

Shielded Power Inductor-SMRH Series



FEATURES

- ROHS, Halogen free and REACH Compliance.
- Shielded power inductor.
- Hight current rating, low DC resistane.
- Packed in embossed carriertape and can bevs by autoatic mounting machine

APPLICATIONS

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

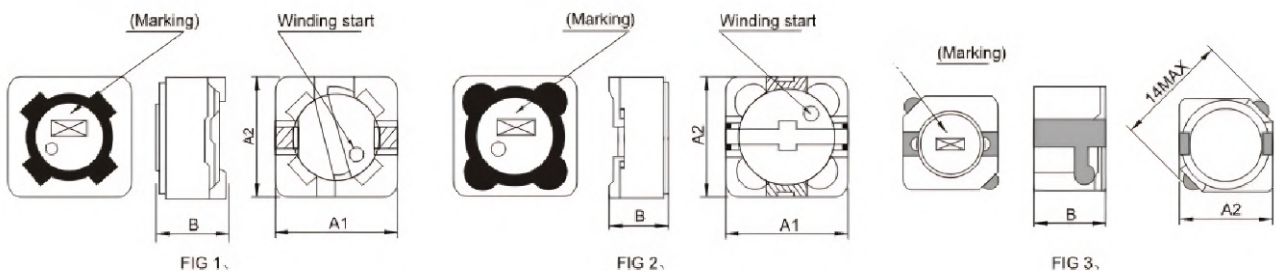
PRODUCT IDENTIFICATION

	01 ZSMRH	02 127	03 — 100	04 K	05 T
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01	02	04
Type	External Dimensions (LxH)(mm)	Nominal Inductance
ZSMRH	73	Example
Shielded Power Inductor	7.3x 3.8Max	Nominal value
	74	1R0
	7.3x 4.5Max	1.0uH
	104R	100
	10.0x 4.0Max	10uH
	105R	101
	10.0x 5.0Max	100uH
	124	102
	12.0x 5.0Max	1000uH
	125	
	12.0x 6.2Max	
	127	
	12.0x 8.0Max	
	129	
	12.0x 10.5Max	

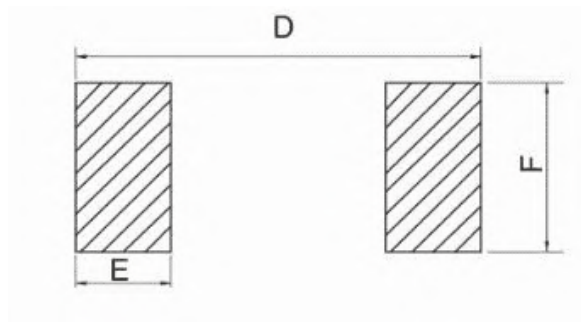
05	05
Tolerance	Packing
K	T
±10%	Tape & Reel
M	
±20%	
N	
±30%	

SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			Fig
	A1	A2	B	
ZSMRH73	7.3±0.3	7.3±0.3	3.8MAX	1
ZSMRH74	7.3±0.3	7.3±0.3	4.5MAX	1
ZSMRH104R	10.0±0.3	10.6MAX	4.0MAX	3
ZSMRH105R	10.0±0.3	10.6MAX	5.0MAX	3
ZSMRH124	12.0±0.3	12.0±0.3	5.0MAX	2
ZSMRH125	12.0±0.3	12.0±0.3	6.2MAX	2
ZSMRH127	12.0±0.3	12.0±0.3	8.0MAX	2
ZSMRH129	12.0±0.3	12.0±0.3	10.5MAX	2

RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	D	E	F
ZSMRH73	8.0	1.8	2.6
ZSMRH74	8.0	1.8	2.6
ZSMRH124	13.0	2.4	5.6
ZSMRH125	13.0	2.4	5.6
ZSMRH127	13.0	2.4	5.6
ZSMRH104R	11.0	1.8	3.6
ZSMRH105R	11.0	1.8	3.6
ZSMRH129	13.0	2.4	5.6

