Wound Chip Inductor
-YASCM322522 Series

■ Features

- High Q factor.
- High Current handling.
- Ferrite drum core construction.
- Heat-resistant molded resin housing.
- Excellent mechanical strength.
- Operating temperature:-40℃ ~ +150℃（Including self-temperature rise）.
- Reliability test complied to AEC-Q200.

■ Applications

- Telematics.
- Infotainment.
- Industrial electronics.
- Filtering of supply voltages, coupling, decoupling.

■ Product Identification

YASCM □□□□□□－□□□ □

(1) (2) (3) (4)

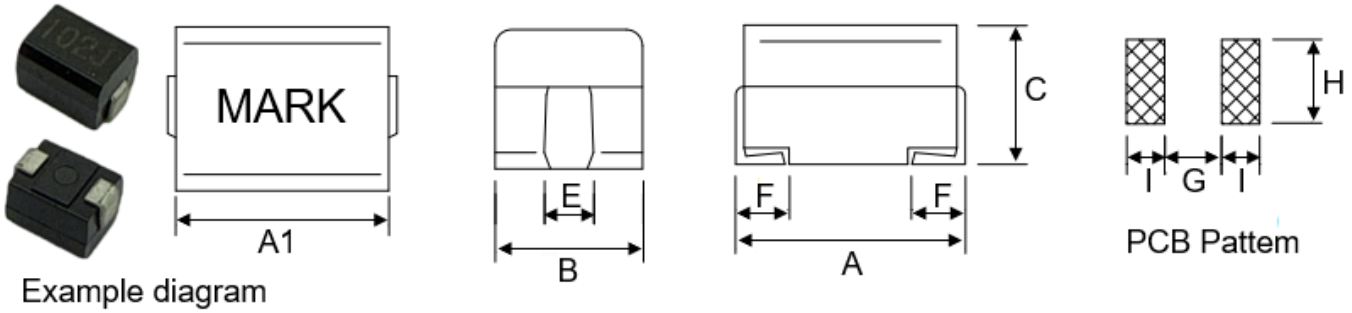
(1)： Type

(2)： Dimensions

(3)： Inductance value

(4)： Inductance Tolerance： M=±20%, K=±10%,J=±5%

■ Shapes and Dimensions (Unit： mm)



Example diagram

TYPE	A	A1	B	C	E	F	G Typ.	H Typ.	I Typ.
YASCM322522	3.2±0.4	2.9±0.2	2.5±0.2	2.2±0.2	1.0±0.2	0.6±0.3	1.8	1.4	1.0

■ YASCM322522 Series

Part Number	Inductance (μH)	Q Min.	Test Freq (MHz)	SRF Min. (MHz)	RDC Max. (Ω)	I Sat Typ. (A)	I rms Max. (A)
YASCM322522-1R0K	1.0±10%	8	7.96	100	0.156	1.350	1.450
YASCM322522-1R5K	1.5±10%	8	7.96	80	0.195	1.100	1.350
YASCM322522-2R2K	2.2±10%	8	7.96	65	0.250	1.00	1.150
YASCM322522-3R3K	3.3±10%	8	7.96	55	0.320	0.750	0.950
YASCM322522-4R7J	4.7±5%	8	7.96	46	0.380	0.700	0.900
YASCM322522-6R8J	6.8±5%	8	7.96	35	0.580	0.500	0.700
YASCM322522-100J	10±5%	15	2.52	28	0.890	0.450	0.600
YASCM322522-120J	12±5%	15	2.52	26	1.100	0.400	0.500
YASCM322522-150J	15±5%	15	2.52	25	1.450	0.350	0.450
YASCM322522-180J	18±5%	15	2.52	23	1.800	0.320	0.420
YASCM322522-220J	22±5%	15	2.52	20	2.000	0.300	0.370
YASCM322522-330J	33±5%	15	2.52	15	2.800	0.250	0.300
YASCM322522-470J	47±5%	20	2.52	11	4.800	0.205	0.270
YASCM322522-680J	68±5%	20	2.52	10	6.900	0.170	0.220
YASCM322522-101J	100±5%	20	0.796	8	9.000	0.150	0.180

※ All test data is referenced to 25 °C ambient.
※ Isat base on △L/L0A=10% Typ.
※ Irms base on Temp.rise 40℃ Max.
※ Moisture sensitivity Level 1.

