FEATURES 特征

- Chip common mode filter for large current applications.
  适用大电流的片式共模滤波器
- High current, low loss.
  大电流、低损耗
- Fully shielded molded construction.
  全屏蔽式结构
- Operating Temp：-40℃~+105℃(Including self heating)
  工作温度范围:-40℃~+105℃(包括自身温度上升)



APPLICATIONS 用途

- Common mode noise suppression of various electronic products, multimedia equipment, power cords.
  各种电子产品、多媒体设备,电源线的共模噪音抑制
- Current compensated choke for data and signal lines.
  数据线和信号线的电流补偿扼流圈

PART NUMBERING 产品型号

PRIM	4532	-	101	HS
①	②		③	④

① Series Name	
PRIM	Wire Wound Chip Common Mode Choke

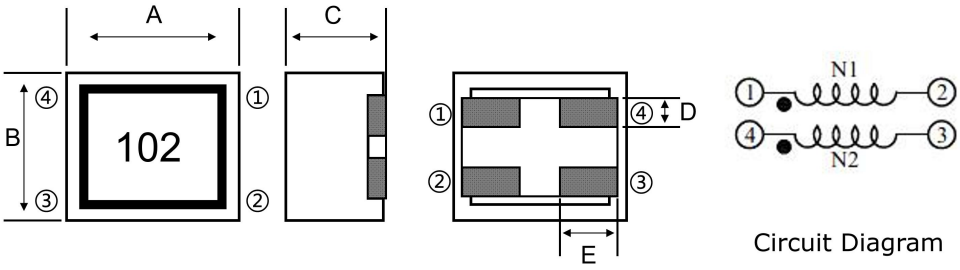
② External Dimensions [LxWxT mm]	
4532	5.0x4.5x2.8
5020	4.8x5.0x2.5
5040	4.8x5.0x4.5

③ Nominal Impedance	
Code (example)	Nominal Impedance [Ω]
101	100
501	500
102	1000

④ Internal Code
HS

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘

- PRIM4532



Unit: mm

Dimensions					
Series	A	B	C	D Typ.	E Typ.
PRIM4532	5.00±0.3	4.50±0.3	2.80±0.3	1.00	1.65

ELECTRICAL CHARACTERISTICS 特性规格表

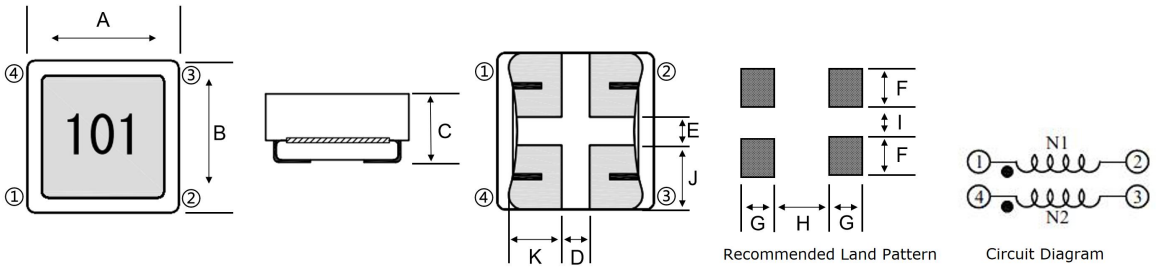
- PRIM4532 Series

Part Number	Impedance @100MHz,0.5V	DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Typ.	Max.	Max.	Max.	Min.	-
Unit	Ω	mΩ	A	V	MΩ	-
Symbol	Z	DCR	Ir	Vdc	IR	-
PRIM4532-101HS	100	12.6	6.0	50	9-11	101
PRIM4532-251HS	250	19.6	5.0	50	9-11	251
PRIM4532-501HS	500	26.6	2.0	50	9-11	501
PRIM4532-102HS	1000	33.6	2.0	50	9-11	102
PRIM4532-142HS	1400	56.0	2.0	50	9-11	142

- Rated Current: Temp.rise 40°C Typ.
- Storage Temperature: 15°C up to 25°C, 65% RH max.
- The temperature of electrical characteristic test is 25°C indoor temperature.

