FEATURES 特征

- High saturation current, low DCR.
  高饱和电流，低DCR
- Suitable for surface mounting equipment.
  适合表面贴装
- Close magnetic circuit design reduce leakage.
  闭合磁路结构设计，减少漏磁
- Operating Temp：-40℃~+125℃(Including self heating)
  工作温度范围:-40℃~+125℃(包括自身温度上升)

APPLICATIONS 用途

- Used for filtering, DC/DC conversion, and decoupling in industrial electronics such as security and instrumentation, as well as consumer electronics such as TVs, routers, and game consoles.
  用于安防、仪器仪表等工业电子和 TV、路由器、游戏机等消费电子的滤波、DC/DC 转换、去耦。

PART NUMBERING 产品型号

ARH	103	R	-	1R0	N	T	DE
①	②	③		④	⑤	⑥	⑦

① Series Name	
ARH	Wire Wound SMD Type Power Inductors (With Metallic Base)

② External Dimensions	
103	10.6x10.5x3.1
104	10.6x10.5x4.0
105	10.6x10.5x5.1

③ Product identification code
R

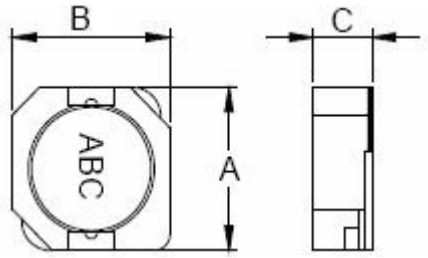
⑤ Inductance Tolerance	
N	30%
M	20%

④ Inductance	
Code (example)	Nominal inductance［μH］
1R0	1.0uH
100	10uH
101	100uH

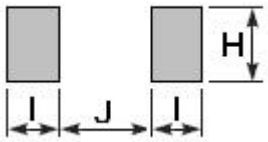
⑥ Packaging	
T	Tape & Reel

⑦ Special material code
XE

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘



Recommended Land Pattern



Unit: mm

Dimensions				Recommended Land Pattern		
Series	A Max.	B Max.	C Max.	I Typ.	J Typ.	H Typ.
ARH103R	10.6	10.5	3.1	1.7	7.3	3.6
ARH104R	10.6	10.5	4	1.7	7.3	3.6
ARH105R	10.6	10.5	5.1	1.7	7.3	3.6

ELECTRICAL CHARACTERISTICS 特性规格表

● ARH103R Series

Part Number	Inductance (μH)	L Test Condition	DC resistance (Ω)	Rated Current(A)	Marking
		Hz,mV	Max.	Max.	
ARH103R-1R5NTXE	1.5±30%	100K,500	0.018	7	1R5
ARH103R-2R2NTXE	2.2±30%	100K,500	0.023	6.5	2R2
ARH103R-3R3NTXE	3.3±30%	100K,500	0.028	6	3R3
ARH103R-4R7MTXE	4.7±20%	100K,500	0.047	5.5	4R7
ARH103R-5R6MTXE	5.6±20%	100K,500	0.055	4.8	5R6
ARH103R-6R8MTXE	6.8±20%	100K,500	0.058	3.84	6R8
ARH103R-8R2MTXE	8.2±20%	100K,500	0.072	4.5	8R2
ARH103R-100MTXE	10±20%	100K,500	0.097	3.18	100
ARH103R-150MTXE	15±20%	100K,500	0.122	2.8	150
ARH103R-220MTXE	22±20%	100K,500	0.143	2.4	220
ARH103R-330MTXE	33±20%	100K,500	0.23	2.2	330
ARH103R-470MTXE	47±20%	100K,500	0.341	1.9	470
ARH103R-560MTXE	56±20%	100K,500	0.371	1.7	560
ARH103R-680MTXE	68±20%	100K,500	0.511	1.5	680
ARH103R-820MTXE	82±20%	100K,500	0.541	1.3	820
ARH103R-101MTXE	100±20%	100K,500	0.803	1.1	101
ARH103R-151MTXE	150±20%	100K,500	1.26	0.92	151
ARH103R-221MTXE	220±20%	100K,500	1.76	0.75	221

