

Shielded Power Inductor-SMRH Series



FEATURES

- ROHS, Halogen free and REACH Compliance.
- Shielded power inductor.
- High current rating, low DC resistance.
- Packed in embossed carriertape and can be used by automatic mounting machine

APPLICATIONS

AP Routers, STBs and LCD TVs, Monitors, Game consoles and LED lightings, DC/DC converter and power supply for VTRs.

PRODUCT IDENTIFICATION



01

Type	
SMRH	Shielded Power Inductor

02

External Dimensions (LxH)(mm)	
73	7.3x 3.8Max
74	7.3x 4.5Max
104R	10.0x 4.0Max
105R	10.0x 5.0Max
124	12.0x 5.0Max
125	12.0x 6.2Max
127	12.0x 8.0Max
129	12.0x 10.5Max

03

Nominal Inductance	
Example	Nominal value
1R0	1.0uH
100	10uH
101	100uH
102	1000uH

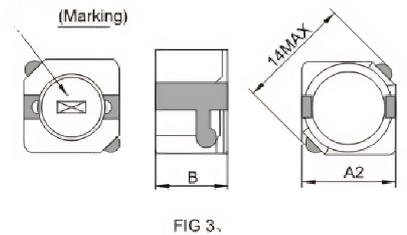
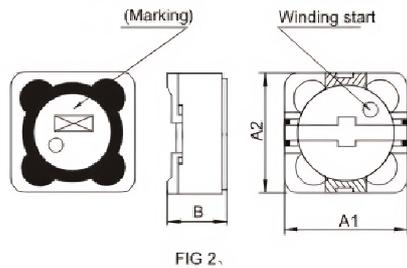
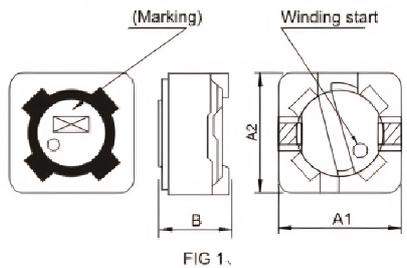
04

Tolerance	
K	±10%
M	±20%
N	±30%

05

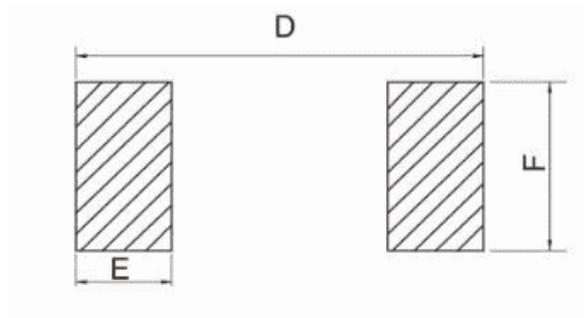
Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			Fig
	A1	A2	B	
SMRH73	7.3±0.3	7.3±0.3	3.8MAX	1
SMRH74	7.3±0.3	7.3±0.3	4.5MAX	1
SMRH104R	10.0±0.3	10.6MAX	4.0MAX	3
SMRH105R	10.0±0.3	10.6MAX	5.0MAX	3
SMRH124	12.0±0.3	12.0±0.3	5.0MAX	2
SMRH125	12.0±0.3	12.0±0.3	6.2MAX	2
SMRH127	12.0±0.3	12.0±0.3	8.0MAX	2
SMRH129	12.0±0.3	12.0±0.3	10.5MAX	2

RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	D	E	F
SMRH73	8.0	1.8	2.6
SMRH74	8.0	1.8	2.6
SMRH124	13.0	2.4	5.6
SMRH125	13.0	2.4	5.6
SMRH127	13.0	2.4	5.6
SMRH104R	11.0	1.8	3.6
SMRH105R	11.0	1.8	3.6
SMRH129	13.0	2.4	5.6



