Surface Mount

Triplexer

TPLX-F2700+

50Ω (1-2700 MHz)
(1 - 512, 608-1000, 1400-2700 MHz)

CASE STYLE: HP1156

The Big Deal

- Low insertion loss
- 50Ω Impedance
- Miniature shielded package

Product Overview

TPLX-F2700+ is a high performance 50Ω triplexer with the lowpass channel-1 at 1-512 MHz, bandpass channel-2 at 608-1000 MHz and highpass channel-3 at 1400-2700 MHz. The channels are well isolated to minimize inter-channel interference and have minimal insertion loss through their respective bands. The triplexer is built in a shielded package, this triplexer finds its application in telecommunication and broadband.

Key Features

Feature	Advantages
Low passband insertion loss, 1 dB typical at lowpass and Band pass channel, 0.8 dB typical at the High pass channel	Very low insertion loss ensures less signal loss through all the channels.
Good co-channel rejection	Rejection of 20-30 dB ensures sufficient isolation between the channels
Miniature shielded package	Triplexer is designed into a surface mount package

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Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1 W

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

Pin Connections

COMMON PORT	2
CHANNEL-1	11
CHANNEL-2	9
CHANNEL-3	18
GROUND	1,3,4,5,6,7,8,10,12,13,14,15,16,17

Features

- Low insertion loss
- 50Ω Impedance
- Miniature shielded package

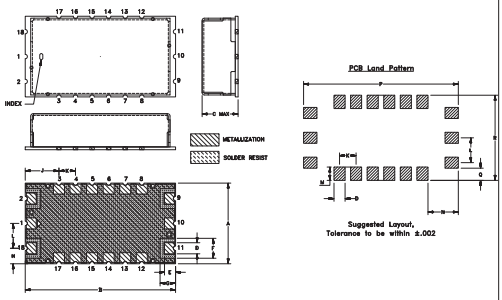
Applications

- Telecommunications and Broadband

+RoHS Compliant

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

Outline Drawing

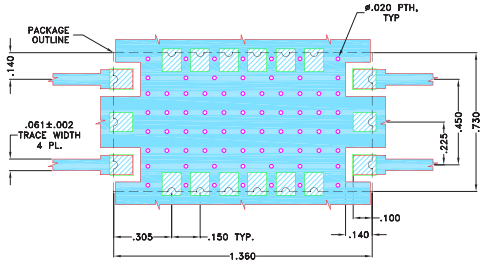


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.730	1.360	.350	.100	.100	.180	.140	.140	.305
18.54	34.54	8.89	2.54	2.54	4.57	3.56	3.56	7.75

K	L	M	N	P	Q	R		Wt.
.150	.225	.120	.275	1.400	.110	.770		grams
3.81	5.72	3.05	6.99	35.56	2.79	19.56		6.0

Demo Board MCL P/N: TB-695+
Suggested PCB Layout (PL-418)



NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK-602, WITH DIELECTRIC THICKNESS .022"±.0015", COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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 SOLDERMASK

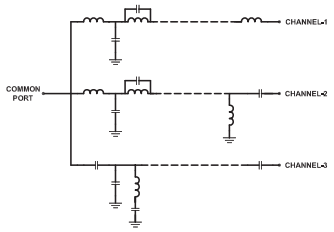
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass, Channel - 1	1-512	-	1.0	1.8	dB
		Band Pass, Channel - 2	608-1000	-	1.0	1.8	
		High Pass, Channel - 3	1400-2700	-	0.8	1.6	
	Return Loss	Low Pass, Channel - 1	1-512	9	14	-	dB
		Band Pass, Channel - 2	608-1000	8	13	-	
		High Pass, Channel - 3	1400-2700	9	14	-	
		Common	1-512	9	14	-	
			608-1000	8	13	-	
			1400-2700	9	14	-	
Stop Band Isolation		Low Pass, Channel - 1	608-2700	20	24	-	dB
		Band Pass, Channel - 2	1-512	15	20	-	
			1400-2700	20	27	-	
		High Pass, Channel - 3	1-512	25	31	-	
			608-1000	18	23	-	

