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Product Catalog - PC2007

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2-Way, 0.7-2.7 GHz, 40 Watts

N and SMA-Jack Connectors

Four power divider-combiner models from $39.99.

(qty 10)

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Table of Contents

2-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

In-Line, N-Jack Connectors

T-Style, N-Jack Connectors

In-Line, SMA-Jack Connectors

T-Style, SMA-Jack Connectors

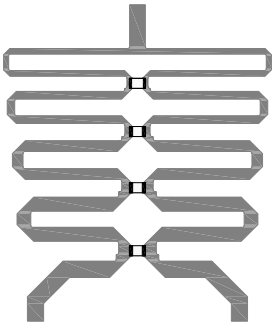
Application Note

STOCK 2-Way Power Divider, Power Combiners are available in two configurations, In-Line and T-Style, each offered with N-Jack and SMA-Jack connectors. All four models are optimized for broadband operation covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, 2-way, power divider/combiners are reciprocal units that can be used to divide or combine signals with equal facility.

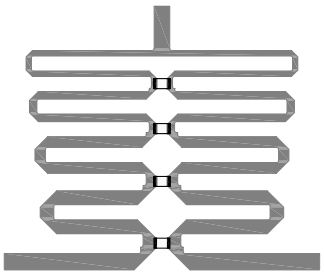
In power divider applications, the input signal is equally split into two output signals, each down 3 dB from the incident due to the 2 x 1/2 power division. No power is actually lost from this power split; it is just allocated into two amplitude and phase matched signals, thus a so-called 3 dB insertion loss. True insertion loss of less than 0.4 dB max will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit. The output signals are isolated from each other by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

Model Number	Configuration	Connectors
PD1020	In-Line	N-Jack
PD3020	T-Style	N-Jack
PD1120	In-Line	SMA-Jack
PD3120	T-Style	SMA-Jack

The situation with power combining is a bit more complex. While it is possible to sum two input signals with no loss, this can only be accomplished if the input signals are coherent and identical in phase and amplitude. Such a case would be the splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of two non-coherent signals will result in a minimum 3 dB loss (1/2 power ratio) plus the true insertion loss of the power combiner (0.4 dB max @2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all input power is dissipated. Because the combining loss is dissipated through the isolation resistors, it is the power handling capability of these resistors that ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



2-Way, In-Line, Power Divider Circuit



2-Way, T-Style, Power Divider Circuit

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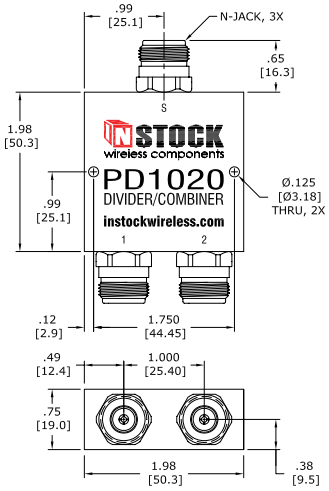
2-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

N-Jack Connectors

optimum broadband performance

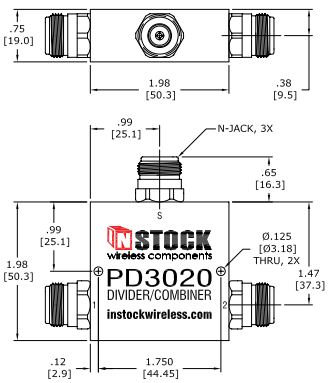
PD**1020** is a broadband 2-way power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7-2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner scenarios. See input power rating tables …



N-Jack/T-Style

T-Style convenient cable access

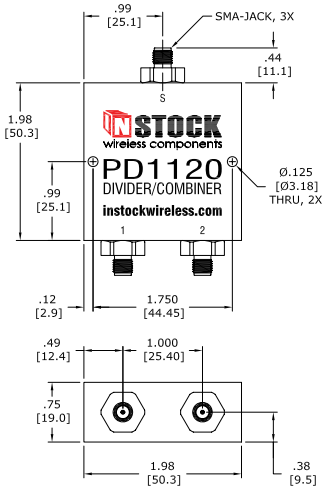
PD**3020**'s T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined brass N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance …



SMA-Jack Connectors

precision microstrip circuit

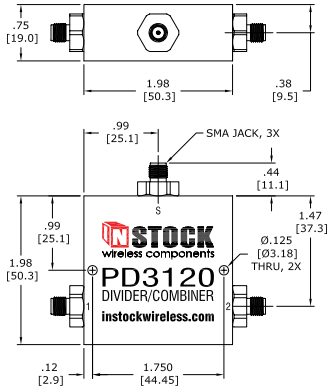
PD**1120** is a broadband 2-way power divider, power combiner furnished with SMA-Jack connectors. The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss, 22 dB min isolation, 1.25:1 max input …



SMA-Jack/T-Style

T-Style with SMA-Jack connectors

PD**3120**'s T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC-machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE …



Model No.	Connectors	Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD1020	N-Jack	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20:1 max	1.15:1 max
PD3020	N-Jack/T-Style	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25:1 max	1.15:1 max
PD1120	SMA-Jack	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25:1 max	1.15:1 max
PD3120	SMA-Jack/T-Style	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20:1 max	1.15:1 max

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PD1020 - Power Divider/Combiner

2-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

designed for optimum broadband performance

Overview

PD1020 is a broadband, 2-way, power divider/power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.20:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low-contact resistance. Virgin electrical grade PTFE support insulators captivate the contact pins enabling trouble-free connector mating. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 154 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1020 power divider/power combiner is covered by a **two-year warranty**.

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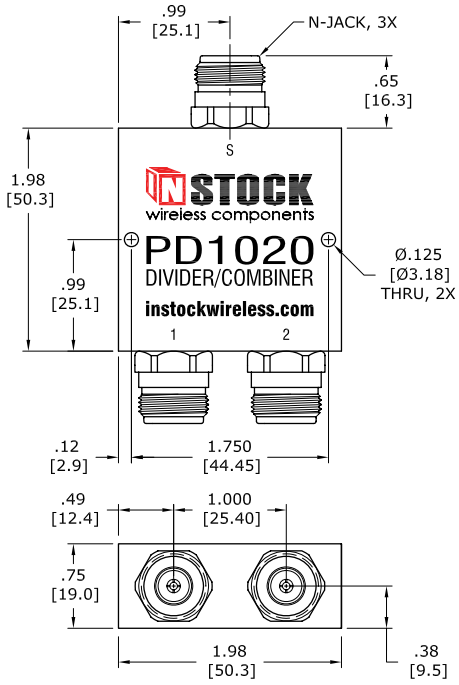
PD1020 - Power Divider/Combiner

2-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

In-Line, N-Jack Connectors

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

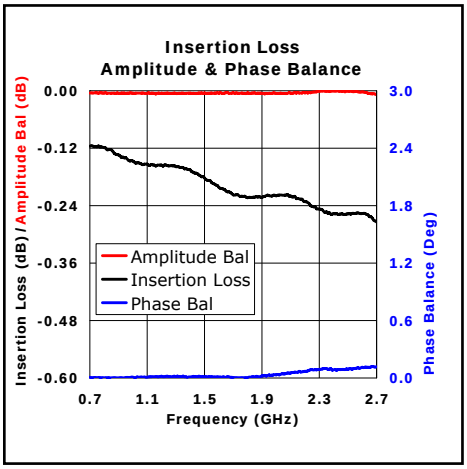


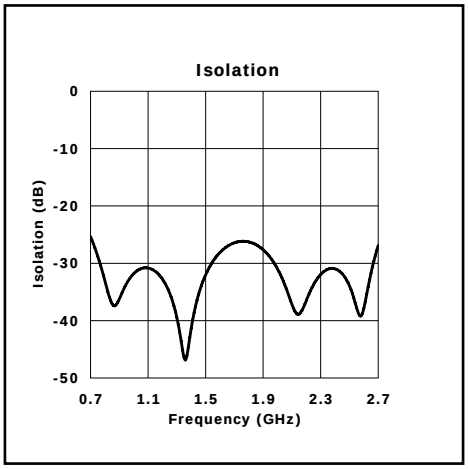
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

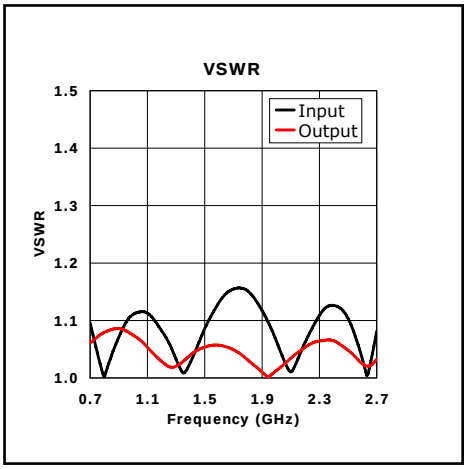
Mechanical Specifications

Connectors ..... N-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 154 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20 : 1 max	1.15 : 1 max







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PD3020 - Power Divider/Combiner

2-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3020 is a broadband, 2-way, power divider/power combiner furnished with N-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.25:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3020's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 151 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3020 power divider/power combiner is covered by a **two-year warranty**.

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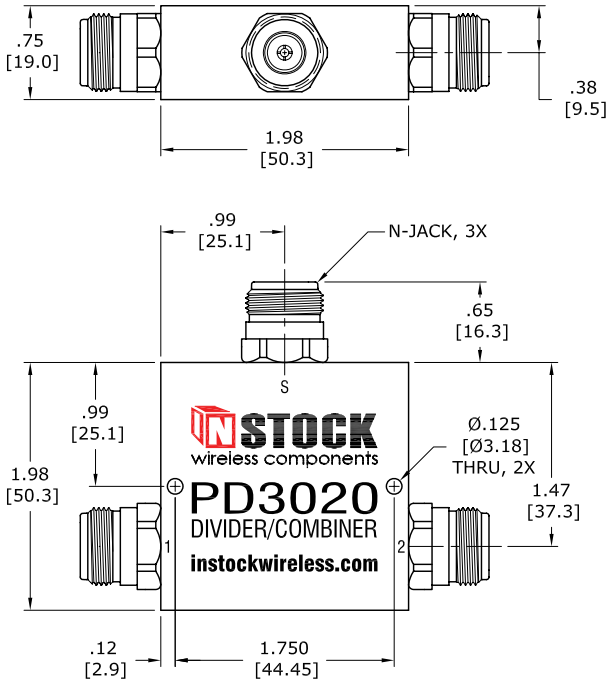
PD3020 - Power Divider/Combiner

