DATA SHEET

PRODUCT	**POWER CHOKE**
SERIES	CSME0645D
PART NO.	
DESCRIPTION	
ISSUE DATE	2023/07/05
REVISION DATE	2023/07/05
REFERENCE NO.	ENS000181840

RoHS COMPLIANCE ITEM

POWER CHOKE Engineering Specification

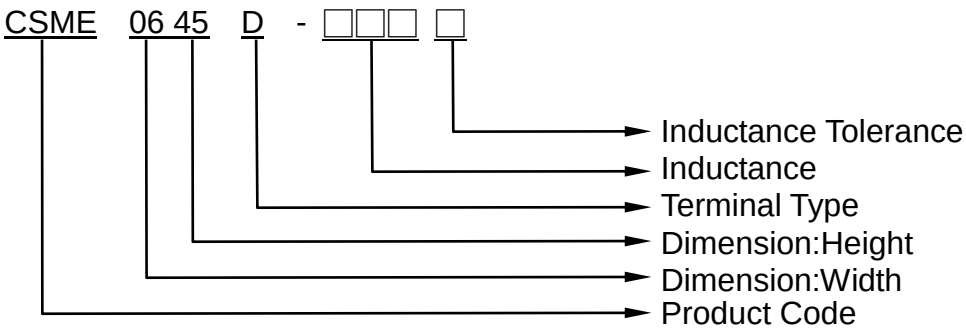
1. Feature

- High saturation current realized by material properties and structure design.
- Low DC resistance to achieve high conversion efficiency and lower temperature rising.
- Low Profile: 6.0 mm × 5.9 mm × 4.5 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.

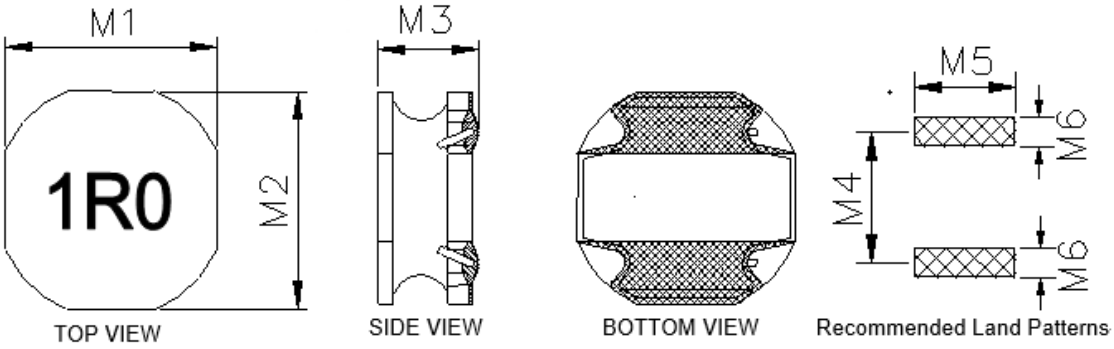
2. Applications

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

3. Explanation of Part Number



4. Shapes and Dimensions (Unit:mm)



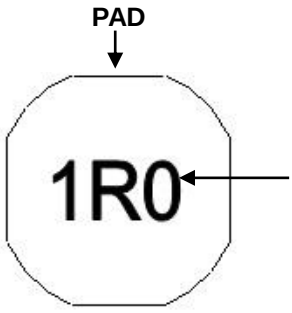
ITEM	M1	M2	M3	M4	M5	M6
DIM	6.0	5.9	4.5	4.7	5.7	1.6
TOL	±0.2	±0.2	MAX.	-	-	-

5. Temperature Specifications

Operating Temperature range : - 25℃ to +120℃(Including coil's self temperature rise)

Storage Temperature range : - 40˚C to + 85˚C

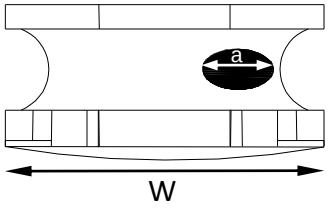
6. Marking



Marking Direction: PAD is on the upper and lower sides with the font facing up and centered.