■ Reliability Test

Item	Test Condition	Test Specification
HighTemperature Exposure	1.Temperature: 125℃ 2.Time:1000 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Temperature Cycling	1.Temperature: -40℃ ~ +125℃ 2.Number of cycle:1000 cycle 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Biased Humidity Test	1.Temperature：85±5 ℃ 2.Humidity: 85±5% RH. 3.Time:1000 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Operational Life	1.Temperature: 150℃(Temp. rise included) 2.Time:1000 hours. 3.Apply rated current	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
External Visual	Inspect product constructions, marking and workmanship.	1.No pollution on the surface ofproducts. 2.Clear marking. 3.No crack.
Physical Dimensions	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
Resistance to solvents	Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles.	1.No body deformation change in appearance or obliteration of marking. 2.Inductance shall not change more than ±10%.
Mechanical Shock	1.Peak acceleration 100g`s. 2.Duration of pulse:6ms 3.Waveform:Half-sine 4.Velocity change:12.3ft/sec 5.Direction:±X,±Y,±Z (3times /axis)	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Vibration Test	1.Frequency and Amplitued: 10-2000-10 Hz. 2.Sweep time:20min. 3.Acceleration:5g. 4.Direction:X, Y, Z 5. Number of sweep: 12 time/axis	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Resistance To Soldering Heat Test	a)Reflow: 1.Highest temperature:250±5℃ . 2.Time（ temp.≧ 217℃):60~ 150 Second. 3.Reflow times:3 times. b)DIP: 1.Temperature:260±5℃. 2.Time:10sec. 3.Number of times:1 time.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%. 3. RDC shall conform to specification requirements

■ Reliability Test

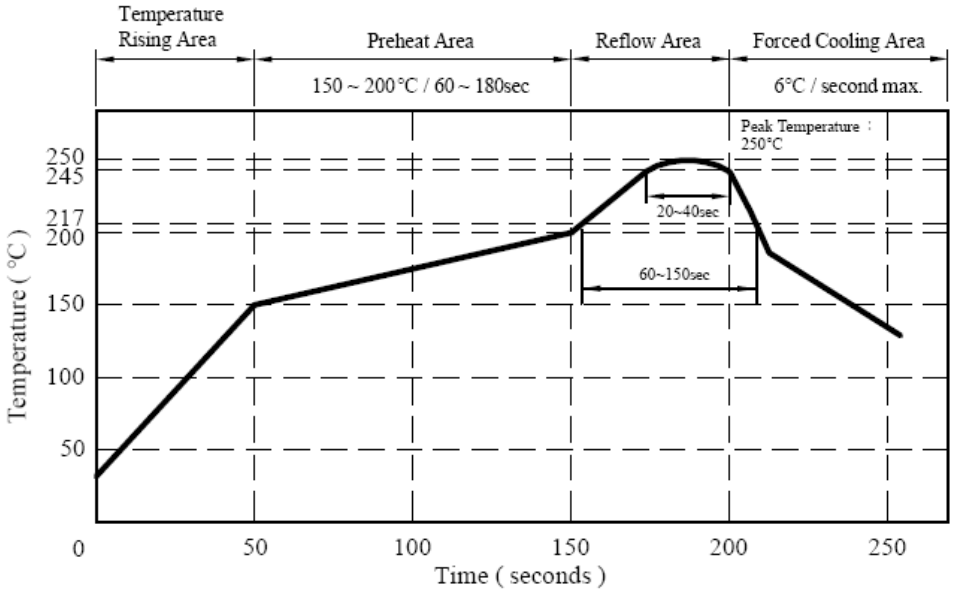
Item	Test Condition	Test Specification
ESD	1.ESD Voltage:15kV 2.Mode 1:150 pF / 330 Ω 3.Mode 2:150 pF / 2000 Ω 4.Discharge times and polarity: 3 times pos. / 3 times eng. for each condition	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Solderability Test	a) Reflow: 1. Baking in pre-testing:150±5℃/16Hours±30 min. 2.Peak temperature:240±5℃. 3.Time(temp. ≥ 217℃): 60~150seconds. 4.Reflow times: 1 time. b) DIP: 1. Baking in pre-testing: 150±5℃/16 Hours±30 min. 2. After fluxing,inductor shall be dipped in a melted solder pot at 240±5℃ for 5±0.5 seconds.	Product terminals should be wetted. More than 95% soldering coverage min on terminations.
Electrical Characteriazation	1.Operating temperature:-40℃~150℃ 2.Room temperature:25℃.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Board Flex	1.Deflection speed :1 mm/ sec 2.Amount of deflection:2 mm 3.Span:90 mm 4.Direction for test:Bottom of PCB 5.Holding time:60 sec	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
Terminal Strength Test	1.Apply push force to samples mounted on PCB. 2.Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.

■ General Specification

- Terminal pull strength: 1.5 kg min.
- Resistance to solder heat: 260℃.10 sec.
- Resistance to solvent: Per MIL-STD-202F.

