FEATURES 特征

- Metal material for large current and low DCR.
  铁合金材料，高饱和电流，低DCR
- Closed magnetic dircuit design reduces leakage flux.
  闭合磁路设计，漏磁干扰小
- Halogen free, RoHS compliant.
  无卤，符合RoHS标准
- Operating Temp：-55℃~+125℃(Including self heating)
  工作温度范围:-55℃~+125℃(包括自身温度上升)

APPLICATIONS 用途

- TV, graphics, memory.
  TV、显卡、内存
- Notebooks, tablets.
  笔记本电脑、平板电脑
- Communication equipments, industrial equipments.
  通讯设备、工业设备

PART NUMBERING 产品型号

APH	0630	T	R15	M
①	②	③	④	⑤

① Series Name	
APH	Molded SMD Power Inductors

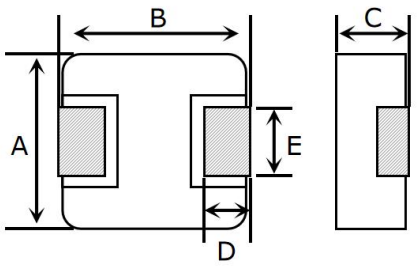
② External Dimensions [LxWxT mm]	
0630	7.0x6.6x2.8

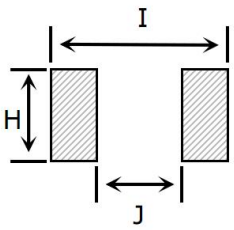
③ Feature Type	
T	Standard

④ Nominal Inductance	
Code (example)	Nominal Value［μH］
R15	0.15

⑤ Inductance Tolerance	
M	±20%

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘





Recommed Land Pattern

Unit: mm

Dimensions						Recommended Land Pattern		
Series	A	B	C	D	E	I	J	H
						Typ.		
APH0630	6.6±0.3	7.0±0.35	2.8±0.2	1.6±0.5	3.0±0.3	8.4	3.7	3.5

ELECTRICAL CHARACTERISTICS 特性规格表

- APH0630 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0630TR15M	0.15	±20%	2.40	35.0	41.0	25.0	30.0

- All test data is referenced to 20℃ ambient.
- Rated current: Isat or Irms, whichever is smaller.
- Isat(Typ.) : DC current at which the inductance drops approximate 30% from its value without current.
- Isat(Max.) : DC current at which the inductance drops approximate 30% from its value without current.
- Irms(Typ.): DC current that causes the temperature rise (△T =40℃) from 20℃ ambient.
- The part temperature (ambient + temp rise) should not exceed 125'Cunder worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions, all affect the part temperature. Part temperature should be verified in the end application.
- Absolute maximum voltage: DC100V

RELIABILITY TEST 可靠性测试

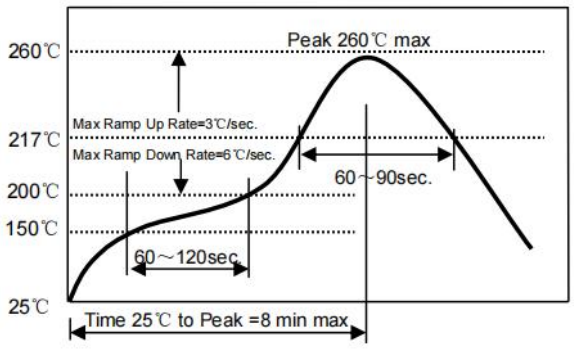
Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in apperarance 2. New solder coverage More than 95%	1.Preheat：155℃±5℃，60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃，flux 3.0S±0.5S.
Mechanical shock	1. No case deformation or change in apperarance 2. △L/Lo≦±10%	1. Acceleration： 100G 2. Pulse time:：6ms 3. 3 times in each positive and negative direction of 3mutual perpendicular directions
Mechanical vibration	1. No case deformation or change in apperarance 2. △L/Lo≦±10%	1. Reflow: 2times 2. Frequency: 10HZ～55HZ～10HZ，20 Min/Cycles 3. Amplitude: 1.52 mm 4. Directions: X,Y,Z 5. Time: 12 cycle / direction
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within ± 10% Without distinct damage in appearance	1. First -55℃ for 30 minutes，last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24±2 hours
Humidity Resistance	Inductance change: Within ± 10% Without distinct damage in appearance	1.Reflow 2 times, 2.85℃,85%RH,1000 hours 3.Measured at room temperature after placing for 24±2 hours
Low temperature storage	Inductance change: Within ± 10% Without distinct damage in appearance	1. Temperature：-55 ± 2℃ 2. Time：1000 hours 3. Measured at room temperature after placing for 24±2 hours
High temperature storage	Inductance change: Within ± 10% Without distinct damage in appearance	1. Temperature：+125 ± 2℃ 2. Time：1000 hours 3. Measured at room temperature after placing for 24±2 hours