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘

● PRIM5020-PRIM5040



Unit: mm

Series	A	B	C	D	E	F	G	H	I	J	K
			Max.	Typ.							
PRIM5020	4.8±0.2	5.0±0.2	2.5	1.1	1.5	2.3	1.6	0.8	1.0	1.9	1.4
PRIM5040	4.8±0.2	5.0±0.2	4.5	0.8	1.0	2.3	1.6	0.8	1.0	1.9	1.4

ELECTRICAL CHARACTERISTICS 特性规格表

● PRIM5020 Series

Part Number	Impedance @100MHz,0.5V	DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Typ.	Max.	Max.	Max.	Min.	-
Unit	Ω	mΩ	A	V	MΩ	-
Symbol	Z	DCR	Ir	Vdc	IR	-
PRIM5020-101HS	100	13	5.5	50	10	101
PRIM5020-251HS	250	20	4.5	50	10	251
PRIM5020-351HS	350	20	3.5	50	10	351
PRIM5020-501HS	500	27	3.5	50	10	501
PRIM5020-901HS	900	34	1.6	50	10	901
PRIM5020-102HS	1000	34	1.6	50	10	102
PRIM5020-142HS	1400	56	1.2	50	10	142
PRIM5020-152HS	1500	56	1.2	50	10	152

ELECTRICAL CHARACTERISTICS 特性规格表

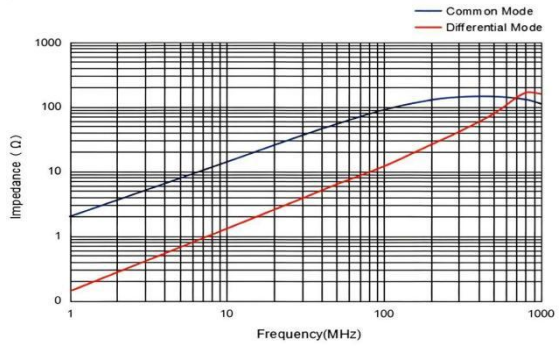
- PRIM5040 Series

Part Number	Impedance @100MHz,0.5V	DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Typ.	Max.	Max.	Max.	Min.	-
Unit	Ω	mΩ	A	V	MΩ	-
Symbol	Z	DCR	Ir	Vdc	IR	-
PRIM5040-191HS	190	20	5	50	10	191
PRIM5040-351HS	350	40	2	50	10	351
PRIM5040-501HS	500	50	1.5	50	10	501
PRIM5040-102HS	1000	60	1.3	50	10	102
PRIM5040-152HS	1500	100	1	50	10	152
PRIM5040-302HS	3000	200	0.5	50	10	302

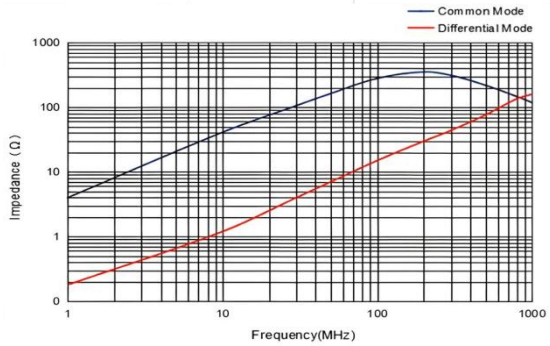
- Rated Current: Temp.rise 40°C Typ.
- Storage Temperature: 15°C up to 25°C, 65% RH max.
- The temperature of electrical characteristic test is 25°C indoor temperature.

