

DATA SHEET

PRODUCT **POWER CHOKE**

SERIES CSMEA0418D

PART NO. _____

DESCRIPTION _____

ISSUE DATE 2023/08/01

REVISION DATE 2023/08/01

REFERENCE NO. ENS000181910

RoHS COMPLIANCE ITEM

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Power Choke Engineering Specification

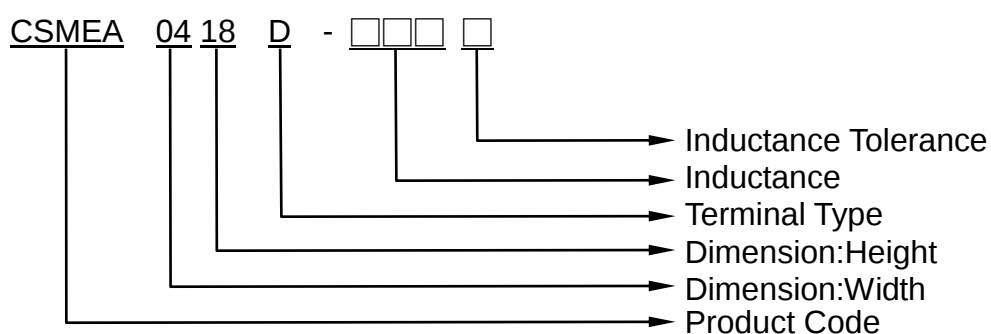
1. Feature

- High saturation current realized by material properties and structure design.
- Low DC resistance to achieve high conversion efficiency and lower temperature rising.
- Low Profile: 4.0 mm × 4.0 mm × 1.85 mm..
- Magnetically shielded structure to accomplish high resolution in EMC protection.
- Halogen free, Lead Free, RoHS Compliance.
- Surface marking : Have.
- The moisture sensitivity level (MSL) of products is level 1.

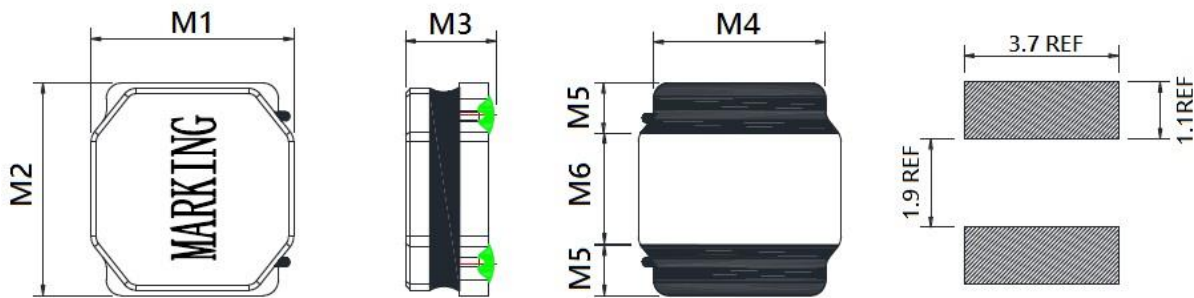
2. Applications

- Smart phone, PAD
- DC/DC converter
- Thin-type power supply module,

3. Explanation of Part Number



4. Shapes and Dimensions (Unit:mm)



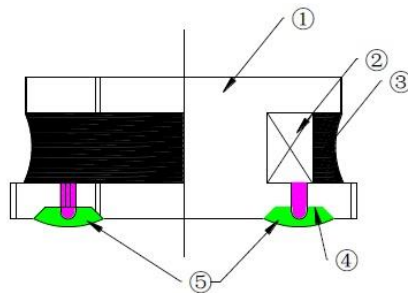
ITEM	M1	M2	M3	M4	M5	M6
DIM	4.0	4.0	1.85	3.3	1.1	2.1
TOL	±0.2	±0.2	MAX.	±0.2	±0.2	REF.

