

Triplexer

TPLX-E2485+

50 Ω (1-2485 MHz)
(1 - 460, 610-1150, 1435-2485 MHz)



CASE STYLE: HR1843

The Big Deal

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

Product Overview

TPLX-E2485+ is a high performance 50 Ω triplexer with the lowpass channel-1 at 1-460 MHz, bandpass channel-2 at 610-1150 MHz and highpass channel-3 at 1435-2485 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 satellite communications.

Key Features

Feature	Advantages
Low passband insertion loss, 0.9 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 20-50 dB ensures sufficient isolation between the channels
Miniature shielded package	Triplexer is designed into a surface mount package

Notes

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Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	2 W
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

COMMON PORT	16
CHANNEL-1	10
CHANNEL-2	6
CHANNEL-3	20
GROUND	1,2,3,4,5,7,8,9,11,12,13,14,15,17,18,19

Features

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

Applications

- Military
- Satellite communication

+RoHS Compliant

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

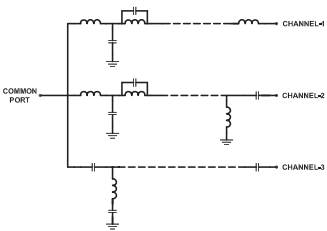
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass, Channel - 1	1-460	-	0.9	1.7	dB
		Band Pass, Channel - 2	610-1150	-	0.9	1.8	
		High Pass, Channel - 3	1435-2485	-	0.8	1.7	
	Return Loss	Low Pass, Channel - 1	1-460	10	16	-	dB
		Band Pass, Channel - 2	610-1150	9	13	-	
		High Pass, Channel - 3	1435-2485	8	11	-	
		Common	1-460	10	16	-	
			610-1150	9	13	-	
			1435-2485	8	11	-	
Stop Band Isolation	Low Pass, Channel - 1	610-1150	30	38	-	dB	
		1435-2485	25	26	-		
	Band Pass, Channel - 2	1-460	20	29	-		
		1435-2485	20	54	-		
	High Pass, Channel - 3	1-460	45	37	-		
		610-1150	30	34	-		

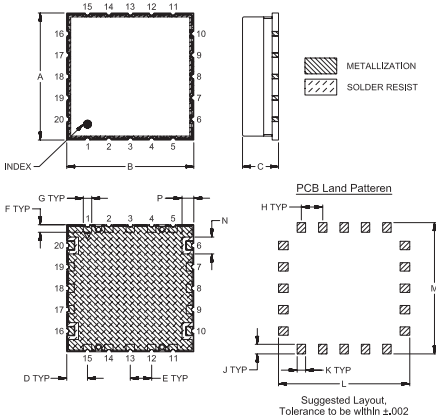
Typical Performance Data at 25°C

FREQ. (MHz)	INSERTION LOSS (dB)				RETURN LOSS (dB)		
	Low Pass Channel -1	Band Pass Channel -2	High Pass Channel -3	Common	Low Pass Channel -1	Band Pass Channel -2	High Pass Channel -3
1.00	0.09	81.12	97.78	47.10	45.95	0.05	0.05
15.00	0.11	58.07	101.23	30.55	30.59	0.04	0.05
60.00	0.20	46.11	101.17	20.12	19.96	0.04	0.04
460.00	0.82	32.61	55.01	26.30	33.46	0.22	0.09
500.00	2.82	14.63	53.85	6.64	7.05	0.58	0.11
505.00	3.66	12.76	52.69	5.35	5.64	0.72	0.11
540.00	19.99	4.53	46.44	3.17	1.25	2.97	0.12
580.00	30.78	1.04	48.10	12.03	0.72	11.44	0.14
610.00	41.74	0.58	48.68	31.55	0.57	27.36	0.15
620.00	46.93	0.57	48.14	21.69	0.54	22.60	0.16
1100.00	57.84	0.72	42.77	20.77	0.12	19.07	0.82
1150.00	58.17	0.92	41.86	15.53	0.11	15.14	0.98
1250.00	54.55	1.39	18.41	31.72	0.11	24.62	1.24
1435.00	53.28	33.81	0.76	15.91	0.16	0.55	16.38
1560.00	40.20	38.41	0.51	19.78	7.52	0.41	19.13
1800.00	58.37	41.59	0.42	18.23	0.15	0.36	18.94
1950.00	38.86	45.94	0.51	14.19	0.92	0.41	14.44
2100.00	59.70	47.21	0.53	13.52	0.16	0.43	13.50
2350.00	50.97	43.23	0.43	15.86	0.16	0.48	15.05
2485.00	46.91	41.99	0.42	16.55	0.16	0.56	15.14

