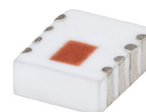


Ceramic Diplexer

50Ω

DC to 3000 MHz (DC-1280, 1550-3000 MHz)

LDPQ-132-33+



Generic photo used for illustration purposes only

CASE STYLE: NL1008C-4

Maximum Ratings

Operating Temperature	-55°C to 105°C
Storage Temperature*	-55°C to 105°C
RF Power Input**	2W at 25°C

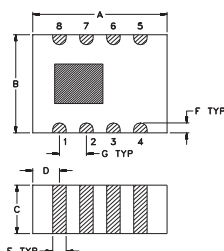
* passband rating, derate linearly to 1W at 105°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Pad Connections

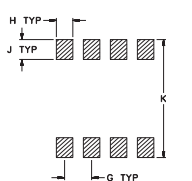
Low Pass Port	5
High Pass Port	8
Common Port	3
Ground	1,2,4,6,7

Outline Drawing

Outline Dimensions



PCB Land Pattern



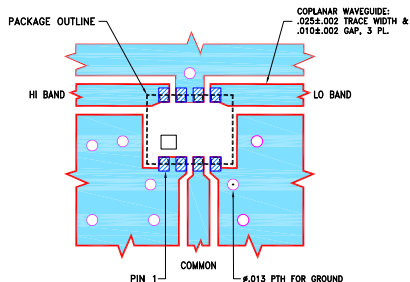
Suggested Layout,
Tolerance to be within .002

- NOTES:
- PIN NUMBERS DO NOT APPEAR ON UNIT. FOR REFERENCE ONLY.
 - METALLIZATION
 - PAD TOLERANCE IS NON-CUMULATIVE.

Outline Dimensions (inch mm)

A	B	C	D	E	F
.098	.079	.039	.020	.010	.008
2.49	2.01	0.99	0.51	0.25	0.20
G	H	J	K	wt	
.020	.012	.016	.095	grams	
0.51	0.30	0.41	2.41	.019	

Demo Board MCL P/N: TB-985+ Suggested PCB Layout (PL-646)



- NOTES:
- COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR FR4, GRADE IT-180TC (ITEC CORP.) WITH DIELECTRIC THICKNESS .0164-.0015, COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS LINE WIDTH & GAP MAY NEED TO BE MODIFIED.
 - 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.

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.
C. The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- small size 1008(2.5 x 2.0 mm)
- temperature stable
- LTCC construction

Applications

- communication systems
- GSM
- GPS
- IoT

+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^{1,2} at 25°C

Parameter	Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	DC - 1280	—	1	2.2
		High Pass	1550 - 3000	—	1.5	2.2
	Return Loss	Common	DC - 3000	—	15	—
Stop Band Isolation	High Pass	DC - 1240	10	15	—	dB
	Low Pass	1620 - 3000	11	15	—	dB

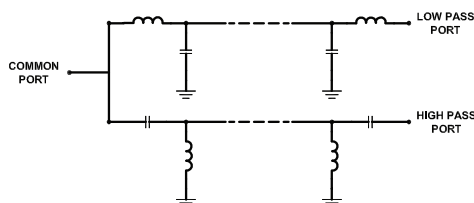
¹ In Application where DC voltage is present at either input or output port, coupling capacitors are required.