2-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-Style, N-Jack Connectors



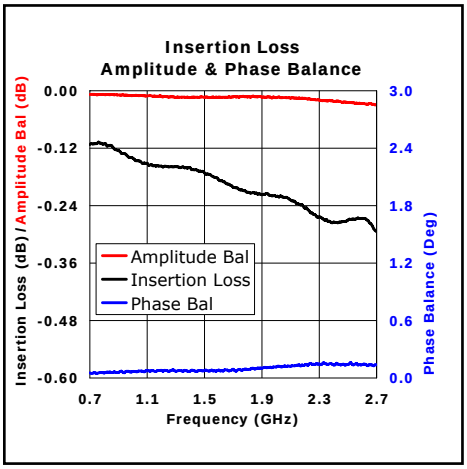
- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

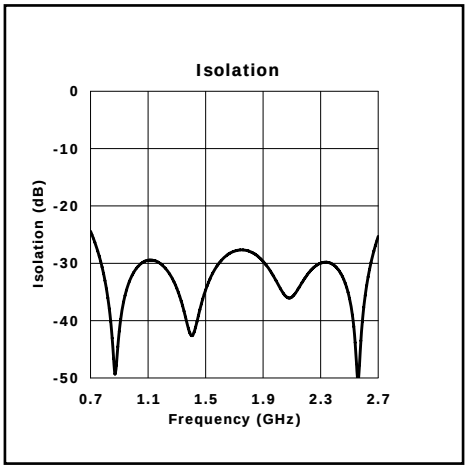
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

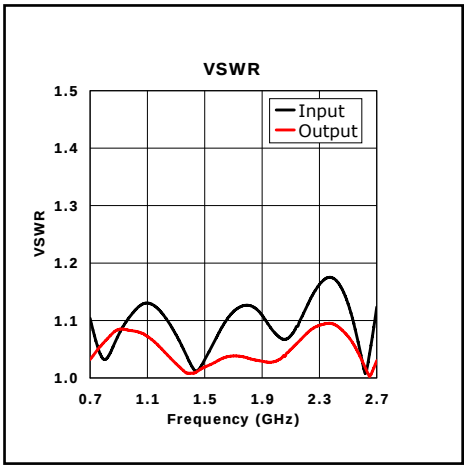
Mechanical Specifications

Connectors ..... N-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 151 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25 : 1 max	1.15 : 1 max







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PD1120 - Power Divider/Combiner

2-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

precision designed & etched microstrip circuit

Overview

PD1120 is a broadband, 2-way, power divider/power combiner furnished with SMA-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.25:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 114 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1120 power divider/power combiner is covered by a two-year warranty.

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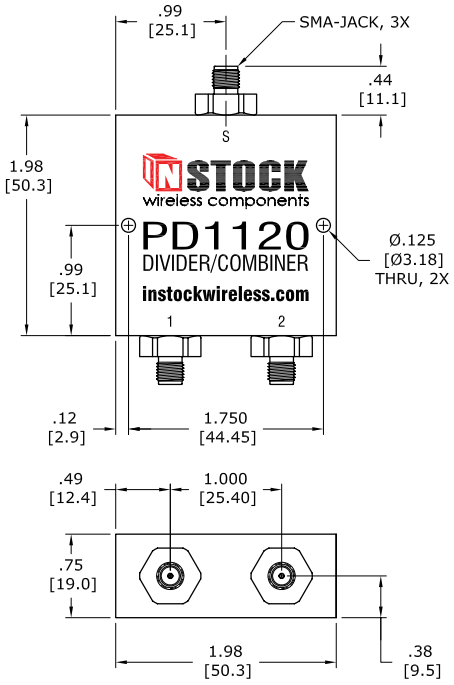
PD1120 - Power Divider/Combiner

2-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

In-Line, SMA-Jack Connectors

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

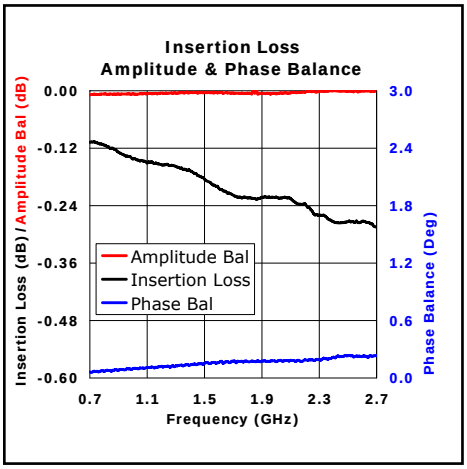


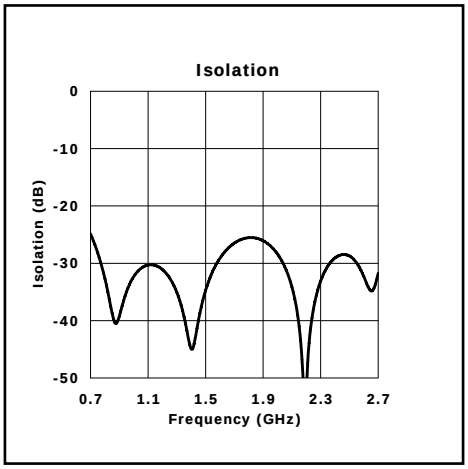
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

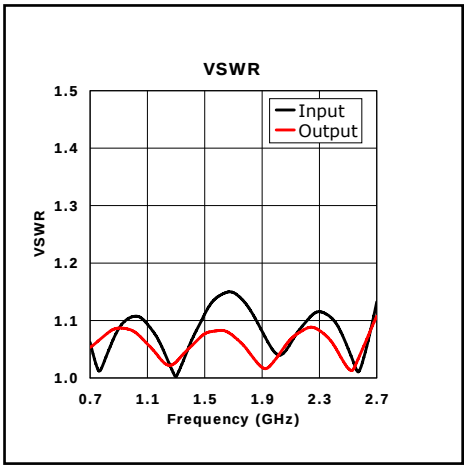
Mechanical Specifications

Connectors ..... SMA-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 114 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25 : 1 max	1.15 : 1 max







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PD3120 - Power Divider/Combiner

2-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3120 is a broadband, 2-way, power divider/power combiner furnished with SMA-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.20:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3120's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The SMA-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 111 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3120 power divider/power combiner is covered by a **two-year warranty**.

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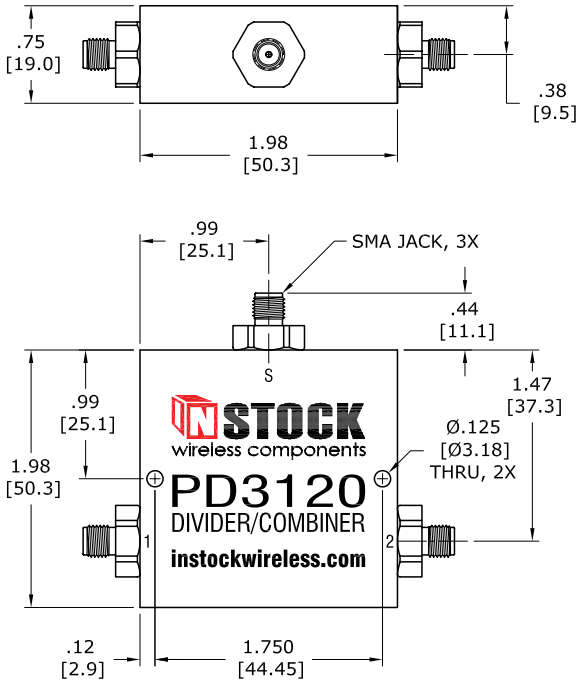
PD3120 - Power Divider/Combiner

2-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-Style, SMA-Jack Connectors

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

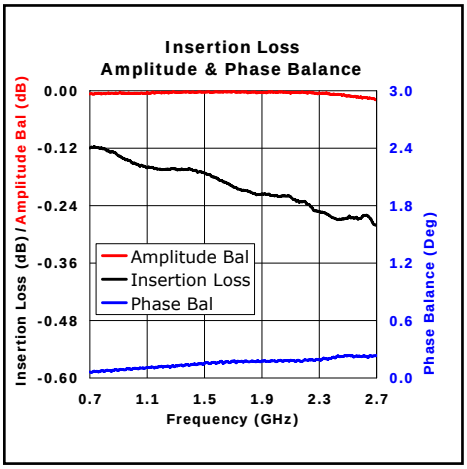


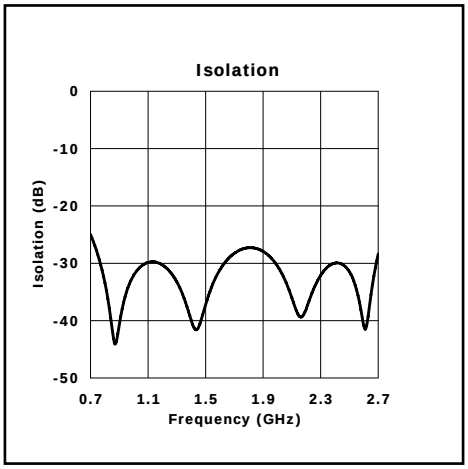
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

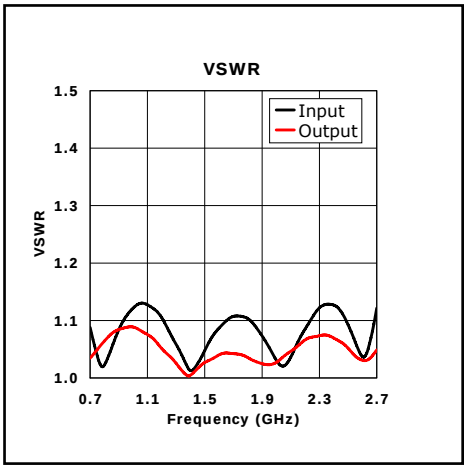
Mechanical Specifications

Connectors ..... SMA-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 111 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20 : 1 max	1.15 : 1 max







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3-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

In-Line, N-Jack Connectors

T-Style, N-Jack Connectors

In-Line, SMA-Jack Connectors

T-Style, SMA-Jack Connectors

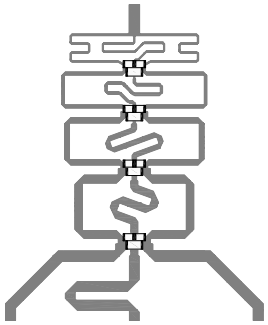
Application Note

STOCK 3-Way Power Divider, Power Combiners are available in two configurations, In-Line and T-Style, each offered with N-Jack and SMA-Jack connectors. All four models are optimized for broadband operation, covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, 3-way, power divider/combiners are reciprocal units that can be used to divide or combine signals with equal facility.

