

1、产品概要 / Outline

绕线式对称双绕组结构

有效防止高频共模噪声

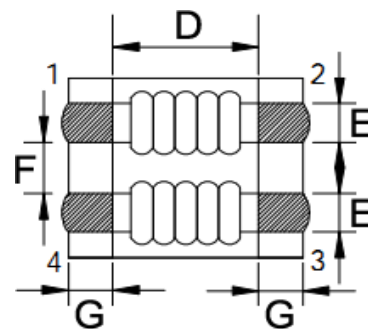
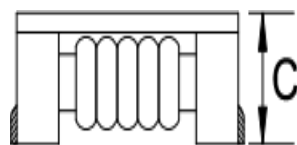
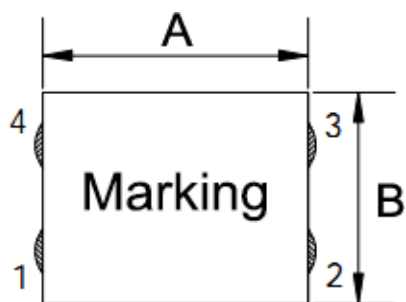
优异的焊接性能

工作温度：-40°C ~ +125°C

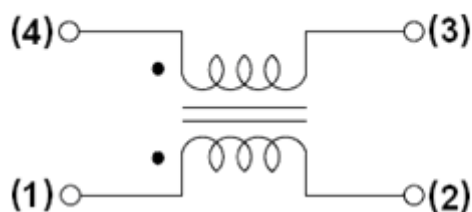
广泛应用于各种电子产品、多媒体设备、高频电路场景，可有效滤除MHz级别的高频噪音



2、外观尺寸/ Appearance size 单位:mm



Schematic:



A	5.0±0.5
B	4.5±0.5
C	2.5Max.
D	2.7Typ.
E	1.2Ref.
F	1.25Ref.
G	1.25Ref.

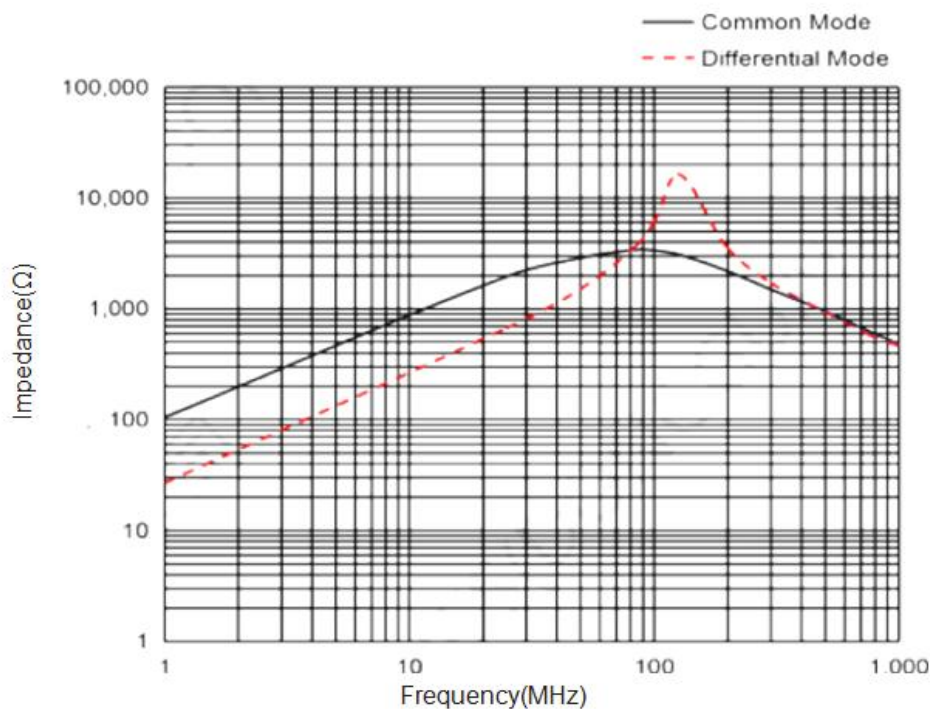
ELECTRICAL CHARACTERISTICS

ITEM P/N	Z(Ω)at 100MHz		DCR (mΩ)Max.	IDC(A)Max.	IR (MΩ)Min.	Rated Volt. (V)Max.
	Min.	Typ.				
TSCWW0520-900	30.0	90.0	35	2.0	10.0	80
TSCWW0520-151	90	150	40	1.9	10.0	80
TSCWW0520-301	200	300	45	1.8	10.0	80

