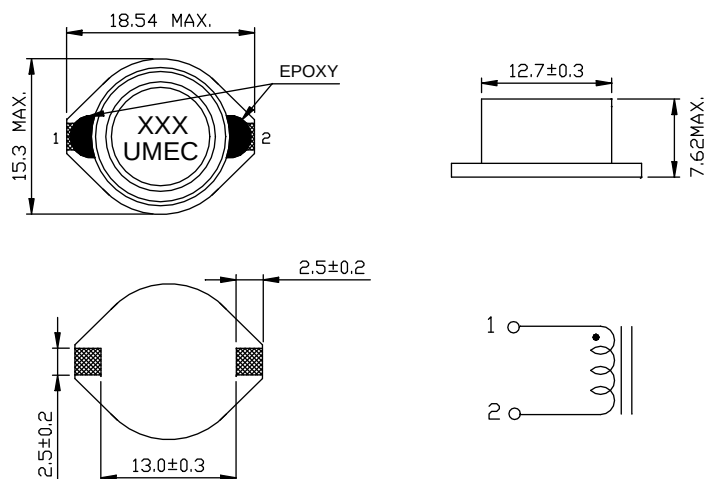
- 1 These series is a family of magnetically shielded power inductors designed for the higher current requirement of portable computers, video recorders and other DC-DC conversion applications.
- 1 They feature saturation current ratings as high as 8 Amps and rms current ratings up to 3.9 Amps. Low DC resistance (as low as 0.035 ohms) keeps power losses to a minimum.
- 1 Operating temperature range: -40°C to +85°C

ELECTRICAL SPECIFICATIONS @25°C

UMEC PART NUMBER	MARK	$L \pm 20\%^1$ (μ H)	DCR(Ω) Max.	SRF typ. (MHz)	I_{sat}^2 (A)	I_{rms}^3 (A)
RSB1306C-100	100	10	0.040	30	8.0	3.9
RSB1306C-150	150	15	0.048	20	7.0	3.4
RSB1306C-220	220	22	0.059	18	6.0	3.1
RSB1306C-330	330	33	0.075	14	5.0	2.8
RSB1306C-470	470	47	0.097	10	4.0	2.4
RSB1306C-680	680	68	0.138	9	3.0	2.0
RSB1306C-101	101	100	0.207	7	2.4	1.7
RSB1306C-151	151	150	0.293	6	2.1	1.3
RSB1306C-221	221	220	0.47	5	1.9	1.1
RSB1306C-331	331	330	0.78	4	1.1	0.86
RSB1306C-471	471	470	1.08	3	1.1	0.73
RSB1306C-681	681	680	1.40	2.5	0.96	0.64
RSB1306C-102	102	1000	2.01	2	0.80	0.53

- 1. Inductance tested at 100KHz, 0.1V, L_s
- 2. Inductance drop 10% typ. at I_{sat} .
- 3. $\Delta T=40^\circ\text{C}$ rise typ. at I_{rms} .

DIMENSION & DRAWING



*Specifications are subject to change without prior notice.

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