

APPROVAL SHEET



WLSN054D Series SMD Unshielded Power Inductors

*Contents in this sheet are subject to change without prior notice.

Features

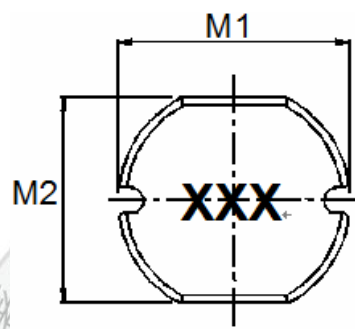
1. Unshielded power inductor.
2. Wide inductance range.

Applications

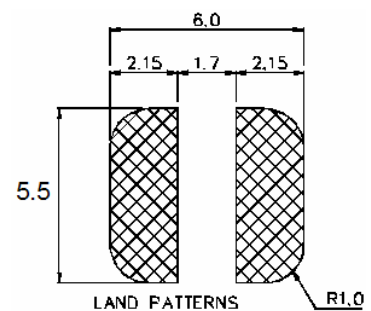
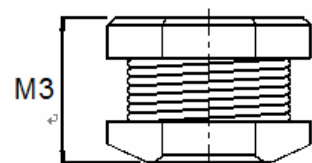
1. Inductor in DC/DC converter.
2. Use in STB 、PDA 、Notebook.

Shape and Dimension

Unit: mm



	DIM.	TOL.
M1	5.8	±0.3
M2	5.2	±0.3
M3	4.5	±0.35



Recommended Patterns

Ordering Information

WL	SN	054D	Z0	M	1R0	L	B
Product Code	Series	Dimensions	Series extension	Tolerance	Value	Packing Code	
WL: Inductor	SMD Unshielded Power Inductors	5.8 * 5.2 mm	Z0:STD	M: ± 20% L : ± 15% K : ± 10%	1R0 = 1.0uH 100 = 10.0uH	L=13" Reeled (Embossed tape)	B:STD

Electrical Characteristics

WLSN054D Series	Marking	L (uH)	Inductance Tolerance	Test Freq (KHz)	DCR (Ω) MAX.	Rated Current (A)
WLSN054DZ0M1R0LB	1R0	1.0	± 20%	100	0.015	4.00
WLSN054DZ0M1R9LB	1R9	1.9	± 20%	100	0.039	3.00
WLSN054DZ0M2R2LB	2R2	2.2	± 20%	100	0.020	4.00
WLSN054DZ0M3R3LB	3R3	3.3	± 20%	100	0.021	3.00
WLSN054DZ0M4R7LB	4R7	4.7	± 20%	100	0.028	2.00
WLSN054DZ0M6R8LB	6R8	6.8	± 20%	100	0.042	2.00
WLSN054DZ0M100LB	100	10	± 20%	100	0.10	1.44
WLSN054DZ0M120LB	120	12	± 20%	100	0.12	1.40
WLSN054DZ0M150LB	150	15	± 20%	100	0.14	1.30
WLSN054DZ0M180LB	180	18	± 20%	100	0.15	1.23
WLSN054DZ0M220LB	220	22	± 20%	100	0.18	1.11
WLSN054DZ0M270LB	270	27	± 20%	100	0.20	0.97
WLSN054DZ0L330LB	330	33	± 15%	100	0.23	0.88
WLSN054DZ0L390LB	390	39	± 15%	100	0.32	0.80
WLSN054DZ0L470LB	470	47	±15%	100	0.37	0.72
WLSN054DZ0K560LB	560	56	± 10%	100	0.42	0.68
WLSN054DZ0K680LB	680	68	± 10%	100	0.46	0.61
WLSN054DZ0K820LB	820	82	± 10%	100	0.60	0.58
WLSN054DZ0K101LB	101	100	± 10%	10	0.70	0.52
WLSN054DZ0K121LB	121	120	± 10%	10	0.93	0.48
WLSN054DZ0K151LB	151	150	± 10%	10	1.10	0.40
WLSN054DZ0K181LB	181	180	± 10%	10	1.38	0.38
WLSN054DZ0K221LB	221	220	± 10%	10	1.57	0.35
WLSN054DZ0K271LB	271	270	± 10%	10	1.85	0.30

a. Tolerance : M:±20%, L:±15%, K:±10%

b. Operating Temp : -25℃ to +105℃.