RECOMMENDED SOLDERING TECHNOLOGIES 焊接工艺建议

Reflowing Profile

- Preheat condition: 150~200℃/60~120sec.
- Allowed time above 217℃: 60~90sec.
- Max temp: 260℃
- Max time at max temp: 10sec.
- Solder paste: Sn/3.0Ag/0.5Cu
- Allowed Reflow time: 2x max

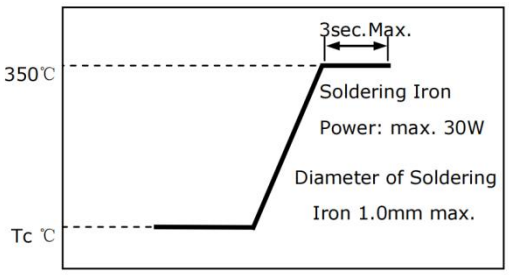
Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.



Iron Soldering Profile

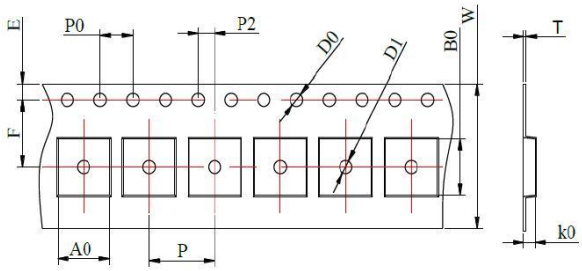
- Iron soldering power: Max.30W
- Pre-heating: 150 ℃ / 60sec.
- Soldering Tip temperature: 350℃Max.
- Soldering time: 3sec Max.
- Solder paste: Sn/3.0Ag/0.5Cu
- Max.1 times for iron soldering

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



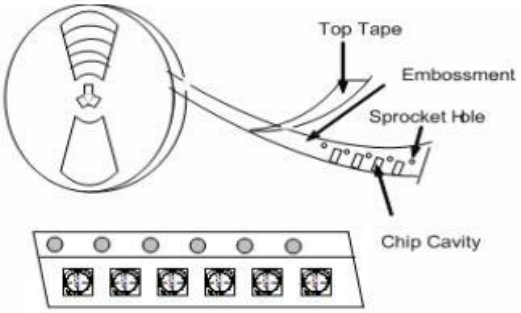
TAPING 包装

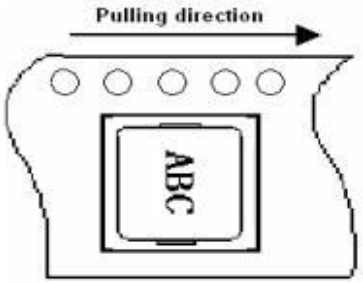
- Tape Packaging Dimensions （Unit：mm）



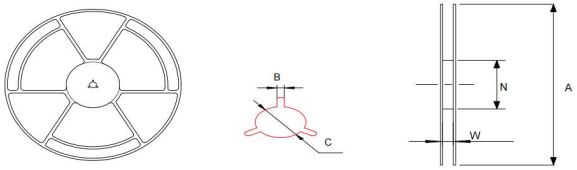
Type	Tape dimensions (mm)											
	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
APH0630	16±0.3	12±0.1	4±0.1	2±0.1	1.5±0.1	1.5±0.1	0.35±0.05	7.0±0.1	7.7±0.1	3.3±0.1	1.75±0.1	7.5±0.1

- Taping Drawings （Unit：mm）



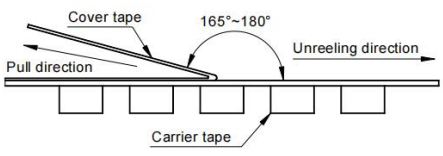


- Reel Dimensions（Unit：mm）



Type	A	W	N	B	C	Quantity
APH0630	330±2.0	16.8±0.2	97±0.5	2.2±0.5	13.0±0.2	1500PCS

- Peel force of top cover tape.
- Thepeelspeedshallbeabout300mm/minute.
- Thepeelforceoftopcovertapeshallbebetween0.1to1.3N.



SAFETY REMINDERS 注意事项

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.
- Do not clean or soak the product with organic solvents, as this will cause the magnetic core to loosen and degrade the structural strength of the product.

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.