CHARACTERISTICS(REFERENCE) 特征曲线

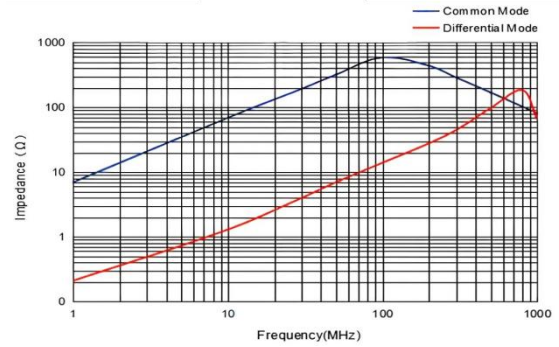
PRIM5020-101HS



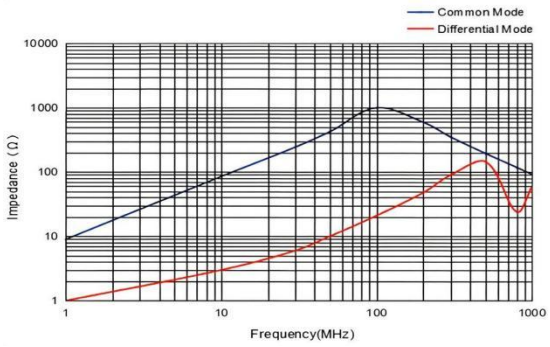
PRIM5020-251HS



PRIM5020-351HS/PRIM5020-501HS

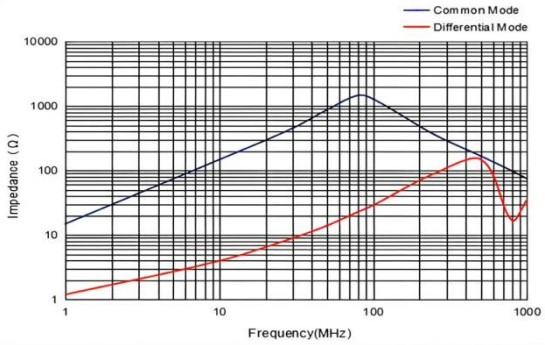


PRIM5020-901HS/PRIM5020-102HS

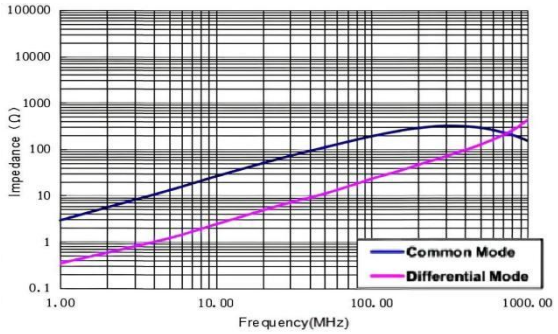


CHARACTERISTICS(REFERENCE) 特征曲线

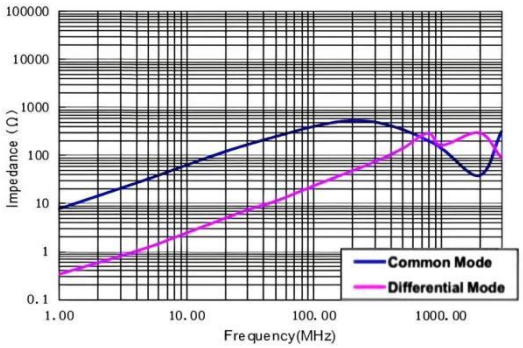
PRIM5020-142HS/PRIM5020-152HS



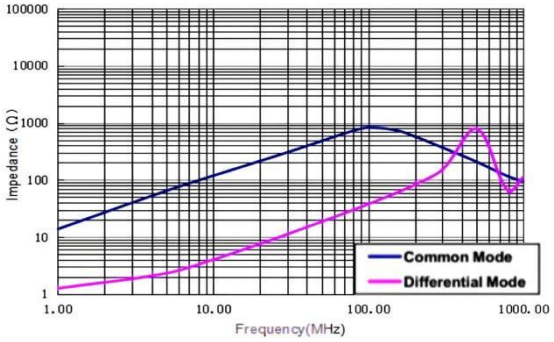
PRIM5040-191HS



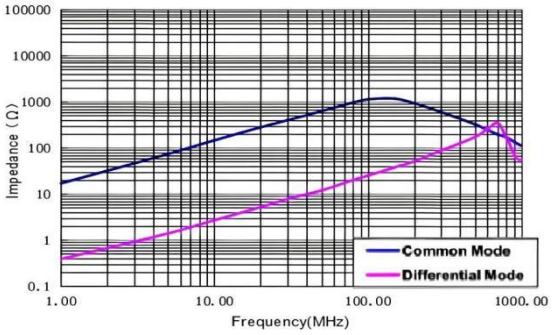
PRIM5040-351HS



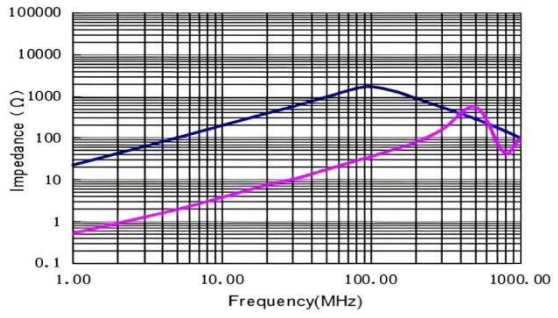
PRIM5040-501HS



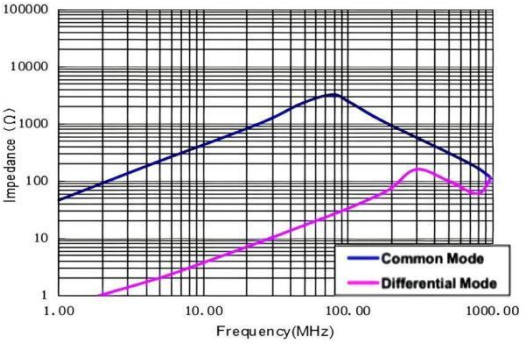
PRIM5040-102HS



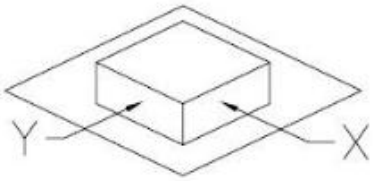
PRIM5040-152HS



PRIM5040-302HS

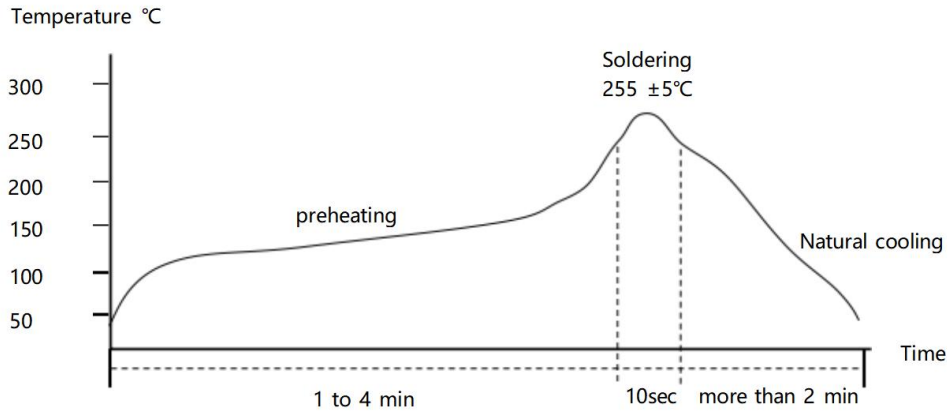


RELIABILITY TEST 可靠性测试

Operating Temperature	- 40 to +105 ℃ (Contain Heating coil)
Appearance Inspection	No external defects by visual inspection
Terminal Strength 	After soldering , between copper plaet and terminals of coils , push in two directions of X , Y with standing 10N(1.02kgf) for10+/-2 sec. Terminal should not peel off. (Refer to figure at right)
Heat endurance of reflow soldering	Refer to figure
Insulating resistance	Over 10 MΩ at 50V D.C . between wire and core
Dielectric Strength	Apply at 0.5KV 1mA for 3S between wire and core
Temperature characteristics	Inductance coefficient (0~2,000) × 10 / ℃(- 40~ + 105 ℃)
Humidity characteristics	Inductance deviation within ± 10% , after 96 hours in 90~95% relative humidity at 40 ± 2 ℃ and 1 hours drying under normal condition
A test is made under the above mentioned condition , and it is kept for 2 hours in the normal	

