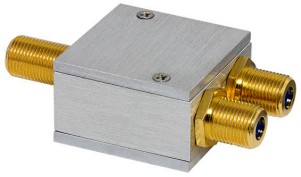
Coaxial

Diplexer

ZDPL-4254-75-F+

75Ω 5 to 1700 MHz
(5 - 42, 54-1700 MHz)



CASE STYLE: F2239

The Big Deal

- Low insertion loss, 1 dB typical
- High rejection
- High crossover isolation
- Excellent return loss
- 75Ω Impedance
- Used in DOCSIS 3.1 standard test systems with extended range

Product Overview

ZDPL-4254-75-F+ is a high performance diplexer with the lowpass port at 5-42 MHz and highpass port at 54-1700 MHz. Excellent return loss over extended frequency combined with high out of channel rejection makes it a ideal component in DOCSIS 3.1 test equipments, cable TV and multiband radio systems.

Key Features

Feature	Advantages
Low passband insertion loss	Passband insertion loss 1 dB typical ensures low signal loss through the both channels.
Excellent stopband rejection	Co-channel rejection of 50 dB typical ensures unwanted spurious are eliminated
Excellent return loss at 5-42 and 54-1700 MHz	This makes signal transmission with less reflections and well- matched with the adjacent component used in the system.

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Coaxial
Diplexer

ZDPL-4254-75-F+

75Ω 5 to 1700 MHz (5-42, 54-1700 MHz)

Maximum Ratings

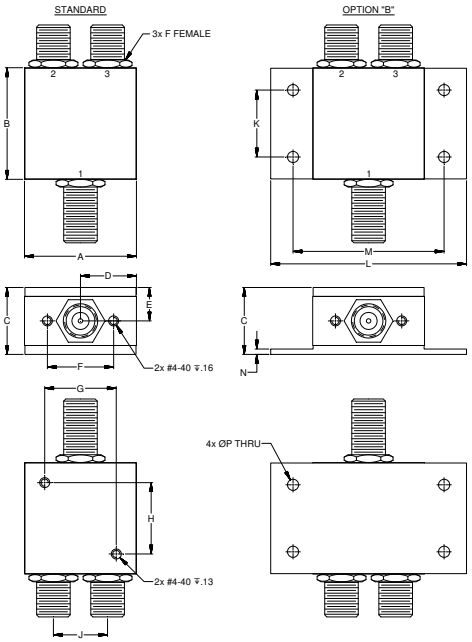
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	30 dBm Max.

Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

HIGH PASS PORT	3
LOW PASS PORT	2
COMMON PORT	1

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
1.25	**1.25**	**.75**	**.63**	**.38**	**.74**	**.80**	**.80**
31.75	31.75	19.05	15.88	9.53	18.80	20.32	20.32

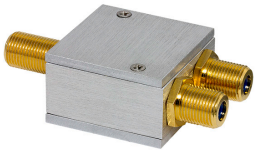
J	K	L	M	N	P	Wt.
.61	**.75**	**2.19**	**1.69**	**.06**	**.125**	grams
15.37	19.05	55.58	42.88	1.52	3.18	85

Features

- Low insertion loss
- Excellent return loss
- High rejection
- High cross over isolation
- 75Ω impedance

Applications

- Cable TV and Multiband radio systems
- DOCSIS 3.1 test system with extended range



CASE STYLE: F2239

Connectors	Model
F-Female	ZDPL-4254-75-F+
BRACKET (OPTION "B")	

+RoHS Compliant

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

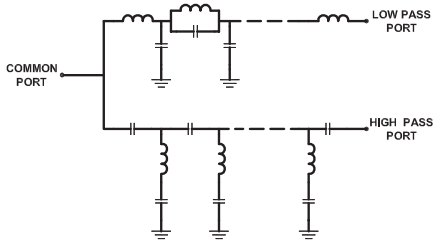
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	5-42	-	1.0	1.5	dB
		High Pass	54-1220	-	1.0	1.5	
			1220-1400	-	1.2	1.8	
			1400-1700	-	1.8	2.3	
	Return Loss	Low Pass	5-42	20	24	-	dB
		High Pass	54-1220	17	22	-	
			1220-1400	17	22	-	
			1400-1700	16	20	-	
		Common	5-42	20	24	-	
			54-1220	17	22	-	
			1220-1400	17	22	-	
			1400-1700	16	20	-	
Stop Band	Isolation	Low Pass	54-1220	50	55	-	dB
			1220-1700	45	50	-	
		High Pass	5-42	44	50	-	
Cross Over Isolation		LP-HP	42-54	35	40	-	dB