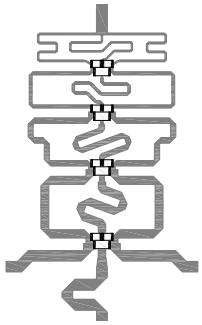
In power divider applications, the input signal is equally split into three output signals, each down 4.77 dB from the incident due to the 3 x 1/3rd power division. No power is actually lost from this power split; it is just allocated into three amplitude and phase matched signals, thus a so-called 4.77 dB insertion loss. True insertion loss of less than 0.7 dB max will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit. The output signals are isolated from each other by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

Model Number	Configuration	Connectors
PD1030	In-Line	N-Jack
PD3030	T-Style	N-Jack
PD1130	In-Line	SMA-Jack
PD3130	T-Style	SMA-Jack

The situation with power combining is a bit more complex. While it is possible to sum three input signals with no loss, this can only be accomplished if the signals are coherent and identical in phase and amplitude. Such a case would be the 3-way splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of three non-coherent signals will result in a minimum 4.77 dB loss (1/3rd power ratio) plus the true insertion loss of the power combiner (0.7 dB max @ 2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all input power is dissipated. Because the combining loss is dissipated through the isolation resistors, the power handling capability of these resistors ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



3-Way, In-Line, Power Divider Circuit



3-Way, T-Style, Power Divider Circuit

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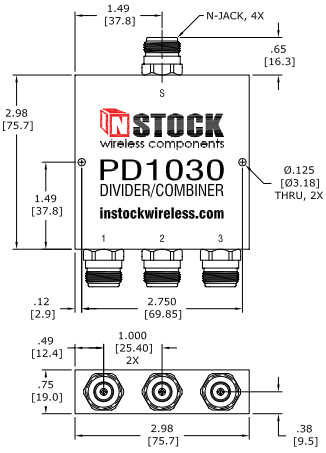
3-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

N-Jack Connectors

optimum broadband performance

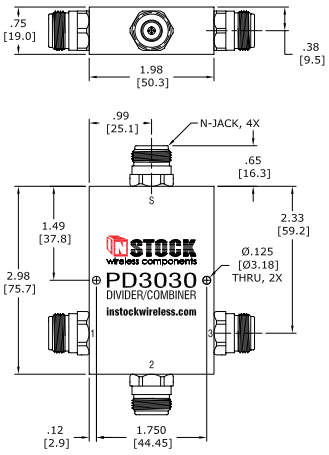
PD1030 is a broadband 3-way power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7-2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner scenarios. See power divider input rating tables for specific details. PD1030 is covered by a 2-year warranty.



N-Jack/T-Style

T-Style convenient cable access

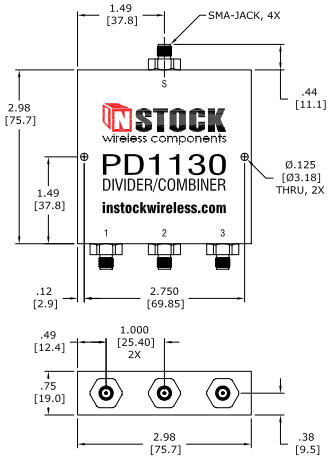
PD3030's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC-machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold-plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE support insulators captivate the contact pins …



SMA-Jack Connectors

true 3-way power split & balance

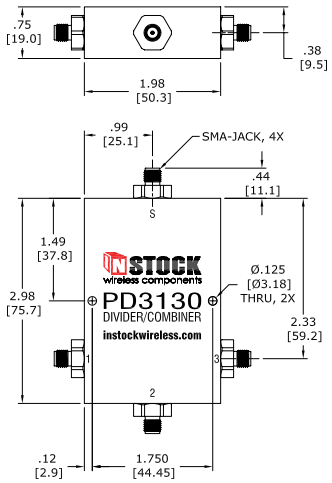
PD1130 is a true 3-way power divider/power combiner with equal power split and balance. Electrical performance is highlighted by 0.7 dB max insertion loss, 22 dB min isolation, 1.30:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB amplitude balance and 4° phase balance. Narrow band performance is even better. See test sweeps …



SMA-Jack/T-Style

precision microstrip circuit

PD3130 is a broadband 3-way power divider, power combiner furnished with SMA-Jack connectors in a T-Style housing. All wireless band frequencies from 0.7-2.7 GHz are covered with optimum performance. The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Each power divider is 100% electrically tested …



Model No.	Connectors	Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD1030	N-Jack	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35:1 max	1.15:1 max
PD3030	N-Jack/T-Style	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35:1 max	1.15:1 max
PD1130	SMA-Jack	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30:1 max	1.15:1 max
PD3130	SMA-Jack/T-Style	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30:1 max	1.15:1 max

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PD1030 - Power Divider/Combiner

3-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

true 3-way equal power split and balance

Overview

PD1030 is a broadband, 3-way, power divider/power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider/power combiner with equal power split and balance, the PD1030's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 2.98 in. wide by 2.98 in. deep by 0.75 in. high (75.7 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 299 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1030 power divider/power combiner is covered by a **two-year warranty**.

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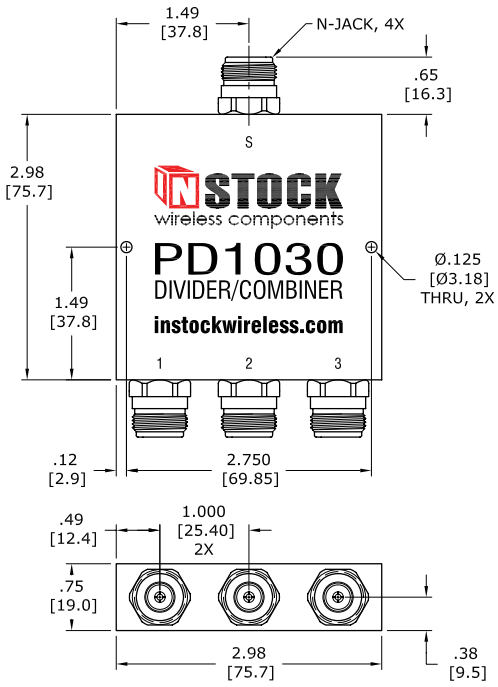
PD1030 - Power Divider/Combiner

3-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

true 3-way equal power split and balance

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.3 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

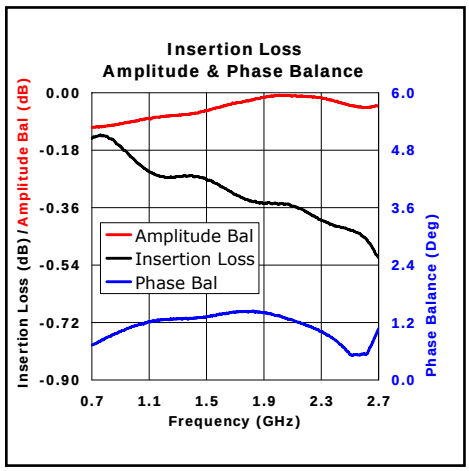


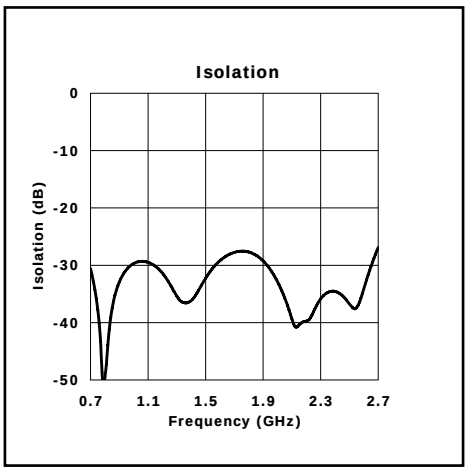
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

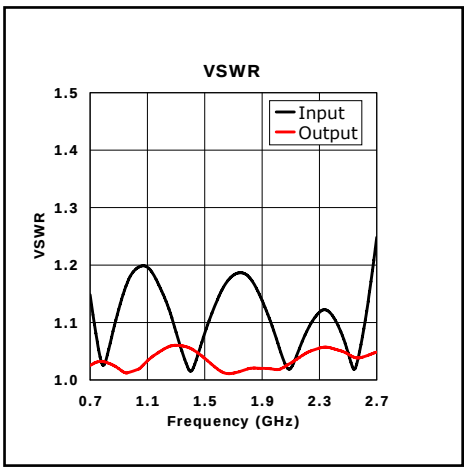
Mechanical Specifications

Connectors ..... N-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 299 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35 : 1 max	1.15 : 1 max







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PD3030 - Power Divider/Combiner

3-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3030 is a broadband, 3-way, power divider/power combiner furnished with N-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider/power combiner with equal power split and balance, the PD3030's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3030's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 2.98 in. deep by 0.75 in. high (50.3 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 217 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3030 power divider/power combiner is covered by a **two-year warranty**.

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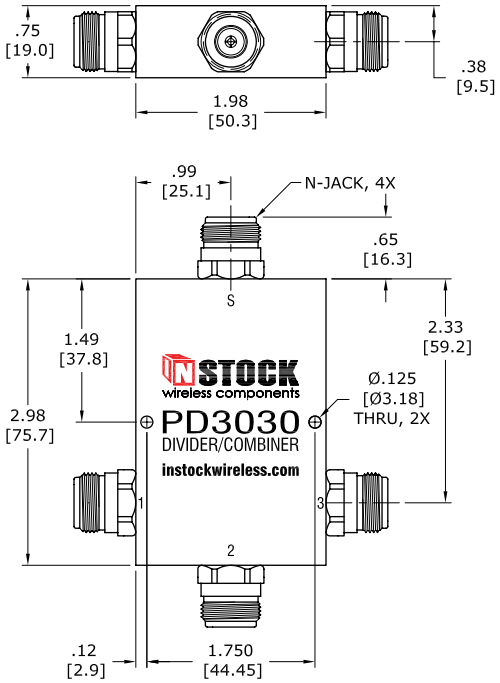
PD3030 - Power Divider/Combiner

3-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-Housing allows convenient cable access

- True 3-Way Equal Power Split and Balance
- Broadband Frequency (0.7 - 2.7 GHz)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

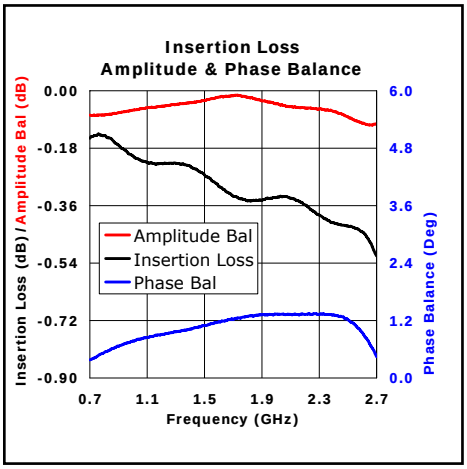


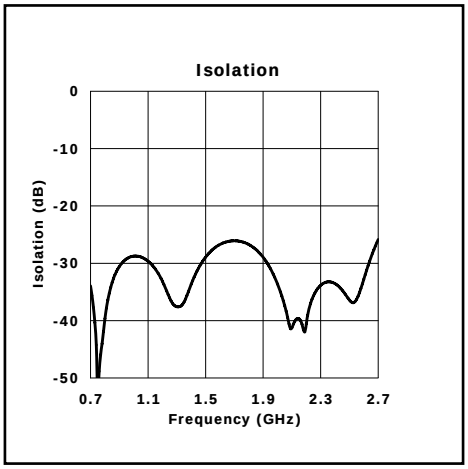
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

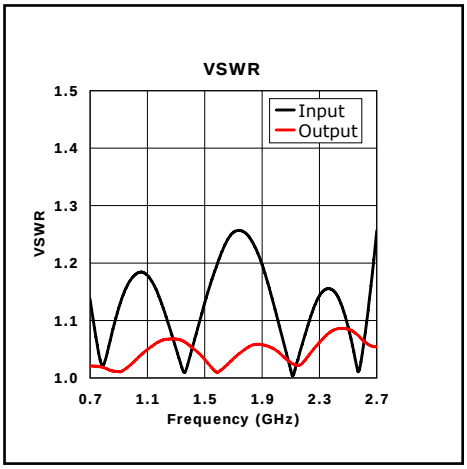
Mechanical Specifications

Connectors ..... N-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 217 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35 : 1 max	1.15 : 1 max







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PD1130 - Power Divider/Combiner

3-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

true 3-way equal power split and balance

Overview

PD1130 is a broadband, 3-way, power divider/power combiner furnished with SMA-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider/power combiner with equal power split and balance, the PD1130's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.30:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 2.98 in. wide by 2.98 in. deep by 0.75 in. high (75.7 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 246 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1130 power divider/power combiner is covered by a **two-year warranty**.

