

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

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POWER CHOKES Engineering Specification

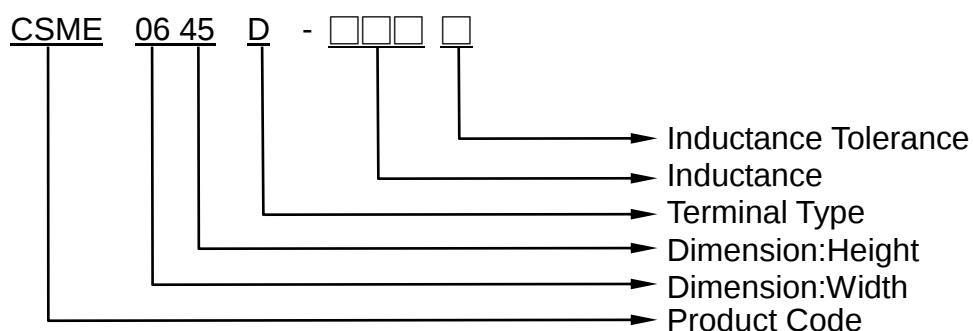
1. Feature

- 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.

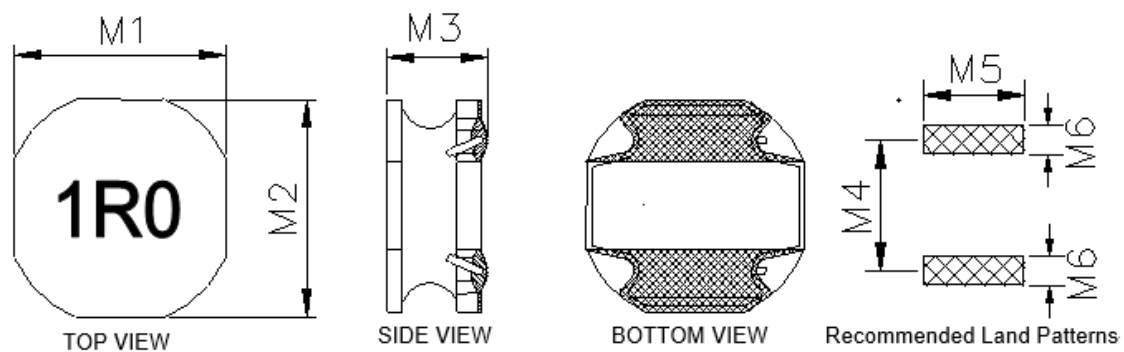
2. Applications

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

3. Explanation of Part Number



4. Shapes and Dimensions (Unit:mm)



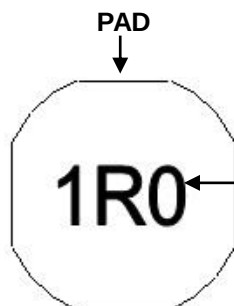
ITEM	M1	M2	M3	M4	M5	M6
DIM	6.0	5.9	4.5	4.7	5.7	1.6
TOL	±0.2	±0.2	MAX.	-	-	-

5. Temperature Specifications

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

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

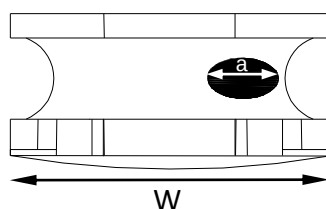
6. Marking



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:



$a \leq W/3$ Good
 $a > W/3$ NG

7. Electrical Specification

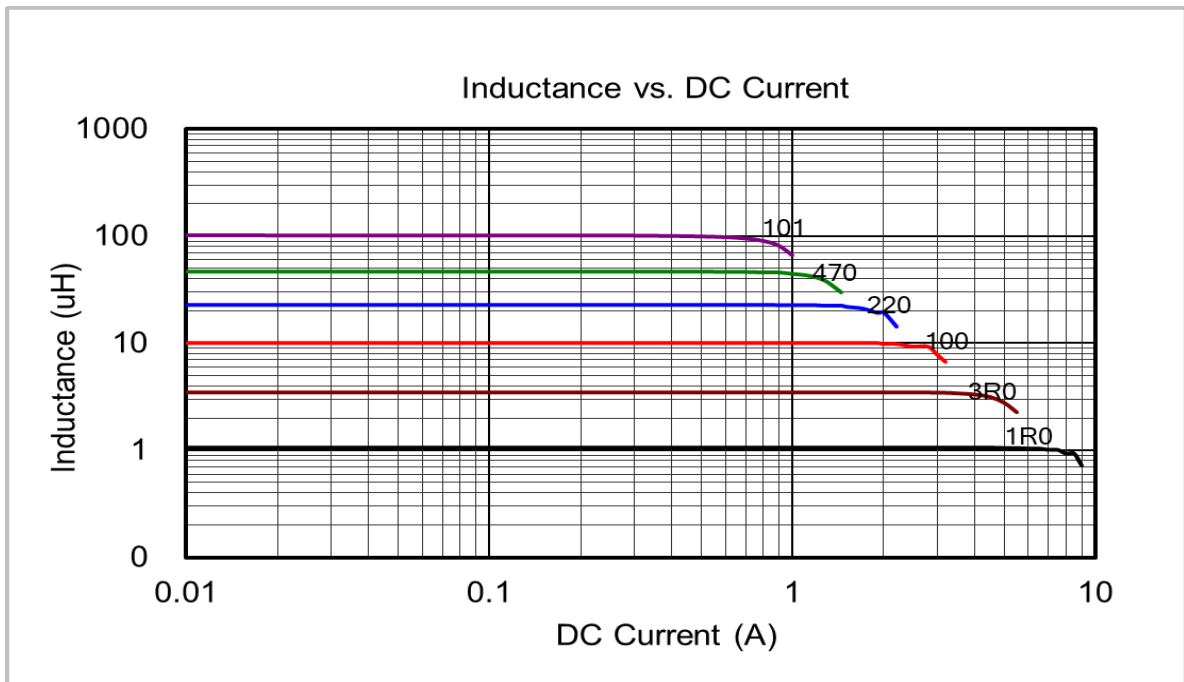
● Specifications

Part Number	Mark	Inductance (μ H)	Inductance Tolerance	DC Resistance (m Ω) 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

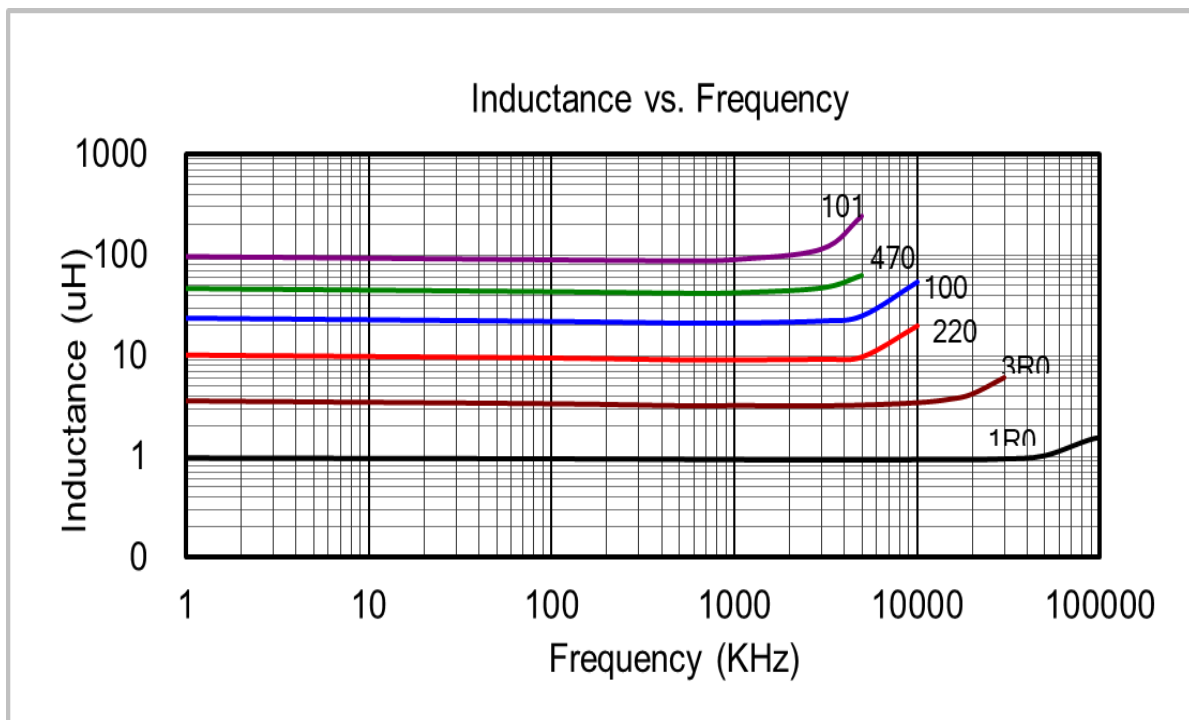
Notes

1. □Tolerance: N: $\pm 30\%$, M: $\pm 20\%$
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°C).
6. Irms : Based on temperature increase 40°C Max. (at 20°C)
7. MSL: Level 1