Functional Schematic



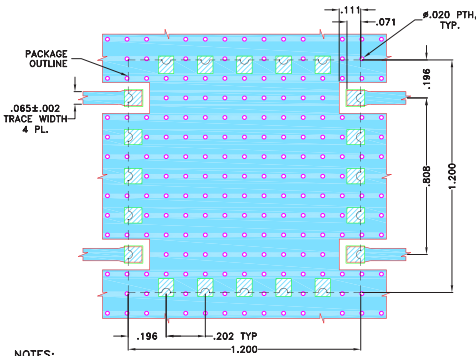
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H
1.200	1.200	.370	.196	.202	.071	.079	.202
30.48	30.48	9.40	4.98	5.13	1.80	2.01	5.13
J	K	L	M	N	P	WT. GRAMS	
.091	.079	1.240	.159	.111		8	
2.31	2.01	31.50	31.50	4.04	2.82		

Demo Board MCL P/N: TB-767+ Suggested PCB Layout (PL-409)



- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .030"±.002", 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

Notes

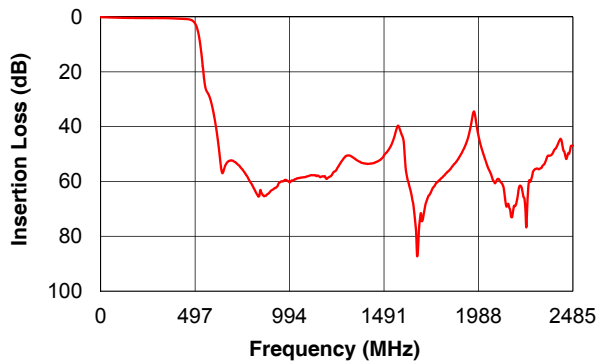
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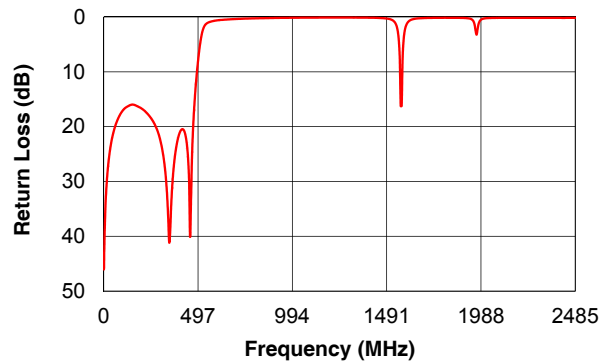
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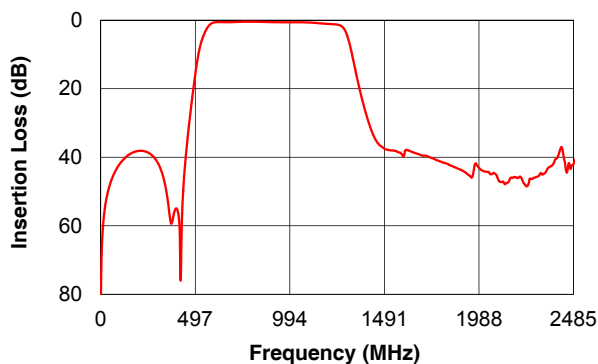
**TPLX-E2485+ LOW PASS PORT
INSERTION LOSS ($P_{in}=0dBm$)**