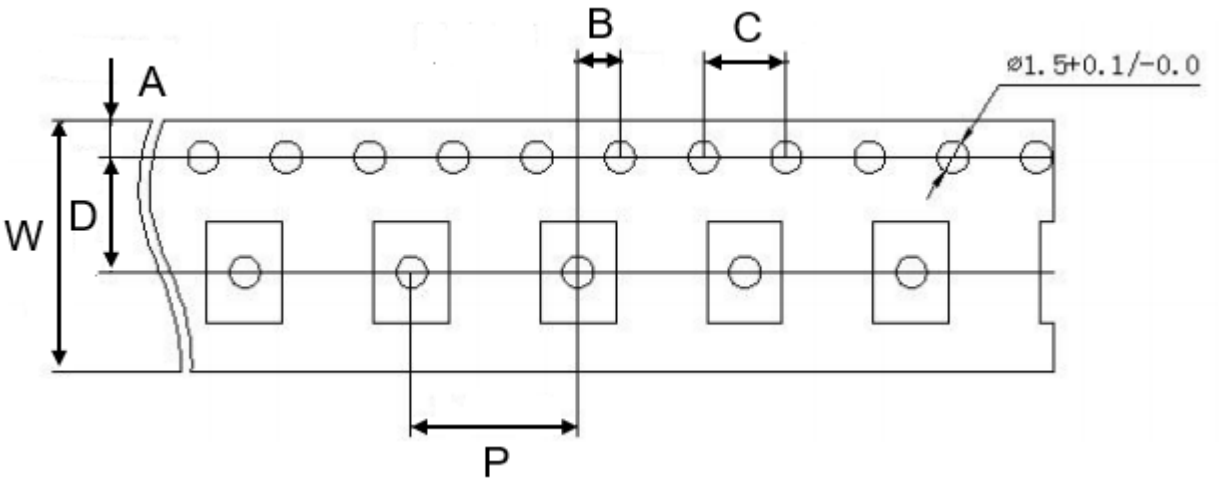
■ Recommended Soldering Technologies

Re-flowing Profile



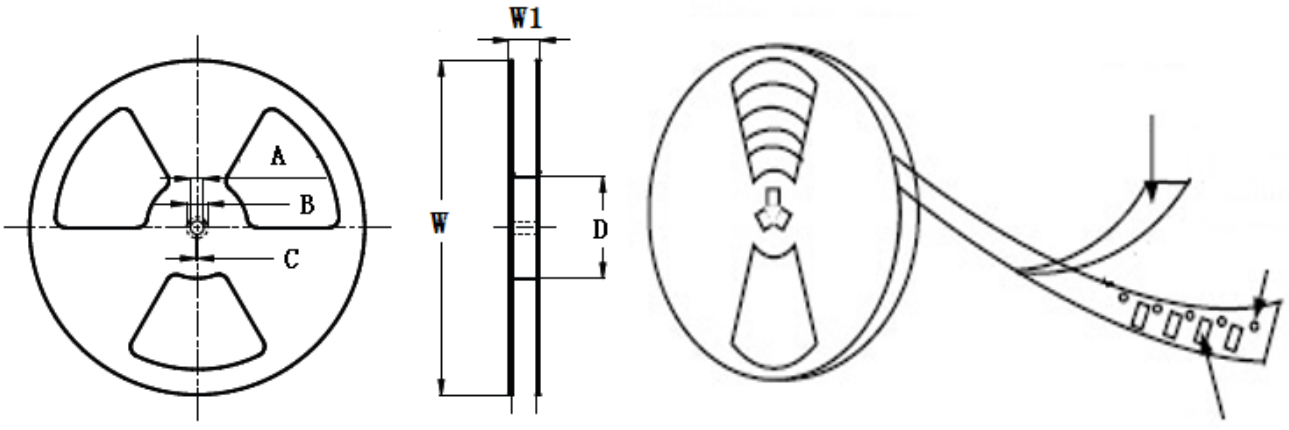
Peak temp: 250℃ Max.
Max time above 245℃: 20~40 sec Max.
Max time above 217℃: 60~150 sec Max.
200℃ ~ 250℃ Average Ramp-up Rate:3℃/second Max.

■ Taping Dimensions(Unit:mm)