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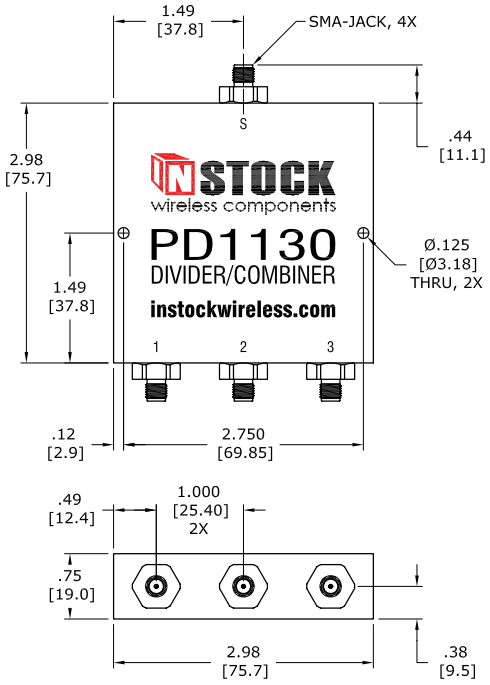
PD1130 - Power Divider/Combiner

3-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

precision designed & etched microstrip circuit

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.3 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

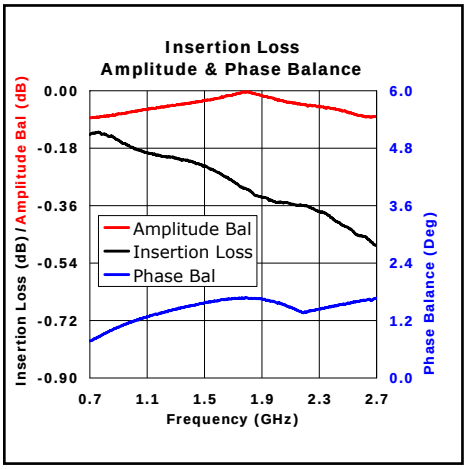


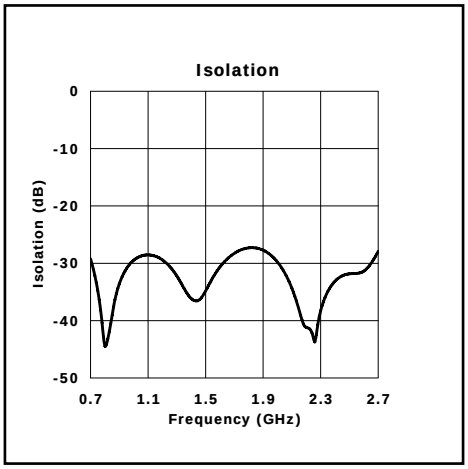
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

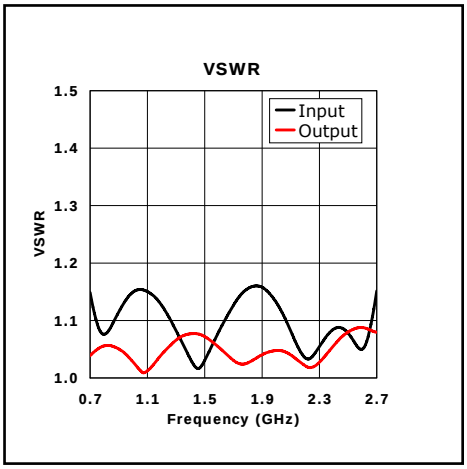
Mechanical Specifications

Connectors ..... SMA-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 246 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30 : 1 max	1.15 : 1 max







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PD3130 - Power Divider/Combiner

3-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3130 is a broadband, 3-way, power divider/power combiner furnished with SMA-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider/power combiner with equal power split and balance, the PD3130's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.30:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3130's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 2.98 in. deep by 0.75 in. high (50.3 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 163 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3130 power divider/power combiner is covered by a **two-year warranty**.

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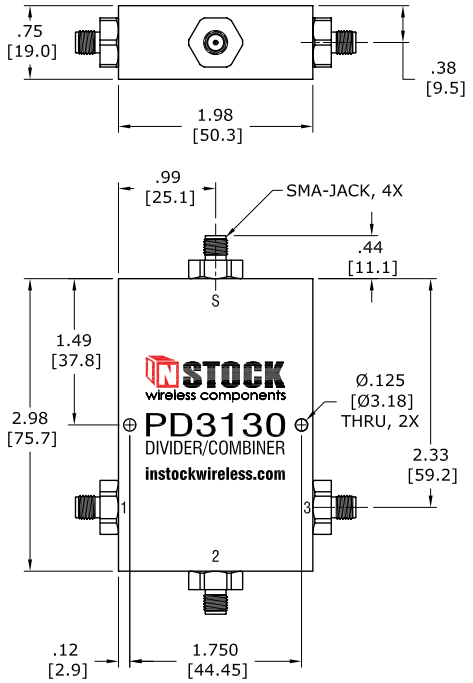
PD3130 - Power Divider/Combiner

3-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

designed for optimum broadband performance

- True 3-Way Equal Power Split and Balance
- Broadband Frequency (0.7 - 2.7 GHz)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

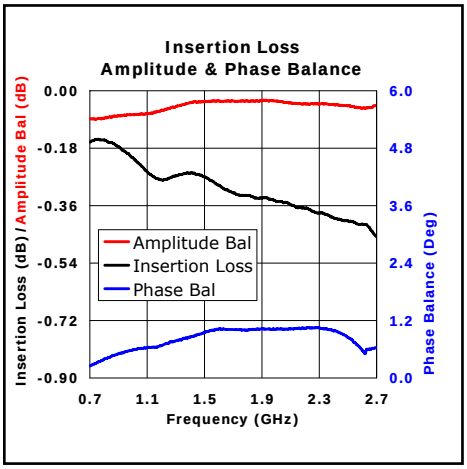


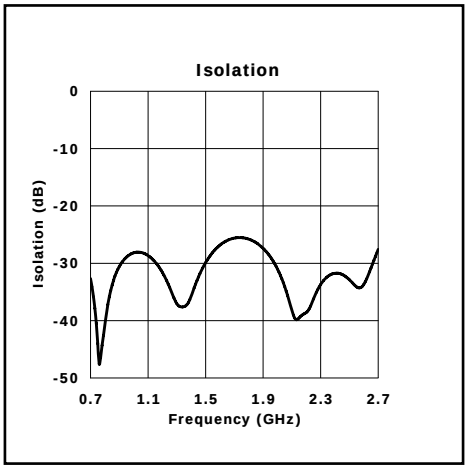
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

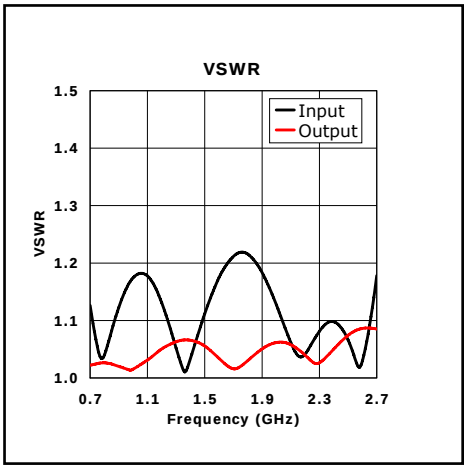
Mechanical Specifications

Connectors ..... SMA-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 163 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30 : 1 max	1.15 : 1 max







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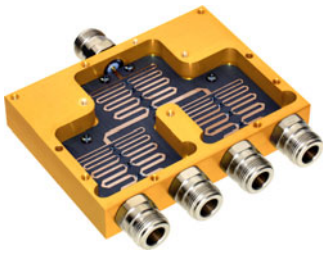
4-WAY POWER DIVIDER/COMBINER

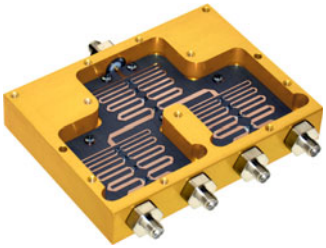
0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

4-Way, N-Jack Connectors



precision microstrip circuit

4-Way, SMA-Jack Connectors



fully-shielded CNC-housing

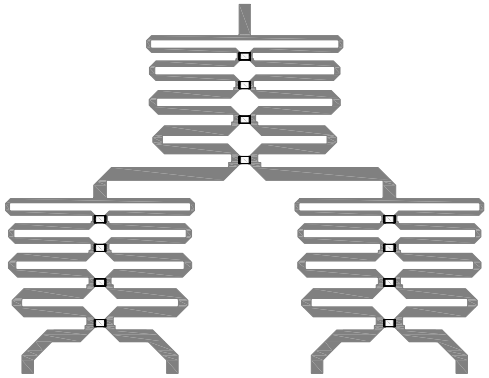
Application Note

STOCK 4-Way Power Divider, Power Combiners are available with two connector styles, N-Jack and SMA-Jack. Both models are optimized for broadband operation covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, 4-way, power divider, power combiners are reciprocal units that can be used to divide or combine signals with equal facility.