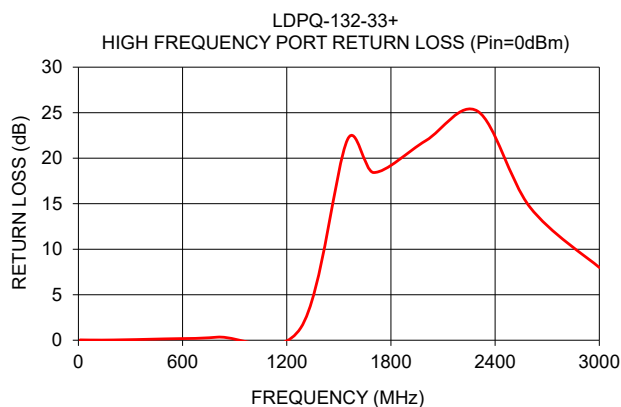
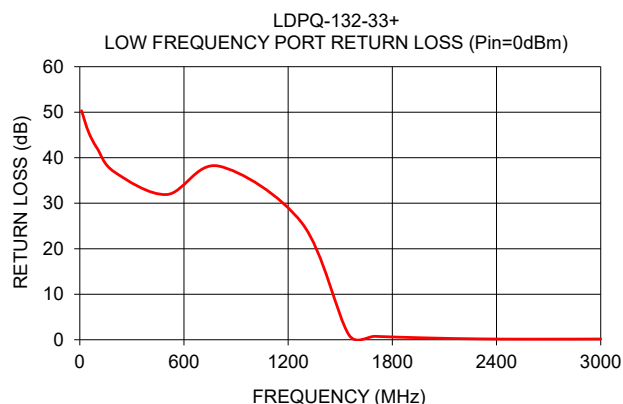
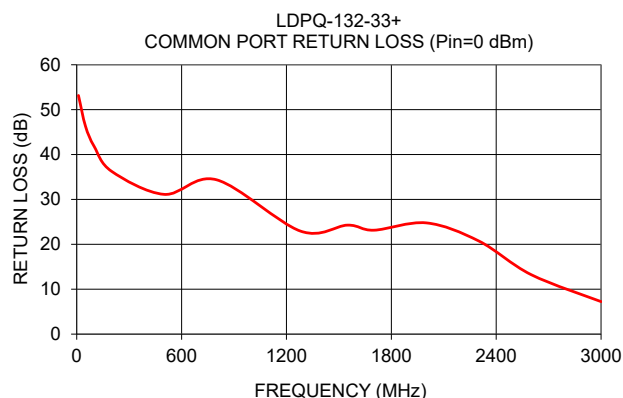
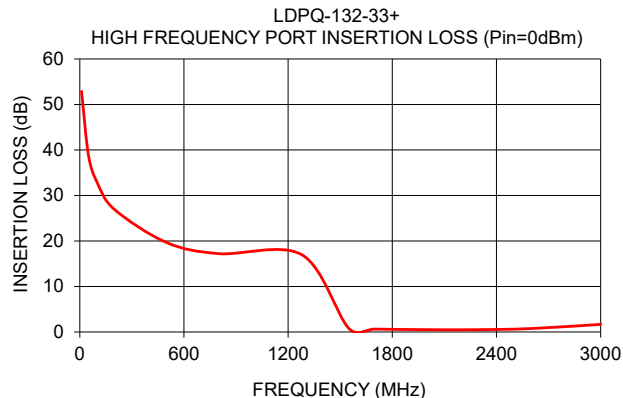
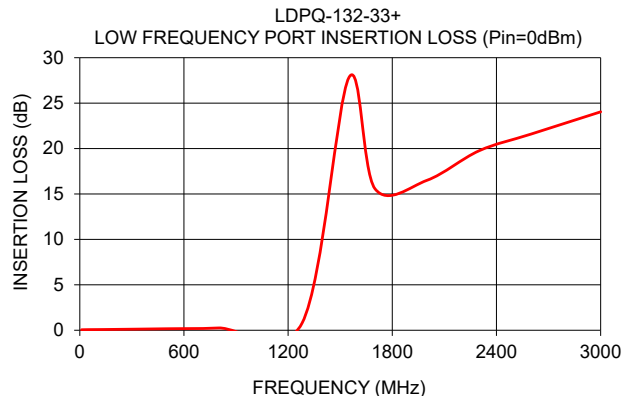
² Measured on Mini-Circuits Characterization Test Board TB-985+ with auto port extension

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)		
	Low Pass Port	High Pass Port	Common Port	Low Pass Port	High Pass Port
10	0.05	52.87	53.16	50.32	0.04
50	0.07	38.81	46.33	45.68	0.03
100	0.08	32.86	41.80	42.06	0.02
200	0.09	26.91	36.25	36.84	0.03
500	0.17	19.66	31.13	31.91	0.15
800	0.25	17.21	34.38	38.16	0.34
1280	0.78	16.95	22.95	25.61	1.35
1550	27.81	0.77	24.28	1.06	22.06
1700	15.58	0.63	23.15	0.74	18.42
2000	16.51	0.51	24.78	0.40	21.92
2300	19.76	0.51	20.75	0.19	25.15
2600	21.60	0.75	13.25	0.13	14.63
3000	24.04	1.67	7.24	0.16	7.99

Functional Schematic





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