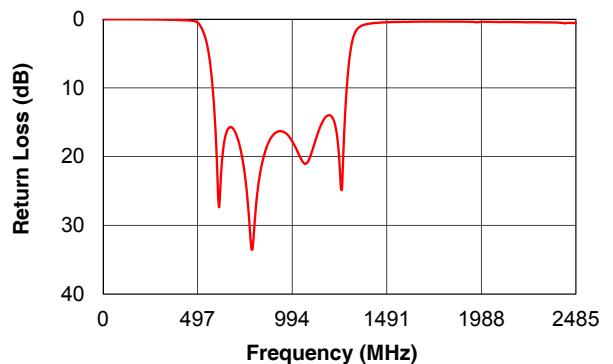
**TPLX-E2485+ LOW PASS PORT
RETURN LOSS ($P_{in}=0dBm$)**



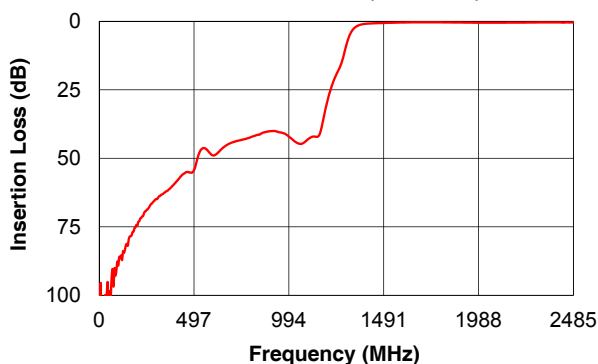
**TPLX-E2485+ BAND PASS PORT
INSERTION LOSS ($P_{in}=0dBm$)**



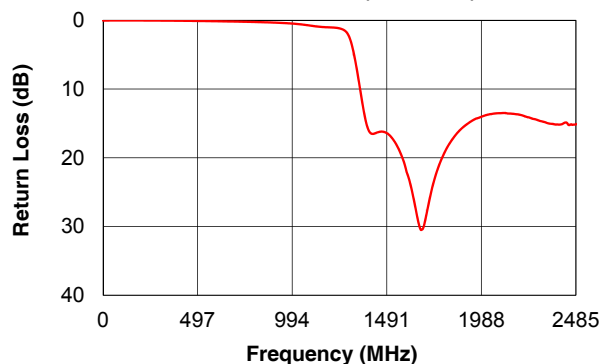
**TPLX-E2485+ BAND PASS PORT
RETURN LOSS ($P_{in}=0dBm$)**



**TPLX-E2485+ HIGH PASS PORT
INSERTION LOSS ($P_{in}=0dBm$)**



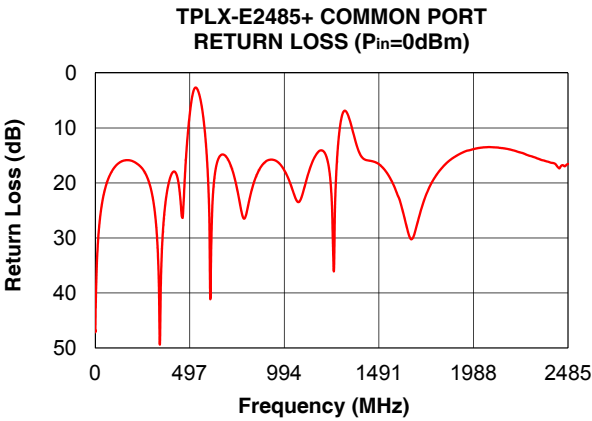
**TPLX-E2485+ HIGH PASS PORT
RETURN LOSS ($P_{in}=0dBm$)**



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