In power divider applications, the input signal is equally split into four output signals, each down 6 dB from the incident due to the 4 x 1/4th power division. No power is actually lost from this power split; it is just allocated into four amplitude and phase matched signals, thus a so-called 6 dB insertion loss. True insertion loss of less than 0.8 dB max will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit. The output signals are isolated from each other by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

Model Number	Connectors
PD1040	N-Jack
PD1140	SMA-Jack

The situation with power combining is a bit more complex. While it is possible to sum four input signals with no loss, this can only be accomplished if the signals are coherent and identical in phase and amplitude. Such a case would be the 4-way splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of four non-coherent signals will result in a minimum 6 dB loss (1/4th power ratio) plus the true insertion loss of the power combiner (0.8 dB max @ 2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all power is dissipated. Because the combining loss is dissipated through the isolation resistors, the power handling capability of these resistors ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



4-Way Power Divider, Power Combiner Circuit

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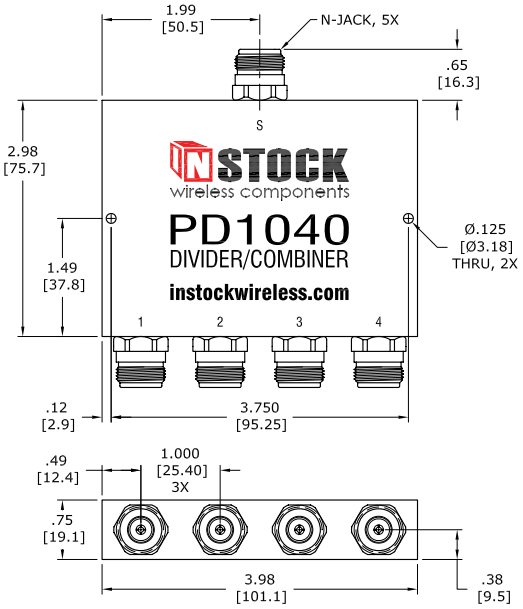
4-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

N-Jack Connectors

designed for optimum broadband performance

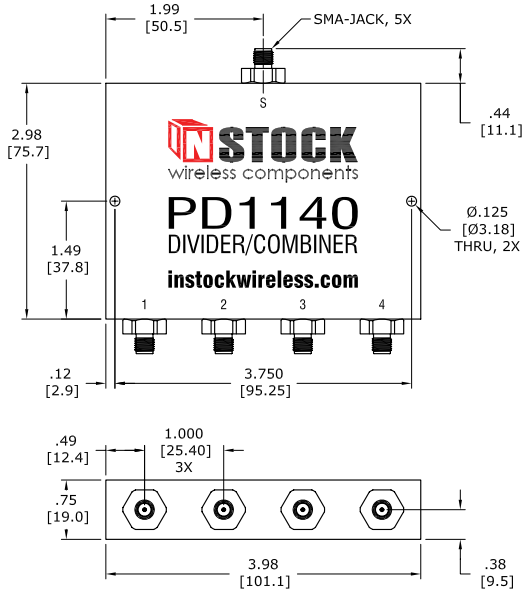
PD1040 is a broadband 4-way power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner scenarios. See input power rating tables for specific details.



SMA-Jack Connectors

precision designed microstrip circuit

PD1140 is a broadband 4-way power divider, power combiner furnished with SMA-Jack connectors. The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high-frequency, dielectric substrate. Electrical performance is highlighted by 0.8 dB max insertion loss, 22 dB min isolation, 1.25:1 max input VSWR ...



Model No.	Connectors	Frequency Range	Insertion Loss (above 6.02 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD1040	N-Jack	0.7-2.7 GHz	0.8 dB max	0.3 dB max	4° max	22 dB min	1.30:1 max	1.15:1 max
PD1140	SMA-Jack	0.7-2.7 GHz	0.8 dB max	0.2 dB max	4° max	22 dB min	1.25:1 max	1.15:1 max

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PD1040 - Power Divider/Combiner

4-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

designed for optimum broadband performance

Overview

PD1040 is a broadband, 4-way, power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.8 dB max insertion loss (above the 6.02 dB power split), 22 dB min isolation, 1.30:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 3.98 in. wide by 2.98 in. deep by 0.75 in. high (101.1 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 386 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1040 power divider, power combiner is covered by a **two-year warranty**.

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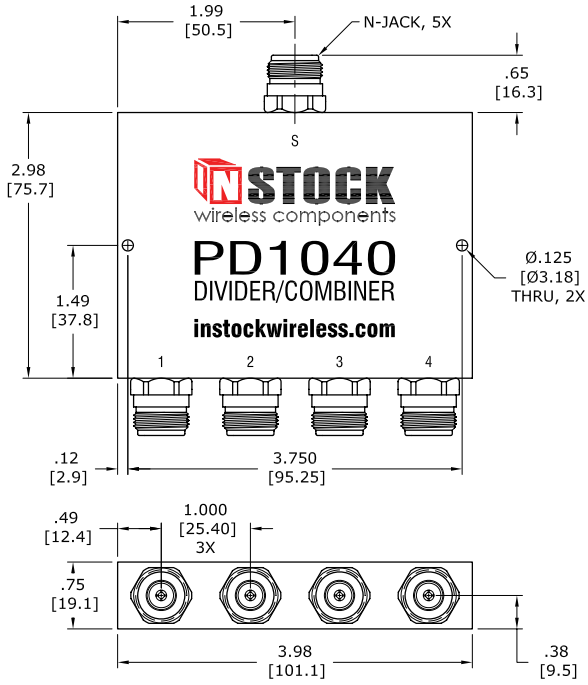
PD1040 - Power Divider/Combiner

4-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

precision designed & etched microstrip circuit

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.4 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

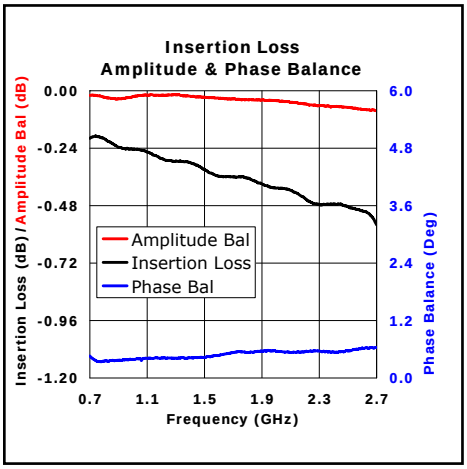


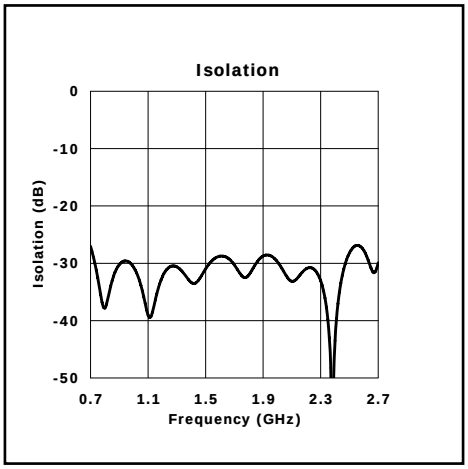
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	20 Watts
∞	20 Watts	2 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	4 X 10 Watts	4 X 0.5 Watts
Non-Coherent	4 X 1 Watt	

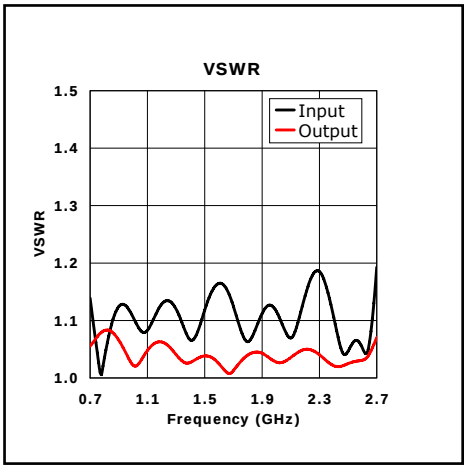
Mechanical Specifications

Connectors ..... N-Jack, 5X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 386 Grams

Frequency Range	Insertion Loss (above 6.02 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.8 dB max	0.3 dB max	4° max	22 dB min	1.30 : 1 max	1.15 : 1 max







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PD1140 - Power Divider/Combiner

4-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

designed for optimum broadband performance

Overview

PD1140 is a broadband, 4-way, power divider, power combiner furnished with SMA-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.8 dB max insertion loss (above the 6.02 dB power split), 22 dB min isolation, 1.25:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 3.98 in. wide by 2.98 in. deep by 0.75 in. high (101.1 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 319 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1140 power divider, power combiner is covered by a **two-year warranty**.

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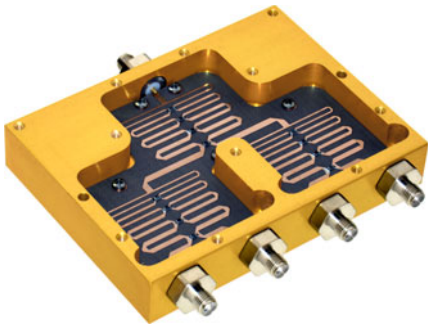
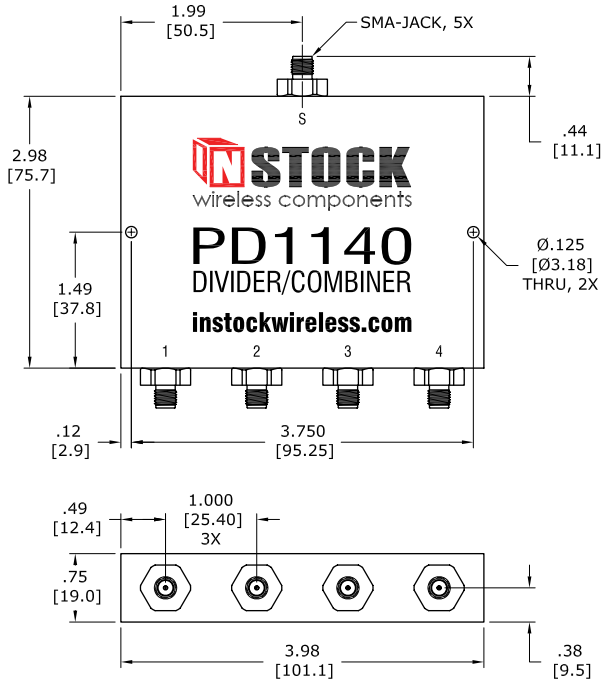
PD1140 - Power Divider/Combiner

4-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts



precision designed & etched microstrip circuit



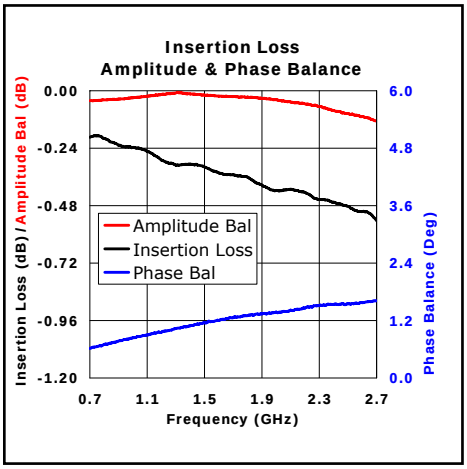
- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.4 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