SPECIFICATIONS

● ZSMRH73 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH73-100	10	K、M	100/0.25	0.072	1680
ZSMRH73-120	12		100/0.25	0.098	1520
ZSMRH73-150	15		100/0.25	0.13	1330
ZSMRH73-180	18		100/0.25	0.14	1200
ZSMRH73-220	22		100/0.25	0.19	1070
ZSMRH73-270	27		100/0.25	0.21	960
ZSMRH73-330	33		100/0.25	0.24	910
ZSMRH73-390	39		100/0.25	0.32	770
ZSMRH73-470	47		100/0.25	0.36	760
ZSMRH73-560	56		100/0.25	0.47	680
ZSMRH73-680	68		100/0.25	0.52	610
ZSMRH73-820	82		100/0.25	0.69	570
ZSMRH73-101	100		100/0.25	0.79	500
ZSMRH73-121	120		100/0.25	0.89	490
ZSMRH73-151	150		100/0.25	1.27	430
ZSMRH73-181	180		100/0.25	1.45	390
ZSMRH73-221	220		100/0.25	1.65	350
ZSMRH73-271	270		100/0.25	2.31	320
ZSMRH73-331	330		100/0.25	2.62	280
ZSMRH73-391	390		100/0.25	2.94	260
ZSMRH73-471	470		100/0.25	4.18	240
ZSMRH73-561	560		100/0.25	4.67	220
ZSMRH73-681	680		100/0.25	5.73	190
ZSMRH73-821	820		100/0.25	6.54	180
ZSMRH73-102	1000		100/0.25	9.44	160

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



● ZSMRH74 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH74-100	10	K、 M	100/0.25	0.075	1840
ZSMRH74-120	12		100/0.25	0.100	1710
ZSMRH74-150	15		100/0.25	0.105	1470
ZSMRH74-180	18		100/0.25	0.120	1310
ZSMRH74-220	22		100/0.25	0.150	1230
ZSMRH74-270	27		100/0.25	0.180	1120
ZSMRH74-330	33		100/0.25	0.200	960
ZSMRH74-390	39		100/0.25	0.230	910
ZSMRH74-470	47		100/0.25	0.300	880
ZSMRH74-560	56		100/0.25	0.350	750
ZSMRH74-680	68		100/0.25	0.380	690
ZSMRH74-820	82		100/0.25	0.500	610
ZSMRH74-101	100		100/0.25	0.610	600
ZSMRH74-121	120		100/0.25	0.660	520
ZSMRH74-151	150		100/0.25	0.880	460
ZSMRH74-181	180		100/0.25	1.10	420
ZSMRH74-221	220		100/0.25	1.45	360
ZSMRH74-271	270		100/0.25	2.00	340
ZSMRH74-331	330		100/0.25	1.86	320
ZSMRH74-391	390		100/0.25	2.85	290
ZSMRH74-471	470		100/0.25	3.01	260
ZSMRH74-561	560		100/0.25	3.62	230
ZSMRH74-681	680		100/0.25	4.63	220
ZSMRH74-821	820		100/0.25	5.20	200
ZSMRH74-102	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



● ZSMRH124 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH124-1R0	1.0	M、N	100/0.25	0.008	12000
ZSMRH124-2R7	2.7		100/0.25	0.012	8450
ZSMRH124-3R9	3.9		100/0.25	0.015	6500
ZSMRH124-4R7	4.7		100/0.25	0.018	5700
ZSMRH124-6R8	6.8		100/0.25	0.023	4900
ZSMRH124-8R2	8.2		100/0.25	0.026	4600
ZSMRH124-100	10	K、M	100/0.25	0.035	4500
ZSMRH124-120	12		100/0.25	0.038	4000
ZSMRH124-150	15		100/0.25	0.050	3200
ZSMRH124-180	18		100/0.25	0.057	3100
ZSMRH124-220	22		100/0.25	0.066	2900
ZSMRH124-270	27		100/0.25	0.080	2800
ZSMRH124-330	33		100/0.25	0.097	2700
ZSMRH124-390	39		100/0.25	0.132	2100
ZSMRH124-470	47		100/0.25	0.160	1900
ZSMRH124-560	56		100/0.25	0.190	1800
ZSMRH124-680	68		100/0.25	0.220	1500
ZSMRH124-820	82		100/0.25	0.260	1300
ZSMRH124-101	100		100/0.25	0.308	1200
ZSMRH124-121	120		100/0.25	0.380	1100
ZSMRH124-151	150		100/0.25	0.530	950
ZSMRH124-181	180		100/0.25	0.620	850
ZSMRH124-221	220		100/0.25	0.700	800
ZSMRH124-271	270		100/0.25	0.850	600
ZSMRH124-331	330		100/0.25	0.960	500
ZSMRH124-391	390		100/0.25	1.15	480
ZSMRH124-471	470		100/0.25	1.45	450
ZSMRH124-561	560		100/0.25	1.65	430
ZSMRH124-681	680		100/0.25	2.10	410
ZSMRH124-821	820		100/0.25	2.65	400