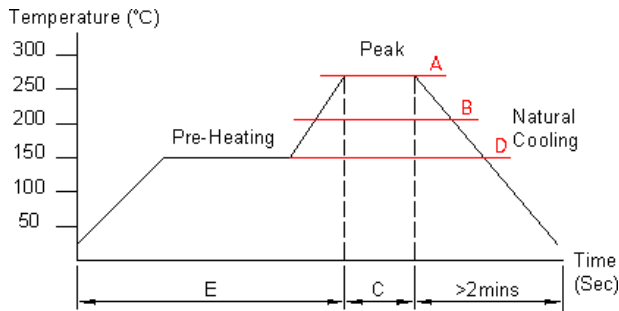
TSCWW0520-401	300	400	50	1.7	10.0	80
TSCWW0520-701	500	700	60	1.6	10.0	80
TSCWW0520-901	650	900	68	1.5	10.0	80
TSCWW0520-102	800	1000	71	1.4	10.0	80
TSCWW0520-122	1000	1200	76	1.1	10.0	80

- All test Data is referenced to 25°C ambient.
- Max Heat Rating DC Current would cause an approximately ΔT of 40°C.
- Max Saturation DC Current would cause L_o to drop approximately 30%.
- The Part temperature (ambient + ΔT) should not exceed 85°C under worst case operating conditions
- Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all effect the part temperature. Part temperature should be verified in the end application.

Typical Impedance Characteristics:



RECOMMENDED SOLDERING TEMP. GRAPH



A	B	C	D	E
260°C	230°C	8-10Sec	150°C	60~240Sec

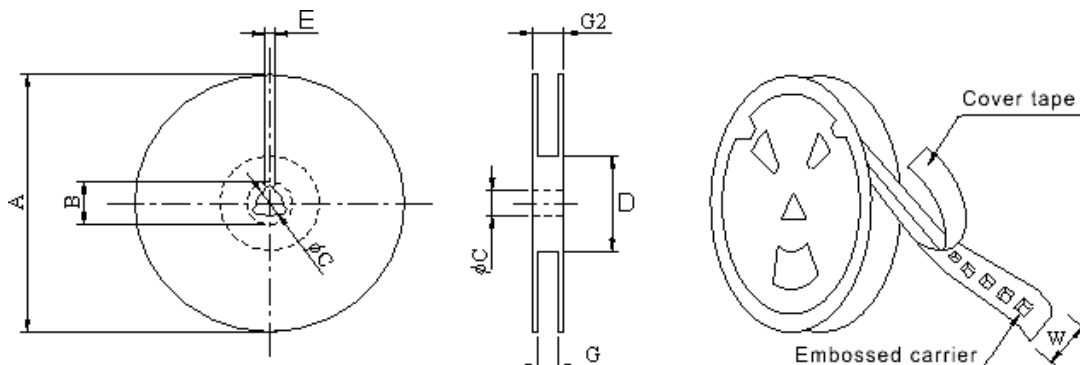
MECHANICAL RELIABILITY

TEST	Specification & Requirement	Method Used
Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof.
		Preheating: 180 ±10°C 90 seconds
		Soldering: 255 ±5°C for 3 ±1 sec
Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s ² (100G) shock
		Attitude upon a rubber block method shock testing machine, 3 tests.
Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz, 60 seconds cycle.
		Vibration time: 2 hours