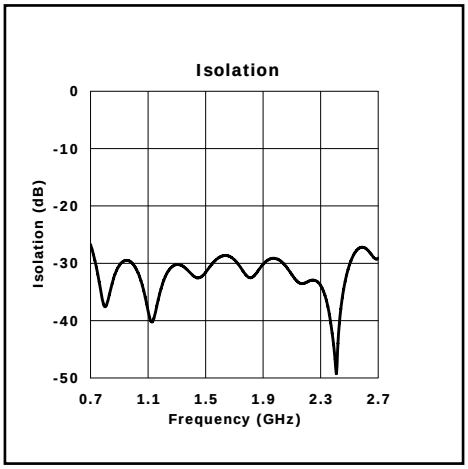
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	20 Watts
∞	20 Watts	2 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	4 X 10 Watts	4 X 0.5 Watts
Non-Coherent	4 X 1 Watt	

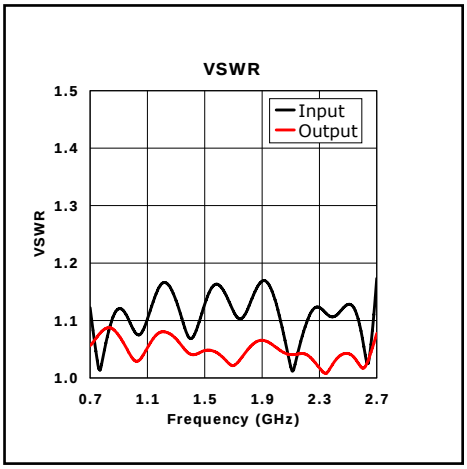
Mechanical Specifications

Connectors ..... SMA-Jack, 5X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 319 Grams

Frequency Range	Insertion Loss (above 6.02 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.8 dB max	0.2 dB max	4° max	22 dB min	1.25 : 1 max	1.15 : 1 max







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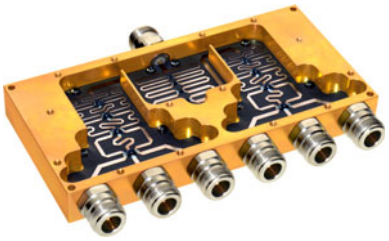
6-WAY POWER DIVIDER/COMBINER

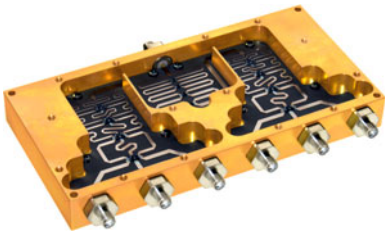
0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

6-Way, N-Jack Connectors



precision microstrip circuit

6-Way, SMA-Jack Connectors



fully-shielded CNC-housing

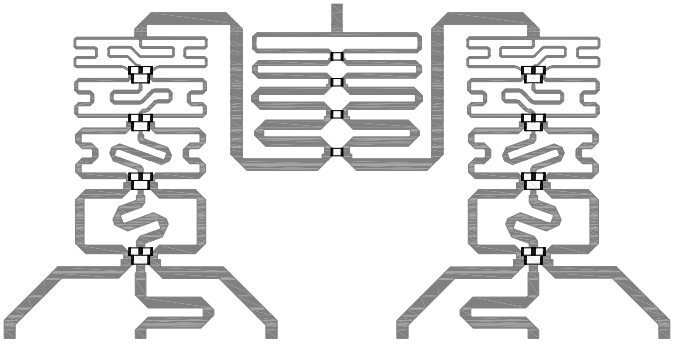
Application Note

STOCK 6-Way Power Divider, Power Combiners are available with two connector styles, N-Jack and SMA-Jack. Both models are optimized for broadband operation covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, 6-way, power divider, power combiners are reciprocal units that can be used to divide or combine signals with equal facility.

In power divider applications, the input signal is equally split into six output signals, each down 7.78 dB from the incident due to the 6 x 1/6th power division. No power is actually lost from this power split; it is just allocated into six amplitude and phase matched signals, thus a so-called 7.78 dB insertion loss. True insertion loss of less than 1.1 dB max @ 2.7 GHz will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit. The output signals are isolated from each other by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

Model Number	Connectors
PD1060	N-Jack
PD1160	SMA-Jack

The situation with power combining is a bit more complex. While it is possible to sum six input signals with no loss, this can only be accomplished if the input signals are coherent and identical in phase and amplitude. Such a case would be the 6-way splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of six non-coherent signals will result in a minimum 7.78 dB loss (1/6th power ratio) plus the true insertion loss of the power combiner (1.1 dB max @ 2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all power is dissipated. Because the combining loss is dissipated through the isolation resistors, it is the power handling capability of these resistors that ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



6-Way Power Divider, Power Combiner Circuit

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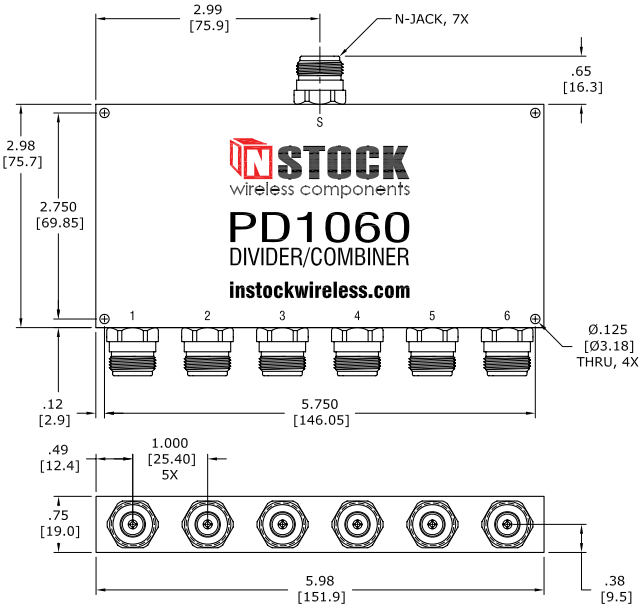
6-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

N-Jack Connectors

designed for optimum broadband performance

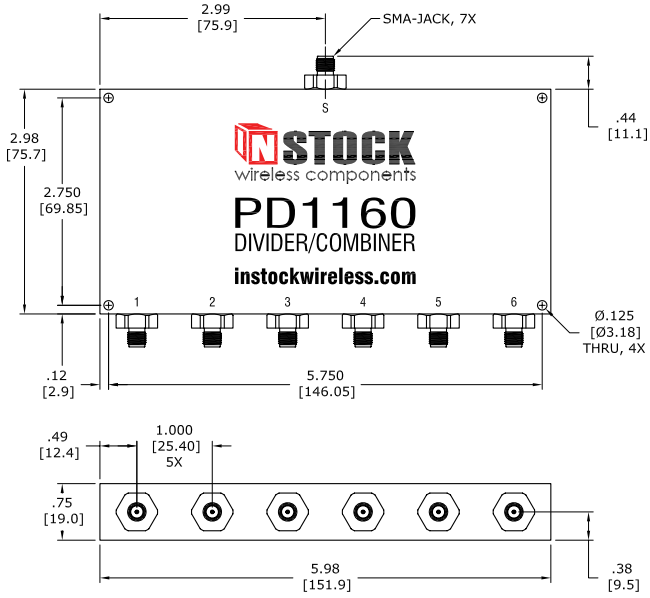
PD1060 is a broadband 6-way power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner scenarios. See **Power Input Rating Tables** for specifics.



SMA-Jack Connectors

true 6-way power split and balance

PD1160 is a true 6-way power divider, power combiner with equal power split and balance. Electrical performance is highlighted by 1.1 dB max insertion loss, 22 dB min isolation, 1.35:1 max input VSWR and 1.20:1 max output VSWR. Narrow band performance may be even better. See **Power Divider Test Sweeps** for specific details.



Model No.	Connectors	Frequency Range	Insertion Loss (above 7.78 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD1060	N-Jack	0.7-2.7 GHz	1.1 dB max	0.4 dB max	6° max	22 dB min	1.35:1 max	1.20:1 max
PD1160	SMA-Jack	0.7-2.7 GHz	1.1 dB max	0.4 dB max	6° max	22 dB min	1.35:1 max	1.20:1 max

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PD1060 - Power Divider/Combiner

6-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

true 6-way equal power split and balance

Overview

PD1060 is a broadband, 6-way, power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed

and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 6-way power divider, power combiner with equal power split and balance, the PD1060's electrical performance is highlighted by 1.1 dB max insertion loss (above the 7.78 dB power split), 18 dB min isolation, 1.40:1 max input VSWR and 1.20:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 5 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by four 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 5.98 in. wide by 2.98 in. deep by 0.75 in. high (151.9 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 567 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1060 power divider, power combiner is covered by a **two-year warranty**.

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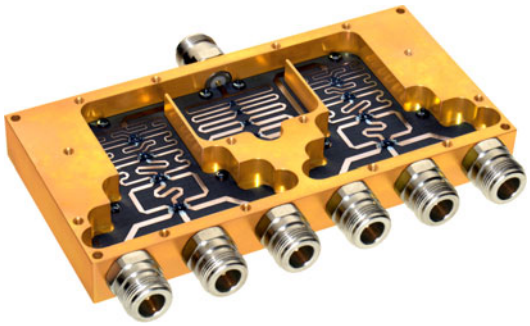
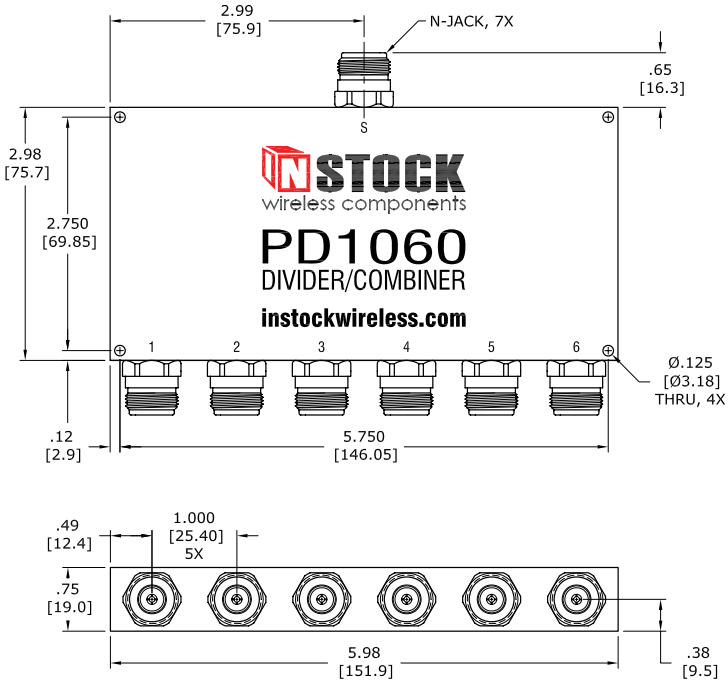
PD1060 - Power Divider/Combiner