SPECIFICATIONS

● SMRH73 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH73-100	10	K、M	100/0.25	0.072	1680
SMRH73-120	12		100/0.25	0.098	1520
SMRH73-150	15		100/0.25	0.13	1330
SMRH73-180	18		100/0.25	0.14	1200
SMRH73-220	22		100/0.25	0.19	1070
SMRH73-270	27		100/0.25	0.21	960
SMRH73-330	33		100/0.25	0.24	910
SMRH73-390	39		100/0.25	0.32	770
SMRH73-470	47		100/0.25	0.36	760
SMRH73-560	56		100/0.25	0.47	680
SMRH73-680	68		100/0.25	0.52	610
SMRH73-820	82		100/0.25	0.69	570
SMRH73-101	100		100/0.25	0.79	500
SMRH73-121	120		100/0.25	0.89	490
SMRH73-151	150		100/0.25	1.27	430
SMRH73-181	180		100/0.25	1.45	390
SMRH73-221	220		100/0.25	1.65	350
SMRH73-271	270		100/0.25	2.31	320
SMRH73-331	330		100/0.25	2.62	280
SMRH73-391	390		100/0.25	2.94	260
SMRH73-471	470		100/0.25	4.18	240
SMRH73-561	560		100/0.25	4.67	220
SMRH73-681	680		100/0.25	5.73	190
SMRH73-821	820		100/0.25	6.54	180
SMRH73-102	1000		100/0.25	9.44	160

Note: When ordering, please specify tolerance code. Tolerance: K: $\pm 10\%$ 、M: $\pm 20\%$;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



● SMRH74 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH74-100	10	K、 M	100/0.25	0.075	1840
SMRH74-120	12		100/0.25	0.100	1710
SMRH74-150	15		100/0.25	0.105	1470
SMRH74-180	18		100/0.25	0.120	1310
SMRH74-220	22		100/0.25	0.150	1230
SMRH74-270	27		100/0.25	0.180	1120
SMRH74-330	33		100/0.25	0.200	960
SMRH74-390	39		100/0.25	0.230	910
SMRH74-470	47		100/0.25	0.300	880
SMRH74-560	56		100/0.25	0.350	750
SMRH74-680	68		100/0.25	0.380	690
SMRH74-820	82		100/0.25	0.500	610
SMRH74-101	100		100/0.25	0.610	600
SMRH74-121	120		100/0.25	0.660	520
SMRH74-151	150		100/0.25	0.880	460
SMRH74-181	180		100/0.25	1.10	420
SMRH74-221	220		100/0.25	1.45	360
SMRH74-271	270		100/0.25	2.00	340
SMRH74-331	330		100/0.25	1.86	320
SMRH74-391	390		100/0.25	2.85	290
SMRH74-471	470		100/0.25	3.01	260
SMRH74-561	560		100/0.25	3.62	230
SMRH74-681	680		100/0.25	4.63	220
SMRH74-821	820		100/0.25	5.20	200
SMRH74-102	1000		100/0.25	6.00	180

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、 M: ±20%;
 1. Operating temperature range -40 -125°C
 2. Isat for Inductance drop 30% from its value without current



● SMRH124 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH124-1R0	1.0	M、N	100/0.25	0.008	12000
SMRH124-2R7	2.7		100/0.25	0.012	8450
SMRH124-3R9	3.9		100/0.25	0.015	6500
SMRH124-4R7	4.7		100/0.25	0.018	5700
SMRH124-6R8	6.8		100/0.25	0.023	4900
SMRH124-8R2	8.2		100/0.25	0.026	4600
SMRH124-100	10	K、M	100/0.25	0.035	4500
SMRH124-120	12		100/0.25	0.038	4000
SMRH124-150	15		100/0.25	0.050	3200
SMRH124-180	18		100/0.25	0.057	3100
SMRH124-220	22		100/0.25	0.066	2900
SMRH124-270	27		100/0.25	0.080	2800
SMRH124-330	33		100/0.25	0.097	2700
SMRH124-390	39		100/0.25	0.132	2100
SMRH124-470	47		100/0.25	0.160	1900
SMRH124-560	56		100/0.25	0.190	1800
SMRH124-680	68		100/0.25	0.220	1500
SMRH124-820	82		100/0.25	0.260	1300
SMRH124-101	100		100/0.25	0.308	1200
SMRH124-121	120		100/0.25	0.380	1100
SMRH124-151	150		100/0.25	0.530	950
SMRH124-181	180		100/0.25	0.620	850
SMRH124-221	220		100/0.25	0.700	800
SMRH124-271	270		100/0.25	0.850	600
SMRH124-331	330		100/0.25	0.960	500
SMRH124-391	390		100/0.25	1.15	480
SMRH124-471	470	100/0.25	1.45	450	
SMRH124-561	560	100/0.25	1.65	430	
SMRH124-681	680	100/0.25	2.10	410	
SMRH124-821	820	100/0.25	2.65	400	