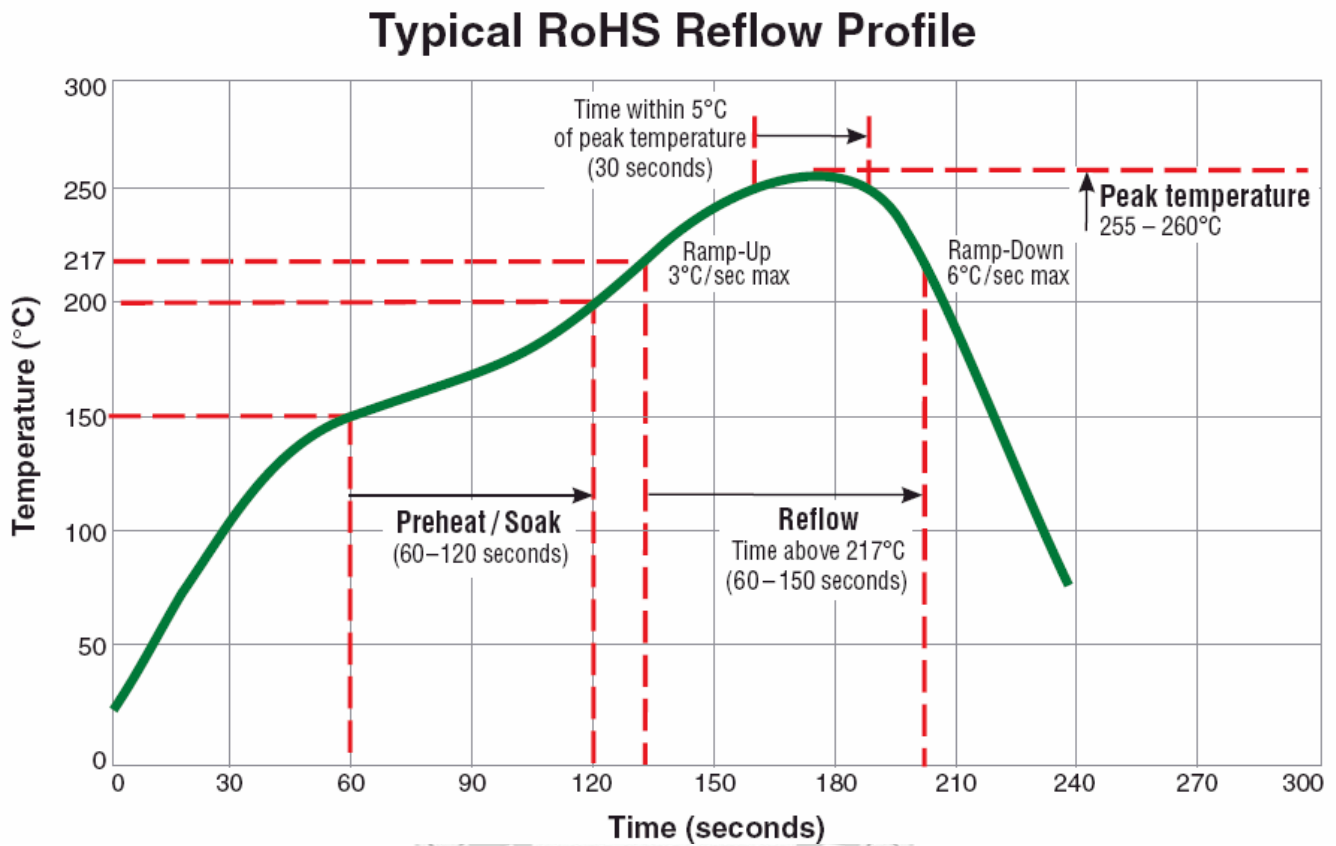
c. Inductance measured using the HP4284A LCR meter, CHROMA1320 & 3302 & 16502

d. DCR measured using the 502BC milli-ohm meter.

e. Inductance drops no more than 10% of initial value at rated current, temperature rises $\Delta t < 40^{\circ}\text{C}$.