6-Way, N-Jack, 0.7-2.7 GHz, 40 Watts



precision designed & etched microstrip circuit

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.5 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.15 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

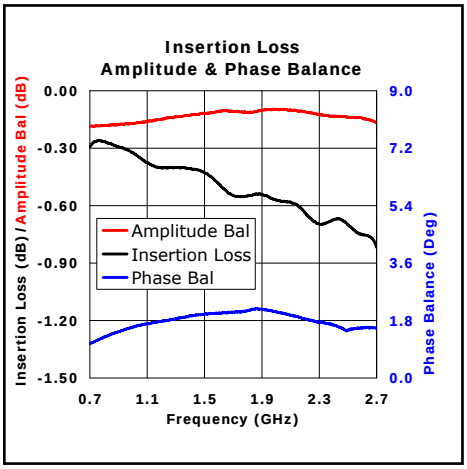


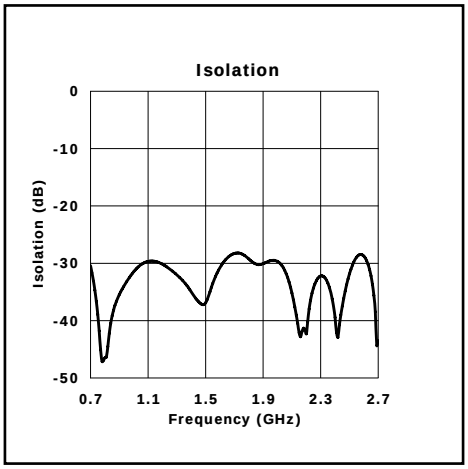
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	20 Watts
∞	20 Watts	4 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	6 X 6.67 Watts	6 X 0.66 Watts
Non-Coherent	6 X 1.33 Watts	

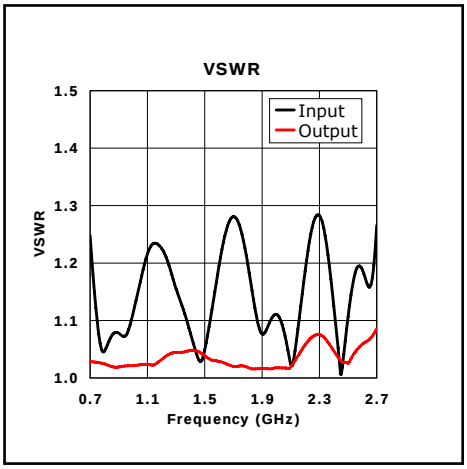
Mechanical Specifications

Connectors ..... N-Jack, 7X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 567 Grams

Frequency Range	Insertion Loss (above 7.78 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	1.1 dB max	0.3 dB max	5° max	18 dB min	1.40 : 1 max	1.20 : 1 max







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PD1160 - Power Divider/Combiner

6-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

true 6-way equal power split and balance

Overview

PD1160 is a broadband, 6-way, power divider, power combiner furnished with SMA-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed

and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 6-way power divider, power combiner with equal power split and balance, the PD1160's electrical performance is highlighted by 1.1 dB max insertion loss (above the 7.78 dB power split), 18 dB min isolation, 1.40:1 max input VSWR and 1.20:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 5 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by four 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 5.98 in. wide by 2.98 in. deep by 0.75 in. high (151.9 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 471 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1160 power divider, power combiner is covered by a **two-year warranty**.

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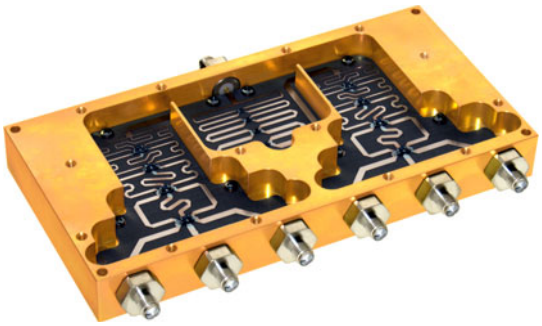
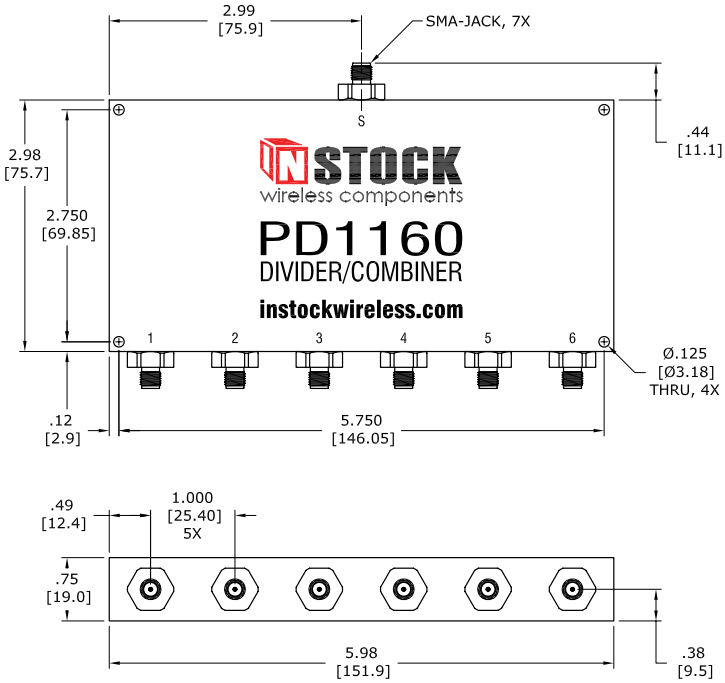
PD1160 - Power Divider/Combiner

6-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts



precision designed & etched microstrip circuit

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.5 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.15 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

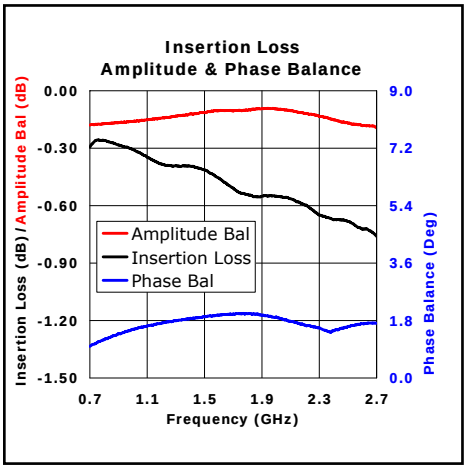


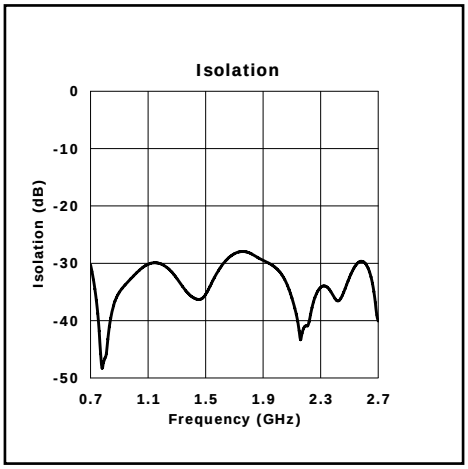
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	20 Watts
∞	20 Watts	4 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	6 X 6.67 Watts	6 X 0.66 Watts
Non-Coherent	6 X 1.33 Watts	

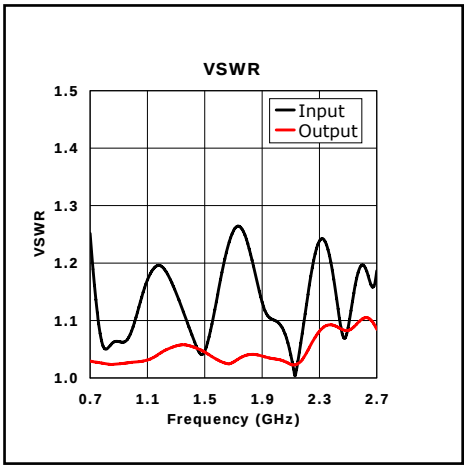
Mechanical Specifications

Connectors ..... SMA-Jack, 7X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 471 Grams

Frequency Range	Insertion Loss (above 7.78 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	1.1 dB max	0.3 dB max	5° max	18 dB min	1.40 : 1 max	1.20 : 1 max







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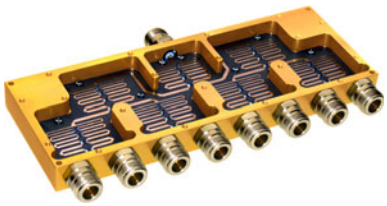
8-WAY POWER DIVIDER/COMBINER

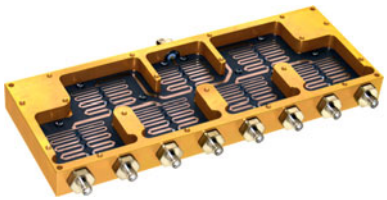
0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

8-Way, N-Jack Connectors



precision microstrip circuit

8-Way, SMA-Jack Connectors



fully-shielded CNC-housing

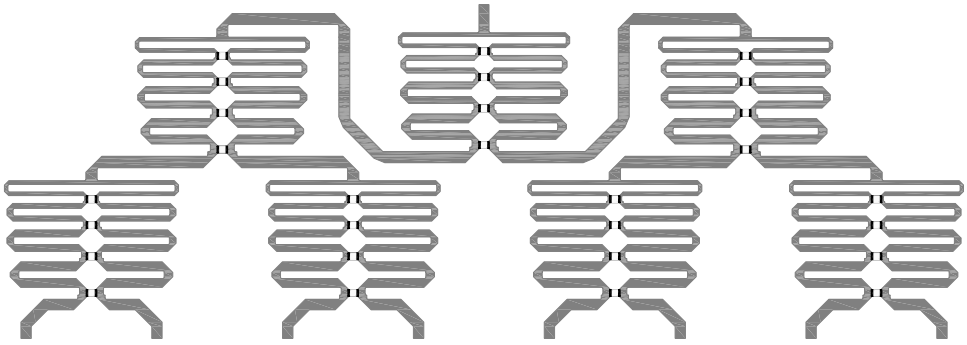
Application Note

STOCK 8-Way Power Divider, Power Combiners are available with two connector styles, N-Jack and SMA-Jack. Both models are optimized for broadband operation covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, 8-way, power divider, power combiners are reciprocal units that can be used to divide or combine signals with equal facility.