● ZSMRH125 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH125-1R3	1.3	M、N	100/0.25	0.013	7000
ZSMRH125-2R2	2.2		100/0.25	0.015	6500
ZSMRH125-4R4	4.4		100/0.25	0.023	5000
ZSMRH125-5R8	5.8		100/0.25	0.024	4400
ZSMRH125-7R5	7.5		100/0.25	0.028	4200
ZSMRH125-100	10	K、M	100/0.25	0.030	4000
ZSMRH125-120	12		100/0.25	0.032	3500
ZSMRH125-150	15		100/0.25	0.035	3300
ZSMRH125-180	18		100/0.25	0.055	3000
ZSMRH125-220	22		100/0.25	0.060	2800
ZSMRH125-270	27		100/0.25	0.070	2300
ZSMRH125-330	33		100/0.25	0.080	2100
ZSMRH125-390	39		100/0.25	0.090	2000
ZSMRH125-470	47		100/0.25	0.120	1800
ZSMRH125-560	56		100/0.25	0.135	1700
ZSMRH125-680	68		100/0.25	0.145	1500
ZSMRH125-820	82		100/0.25	0.175	1400
ZSMRH125-101	100		100/0.25	0.185	1300
ZSMRH125-121	120		100/0.25	0.250	1100
ZSMRH125-151	150		100/0.25	0.290	1000
ZSMRH125-181	180		100/0.25	0.350	900
ZSMRH125-221	220		100/0.25	0.470	800
ZSMRH125-271	270		100/0.25	0.540	750
ZSMRH125-331	330		100/0.25	0.740	680
ZSMRH125-391	390		100/0.25	0.820	650
ZSMRH125-471	470	100/0.25	0.850	580	
ZSMRH125-561	560	100/0.25	1.000	540	
ZSMRH125-681	680	100/0.25	1.200	480	
ZSMRH125-821	820	100/0.25	1.600	430	
ZSMRH125-102	1000	K	100/0.25	1.800	400



● ZSMRH127 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH127-1R2	1.2	M、N	100/0.25	0.0070	9800
ZSMRH127-3R5	3.5		100/0.25	0.0135	7500
ZSMRH127-4R7	4.7		100/0.25	0.0158	6800
ZSMRH127-6R1	6.1		100/0.25	0.0176	6600
ZSMRH127-7R6	7.6	K、M	100/0.25	0.0200	5900
ZSMRH127-100	10		100/0.25	0.0216	5400
ZSMRH127-120	12		100/0.25	0.0243	4900
ZSMRH127-150	15		100/0.25	0.0270	4500
ZSMRH127-180	18		100/0.25	0.0392	3900
ZSMRH127-220	22		100/0.25	0.0432	3600
ZSMRH127-270	27		100/0.25	0.0459	3400
ZSMRH127-330	33		100/0.25	0.0648	3000
ZSMRH127-390	39		100/0.25	0.0729	2750
ZSMRH127-470	47		100/0.25	0.10	2500
ZSMRH127-560	56		100/0.25	0.11	2350
ZSMRH127-680	68		100/0.25	0.14	2100
ZSMRH127-820	82		100/0.25	0.16	1950
ZSMRH127-101	100		100/0.25	0.22	1700
ZSMRH127-121	120		100/0.25	0.25	1600
ZSMRH127-151	150		100/0.25	0.28	1420
ZSMRH127-181	180		100/0.25	0.35	1300
ZSMRH127-221	220		100/0.25	0.39	1160
ZSMRH127-271	270		100/0.25	0.56	1060
ZSMRH127-331	330		100/0.25	0.64	950
ZSMRH127-391	390	100/0.25	0.70	880	
ZSMRH127-471	470	100/0.25	0.98	790	
ZSMRH127-561	560	100/0.25	1.07	730	
ZSMRH127-681	680	100/0.25	1.46	670	
ZSMRH127-821	820	K	100/0.25	1.64	600
ZSMRH127-102	1000		100/0.25	1.84	550