5. Temperature Specifications

Operating Temperature range : - 40°C to +125°C(Including coil's self temperature rise)

Storage Temperature range : - 40°C to + 105°C

6. Structure



7. Material list

No.	Components	Material
1	Drum core	Ni-Zn ferrite core
2	Wire	Polyurethane enameled copper wire
3	Adhesive	Epoxy resin magnetic powder
4	Plating electrode	Ag/Ni/Sn
5	Outer electrode	Sn-Ag-Cu alloy

8. Electrical Specification

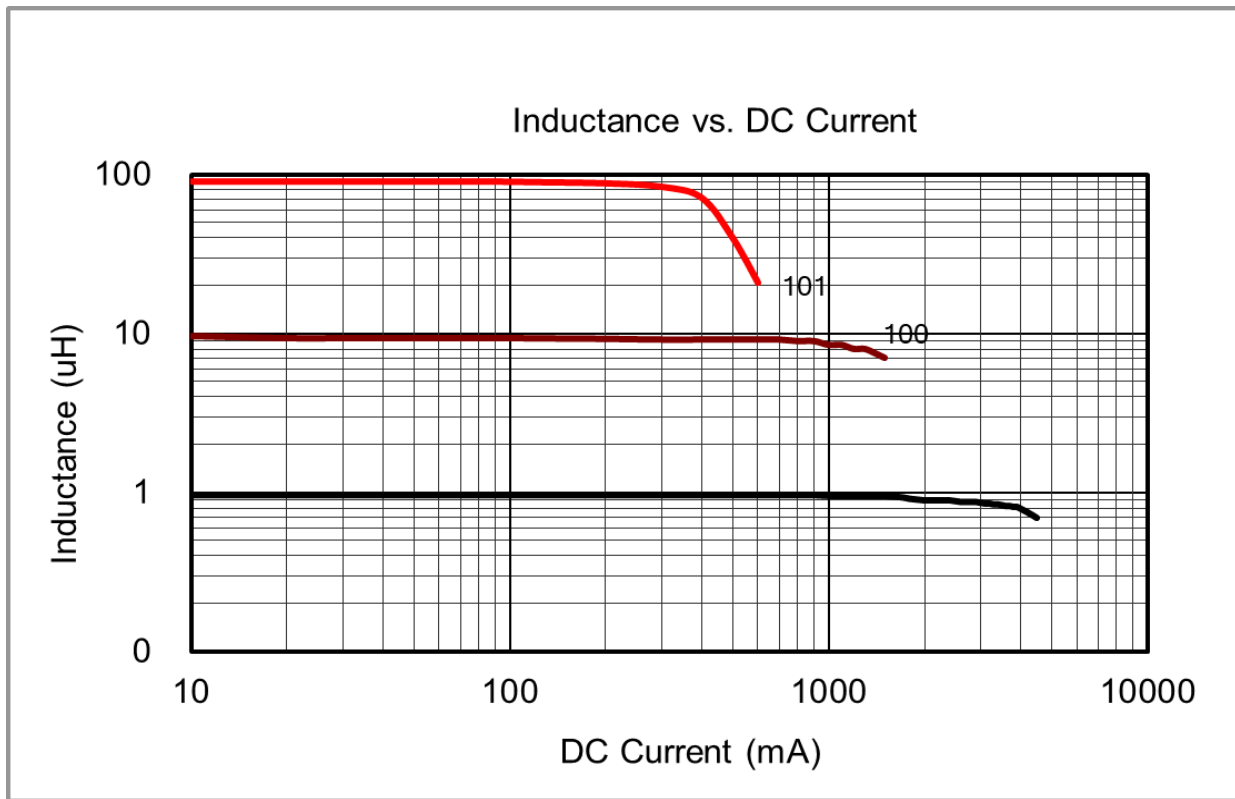
● Specifications

Part Number	Mark	Inductance (uH)	Inductance Tolerance	DC Resistance (mΩ) ±20%.	Isat (A) MAX.	Irms (A) MAX.
CSMEA0418D-1R0□	1R0	1.0	N	27	4.00	3.20
CSMEA0418D-1R5□	1R5	1.5	N	37	3.30	2.40
CSMEA0418D-2R2□	2R2	2.2	M	42	3.00	2.20
CSMEA0418D-3R3□	3R3	3.3	M	55	2.30	2.00
CSMEA0418D-4R7□	4R7	4.7	M	70	2.00	1.70
CSMEA0418D-6R8□	6R8	6.8	M	98	1.60	1.45
CSMEA0418D-100□	100	10	M	150	1.30	1.20
CSMEA0418D-150□	150	15	M	210	1.10	0.85
CSMEA0418D-220□	220	22	M	290	0.90	0.72
CSMEA0418D-330□	330	33	M	480	0.70	0.55
CSMEA0418D-470□	470	47	M	755	0.65	0.60
CSMEA0418D-101□	101	100	M	1450	0.42	0.28
CSMEA0418D-221□	221	220	M	3800	0.28	0.20