ELECTRICAL CHARACTERISTICS 特性规格表

● ARH104R Series

Part Number	Inductance (μH)	L Test Condition	DC resistance (Ω)	Rated Current(A)	Marking
		Hz,mV	Max.	Max.	
ARH104R-1R0NTXE	1.0±30%	100K,500	0.014	10	1R0
ARH104R-1R5NTXE	1.5±30%	100K,500	0.017	10	1R5
ARH104R-2R2NTXE	2.2±30%	100K,500	0.021	7.5	2R2
ARH104R-3R3NTXE	3.3±30%	100K,500	0.025	6	3R3
ARH104R-4R7MTXE	4.7±20%	100K,500	0.028	5.5	4R7
ARH104R-5R6MTXE	5.6±20%	100K,500	0.031	5.2	5R6
ARH104R-6R8MTXE	6.8±20%	100K,500	0.038	4.8	6R8
ARH104R-8R2MTXE	8.2±20%	100K,500	0.042	4.6	8R2
ARH104R-100MTXE	10±20%	100K,500	0.043	4.4	100
ARH104R-120MTXE	12±20%	100K,500	0.06	4	120
ARH104R-150MTXE	15±20%	100K,500	0.068	3.6	150
ARH104R-180MTXE	18±20%	100K,500	0.07	3.3	180
ARH104R-220MTXE	22±20%	100K,500	0.09	2.9	220
ARH104R-270MTXE	27±20%	100K,500	0.117	2.6	270
ARH104R-330MTXE	33±20%	100K,500	0.12	2.4	330
ARH104R-390MTXE	39±20%	100K,500	0.15	2.2	390
ARH104R-470MTXE	47±20%	100K,500	0.19	2.1	470
ARH104R-560MTXE	56±20%	100K,500	0.297	1.8	560
ARH104R-680MTXE	68±20%	100K,500	0.35	1.5	680
ARH104R-820MTXE	82±20%	100K,500	0.385	1.45	820
ARH104R-101MTXE	100±20%	100K,500	0.43	1.35	101
ARH104R-121MTXE	120±20%	100K,500	0.47	1.25	121
ARH104R-151MTXE	150±20%	100K,500	0.506	1.15	151
ARH104R-181MTXE	180±20%	100K,500	0.627	1	181
ARH104R-221MTXE	220±20%	100K,500	0.756	0.92	221
ARH104R-271MTXE	270±20%	100K,500	0.95	0.75	271
ARH104R-331MTXE	330±20%	100K,500	1.09	0.7	331
ARH104R-471MTXE	470±20%	100K,500	1.9	0.6	471
ARH104R-681MTXE	680±20%	100K,500	2.2	0.55	681
ARH104R-821MTXE	820±20%	100K,500	4.6	0.4	821
ARH104R-102MTXE	1000±20%	100K,500	5.11	0.32	102