Example: 1R0 Stands for marking ➔ 1.0μH

※Void appearance tolerance limit:



a≦ W/3 Good

a＞W/3 NG

7. Electrical Specification

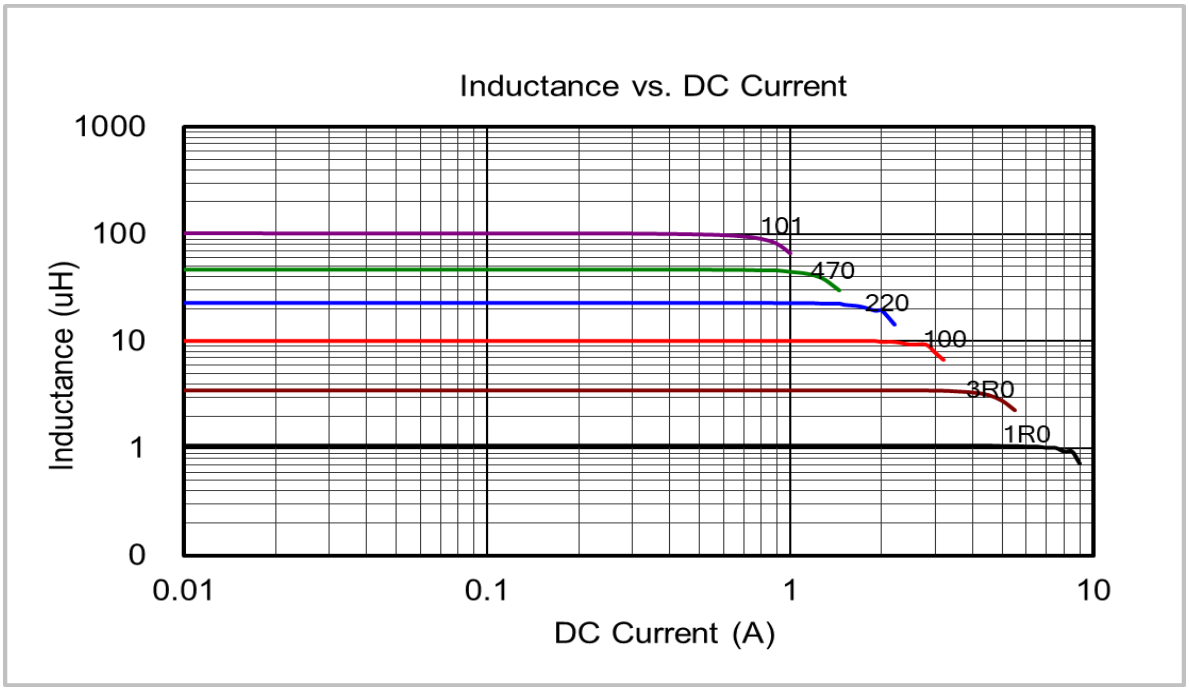
- **Specifications**

Part Number	Mark	Inductance (μH)	Inductance Tolerance	DC Resistance (mΩ) MAX.	Isat (A) TYP.	Irms (A) TYP.
CSME0645D-1R0□	1R0	1.0	N	18.2	10.0	6.00
CSME0645D-1R3□	1R3	1.3	N	20.8	8.00	5.20
CSME0645D-1R8□	1R8	1.8	N	23.4	7.00	5.00
CSME0645D-2R2□	2R2	2.2	N	18.2	6.00	4.50
CSME0645D-2R3□	2R3	2.3	N	27.3	6.00	4.50
CSME0645D-3R0□	3R0	3.0	N	31.2	5.00	4.00
CSME0645D-3R3□	3R3	3.3	N、M	28.8	5.00	3.20
CSME0645D-1R5□	1R5	1.5	N、M	20.8	8.00	5.00
CSME0645D-4R5□	4R5	4.5	N、M	40.3	4.00	3.70
CSME0645D-4R7□	4R7	4.7	N、M	31.0	4.00	3.70
CSME0645D-6R3□	6R3	6.3	N、M	49.4	3.80	3.50
CSME0645D-6R8□	6R8	6.8	N、M	45.6	3.80	3.50
CSME0645D-100□	100	10	N、M	61.1	3.00	2.80
CSME0645D-150□	150	15	N、M	100.1	2.30	2.30
CSME0645D-220□	220	22	N、M	149.5	1.90	1.70
CSME0645D-330□	330	33	N、M	188.5	1.50	1.50
CSME0645D-470□	470	47	N、M	286	1.30	1.30
CSME0645D-680□	680	68	N、M	429	1.00	1.00
CSME0645D-820□	820	82	N、M	533.0	0.90	0.90
CSME0645D-101□	101	100	N、M	650	0.80	0.80
CSME0645D-151□	151	150	N、M	754.0	0.80	0.70