RECOMMENDED SOLDERING TECHNOLOGIES 回流焊建议

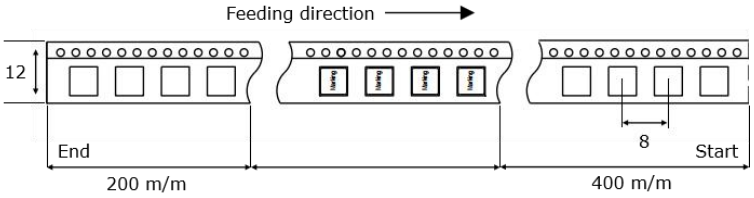
- Re-flow profile



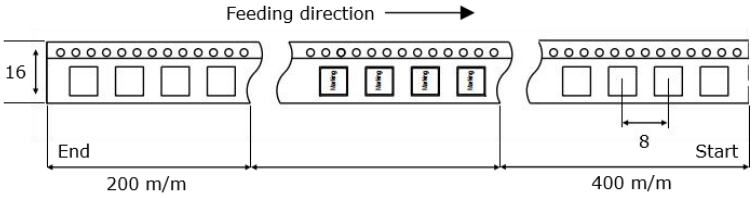
- Temperature and humidity . After that , no mechanical and electrical defect should be found.

PACKAGING 包装

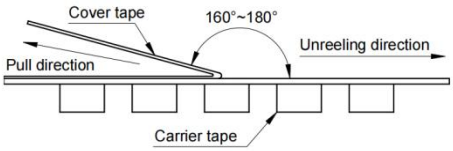
- Dimension of plastic taping: (Unit: mm)
  The following dimensions are related to the actual fit of the machine，for reference only.
- PRIM4532/PRIM5020 Series



- PRIM5040 Series



- Transparent carrier and cover tape.



P/N	Tapewidth	Distance	Pull-of force
PRIM4532	12mm	8mm	10~120g
PRIM5020	12mm	8mm	10~120g
PRIM5040	16mm	12mm	10~120g

Product Series	Reel
PRIM4532	500PCS
PRIM5020	2500PCS
PRIM5040	1000PCS

PRECAUTIONS ON USE 使用注意事项

- Precautions on Use.

1.Always wear static control bands to protect against ESD.
2.Any devices used with the products (soldering irons, measuring instruments) should be properly grounded.
3.Keep bare hands and metal conductors (i.e., metal desk) away from electrodes or conductive areas that lead to electrodes.
4.Preheat when soldering.
5.Don't apply current in excess of the rated current value. It may reduce the impedance or inductance, or cause damage to components due to over-current.
6.For magnetic products, keep clear of anything that may generate magnetic fields such as speakers and coils. Use non-magnetic tweezers when handing the chips.
7.When soldering, the electrical characteristics may be varied due to hot energy and mechanical stress.
8.When coating products with resin, the relatively high resin curing stress may change the electrical characteristics. For exterior coating, select resin carefully so that electrical and mechanical performance of the product is not affected. Before using, please evaluate reliability with the product mounted in your application set.
9.When mount chips with adhesive in preliminary assembly, do appropriate check before the soldering stage, i.e., the size of land pattern, type of adhesive, amount applied, hardening of the adhesive on proper usage and amounts of adhesive to use.
10.Mounting density: Add special attention to radiating heat of products when mounting other components nearby. The excessive heat by other products may cause deterioration at joint of this product with substrate.
11.Since some products are constructed like an open magnetic circuit, narrow spacing between components may cause magnetic coupling.
12.Please do not give the product any excessive mechanical shocks in transportation.
13.Please do not touch wires by sharp terminals such as tweezers to avoid causing any damage to wires.
14.Please do not add any shock and power to the soldered product to avoid causing any damage to chip body.
15.Please do not touch the electrodes by naked hand as the solderability of the external electrodes may deteriorate by grease or oil on the skin.
16.Magnetic materials shall be far away from parts to avoid impacts on their electrical characteristics;
17.Parts could be damaged by external mechanical pressure or stacked heavy objects, as well as strong shaking & dropping;
18.Please do not store parts in bulk to prevent coils and parts being damaged;
19.Oversized external force to parts on PCB may lead to parts being damaged or slipped off;
20.Please do not use parts on edge or top of PCB board in your design to avoid parts being damaged during PCB is moved.
21.Please use flux contained with resin since the highly acidic (Chlorine content more than 0.2 wt%) or water-soluble one could damage the insulation film of wires, then causing short circuit of parts.
22.Please do not use the brush to clean product or its surroundings. If you use the brush to clean product or its surroundings on PCB,copper wire may be broke, causing the product open.
23.Avoid ultrasonic processing, which may cause component falling off and poor pad contact.
24.When using APV products, customers should record the production batch number for traceability.

SAFETY REMINDERS 注意事项

SAFETY REMINDERS

● All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or Warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

☆ 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.