Typical Performance Data at 25°C

FREQUENCY (MHz)	INSERTION LOSS (dB)		ISOLATION (dB)	RETURN LOSS (dB)		
	Low Pass Port	High Pass Port	LP-HP Port	Common Port	Low Pass Port	High Pass Port
1	0.02	76.62	78.13	46.55	45.94	0.00
5	0.06	62.80	62.30	36.04	36.98	0.00
20	0.16	65.98	67.23	27.72	28.12	0.05
42	0.87	50.97	51.65	44.21	31.32	0.57
45	4.13	41.64	44.56	7.19	6.08	1.01
46	7.05	33.73	42.73	4.55	3.40	1.13
46	8.32	31.15	42.24	3.97	2.82	1.19
47	12.86	24.24	41.60	2.89	1.71	1.37
47	14.57	22.18	41.54	2.70	1.50	1.45
48	22.29	15.02	41.80	2.47	1.01	1.91
48	29.20	10.65	42.86	2.82	0.84	2.57
49	37.40	7.19	44.78	3.77	0.73	3.72
50	50.93	3.57	50.24	6.99	0.62	7.13
52	65.91	1.36	66.46	18.43	0.51	18.16
54	65.00	0.91	64.95	40.05	0.44	32.12
100	68.16	0.30	67.83	34.57	0.34	37.18
250	67.14	0.30	67.56	30.29	0.26	34.61
500	68.71	0.39	68.50	24.57	0.31	24.92
1000	70.40	0.60	69.08	22.67	0.43	21.27
1220	72.19	0.75	69.09	23.66	0.54	22.66
1400	69.12	0.91	65.77	23.27	0.62	23.69
1700	53.10	1.65	53.87	23.02	1.21	36.13

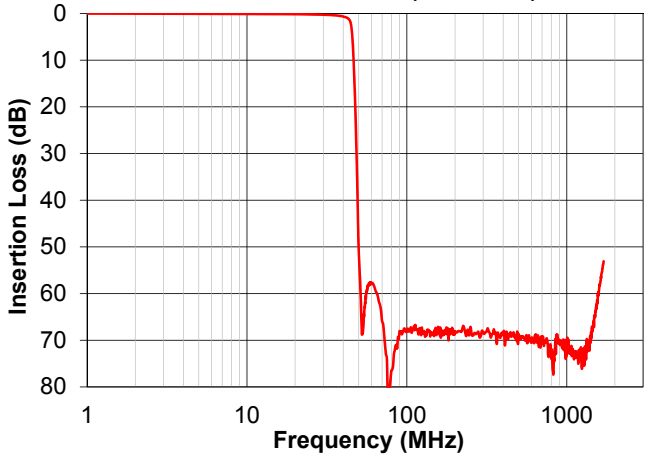
Functional Schematic



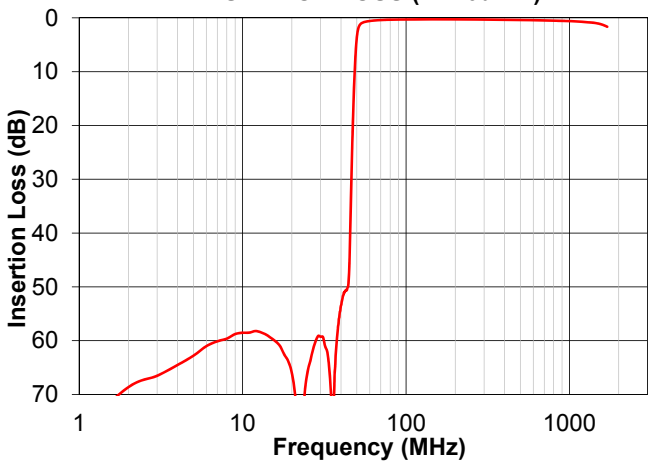
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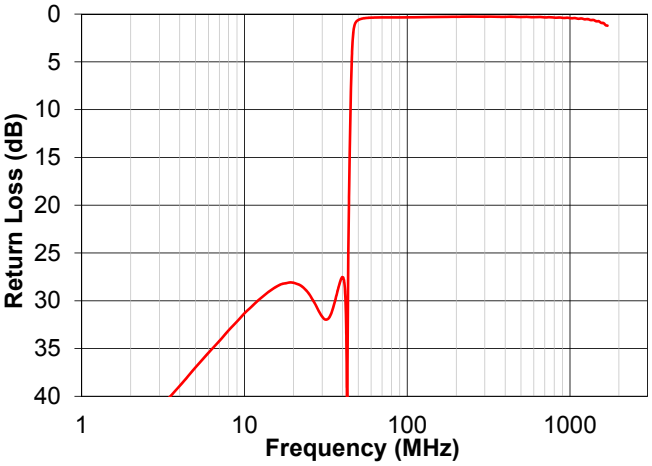
ZDPL-4254-75-F+ LOW PASS PORT
INSERTION LOSS (P_{in}=0dBm)