● ZSMRH129 TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)	
ZSMRH129-1R0	1.0	M、N	100/0.25	0.0065	20000	
ZSMRH129-2R7	2.7		100/0.25	0.0115	16000	
ZSMRH129-4R7	4.7		100/0.25	0.015	10000	
ZSMRH129-6R8	6.8		100/0.25	0.020	9500	
ZSMRH129-100	10	K、M	100/0.25	0.025	9000	
ZSMRH129-150	15		100/0.25	0.036	8000	
ZSMRH129-220	22		100/0.25	0.030	6500	
ZSMRH129-270	27		100/0.25	0.040	5800	
ZSMRH129-330	33		100/0.25	0.0495	5300	
ZSMRH129-390	39		100/0.25	0.050	4200	
ZSMRH129-470	47		100/0.25	0.080	3500	
ZSMRH129-680	68		100/0.25	0.090	2350	
ZSMRH129-101	100		100/0.25	0.150	1900	
ZSMRH129-121	220		100/0.25	0.300	1500	
ZSMRH129-561	560		100/0.25	0.715	800	
ZSMRH129-681	680		100/0.25	0.715	1000	
ZSMRH129-122	1200		K	100/0.25	1.30	500
ZSMRH129-332	3300			100/0.25	5.50	350
ZSMRH127-103	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

● ZSMRH104R TYPE

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH104R-1R5	1.5	M、N	100/0.25	0.0081	10000
ZSMRH104R-2R5	2.5		100/0.25	0.0105	7500
ZSMRH104R-3R8	3.8		100/0.25	0.013	6000
ZSMRH104R-5R2	5.2		100/0.25	0.022	5500
ZSMRH104R-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)
ZSMRH104R-100	10	K、M	100/0.25	0.035	4000
ZSMRH104R-150	15		100/0.25	0.050	3600
ZSMRH104R-220	22		100/0.25	0.073	2900
ZSMRH104R-330	33		100/0.25	0.093	2300
ZSMRH104R-470	47		100/0.25	0.128	2100
ZSMRH104R-680	68		100/0.25	0.213	1500
ZSMRH104R-101	100		100/0.25	0.304	1360
ZSMRH104R-151	150		100/0.25	0.506	1150
ZSMRH104R-221	220		100/0.25	0.756	920
ZSMRH104R-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

● **ZSMRH105R TYPE**

Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH105R-1R5	1.5	M、N	100/0.25	0.0058	10500
ZSMRH105R-2R2	2.2		100/0.25	0.0072	9250
ZSMRH105R-3R3	3.3		100/0.25	0.0104	7800
ZSMRH105R-4R7	4.7		100/0.25	0.0123	6400
ZSMRH105R-6R8	6.8		100/0.25	0.0180	5400
ZSMRH105R-8R2	8.2		100/0.25	0.0200	4850
ZSMRH105R-100	10		100/0.25	0.0260	4450
ZSMRH105R-150	15	K、M	100/0.25	0.0410	3600
ZSMRH105R-220	22		100/0.25	0.0610	2950
ZSMRH105R-330	33		100/0.25	0.0840	2400
ZSMRH105R-470	47		100/0.25	0.130	2000
ZSMRH105R-560	56		100/0.25	0.149	1900
ZSMRH105R-680	68		100/0.25	0.201	1650
ZSMRH105R-820	82		100/0.25	0.227	1500
ZSMRH105R-101	100		100/0.25	0.253	1350



Part Number	Inductance (uH)	Tolerance	Test condition (KHz/V)	DCR Max(Ω)	Rated Current Max (mA)
ZSMRH105R-121	120	K、M	100/0.25	0.303	1280
ZSMRH105R-151	150		100/0.25	0.370	1120
ZSMRH105R-181	180		100/0.25	0.419	1040
ZSMRH105R-220	220		100/0.25	0.500	940
ZSMRH105R-271	270		100/0.25	0.627	840
ZSMRH105R-331	330		100/0.25	0.812	750
ZSMRH105R-391	390		100/0.25	0.953	700
ZSMRH105R-471	470		100/0.25	1.289	600
ZSMRH105R-561	560		100/0.25	1.60	540
ZSMRH105R-681	680		100/0.25	2.00	520
ZSMRH105R-821	820		100/0.25	2.15	500
ZSMRH105R-102	1000		100/0.25	2.75	480

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

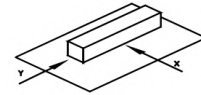
1. Operating temperature range -40 -125°C

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

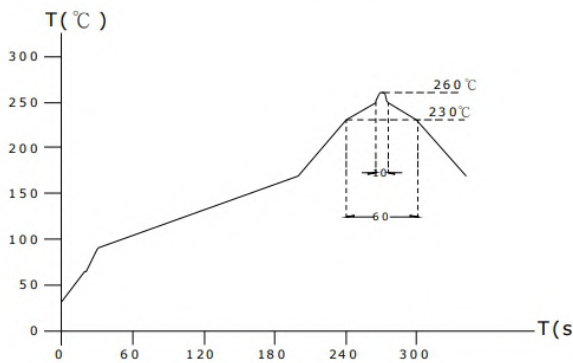
withstanding at below conditions.



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

