

1.5&2.4GHz 1608 Diplexer: LDP1608R1524L202

Applications:

WLAN, 802.11b/g, ISM Band GPS...

Features

SMD, high reliability, ultra-Impact...

Part number

LDP 1608 R 1524 L2 02
(1) (2) (3) (4) (5) (6)

(1) Product code	LTCC-DPX
(2) Size Code	1.6x0.8mm
(3) Packing	Tape and reel
(4) Frequency	1.575&2.4GHz
(5) Series	L2
(6) Type	02

Electrical Specification

DESCRIPTION	VALUE		
Pass Band	Low Band	High Band	
	1570~1610MHz	2400~2500MHz	4900~6000MHz
Insertion Loss	0.6 dB (typ.)	0.7dB (typ.)	0.6 dB (typ.)
VSWR/Return-Loss	2.0 max. /10.0dB min.	2.0 max. /10.0dB min.	2.0 max. /10.0dB min.
Attenuation	20 dB min. @1570~1610MHz	18 dB min. @2400~2500MHz	
		15 dB min. @4900~6000MHz	
Isolation	20dB min.		
Operating Temperature	-40 ~ +85 °C		

The specification is defined on EVB.

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Dimension and Terminal Configuration

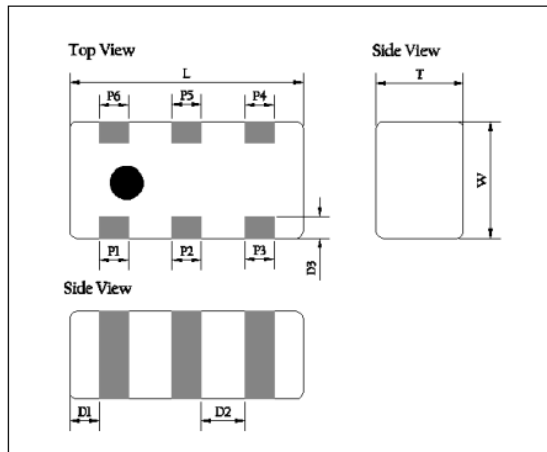


Fig. 1 Filter outlines

Dimension (mm)	
L (mm)	1.60 ± 0.15
W (mm)	0.80 ± 0.15
T (mm)	0.60 ± 0.15
P1 (mm)	0.20 ± 0.15
P2 (mm)	0.20 ± 0.15
P3 (mm)	0.20 ± 0.15
P4 (mm)	0.20 ± 0.15
P5 (mm)	0.20 ± 0.15
P6 (mm)	0.20 ± 0.15
D1 (mm)	0.20 ± 0.15
D2 (mm)	0.30 ± 0.10
D3 (mm)	0.15 ± 0.10

No.	Terminal Name
P1	Ground
P2	Common Port
P3	Ground
P4	High Band Port
P5	Ground
P6	Low Band Port

P.S: Symmetrical,
No direction

Evaluation Board Reference

Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

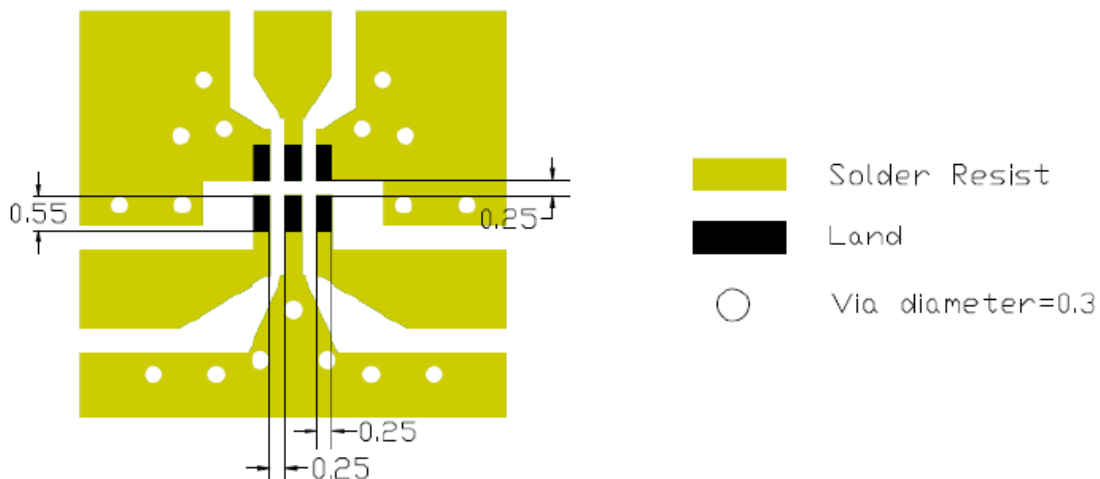


Fig. 2 Reference design of evaluation board

Electrical Characteristics

The screenshot shows a network analyzer interface with a plot of S-parameters versus frequency. The plot displays multiple traces (Tr1, Tr2, Tr3, Tr4) with various markers and a legend. Below the plot is a table of measurement data.

