NextGen Components,Inc.

PART CODE: MACM5045251S01

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	R0325- MACM5045251S01	
DATE	Mar. 25, 2024	
REVISION	A0	Updated With Most Recent Data - Official First Release
DESCRIPTION AND MAIN PARAMETRICS	Chip Common Mode Inductors, MACM series, 4 pins Size Code 5045, Dimension: L5.0*W4.5*H2.5mm Impedance @100MHz: 250Ω Typ., Rated current: 5.0A Max; D.C. Resistance: 19.6 mΩ Max. Operating Temp. Range -40°C ~+125°C. Package in Tray, RoHS/RoHS III Compliant	
CUSTOMER		
CUSTOMER PART NO.		
CROSS REF. PART NO.		
ORIGINAL MFG/PART NO.	Coilmx/MACM5045-251	
PART CODE	MACM5045251S01	

VENDOR APPROVE
Issued/Checked/Approved NextGen Components, Inc. Mandy Xu NextGen Components, Inc. Ruby Zhang NextGen Components, Inc. Jack Zhang
DATE: Mar. 25, 2024

CUSTOMER APPROVE
DATE:

NextGen Components, Inc. sales@NextGenComponent.com www.NextGenComponent.com

CHIP COMMON MODE INDUCTORS MACM SERIES CASE 5045

MAIN FEATURE

- Super low resistance, ultra high current rating.
- high performance(I sat) realized by metal dust core.
- Frequency Range: up to 1MHZ.
- Cross Competitors Parts
- RoHS III Complaint

APPLICATION

- For Low profile , high current power supplies.
- Battery powered devices.
- DC/DC converters in distributed power systems.
- DC/DC converters for field programmable gate array.

PART CODE GUIDE

RFQ
Request For Quotation

MACM	5045	251	S01
1	2	3	4

1. MACM: Chip Common Mode Inductors, MACM series, 4 pins
2. 5045: Size Code 5045, Dimension: L5.0*W4.5*H2.5mm
3. 251: Impedance Code, 251: 250Ω
4. S01: Internal Control Code or special Parameters code letter A~Z or digits (1-9)

ELECTRICAL CHARACTERISTICS

See Page 4 For Different Part Code

HOW TO ORDER

Please indicate pat code and send us your RFQ by E-mail, sales@nextgencomponent.com

CHIP COMMON MODE INDUCTORS MACM SERIES CASE 5045

DIMENSION – (Unit: mm)

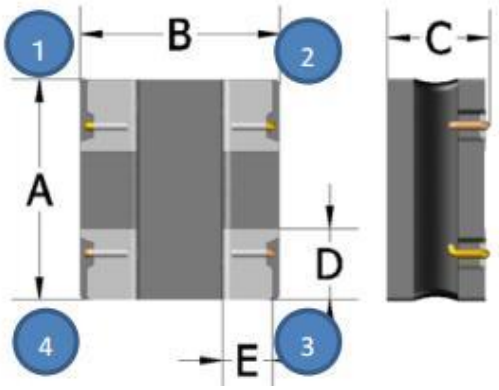
Image For Reference

MACM Series

Size Code 5045

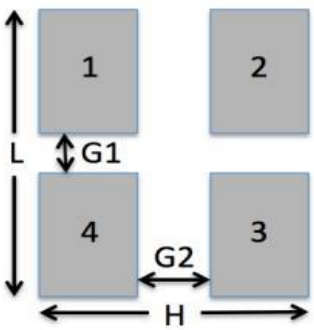
Dimension:

L5.0*W4.5*H2.5mm



Symbol	Dimension (mm)
A	5.0±0.3 Max.
B	4.5±0.3 Max.
C	2.5 Max.
D	2.1±0.3
E	1.1±0.3

Recommend PCB Layout



Symbol	Dimension (mm)
L	5.5 Ref.
H	4.6 Ref.
G1	1.5 Ref.
G2	1.2 Ref.

