

FILTERED POWER DIVIDERS

CUSTOMIZED FOR SPECIFIC APPLICATIONS

PSX SERIES

FEATURES

- Utilizes "Ferriteless" Printed Circuit Lumped Component Design
- Available in Fixed Frequencies from 5-300 MHz
- Reactive Filtering Characteristics Provide Out of Band Rejection
- High Power Capability to 100W Possible
- Extremely Consistent Phase Linearity and Group Delay Over Frequency and Temperature
- Eliminates Intermodulation Problems Common to Ferrite Toroidal Construction
- Simple 2-Way or Complex Multiport Layouts (Odd or Even Numbered Ports)



OVERVIEW:

The PSX series dividers use printed circuit lumped component technology that provides a significant level of filtering because they are by nature reactive and narrow in bandwidth. Out of band rejection can be as great as 30dB in some models, which often eliminates the need to provide external filtering. Traditional ferrite core dividers are broadband in nature, and allow most frequencies, in or out of band, to pass without attenuation.

The dividers are particularly useful when designing PLO synthesizer references, Rubidium clock applications and as reference splitters for systems synchronization.

Power dividers have been fabricated with power handling capability of 1 WCW, and the lumped component technology allows up to 100 WCW power handling capability theoretically; nearly an order of magnitude greater than that of toroidal types.

The phase linearity and group delay of these filtered dividers are very consistent with frequency and temperature, and repeatable from port to port and unit to unit. Toroidal designs with the same performance requirements

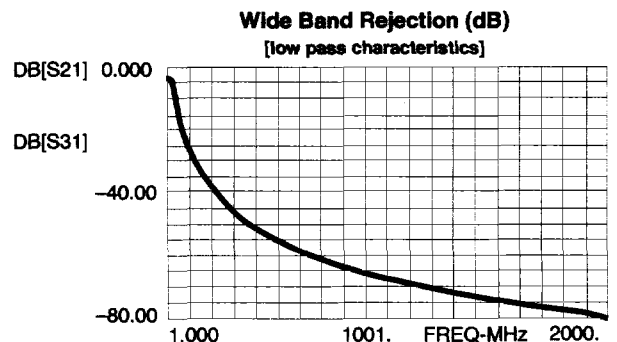
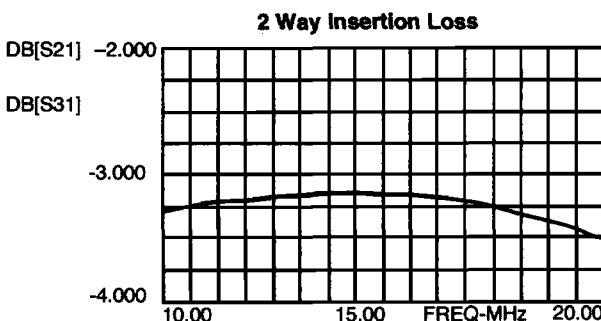
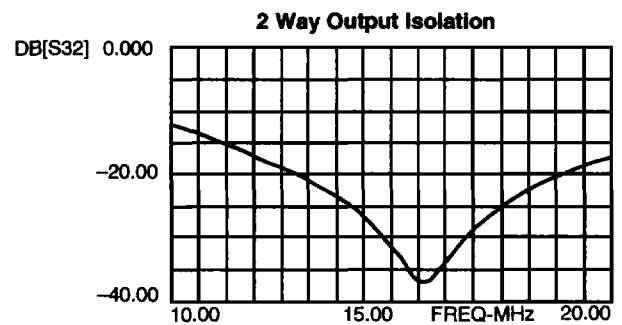
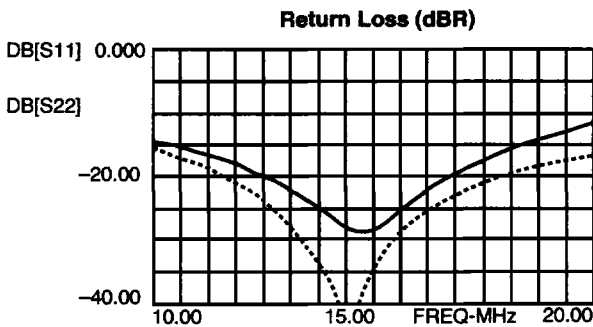
demonstrate wide variations in insertion phase and group time delay. This is because ferrite cores are rather unpredictable in behavior due to natural variation in hand wired component construction. In addition, ferrite toroidal power dividers have an inherent power handling limit that when exceeded, results in unwanted intermodulation distortion products. The PSX series dividers eliminate all of these shortcomings.

All models in the PSX series use linear, high power components, including printed resistors, microstrip inductors and high voltage capacitors. All units are designed to operate at a fixed frequency, with a very narrow bandwidth, and are specified to meet the needs of each individual application.

A complete array of power divider configurations are eligible for manufacture using this design approach. An unlimited combination of inputs and out-puts, odd or even numbered or multiport, are conceivable. Dividers are typically supplied with SMA or SMB connectors, but other options are available.

Typical performance for a 15 MHz 2-way is illustrated in the following graphs. Actual measured data is shown in Table 1.

Typical Performance Characteristics for 2Way 15MHz Device



KDI130054

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TYPICAL PERFORMANCE EXAMPLES TABLE 1

MODEL	DESC.	fc ±0.75 MHz	*IL (dB)	Isol (dB)	Conn
PSX-1x2-15	1x2	15	3.02	25	SMB
PSX-2x4-15	2x4	15	1.8	20	SMA
PSX-1x3-15	1x3	15	12.2	25	SMB
PSX-1x6-15	1x6	15	8.9	20	SMB
PSX-2x39-15	2x39	15	(TBD)		SMB
PSX-2x6-15T	2x6	15	11.5	25	TNC

*Path Loss

ORDERING INFORMATION:

As each divider will be specific to a given application, please provide a description of your requirements, including fc, divider configuration (schematic for multiport applications), power and connector type. Please advise of any specifications that are critical to your successful systems design and, conversely, any specifications that are unimportant and can be relaxed for cost savings. Note that set-up charges may be required in some instances.