● SMRH125 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH125-1R3	1.3	M、N	100/0.25	0.013	7000
SMRH125-2R2	2.2		100/0.25	0.015	6500
SMRH125-4R4	4.4		100/0.25	0.023	5000
SMRH125-5R8	5.8		100/0.25	0.024	4400
SMRH125-7R5	7.5		100/0.25	0.028	4200
SMRH125-100	10	K、M	100/0.25	0.030	4000
SMRH125-120	12		100/0.25	0.032	3500
SMRH125-150	15		100/0.25	0.035	3300
SMRH125-180	18		100/0.25	0.055	3000
SMRH125-220	22		100/0.25	0.060	2800
SMRH125-270	27		100/0.25	0.070	2300
SMRH125-330	33		100/0.25	0.080	2100
SMRH125-390	39		100/0.25	0.090	2000
SMRH125-470	47		100/0.25	0.120	1800
SMRH125-560	56		100/0.25	0.135	1700
SMRH125-680	68		100/0.25	0.145	1500
SMRH125-820	82		100/0.25	0.175	1400
SMRH125-101	100		100/0.25	0.185	1300
SMRH125-121	120		100/0.25	0.250	1100
SMRH125-151	150		100/0.25	0.290	1000
SMRH125-181	180		100/0.25	0.350	900
SMRH125-221	220		100/0.25	0.470	800
SMRH125-271	270		100/0.25	0.540	750
SMRH125-331	330		100/0.25	0.740	680
SMRH125-391	390		100/0.25	0.820	650
SMRH125-471	470	100/0.25	0.850	580	
SMRH125-561	560	100/0.25	1.000	540	
SMRH125-681	680	100/0.25	1.200	480	
SMRH125-821	820	100/0.25	1.600	430	
SMRH125-102	1000	K	100/0.25	1.800	400



● SMRH127 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH127-1R2	1.2	M、N	100/0.25	0.0070	9800
SMRH127-3R5	3.5		100/0.25	0.0135	7500
SMRH127-4R7	4.7		100/0.25	0.0158	6800
SMRH127-6R1	6.1		100/0.25	0.0176	6600
SMRH127-7R6	7.6	K、M	100/0.25	0.0200	5900
SMRH127-100	10		100/0.25	0.0216	5400
SMRH127-120	12		100/0.25	0.0243	4900
SMRH127-150	15		100/0.25	0.0270	4500
SMRH127-180	18		100/0.25	0.0392	3900
SMRH127-220	22		100/0.25	0.0432	3600
SMRH127-270	27		100/0.25	0.0459	3400
SMRH127-330	33		100/0.25	0.0648	3000
SMRH127-390	39		100/0.25	0.0729	2750
SMRH127-470	47		100/0.25	0.10	2500
SMRH127-560	56		100/0.25	0.11	2350
SMRH127-680	68		100/0.25	0.14	2100
SMRH127-820	82		100/0.25	0.16	1950
SMRH127-101	100		100/0.25	0.22	1700
SMRH127-121	120		100/0.25	0.25	1600
SMRH127-151	150		100/0.25	0.28	1420
SMRH127-181	180		100/0.25	0.35	1300
SMRH127-221	220		100/0.25	0.39	1160
SMRH127-271	270		100/0.25	0.56	1060
SMRH127-331	330		100/0.25	0.64	950
SMRH127-391	390	100/0.25	0.70	880	
SMRH127-471	470	100/0.25	0.98	790	
SMRH127-561	560	100/0.25	1.07	730	
SMRH127-681	680	100/0.25	1.46	670	
SMRH127-821	820	K	100/0.25	1.64	600
SMRH127-102	1000		100/0.25	1.84	550



● **SMRH129 TYPE**

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH129-1R0	1.0	M、N	100/0.25	0.0065	20000
SMRH129-2R7	2.7		100/0.25	0.0115	16000
SMRH129-4R7	4.7		100/0.25	0.015	10000
SMRH129-6R8	6.8		100/0.25	0.020	9500
SMRH129-100	10	K、M	100/0.25	0.025	9000
SMRH129-150	15		100/0.25	0.036	8000
SMRH129-220	22		100/0.25	0.030	6500
SMRH129-270	27		100/0.25	0.040	5800
SMRH129-330	33		100/0.25	0.0495	5300
SMRH129-390	39		100/0.25	0.050	4200
SMRH129-470	47		100/0.25	0.080	3500
SMRH129-680	68		100/0.25	0.090	2350
SMRH129-101	100		100/0.25	0.150	1900
SMRH129-121	220		100/0.25	0.300	1500
SMRH129-561	560		100/0.25	0.715	800
SMRH129-681	680	100/0.25	0.715	1000	
SMRH129-122	1200	K	100/0.25	1.30	500
SMRH129-332	3300		100/0.25	5.50	350
SMRH127-103	10000		100/0.25	15.0	200