Legend:

- Tr1: Pass
- Tr2: Pass
- Tr3: Pass
- Tr4: Pass

Measurement Data Table:

Ch2	Tr	S	Freq (GHz)	Mag (dB)
Ch2	Tr1	S12	1.5700000	-0.3648
Ch2	Tr1	S12	1.6100000	-0.4435
Ch2	Tr1	S12	2.4000000	-20.147
Ch2	Tr1	S12	2.5000000	-26.272
Ch2	Tr1	S12	4.9000000	-36.148
Ch2	Tr1	S12	6.0000000	-18.117
Ch2	Tr2	S14	1.5700000	-24.699
Ch2	Tr2	S14	1.6100000	-21.156
Ch2	Tr2	S14	2.4000000	-21.326
Ch2	Tr2	S14	2.5000000	-26.224
Ch2	Tr2	S14	4.9000000	-36.111
Ch2	Tr2	S14	6.0000000	-21.019
Ch2	Tr3	S22	2.4000000	-14.419
Ch2	Tr3	S22	2.5000000	-14.916
Ch2	Tr4	S42	2.4000000	-0.4934
Ch2	Tr4	S42	2.5000000	-0.4047
Ch2	Tr4	S42	4.9000000	-0.0670
Ch2	Tr4	S42	6.0000000	-0.5113
Ch2	Tr4	S42	1.5700000	-23.910
Ch2	Tr4	S42	1.6100000	-19.666

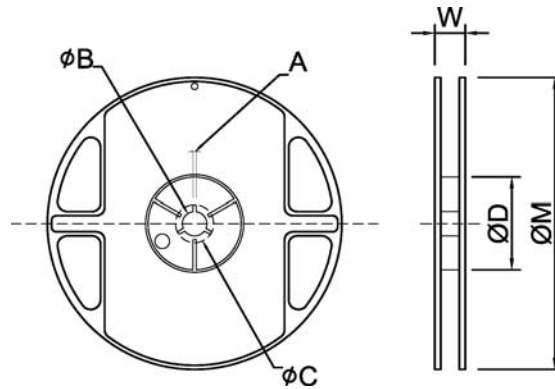
Plot Details:

- Frequency: 2.5000000 GHz
- Mag: -14.916 dB
- IFBW: 70 kHz
- Stop: 8.5 GHz

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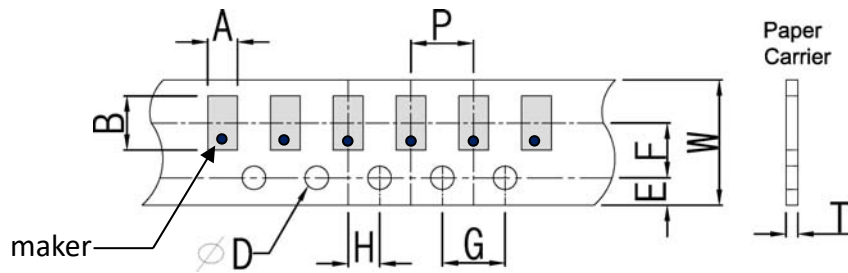
Reel and Taping Specification

Reel Specification



TYPE	SIZE		A	ψ B	ψ C	ψ D	W	ψ M
1608	7"	4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0

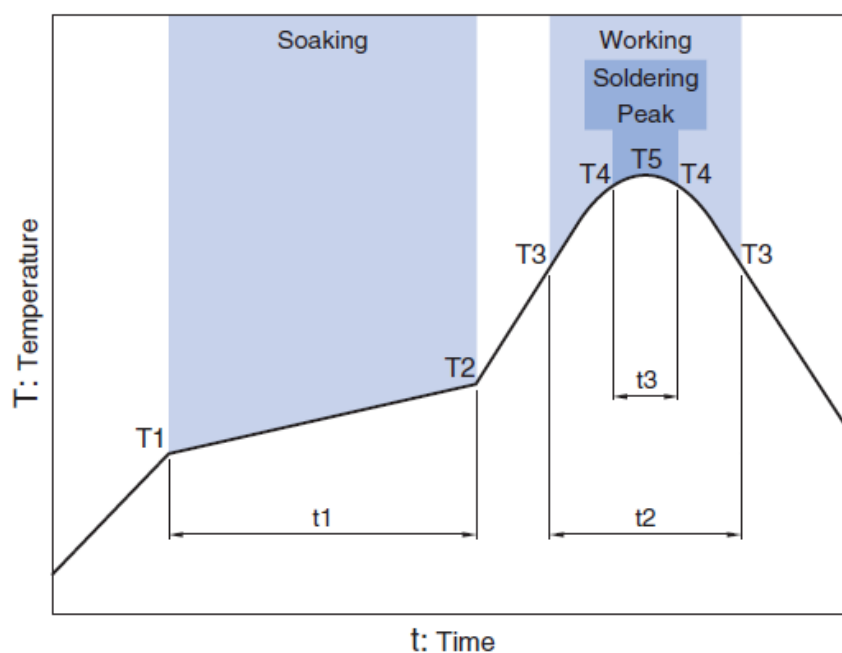
Tapping Specification



Packaging	Type	A	B	W	E	F	G	H	T	ψ D	P
Paper Type	1608	1.40±0.20	2.20±0.20	8.0±0.20	1.75±0.10	3.0±0.05	4.0±0.10	2.0±0.05	0.75±0.10	1.50 +0.10 -0	4.0±0.1

Recommended Reflow Profile

Pb free solder



Soaking			Working		Soldering		Peak
Temp.		Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5
150°C	180°C	60 to 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

Revision History

Version	Date	Description
Ver.01	Jul.2023	New issue.