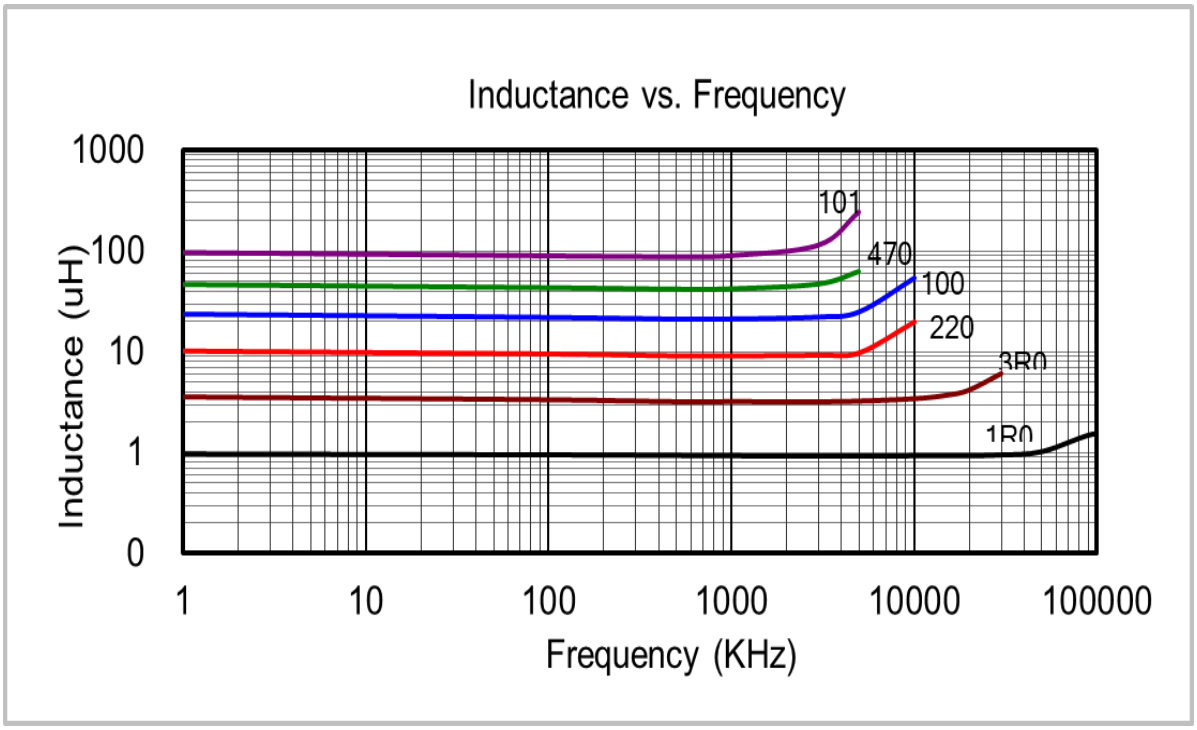
Notes

1. □Tolerance:.N: ±30%,M:±20%
2. Test frequency:100KHz, 1V
3. Inductance: CH3302 or equivalent
4. DC Resistance: CH16502 or equivalent.
5. Isat：Based on inductance decrease 30% Max. (at 20℃).
6. Irms：Based on temperature increase 40℃ Max. (at 20℃)
7. MSL: Level 1