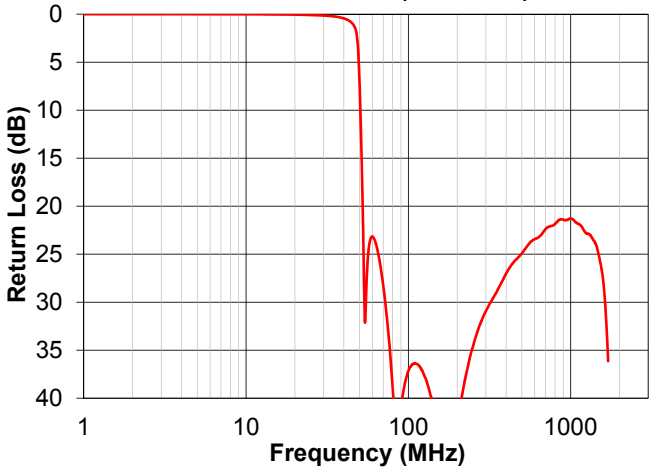
ZDPL-4254-75-F+ HIGH PASS PORT
INSERTION LOSS (P_{in}=0dBm)



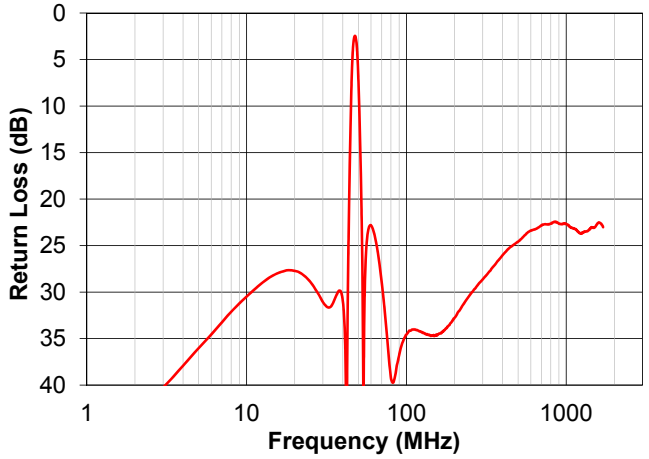
ZDPL-4254-75-F+ LOW PASS PORT
RETURN LOSS (P_{in}=0dBm)



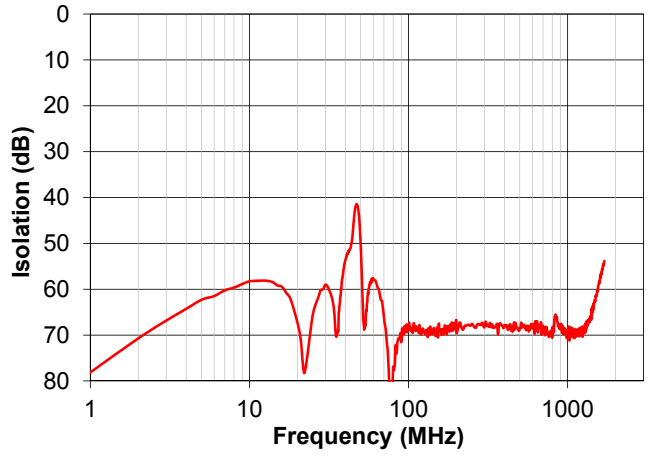
ZDPL-4254-75-F+ HIGH PASS PORT
RETURN LOSS (P_{in}=0dBm)



ZDPL-4254-75-F+ COMMON PORT
RETURN LOSS (P_{in}=0dBm)



ZDPL-4254-75-F+ CROSS OVER
ISOLATION (P_{in}=0dBm)



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