ELECTRICAL CHARACTERISTICS 特性规格表

● ARH105R Series

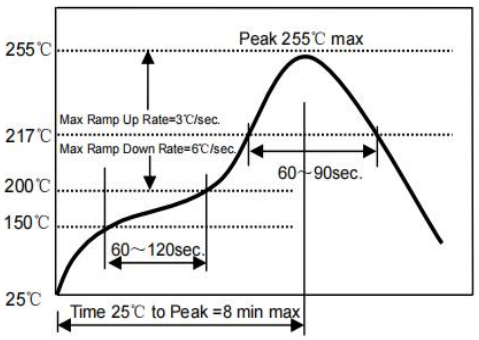
Part Number	Inductance (μH)	L Test Condition	DC resistance (Ω)	Rated Current(A)	Marking
		Hz,mV	Max.	Max.	
ARH105R-1R0NTXE	1.0±30%	100K,500	0.013	11	1R0
ARH105R-1R5NTXE	1.5±30%	100K,500	0.011	10.5	1R5
ARH105R-2R2NTXE	2.2±30%	100K,500	0.013	9.25	2R2
ARH105R-3R3MTXE	3.3±20%	100K,500	0.017	7.8	3R3
ARH105R-4R7MTXE	4.7±20%	100K,500	0.019	6.4	4R7
ARH105R-5R6MTXE	5.6±20%	100K,500	0.022	5.9	5R6
ARH105R-6R8MTXE	6.8±20%	100K,500	0.025	5.4	6R8
ARH105R-8R2MTXE	8.2±20%	100K,500	0.029	4.85	8R2
ARH105R-100MTXE	10±20%	100K,500	0.046	4.5	100
ARH105R-150MTXE	15±20%	100K,500	0.049	3.6	150
ARH105R-220MTXE	22±20%	100K,500	0.061	2.95	220
ARH105R-330MTXE	33±20%	100K,500	0.084	2.4	330
ARH105R-390MTXE	39±20%	100K,500	0.12	2.2	390
ARH105R-470MTXE	47±20%	100K,500	0.13	2	470
ARH105R-560MTXE	56±20%	100K,500	0.149	1.9	560
ARH105R-680MTXE	68±20%	100K,500	0.201	1.65	680
ARH105R-820MTXE	82±20%	100K,500	0.227	1.5	820
ARH105R-101MTXE	100±20%	100K,500	0.253	1.35	101
ARH105R-121MTXE	120±20%	100K,500	0.303	1.28	121
ARH105R-151MTXE	150±20%	100K,500	0.37	1.12	151
ARH105R-181MTXE	180±20%	100K,500	0.419	1.04	181
ARH105R-221MTXE	220±20%	100K,500	0.5	0.94	221
ARH105R-331MTXE	330±20%	100K,500	0.7	0.8	331
ARH105R-391MTXE	390±20%	100K,500	0.8	0.75	391
ARH105R-471MTXE	470±20%	100K,500	1.29	0.6	471
ARH105R-561MTXE	560±20%	100K,500	1.43	0.54	561
ARH105R-681MTXE	680±20%	100K,500	1.6	0.52	681
ARH105R-821MTXE	820±20%	100K,500	1.77	0.5	821
ARH105R-102MTXE	1000±20%	100K,500	1.99	0.48	102
ARH105R-152MTXE	1500±20%	100K,500	3.05	0.4	152
ARH105R-222MTXE	2200±20%	100K,500	5.11	0.3	222
ARH105R-332MTXE	3300±20%	100K,500	6	0.25	332
ARH105R-472MTXE	4700±20%	100K,500	7.5	0.2	472

Recommended Soldering Technologies 回流焊建议

Reflowing Profile

- Preheat condition: 150~200℃/60~120sec.
- Allowed time above 217℃: 60~90sec.
- Max temp: 255℃
- Max time at max temp: 10sec.
- Solder paste: Sn/3.0Ag/0.5Cu
- Allowed Reflow time: 2x max

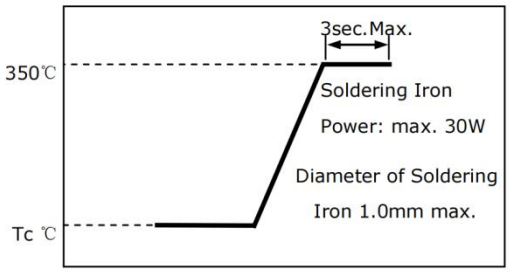
Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.



Iron Soldering Profile

- Iron soldering power: Max.30W
- Pre-heating: 150 ℃ / 60sec.
- Soldering Tip temperature: 350℃Max.
- Soldering time: 3sec Max.
- Solder paste: Sn/3.0Ag/0.5Cu
- Max.1 times for iron soldering

Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.



Safety Reminders 注意事項

SAFETY REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 15 to 35℃, humidity: 75% RH or less).If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- This product is not designed for production processes involving ultrasonic welding, as high-frequency vibration may cause application issues such as product detachment and breakage.
- Carefully layout the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment, under a normal operation and use condition.

The Company shall not guarantee the suitability, performance, or quality for the following applications that require a high level of safety and reliability, or where equipment failure, malfunction, or abnormal operation may cause damage to human life, physical well-being, or property, and may have significant social impacts (hereinafter referred to as "specific applications").If you intend to use this product in the application scenarios listed below, or if you have special requirements exceeding the scope or conditions specified in each product catalog, please contact us.

(1) Aerospace/aviation equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)
(3) Medical equipment
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.