- **Current Characteristic**

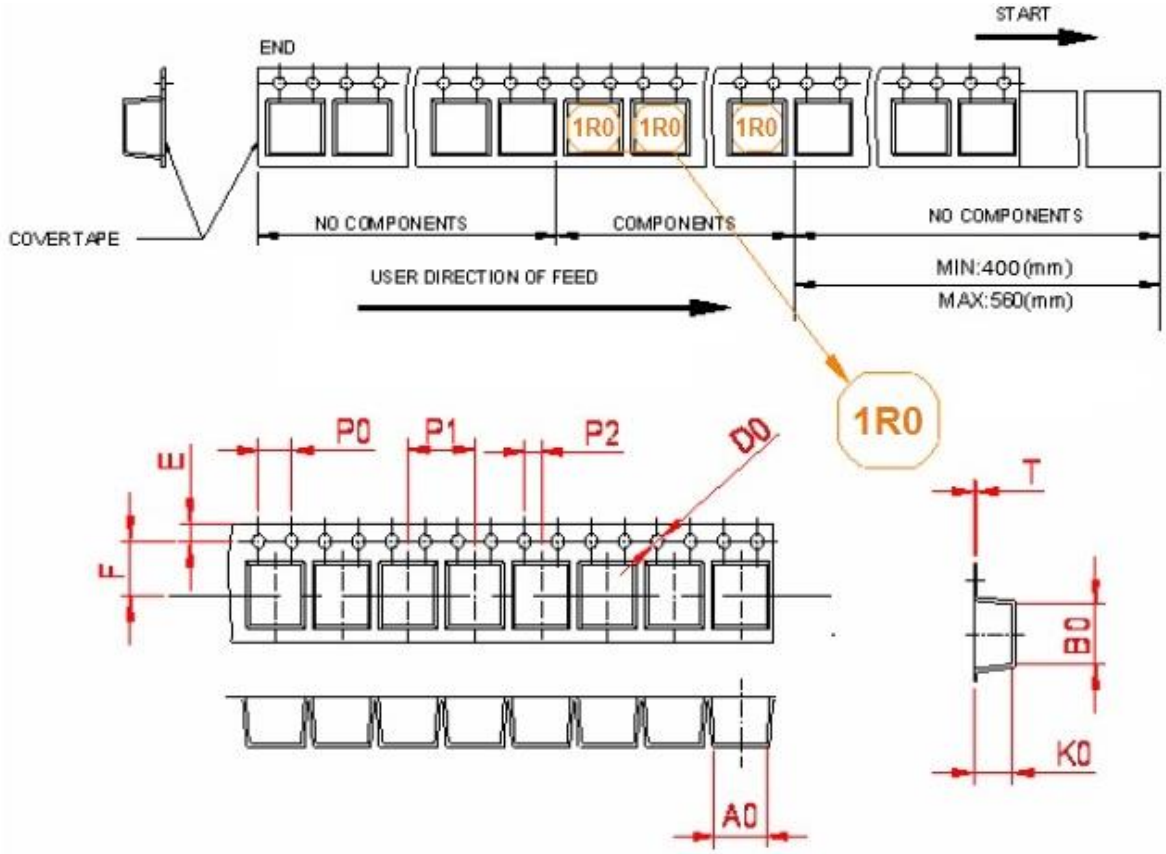


- **Frequency Characteristic**



8. Packing

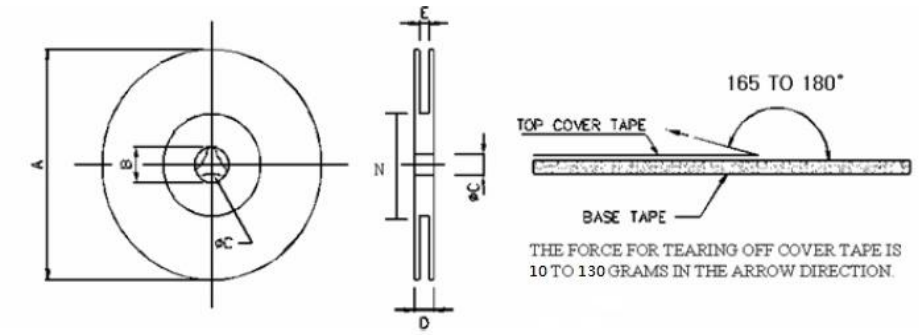
- **Carrier Tape Dimensions**



Unit:mm

ITEM	W	E	F	D0	P0	P1	P2	T	A0	B0	K0
DIM.	12	1.75	5.5	1.5	4	8	2	0.4	6.25	6.1	4.65
TOL.	±0.30	± 0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.10	±0.10	±0.10