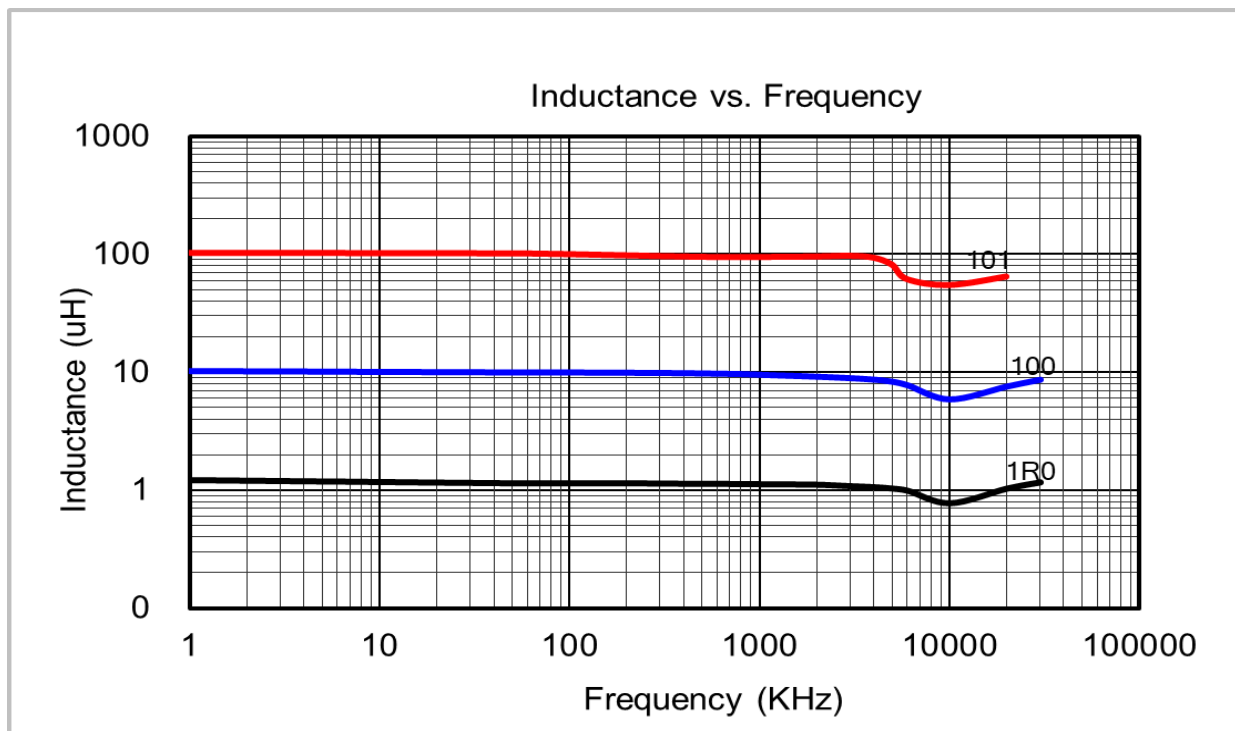
Notes

1. □Tolerance: N: ±30%, M: ±20%
2. Test Frequency: 100KHz/1.0V
3. Inductance: CH3302 or equivalent
4. DC Resistance: CH16502 or equivalent
5. Isat/Irms: CH3302+CH1320 or equivalent
6. Isat : DC saturation current that will cause initial inductance to drop approximately 30% max.
7. Irms : DC current that will cause an approximate ΔT of 40°C.
8. MSL: Level 1
9. AEC-Q200 qualified

