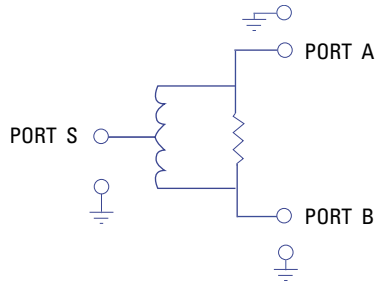

Six, 2-way 0° 10 MHz - 1 GHz Power Splitters/Combiners

Features

SMP6905 Six, 2-way 10 MHz to 1 GHz Power Splitters/Combiners

- Six Power Splitters/combiners in a Small Footprint
- 10 MHz to 1GHz Bandwidth
- Low Insertion Loss
- Different Configurations and Frequencies Available
- Combine with Other SMP Modules within a Double-slot VXI Card to Expand Switch Solutions

Overview

The SMP6905 contains six 2-way 0 ° power splitters/combiners. Each splitter/combiner has a wide bandwidth of 10 MHz to 1 GHz, a matched power rating of 1 W, and worst case VSWRs of 1.3:1.

The SMP6905 is a double-wide SMP module, and is designed to be mixed and matched with other SMIP*II*™ cards within an SMP1200 base unit. This level of modularity in configuration provides for very powerful RF signal switching configurations.

0° Splitters/Combiners

A 0 ° power splitter is a passive device which accepts an input signal and delivers multiple output signals with specific phase and amplitude characteristics. The output signals theoretically possess the following characteristics:

- Equal amplitude
- 0 ° phase relationship between any two output signals
- High isolation between each output signal
- Theoretical insertion loss of 3.0 dB

Since the 0 ° power splitter is a reciprocal passive device, it may be used as a power combiner simply by applying each signal singularly into each of the splitter output ports. The vector sum of the signals will appear as a single output at the splitter input port.

The following signal processing functions can be accomplished by power splitters/combiners:

1. Add or subtract signals as vectors.
2. Obtain multi in-phase output signals proportional to the level of a common input signal.
3. Split an input signal into multi-outputs.
4. Combine signals from different sources to obtain a single port output.
5. Provide capability to obtain RF logic arrangements.

For different configurations or bandwidths, please consult the factory.

Specifications

Frequency (MHz)	Isolation (dB) (above 3 dB)	Insertion Loss (dB) (Degrees)	Phase Unbalance	Amplitude Unbalance (dB)
10 to 100	30 Typ 20 max	0.2 Typ 0.5 max.	2 max.	0.15 max.
100 to 500	25 Typ 30 max.	0.5 Typ 1.0 max.	4 max.	0.15 max.
500 to 1000	23 Typ 18 max.	0.9 Typ 1.2 max.	4 max.	0.30 max.