- Current Characteristic

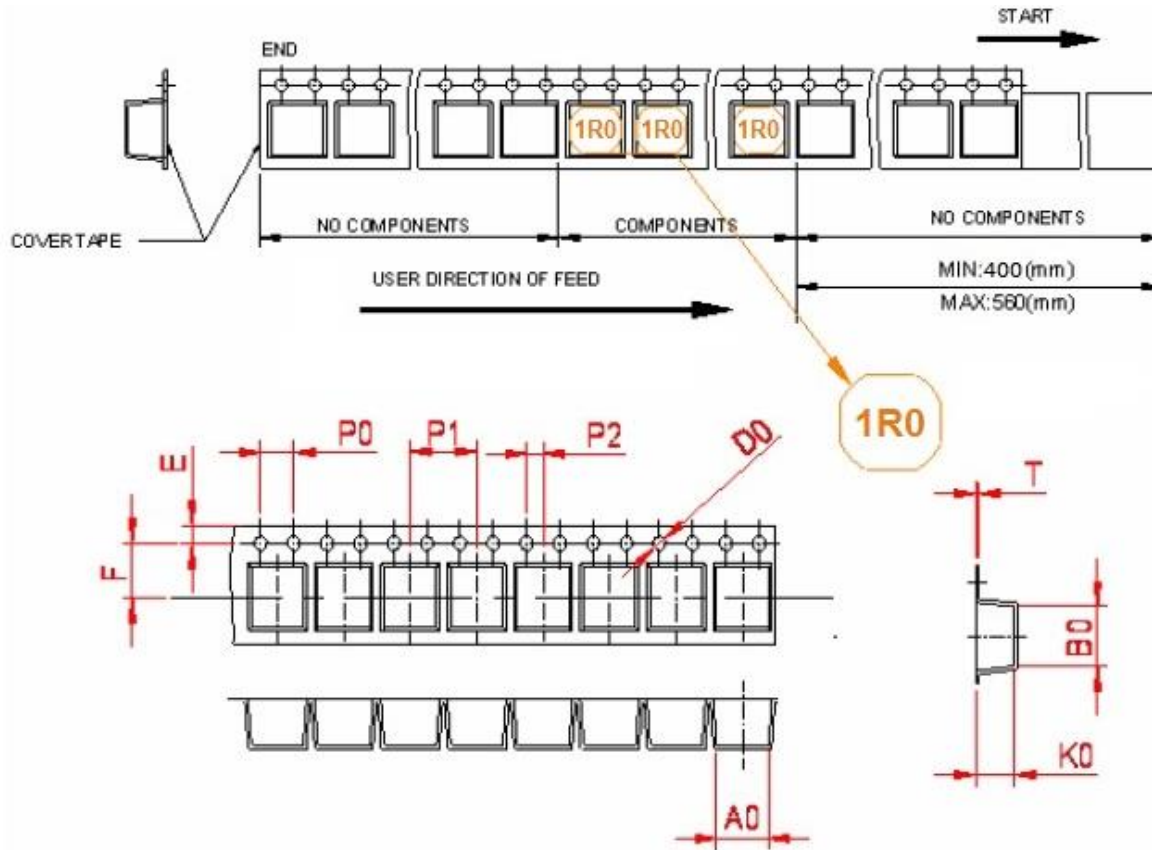


- Frequency Characteristic



8. Packing

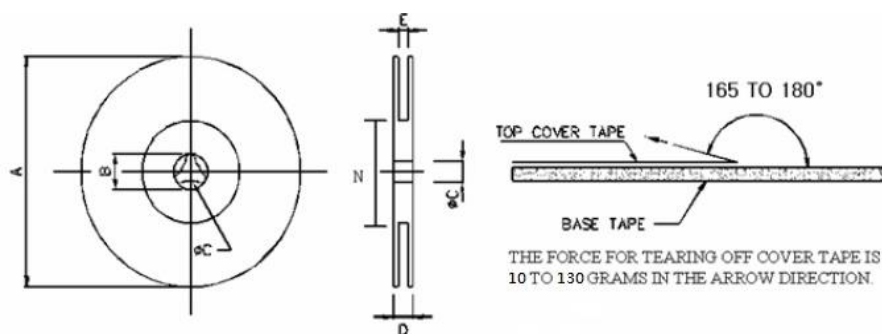
● Carrier Tape Dimensions



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

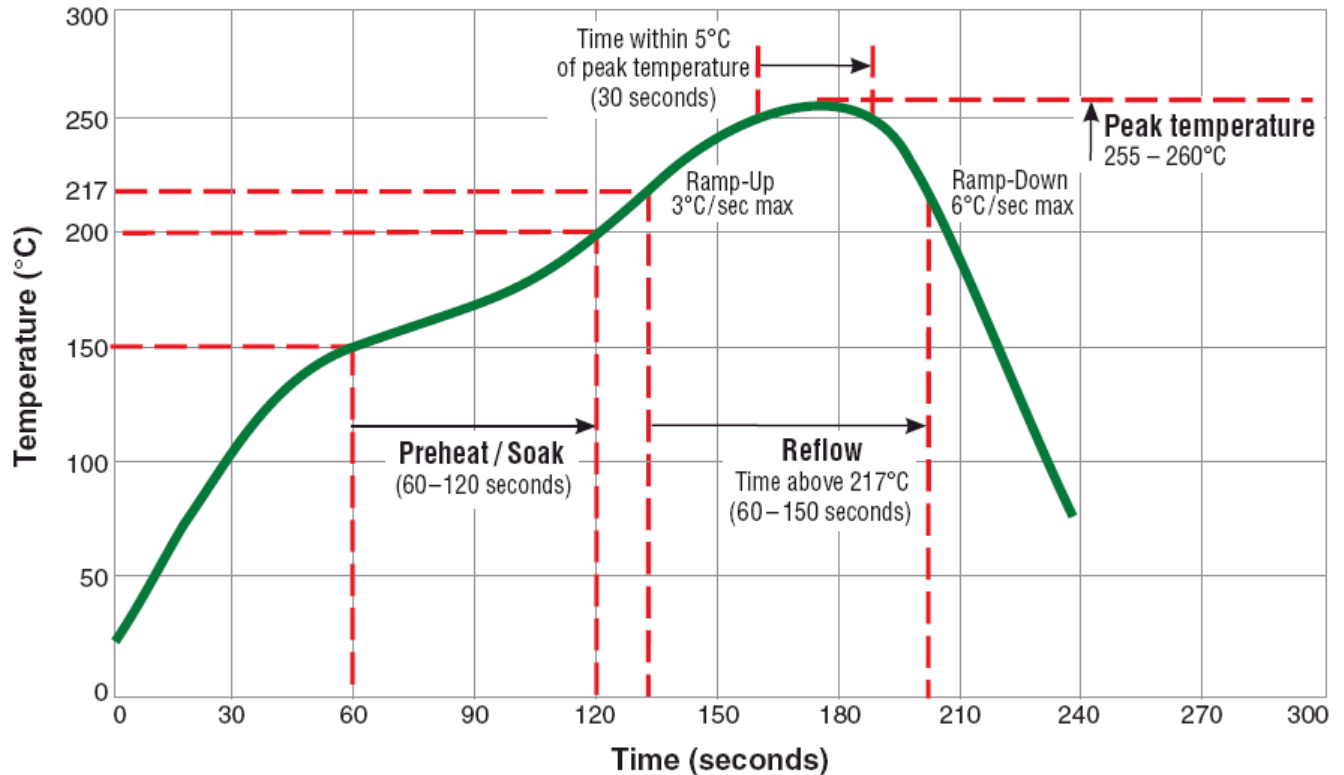
ITEM	A	B	C	D	E	N
DIM.	330	21.5	13.0	17.5	13.5	100
TOL.	±0.3	± 0.8	±0.5	±2.0	±1.0	±1.5

- Packaging Quantity

1.5KPCS/ Reel

9. Recommended Soldering Conditions

Typical RoHS Reflow Profile



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°C± 2°C, 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°C±2°C. 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°C±2°C. 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°C±5°C (30 minutes) ~ -65±5°C (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°C±5°C (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°C 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°C, Immersion time: 5 second. Immersion rate: 25±6mm/sec.	J-STD-002D Test condition B1