

LTCC

Low Pass Filter

50Ω 2400 to 2500 MHz

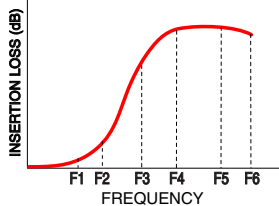
Features

- Miniature size 0402
- Low Insertion Loss and High stop band rejection.
- Low cost
- Aqueous washable

Applications

- ISM Band
- WLAN
- Bluetooth
- Zigbee

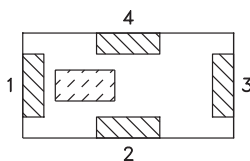
Specification Definition



Block Diagram



Top View



Pad Connections

Input	1
Output	3
Ground	2,4

LPNK-252R+



Generic photo used for illustration purposes only
CASE STYLE: NK0402C-1

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 4000

Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss*	F1-F2	—	0.5	0.7	dB
	VSWR	F1-F2	—	1.4	1.9	:1
Stop Band	Rejection Loss	F3-F4	28	42	—	dB
		F5-F6	33	40	—	dB

* Tested on Evaluation Board TB-1038+

Maximum Ratings

Operating Temperature	-40°C to +85°C
Storage Temperature**	-40°C to +85°C
RF Power Input†	3W at 25°C

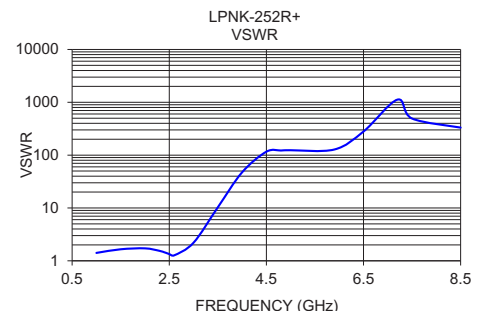
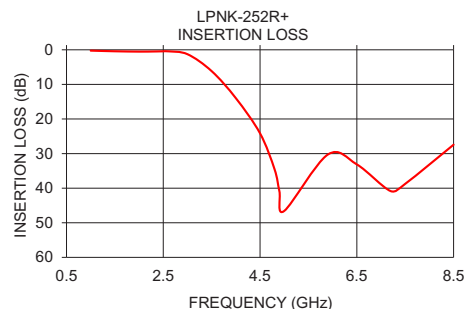
**Refer to product storage temperature after installation
Suggestion for T&R unused product storage condition:
+5 ~ +35 °C, Humidity 45~75%RH, 12 month Max.

†Derate linearly to 1.5W at 85°C

Typical Performance Data at 25°C***

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)
1.00	0.24	1.41
1.50	0.43	1.65
2.00	0.52	1.72
2.30	0.49	1.54
2.40	0.46	1.45
2.44	0.45	1.41
2.50	0.44	1.34
2.60	0.44	1.27
3.00	1.27	2.20
3.50	6.17	10.28
4.00	13.99	47.29
4.50	24.15	116.20
4.80	34.54	122.35
4.90	40.91	123.79
5.00	46.58	123.88
5.90	30.28	127.84
6.50	33.13	280.05
7.20	40.84	1124.55
7.50	38.75	493.11
8.50	27.43	332.01

*** Measured with Agilent E5071B network analyzer using port extension.



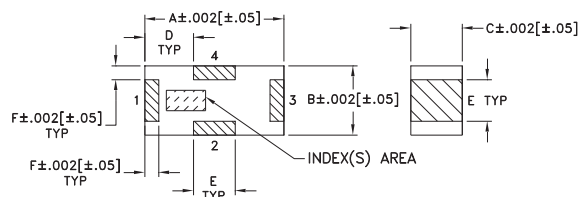
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REV. OR
M172548
LPNK-252R+
RS/CP/AM
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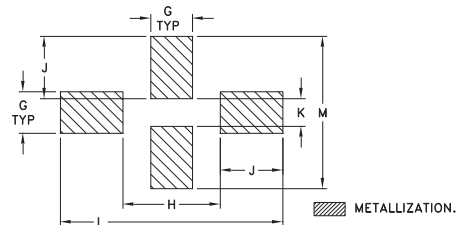
Low Pass Filter

LPNK-252R+

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within .002

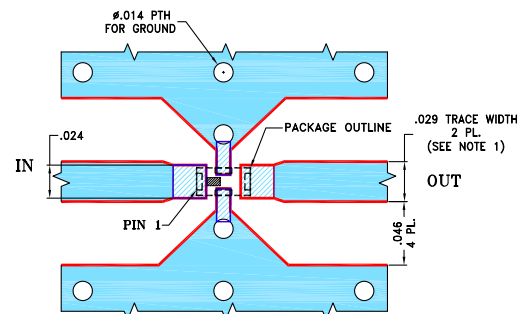
Pad Connections

Input	1
Output	3
Ground	2,4



Outline Dimensions ($\frac{\text{inch}}{\text{mm}}$)

A	B	C	D	E	F	G
.039	.020	.015	.014	.012	.004	.012
0.99	0.51	0.38	0.36	0.30	0.10	0.30
H	J	K	L	M	wt	
.028	.018	.008	.063	.043	grams	
0.71	0.46	0.20	1.60	1.09	.0007	

Evaluation Board MCL P/N: TB-1038+ Suggested PCB Layout (PL-568)



NOTES:

1. TRACE WIDTH IS SHOWN FOR FR4, GRADE IT-180TC (ITEQ CORP.) WITH DIELECTRIC THICKNESS .016±.0015. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
-  DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Additional Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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