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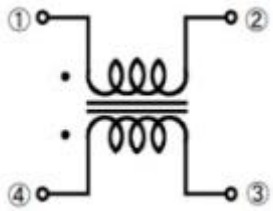
CIRCUIT DIAGRAMT



ELECTRICAL CHARACTERISTIC

Part Code	Z(Ω) @100MHZ Typ.	DCR (mΩ) Max	Rated Current (A)Max.	Rated Voltage (V) Typ.	IR (MΩ) Min	Withstand Voltage (V)Typ.
MACM5045101S01	100	12.6	6	50	10	125
MACM5045251S01	250	19.6	5	50	10	125
MACM5045501S01	500	26.6	4	50	10	125
MACM5045102S01	1000	33.6	3	50	10	125
MACM5045142S01	1400	56	1.5	50	10	125

Notes

1. All test data is based on 25℃ ambient.
2. DC current(A)that will cause an approximate △T40℃
3. Operating Temperature: -40°C up to +125℃
4. The part temperature (ambient + temp rise)should not exceed 125℃ under worst case operating conditions. circuit design, component. PWB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the den application.

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RELIABILITY TEST

No.	Item	Specification and Requirement	Test Method
1	Solder ability test	Terminals area must have 95% min solder coverage	(1) Preheating: 160±10℃ for 90 seconds (2) Retention time: 245±5℃ for 2±0.5 seconds
2	Vibration test	Inductance change: Within±5% Without mechanical damage such as break	(1) Vibration frequency: (10Hz to 55Hz to 10Hz) in 60 seconds as a period (2) Vibration time: for 2 hours in each of 3 mutual perpendicular directions (3) Amplitude: 1.5 mm Max
3	Shock test	Inductance change: Within±5% Without mechanical damage such as break	(1) Peak value: 100G (2) Duration of pulse: 11ms (3) Times in each positive and negative direction of 3 mutual perpendicular directions
4	Thermal shock	Inductance change: Within±5% Without mechanical damage such as break	(1) Repeat 100 cycle as follow: (-40±2℃,30±3 minutes) Room temperature, 5 minutes; (+125±2℃,30±3 minutes) Room temperature, 5 minutes (2) Recovery: 48+4/-0 hours of recovery under the standard condition after the test.
5	High temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1) Environment condition : 85±2℃ Applied current: Rated current (2) Duration:1000+4/-0 hours
6	Humidity Resistance	Inductance change: Within±5% Without mechanical damage such as break	(1) Environment condition : 60±2℃ Humidity:90~95%, Applied current: Rated current (2) Duration:1000+4/-0 hours
7	Low temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1) Store temperature: -40±2℃for total 1000+4/-0 hours
8	High temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1) Store temperature: +125±2℃for total 1000+4/-0 hours

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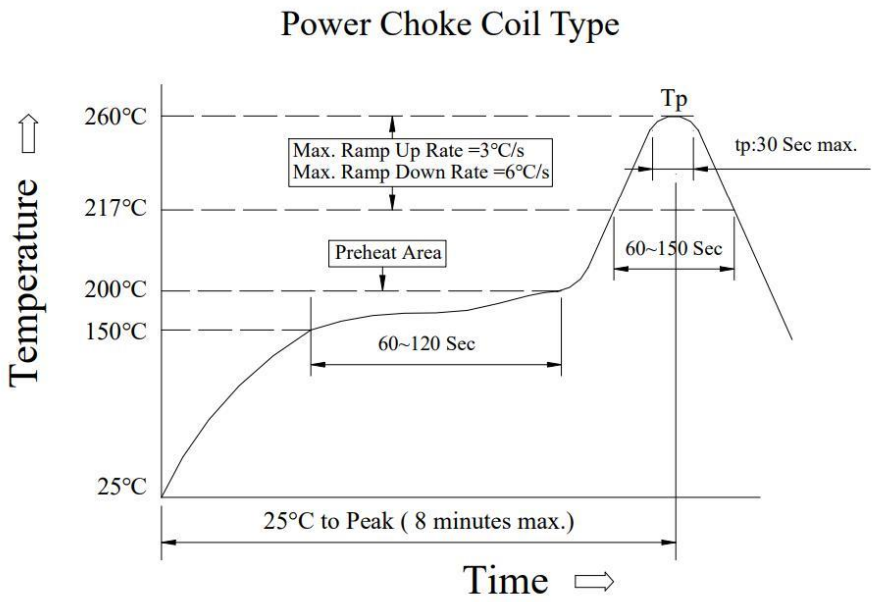
REFLOW PROFILE