- Current Characteristic

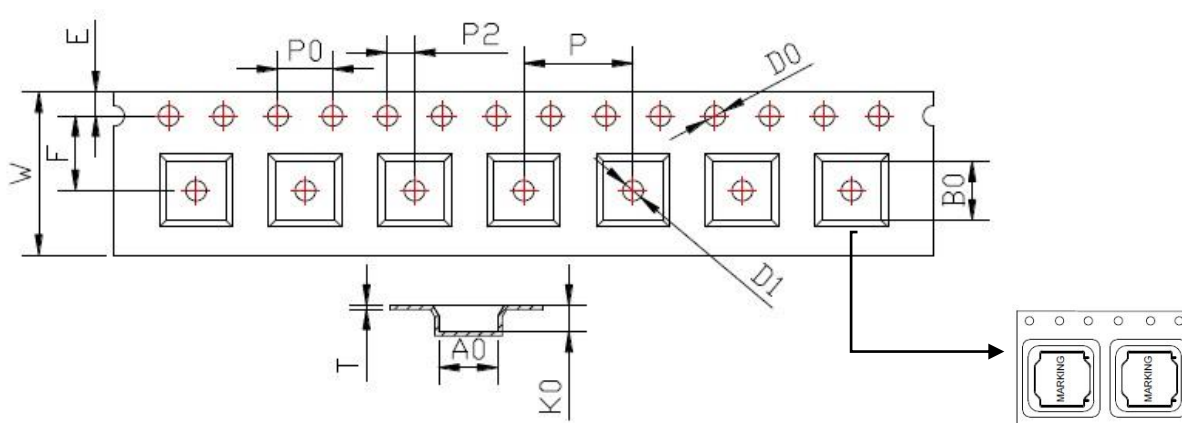


- Frequency Characteristic



9. Packing

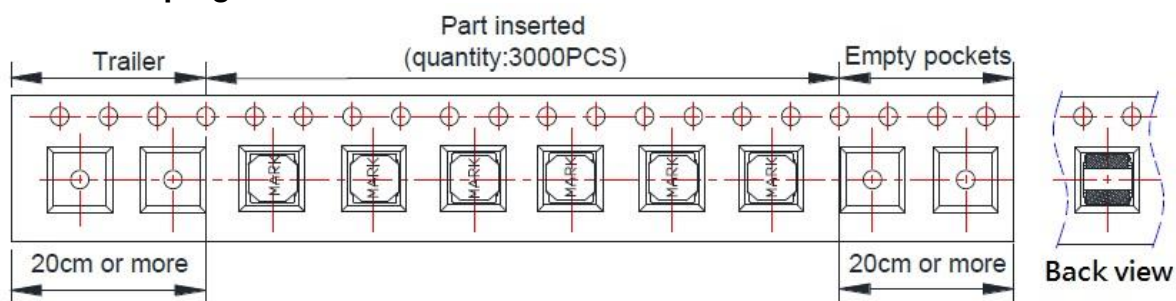
● Carrier Tape Dimensions



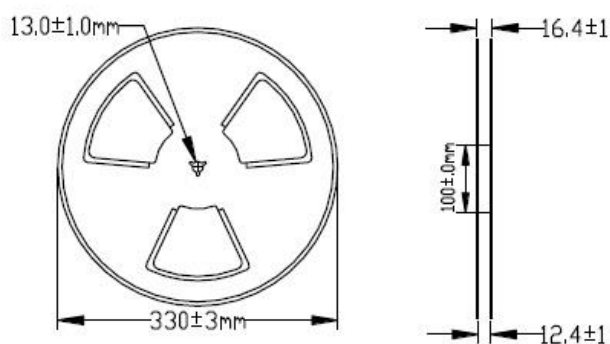
Unit:mm

ITEM	W	A0	B0	K0	P	F	E	D0	D1	P0	P2	T
DIM	12.0	4.35	4.35	1.95	8.00	5.50	1.75	1.50	1.50	4.00	2.00	0.30
TOLE	+0.30 -0.10	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	+0.1	±0.1	±0.1	±0.05

