

# Precision Low-Loss Multiplexers

DATA SHEET / 4T-012



# Low-Loss Coaxial Multiplexers



## What Are Multiplexers?

With regards to microwave and RF networks, multiplexers are multi-port frequency-selective combiners/splitters built from a series of filters to combine/split carrier signals at multiple frequencies while providing a high degree of isolation between ports.

Multiplexers are an effective solution for combining signals at different frequencies onto a common transmission line without the resistive losses found in traditional wideband combiners/splitters. Multiplexers can be created from a number of different filters, including low-pass, bandpass and high-pass, depending on the nature of the multiplexer.

Diplexers are typically created from low-pass and high-pass filters, whereas triplexers often have low-pass, bandpass and high-pass networks. Some multiplexers allow the passing of DC bias between the low-band and common ports, while others using only bandpass filters may block bias. Insertion loss between the frequency-selective and common ports may vary depending on the technology used to build multiplexers, as does power handling capability.

## DP-Series and TP-Series Overview

Maury's line of diplexers (DP-series) and triplexers (TP-series) are designed for applications which require combining/splitting signals at or around harmonic frequencies ( $nF_o$ ) and are connectorized for design-in and test and measurement applications.

DP-series diplexers are designed using low-pass and high-pass filters and pass bias between the low-frequency (or  $F_o$ ) port and the common (or DUT) port. TP-series triplexers are designed using low-pass, bandpass and high-pass filters and pass bias between the low-frequency (or  $F_o$ ) port and the common (or DUT) port.

*Typical S-parameter data can be downloaded at [maurymw.com](http://maurymw.com).*

## Available Models (DP Series Diplexers)

Model	Frequency Range (GHz)		Typical Insertion Loss @ $F_{min}$ (dB)		Typical Insertion Loss @ $F_{max}$ (dB)		Power Rating In Fundamental Band	Connectors		
	$F_o$	$2F_o$	$F_o$	$2F_o$	$F_o$	$2F_o$		$F_o$ Input	$F_o$ Output	$2F_o$ Output
DP-06810	0.68 - 1.0	1.36 - 2.0	0.5	1.1	0.6	0.6	100 W CW	SMA female		
DP-1220	1.20 - 2.0	2.40 - 4.0	0.4	1.5	0.7	0.9	100 W CW	SMA female		
DP-1823	1.80 - 2.30	3.60 - 4.60	0.4	1.3	0.6	1.1	100 W CW	SMA female		
DP-2232	2.20 - 3.20	4.40 - 6.40	0.4	1.4	0.8	0.7	100 W CW	SMA female		
DP-2942	2.90 - 4.20	5.80 - 8.40	0.8	1.4	0.9	1.5	100 W CW	SMA female		
DP-3957	3.90 - 5.70	7.80 - 11.40	0.4	1.4	0.7	1.3	100 W CW	SMA female		
DP-5070	5.0 - 7.0	10.0 - 14.0	0.5	1.0	0.5	1.3	50 W CW	2.92mm female		
DP-7090	7.0 - 9.0	14.0 - 18.0	0.5	1.0	0.5	1.3	50 W CW	2.92mm female		
DP-8010	8.0 - 10.0	16.0 - 20.0	0.6	1.0	0.6	1.3	40 W CW	2.92mm female		
DP-1015	10.0 - 15.0	20.0 - 30.0	0.9	1.0	0.9	1.0	20 W CW	2.92mm female		
DP-1520	15.0 - 20.0	30.0 - 40.0	0.9	1.0	0.9	1.0	20 W CW	2.92mm female		

## Available Models (TP Series Triplexers)

Model	Frequency Range (GHz)			Typical Insertion Loss @ $F_{min}$ (dB)			Typical Insertion Loss @ $F_{max}$ (dB)			Power Rating In Fundamental Band	Connectors			
	$F_o$	$2F_o$	$3F_o$	$F_o$	$2F_o$	$3F_o$	$F_o$	$2F_o$	$3F_o$		$F_o$ Input	$F_o$ Output	$2F_o$ Output	$3F_o$ Output
TP-08710	0.87 - 1.0	1.74 - 2.0	2.61 - 3.00	0.8	1.1	1.4	0.8	0.8	1.2	100 W CW	SMA female			
TP-1822	1.80 - 2.20	3.60 - 4.40	5.40 - 6.60	0.4	1.4	1.5	0.5	1.8	1.3	100 W CW	SMA female			
TP-2226	2.20 - 2.65	4.40 - 5.30	6.60 - 7.95	0.3	1.7	1.8	0.4	1.7	1.4	100 W CW	SMA female			
TP-2631	2.60 - 3.10	5.20 - 6.20	7.80 - 9.30	0.8	1.3	1.9	0.9	1.8	1.9	100 W CW	SMA female			
TP-3040	3.0 - 4.0	6.0 - 8.0	9.0 - 12.0	0.5	1.0	1.0	0.6	1.3	1.3	50 W CW	2.92mm female			
TP-4050	4.0 - 5.0	8.0 - 10.0	12.0 - 15.0	0.5	1.0	1.0	0.6	1.3	1.3	50 W CW	2.92mm female			
TP-5060	5.0 - 6.0	10.0 - 12.0	15.0 - 18.0	0.5	1.0	1.0	0.8	1.3	1.3	20 W CW	2.92mm female			

VISIT OUR WEB STORE  
TO LEARN MORE ABOUT  
OUR PRODUCTS



www.maurymw.com



**CONTACT US:**

W / [maurymw.com](http://maurymw.com)  
E / [maury@maurymw.com](mailto:maury@maurymw.com)  
P / +1-909-987-4715  
F / +1-909-987-1112  
2900 Inland Empire Blvd  
Ontario, CA 91764