Typical Performance Data at 25°C

FREQ. (MHz)	INSERTION LOSS (dB)				RETURN LOSS (dB)		
	Low Pass Chanel -1	Band Pass Chanel -2	High Pass Chanel -3	Common	Low Pass Chanel -1	Band Pass Chanel -2	High Pass Chanel -3
1.00	0.04	72.13	81.69	45.65	46.45	0.01	0.01
30.00	0.09	42.67	52.49	30.42	30.28	0.01	0.01
160.00	0.24	30.29	37.81	21.10	20.71	0.22	0.04
380.00	0.49	26.72	33.92	21.94	20.13	0.86	0.13
512.00	1.10	26.66	34.68	16.09	15.06	1.37	0.21
530.00	2.70	10.04	32.58	8.60	7.27	2.84	0.22
535.00	3.53	7.96	31.96	7.67	6.10	3.77	0.22
590.00	18.27	1.20	35.35	15.16	1.43	18.73	0.26
605.00	30.52	0.90	35.96	18.25	0.84	21.93	0.27
608.00	33.62	0.88	36.07	18.45	0.79	21.95	0.27
800.00	44.42	0.87	33.37	15.07	0.31	14.80	0.47
1000.00	42.80	1.11	27.30	13.74	0.25	15.34	1.29
1040.00	42.53	1.32	39.86	11.44	0.25	12.79	1.70
1100.00	42.91	2.19	12.54	8.66	0.25	8.77	2.42
1160.00	44.66	4.29	5.53	8.11	0.26	5.73	3.77
1300.00	49.10	9.53	1.68	14.05	0.27	9.69	14.72
1400.00	62.01	26.24	0.55	20.89	0.29	1.92	20.70
1800.00	63.41	36.60	0.57	15.05	0.36	2.10	14.48
2200.00	66.50	82.36	0.48	21.29	0.41	0.64	19.50
2700.00	48.89	51.42	0.80	13.07	0.46	0.55	12.97

Functional Schematic



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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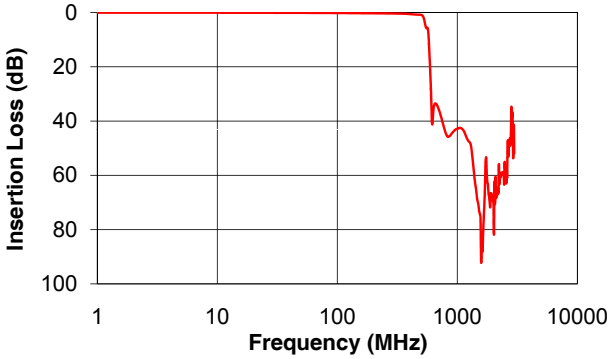
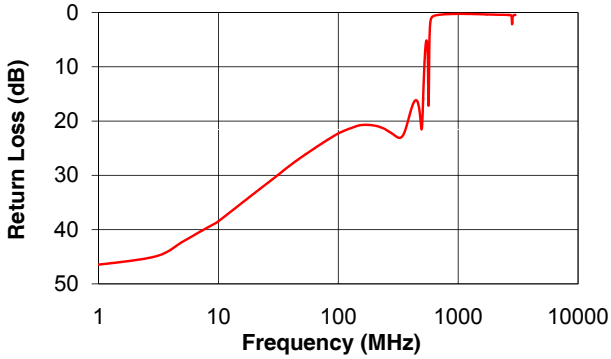
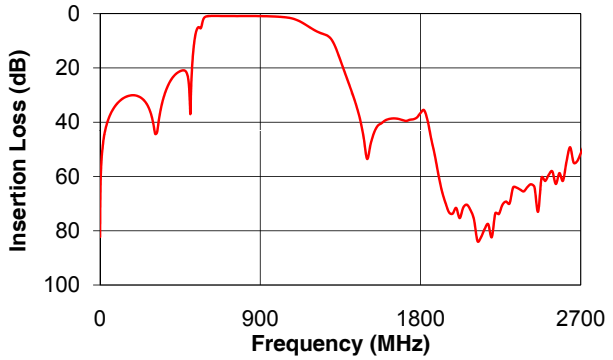
TPLX-F2700+ LOW PASS PORT
INSERTION LOSS (P_{in}=0dBm)