● Taping Dimensions



● Reel Dimensions

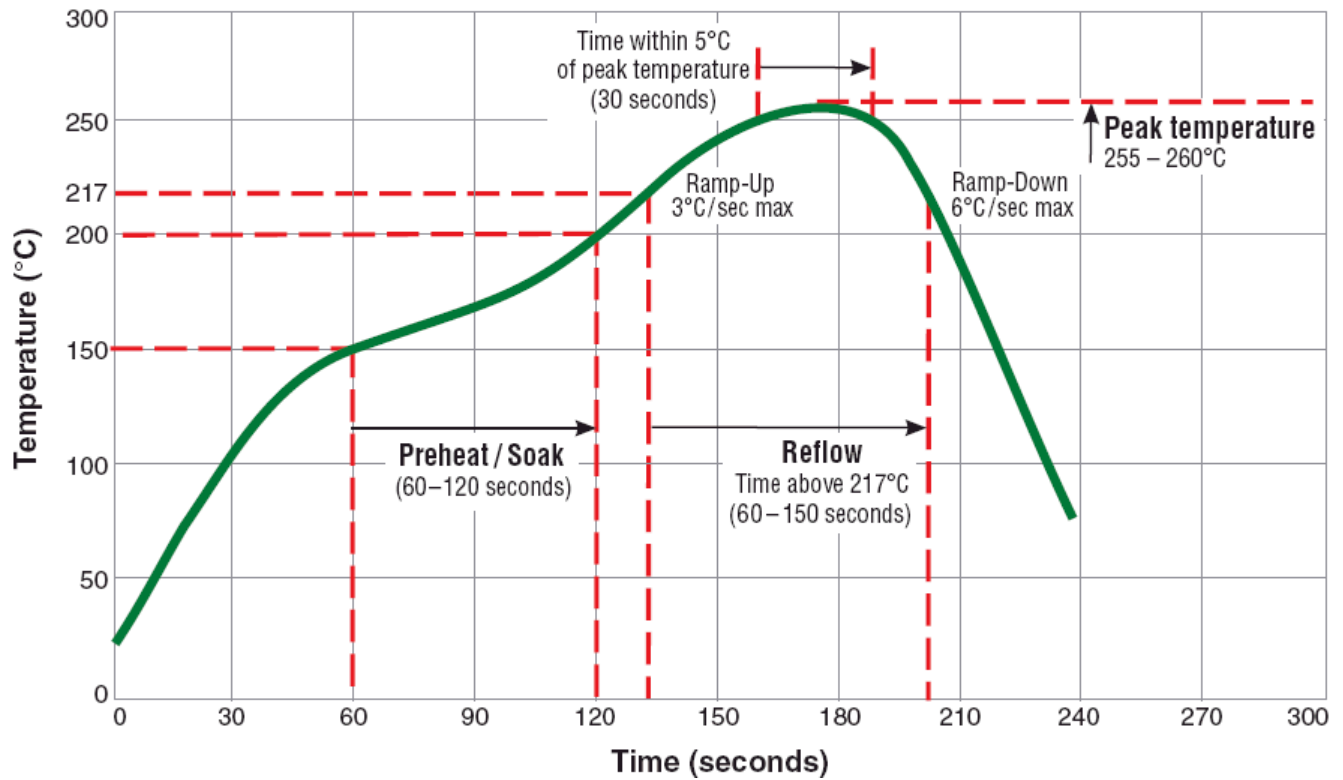


● Packaging Quantity

3KPCS/ Reel

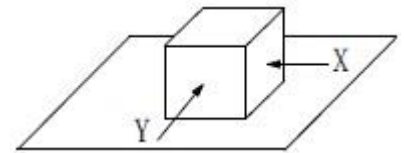
10. Recommended Soldering Conditions

Typical RoHS Reflow Profile



11. Reliability and Test Condition

- **External appearance:** No external defects can be found in the visual inspection.
- **Electrode strength:** No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 10.0N for 60 ± 2 seconds after soldering between copper plate and the electrodes. (Refer to figure at right)



- **Vibration test:** Inductance deviation is within $\pm 10.0\%$ after 1 hour sweeping vibration in each three directions, namely, forward and backward, up and down, right and left. The frequency is 10~55~10Hz and the amplitude of 1 minute cycle is 1.5mm PP.
- **Humidity test:** Inductance deviation is within $\pm 5.0\%$ after 96 ± 4 hours test under the condition of relative humidity of 90~95% and temperature of $60 \pm 2^\circ\text{C}$, and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.