※MSL : LEVEL 1

TYPICAL RoHS REFLOW PROFILE



RELIABILITY PERFORMANCE

Reliability Experiment For Electrical

Test Item	Test Condition	Standard Source
Humidity Test	+40°C ± 2°C, humidity of 90% ± 5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1.Temperature: +125°C ± 2°C 2.Test time: 48 ± 2hrs	IEC 68-2 Test Condition B
Low Temperature Test	1.Temperature: -40°C ± 2°C 2.Test time: 48 ± 2hrs	IEC 68-2 Test Condition A
Thermal Shock	+125°C ± 5°C (30 minutes) ~ -40 ± 5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	MIL-STD-202G Method 107G Test Condition B-2
Life Test	+70°C ± 5°C (250Hours)	MIL-STD-202G Method 108A Test Condition B

Reliability Experiment For Physical

Test Item	Test Condition	Standard Source
Vibration Test	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202G Method 201A
Solder Heat Resistance Test	IR/convection reflow: Peak Temp 250 ± 5°C for 5Sec in air, Through 2 Cycle. Temperature Ramp: +1~4°C/sec; Above 183°C, must keep 90 s - 120 s	MIL-STD-202G Method 210F Test Condition (Reflow)
Solder Ability Test	Soak in 245 °C solder pot of 3Sec, PAD must have 95% above coverage.	J-STD-003B

Diagram illustrating the cover tape assembly and its application to a carrier.

Top Cover Tape Assembly:

- THICKNESS (t):** 0.10 MAX
- EMBOSSED CAVITY:** The recessed area on the tape.
- EMBOSSED CARRIER:** The carrier component being covered.
- TOP COVER TAPE:** The upper layer of the tape.
- BASE TAPE:** The lower layer of the tape.
- Angle:** 165 TO 180°

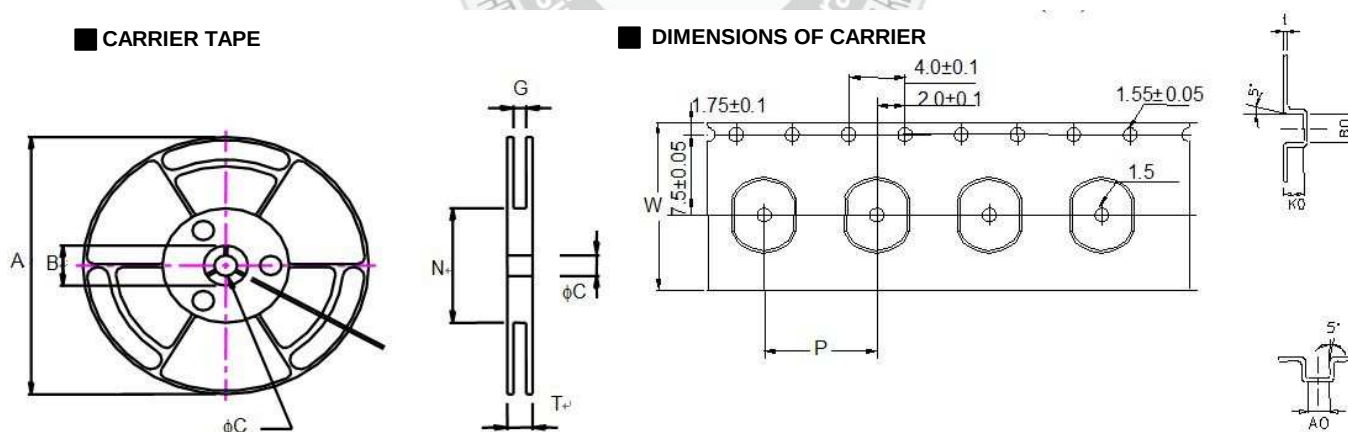
Carrier Assembly:

- The carrier is shown with a central section labeled **COMPONENTS** and two side sections labeled **NO COMPONENTS**.
- COVER TAPE:** The tape is applied over the carrier, covering the components and the non-component areas.
- USER DIRECTION OF FEED:** Indicated by an arrow pointing to the right.
- Dimensions:**
 - NO COMPONENTS:** 160mm MIN
 - COMPONENTS:** 390mm MIN, 560mm MAX

Notes:

- THE FORCE FOR TEARING OFF COVER TAPE IS 25 TO 100 GRAMS IN THE ARROW DIRECTION.

■ DIMENSIONS OF CARRIER



	A	B	C	G	N	P	T	W	t	A0	B0	K0
DIM.	360	21.0	13.0	12.4	80	12	18.4	12.0	0.35	5.4	6.3	5.0
TOL.	MAX	±0.8	+0.5-0.2	+2.0-0	MIN.	±0.1	MAX	±0.3	±0.05	±0.1	±0.1	±0.1

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