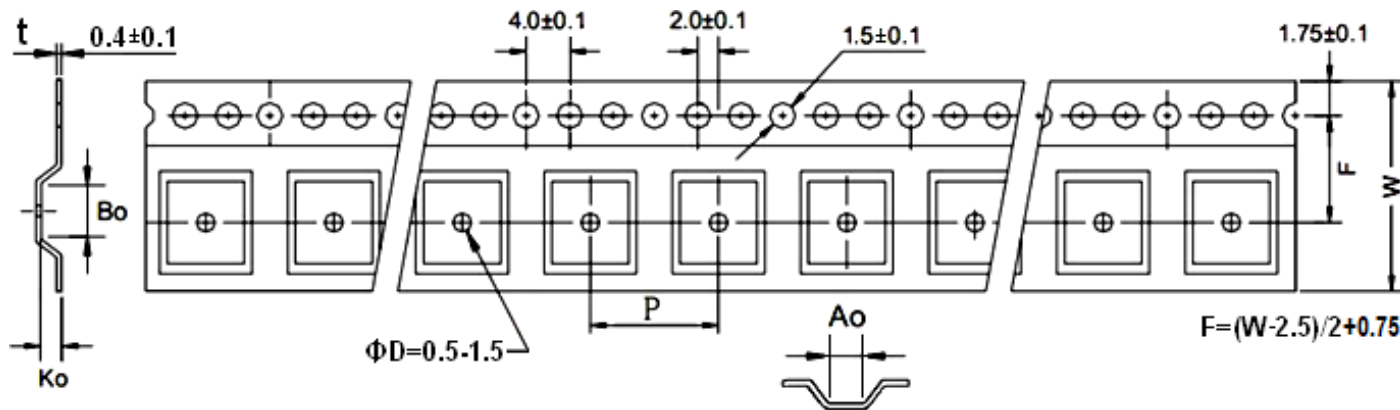
ENDURANCE RELIABILITY

TEST	Specification & Requirement	Method Used
Thermal Shock	Inductance change within ± 5% Without mechanical damage	-25°C , (30 mins) -> room temp. (5 mins) ->125°C , (30 mins) -> room temp. (5 mins) 100 cycles
Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85°C ambient Duration: 1000 hrs
Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60°C ambient Humidity: 90~95% Duration: 1000 hrs
Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp -25±2 °C for total 1,000 +4/-0 hours
High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp 125±2 °C for total 1,000 +4/-0 hours

包装规格/ Packaging specifications 单位/mm

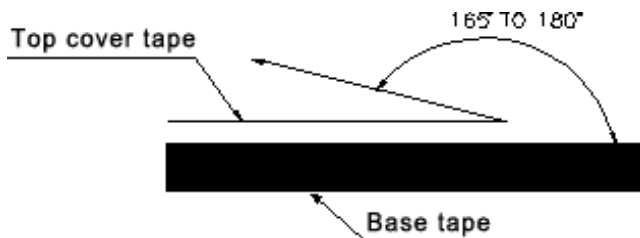


TYPE	A	B	C	D	E	G	G2
178*12mm	178±1	20±0.8	13±0.5	60±1	2.0±0.5	12.5±0.5	14.5±0.5



QTY (Pcs/Reel)	Ao	Bo	Ko	W	P
1000	5.4	5.7	2.5	12	8

Typical Pulling Force: 10~130grams:



其他

- ◆ 本产品为无铅，请采用无铅环境作业
- ◆ Other: Our company's products are lead-free, please operate in a lead-free environment
- ◆ 由于页面限制，更多资料请联系我司
- ◆ Due to page limitations, please contact our company for more information
- ◆ 在过载电流等不正常条件下，本电感产品无自我保护功能。
- ◆ Under abnormal conditions such as overload current, this inductor product has no self-protection function.

电感使用注意事项
Precautions for using inductors

1、环境条件：电感的使用环境对其性能有重要影响。潮湿与干燥、环境温度的高低、高频或低频环境等都需要特别注意。

Environmental conditions: The usage environment of inductors has a significant impact on their performance. Special attention should be paid to factors such as humidity and dryness, high or low ambient temperatures, and high or low frequency environments

2、特殊环境尽可能选择安瑞科的一体成型电感，此类电感合金粉压铸，全密封结构。防潮、防腐蚀、耐高温较强

For special environments, it is recommended to choose Anruike's integrated inductors, which are made of alloy powder and have a fully sealed structure. Strong moisture resistance, corrosion resistance, and high temperature resistance

3、**频率特性**：在高频时，电感的阻抗特性会变得明显，可能会出现耗能发热、感性效应降低等现象。铁氧体材料在高频下会表现出较高的阻抗。

Frequency characteristics: At high frequencies, the impedance characteristics of inductors become apparent, and phenomena such as energy dissipation, heat generation, and reduced inductive effects may occur. Ferrite materials exhibit high impedance at high frequencies.

4、**电流和发热**：电感设计时要考虑其能承受的最大电流及其相应的发热情况。过载使用会导致电感失效。

Current and heat generation: When designing an inductor, the maximum current it can withstand and its corresponding heat generation situation should be considered. Overloading can cause the inductor to fail.

5、**保存条件**：电感在保存和使用时也需要注意环境条件。最佳安装保质期限为 6 个月，保存条件为密封包装、温度 $\leq 40^{\circ}\text{C}$ 、相对湿度 $\leq 70\%$ 。避免将产品保存在高温、高湿、有尘埃、腐蚀性气体的环境中。

Storage conditions: Inductors also need to pay attention to environmental conditions during storage and use. The optimal installation shelf life is 6 months, and the storage conditions are sealed packaging, temperature $\leq 40^{\circ}\text{C}$, and relative humidity $\leq 70\%$. Avoid storing the product in environments with high temperature, high humidity, dust, and corrosive gases.

6、**避免过载和异常条件**：电感没有自我保护功能，不能在过载、高温、高压等异常条件下使用。超规格的高电压绝缘测试会对产品造成损伤，缩短使用寿命。

Avoid overload and abnormal conditions: Inductors do not have self-protection functions and cannot be used under abnormal conditions such as overload, high temperature, and high voltage. Excessive high voltage insulation testing can cause damage to the product and shorten its service life.

7、导线裸露式电感（非屏蔽）应避免二次以上 SMT 作业，双面板应先焊接载有电感的板面。

Bare wire inductors (unshielded) should avoid secondary SMT operations, and double-sided boards should be soldered with the surface carrying the inductor first.