REFLOW SOLDERING METHOD

Reflow Soldering	Tp:255~260℃	Max.30 seconds (tp)
	217℃	60~150 seconds
Pre-Heat	150 ~ 200℃	60~120 seconds
Time 25℃ to peak temperature	8 minutes max.	

SOLDERING IRON METHOD: 350±5℃ Max.3 seconds.

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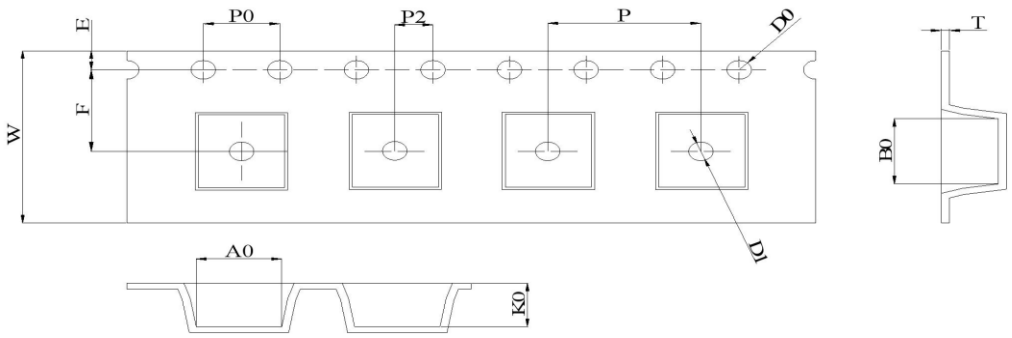
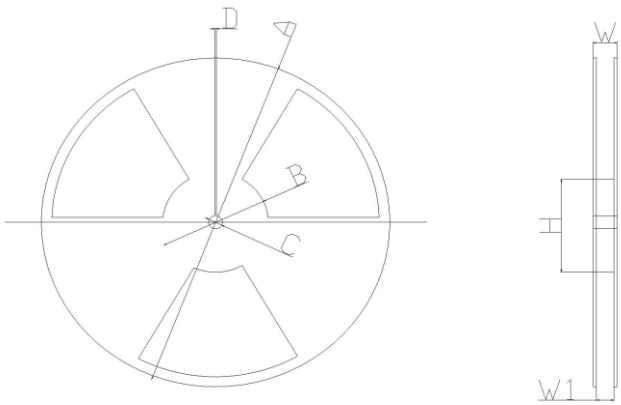
TAPE DIMENSION (Unit: mm), 2500pcs/Reel



W	A0	B0	K0	P	F	E	D0	P0	T
12.00 ±0.30	4.80 ±0.10	5.30 ±0.10	2.50 ±0.10	8.00 ±0.10	5.50 ±0.10	1.75 ±0.10	1.50 ±0.10	4.00 ±0.10	0.25 ±0.05

REEL DIMENSION (Unit: mm)



Code	Dimension (mm)
A	330.0 ± 2.0
B	100.0 ± 1.0
C	13.0 ± 1.0
D	1.9 ± 0.4
W	17.4 Max
W1	12.4 ± 1.0

ROHS COMPLIANCE

- The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained can be obtained at Download Center.

REACH COMPLIANCE

- REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained can be obtained at Download Center.

IMPORTANT NOTES AND DISCLAIMER

1. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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