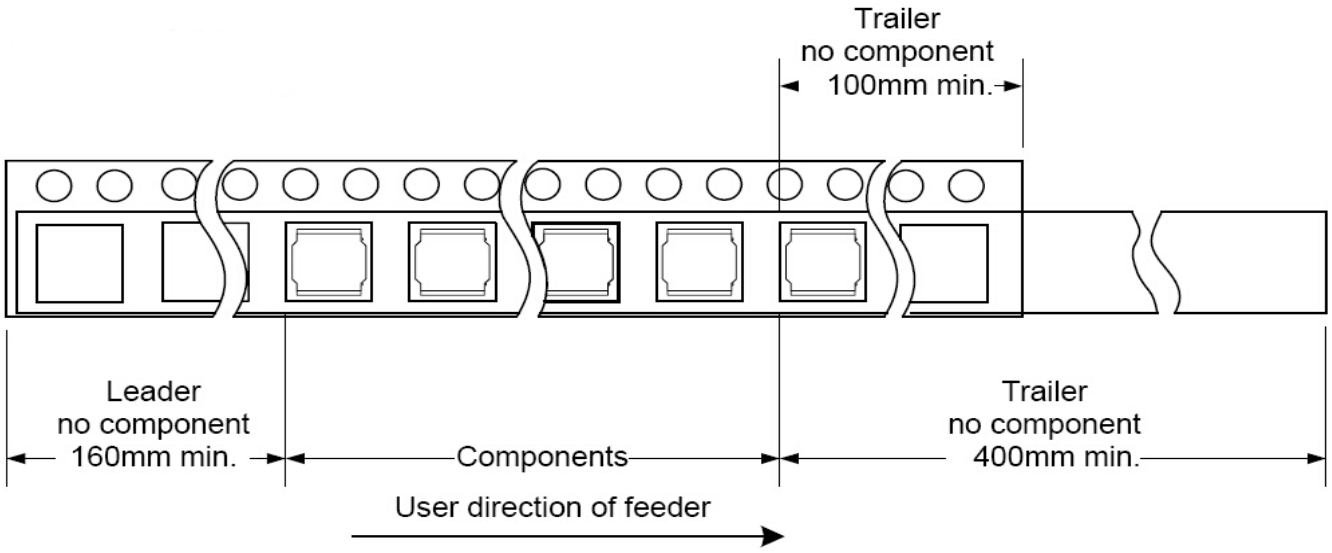
TYPE	W	A	B	C	D	P	MPQ
YASCM322522	12.0±0.3	1.75±0.1	2.0±0.1	4.0±0.1	5.5±0.1	8.0±0.1	2000

■ Reel Dimensions(Unit:mm)

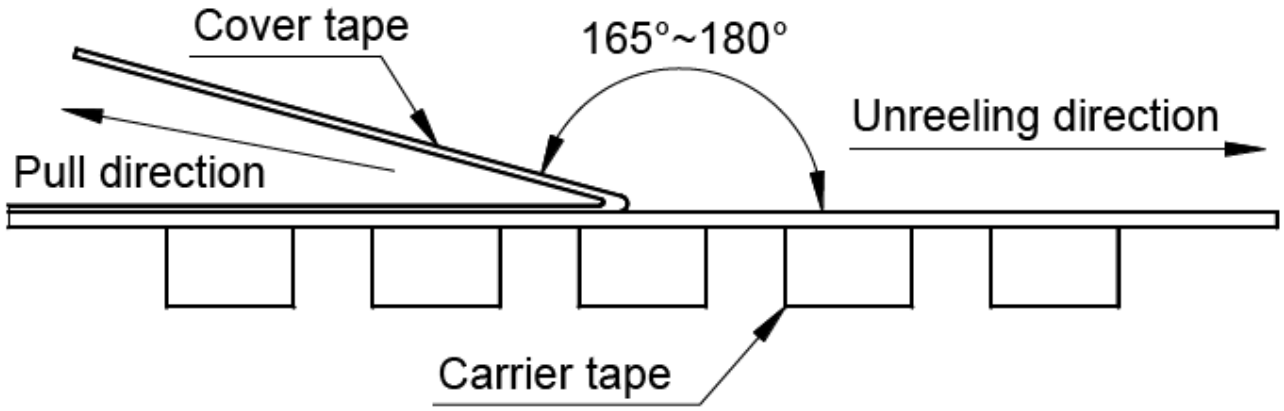


TYPE	W	W1	A	B	C	D
YASCM322522	178±2.0	22.0±2.0	13.0±0.50	21.0±0.80	2.0±0.50	60.0±2.0

■ Direction of rolling



■ Cover tape peel off condition



Cover tape peel force shall be 0.1N to 1.3N.

Reference peel speed 300±10mm/min.

■ Safety notes

- The risks of using the product are highly relevant to the field of application and need to be evaluated by both user and manufacturer. If the product is used for a purpose that directly affects personal safety or will cause significant impact or loss to the society , please be sure to contact us first for confirmation.
- The storage period is less than 12 months. Ensure to follow the storage conditions (Temperature:5 to 30℃, Humidity: 10 to 60% RH or less). If the storage time is exceeded the limit, the electrodes might be deteriorate of terminal soldering.
- 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 using, it should try to avoid excessive mechanical impact on the product, such as collision/ drop……and other reasons.
- 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.
- Do not expose the products to magnets or magnetic fields.
- If you would like to use this products to performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property, or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.