- **Carrier Reel Dimension**



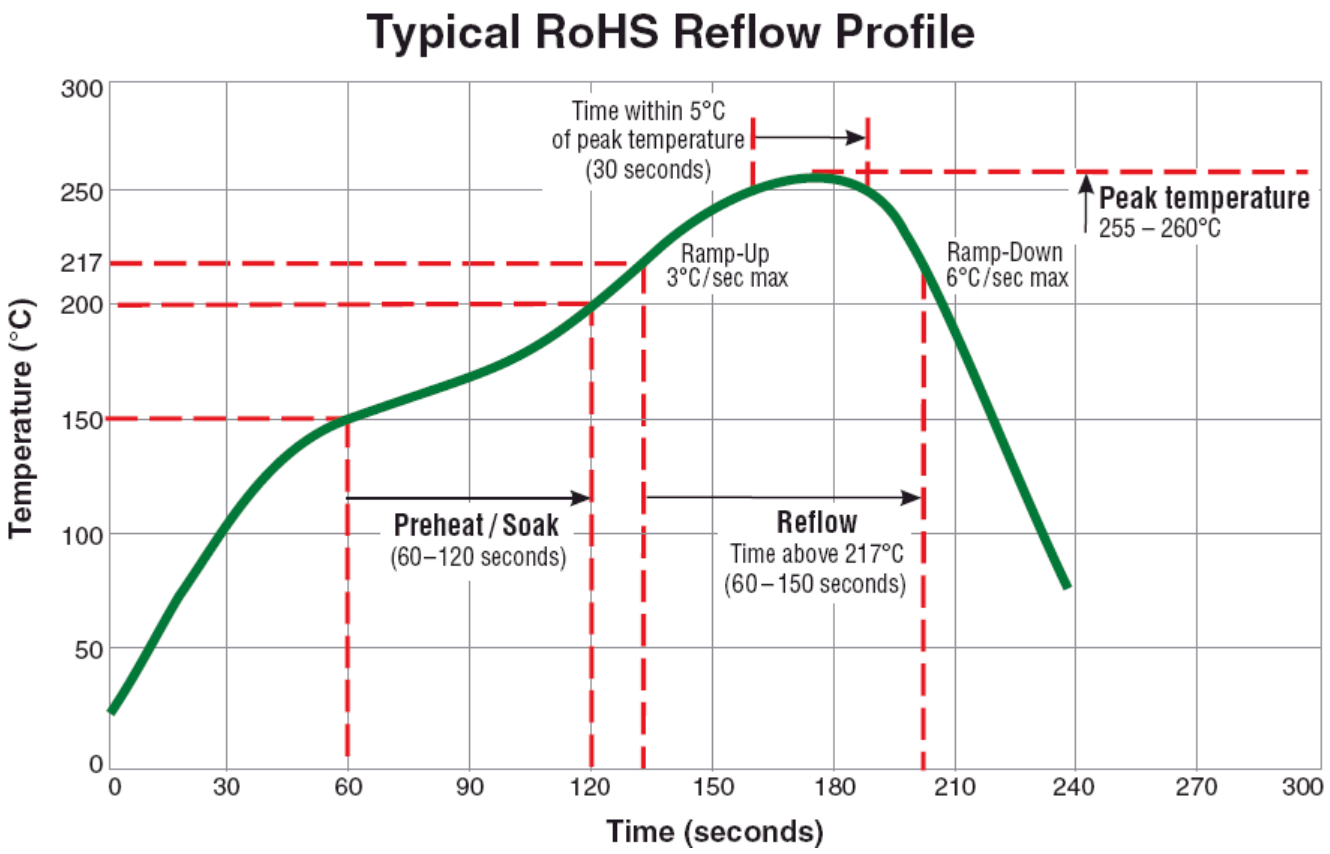
Unit:mm

ITEM	A	B	C	D	E	N
DIM.	330	21.5	13.0	17.5	13.5	100
TOL.	±0.3	± 0.8	±0.5	±2.0	±1.0	±1.5

- **Packaging Quantity**

  1.5KPCS/ Reel

9. Recommended Soldering Conditions



10. Reliability and Test Condition

Reliability Experiment For Electrical

Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40℃± 2℃, humidity of 90% ±5% (total 96 hours).	MIL-STD-202H Method 103 Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125℃±2℃. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: -25℃±2℃. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125℃±5℃ (30 minutes) ~ -65±5℃ (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	Reference MIL-STD-202H Method 107 Test Condition B-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70℃±5℃ (250Hours).	Reference MIL-STD-202H Method 108 Test Condition B

Reliability Experiment For Physical

Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202H Method 201
Solder Heat Resistance Test	1.no visible damage.	IR/convection reflow: Peak Temp 250±5℃ for 30±5Sec. in air, Through 3 Cycle. Temperature Ramp:+1~4°C/sec.; Above 183°C, must keep 90 s - 120 s.	Reference MIL-STD-202H Method 210 Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Solder temp: 245±5℃, Immersion time: 5 second. Immersion rate: 25±6mm/sec.	J-STD-002D Test condition B1