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● **SMRH104R TYPE**

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH104R-1R5	1.5	M、N	100/0.25	0.0081	10000
SMRH104R-2R5	2.5		100/0.25	0.0105	7500
SMRH104R-3R8	3.8		100/0.25	0.013	6000
SMRH104R-5R2	5.2		100/0.25	0.022	5500
SMRH104R-7R0	7.0		100/0.25	0.027	4800



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH104R-100	10	K、M	100/0.25	0.035	4000
SMRH104R-150	15		100/0.25	0.050	3600
SMRH104R-220	22		100/0.25	0.073	2900
SMRH104R-330	33		100/0.25	0.093	2300
SMRH104R-470	47		100/0.25	0.128	2100
SMRH104R-680	68		100/0.25	0.213	1500
SMRH104R-101	100		100/0.25	0.304	1360
SMRH104R-151	150		100/0.25	0.506	1150
SMRH104R-221	220		100/0.25	0.756	920
SMRH104R-331	330		100/0.25	1.090	700

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● **SMRH105R TYPE**

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH105R-1R5	1.5	M、N	100/0.25	0.0058	10500
SMRH105R-2R2	2.2		100/0.25	0.0072	9250
SMRH105R-3R3	3.3		100/0.25	0.0104	7800
SMRH105R-4R7	4.7		100/0.25	0.0123	6400
SMRH105R-6R8	6.8		100/0.25	0.0180	5400
SMRH105R-8R2	8.2		100/0.25	0.0200	4850
SMRH105R-100	10		100/0.25	0.0260	4450
SMRH105R-150	15	K、M	100/0.25	0.0410	3600
SMRH105R-220	22		100/0.25	0.0610	2950
SMRH105R-330	33		100/0.25	0.0840	2400
SMRH105R-470	47		100/0.25	0.130	2000
SMRH105R-560	56		100/0.25	0.149	1900
SMRH105R-680	68		100/0.25	0.201	1650
SMRH105R-820	82		100/0.25	0.227	1500
SMRH105R-101	100		100/0.25	0.253	1350



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
SMRH105R-121	120	K、M	100/0.25	0.303	1280
SMRH105R-151	150		100/0.25	0.370	1120
SMRH105R-181	180		100/0.25	0.419	1040
SMRH105R-220	220		100/0.25	0.500	940
SMRH105R-271	270		100/0.25	0.627	840
SMRH105R-331	330		100/0.25	0.812	750
SMRH105R-391	390		100/0.25	0.953	700
SMRH105R-471	470		100/0.25	1.289	600
SMRH105R-561	560		100/0.25	1.60	540
SMRH105R-681	680		100/0.25	2.00	520
SMRH105R-821	820		100/0.25	2.15	500
SMRH105R-102	1000		100/0.25	2.75	480

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%;

1. Operating temperature range -40 -125°C

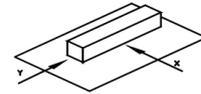
2. Isat for Inductance drop 30% from its value without current



DETAIL ELECTRICAL CHARACTERISTICS

1. Operating temperature range: -40 to + 105°C(Includes temperature when the coil is heated) .
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y

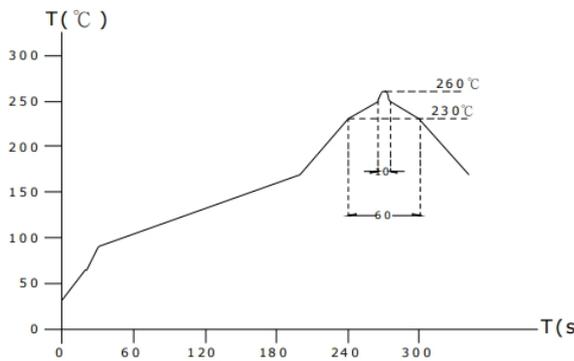
withstanding at below conditions.



Terminal should not peel off. (refer to figure at right) 5. 0N 60 sec.

4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$ (-25~+80°C degree Celsius), inductance deviation within $\pm 5.0\%$, after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within $\pm 5\%$, after 96 hours in 90~95% relative humidity at $40 \pm 2^{\circ}\text{C}$ and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within $\pm 5\%$, after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within $\pm 5\%$, after being dropped once with 981m/s² (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds(See attached recommend reflow) .
11. Storage condition: Temperature Range: 0°C ~ 35°C; -40°C ~ 105°C (after PCB), Humidity Range: 50% ~ 70% RH.
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:

Lead-free heat endurance test



Lead-free the recommended reflow condition