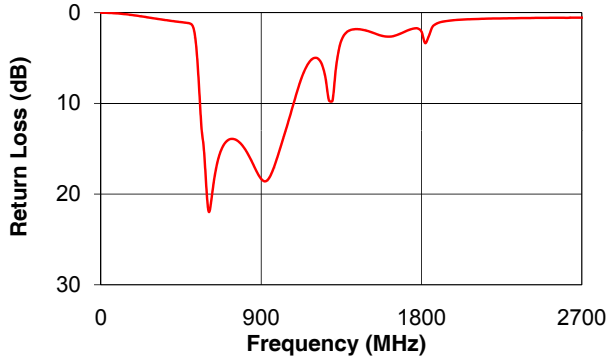
TPLX-F2700+ LOW PASS PORT
RETURN LOSS (P_{in}=0dBm)



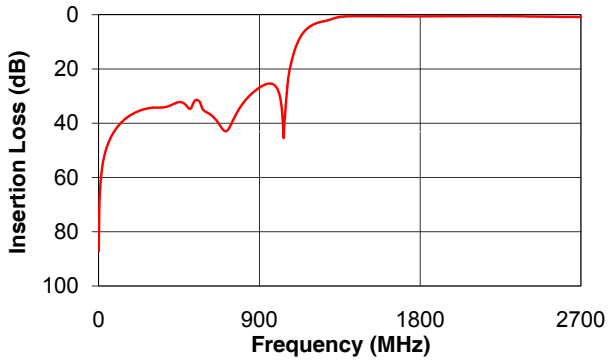
TPLX-F2700+ BAND PASS PORT
INSERTION LOSS (P_{in}=0dBm)



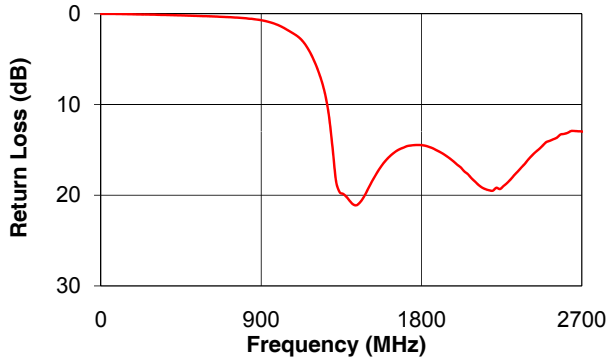
TPLX-F2700+ BAND PASS PORT
RETURN LOSS (P_{in}=0dBm)

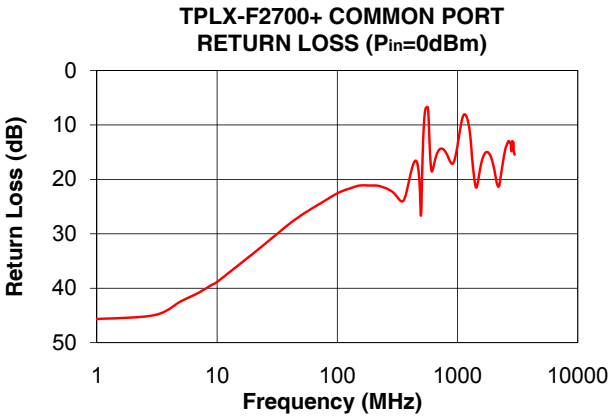


TPLX-F2700+ HIGH PASS PORT
INSERTION LOSS (P_{in}=0dBm)



TPLX-F2700+ HIGH PASS PORT
RETURN LOSS (P_{in}=0dBm)





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