In power divider applications, the input signal is equally split into eight output signals, each down 9 dB from the incident due to the 8 x 1/8th power division. No power is actually lost from this power split; it is just allocated into eight amplitude and phase matched signals, thus a so-called 9 dB insertion loss. True insertion loss of less than 1.3 dB max @ 2.7 GHz will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit. The output signals are isolated from each other by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

Model Number	Connectors
PD1080	N-Jack
PD1180	SMA-Jack

The situation with power combining is a bit more complex. While it is possible to sum eight input signals with no loss, this can only be accomplished if the input signals are coherent and identical in phase and amplitude. Such a case would be the 8-way splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of eight non-coherent signals will result in a minimum 9 dB loss (1/8th power ratio) plus the true insertion loss of the power combiner (1.3 dB max @ 2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all power is dissipated. Because the combining loss is dissipated through the isolation resistors, it is the power handling and heat transfer capabilities of these resistors that ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



8-Way Power Divider, Power Combiner Circuit

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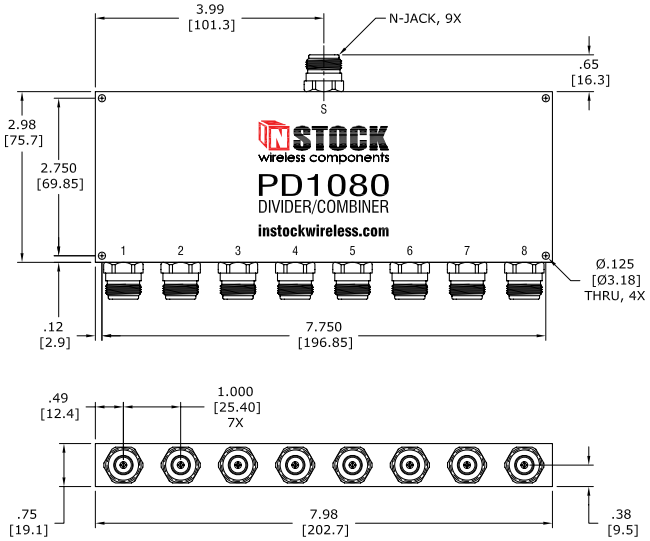
8-WAY POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, N & SMA-Jack Connectors

N-Jack Connectors

designed for optimum broadband performance

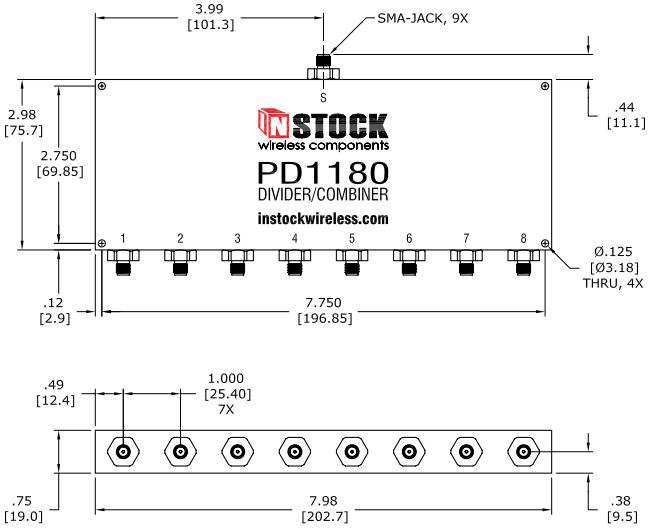
PD**1080** is a broadband 8-way power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner scenarios. See **Power Divider Input Rating Tables** for specific details. Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold-plated phosphor bronze for reliability …



SMA-Jack Connectors

precision designed & etched microstrip circuit

PD**1180** is a broadband 8-way power divider, power combiner furnished with SMA-Jack connectors. The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high-frequency, dielectric substrate. Electrical performance is highlighted by 1.3 dB max insertion loss, 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.5 dB max amplitude balance and 6 degrees max phase balance. Narrow band performance is even better. See **Power Divider Test Sweeps** for specific details …



Model No.	Connectors	Frequency Range	Insertion Loss (above 9.03 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD1080	N-Jack	0.7-2.7 GHz	1.3 dB max	0.5 dB max	6° max	22 dB min	1.40:1 max	1.15:1 max
PD1180	SMA-Jack	0.7-2.7 GHz	1.3 dB max	0.5 dB max	6° max	22 dB min	1.35:1 max	1.15:1 max

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PD1080 - Power Divider/Combiner

8-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

designed for optimum broadband performance

Overview

PD1080 is a broadband, 8-way, power divider, power combiner furnished with N-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 1.3 dB max insertion loss (above the 9.03 dB power split), 22 dB min isolation, 1.40:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.5 dB max amplitude balance and 6 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by four 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 7.98 in. wide by 2.98 in. deep by 0.75 in. high (202.7 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 722 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1080 power divider, power combiner is covered by a **two-year warranty**.

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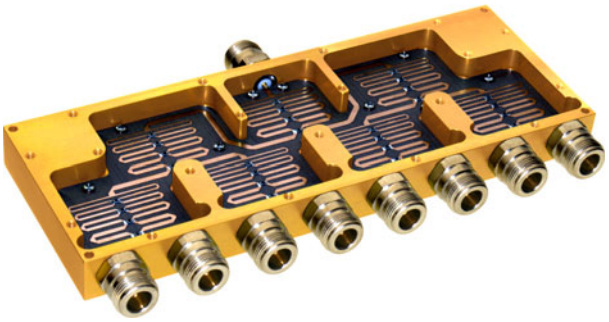
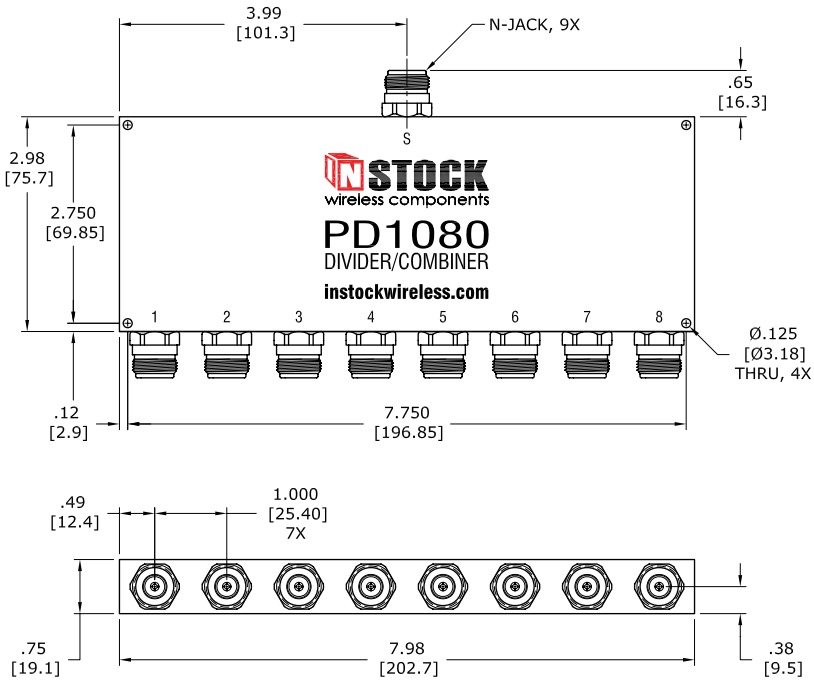
PD1080 - Power Divider/Combiner

8-Way, N-Jack, 0.7-2.7 GHz, 40 Watts



precision designed & etched microstrip circuit

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.6 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.15 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

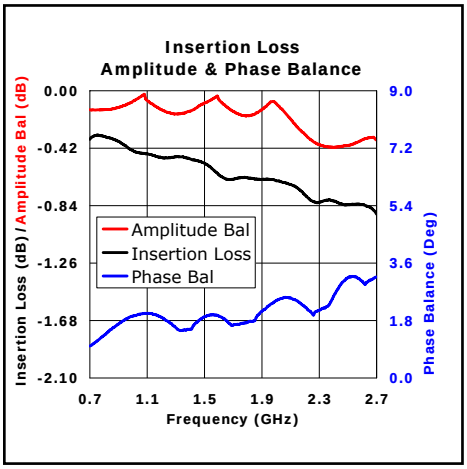


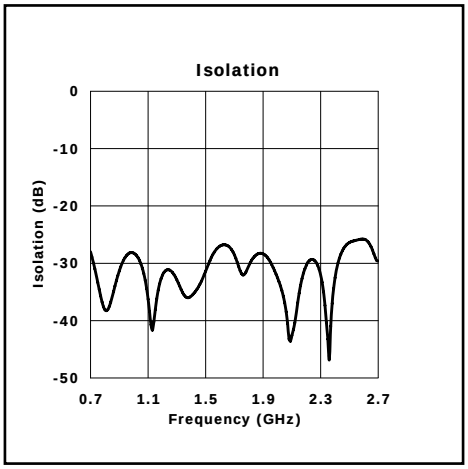
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	40 Watts
∞	20 Watts	4 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	8 X 5 Watts	8 X 0.5 Watts
Non-Coherent	8 X 1 Watt	

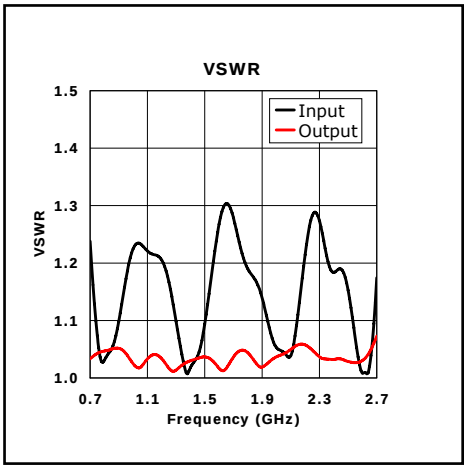
Mechanical Specifications

Connectors ..... N-Jack, 9X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 722 Grams

Frequency Range	Insertion Loss (above 9.03 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	1.3 dB max	0.5 dB max	6° max	22 dB min	1.40 : 1 max	1.15 : 1 max







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PD1180 - Power Divider/Combiner

8-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

designed for optimum broadband performance

Overview

PD1180 is a broadband, 8-way, power divider, power combiner furnished with SMA-Jack connectors. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 1.3 dB max insertion loss (above the 9.03 dB power split), 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.5 dB max amplitude balance and 6 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by four 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 7.98 in. wide by 2.98 in. deep by 0.75 in. high (202.7 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 604 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD1180 power divider, power combiner is covered by a **two-year warranty**.

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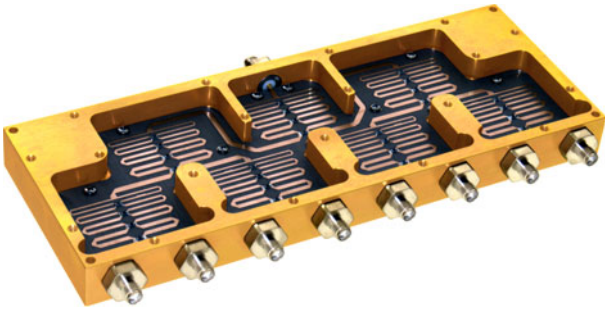
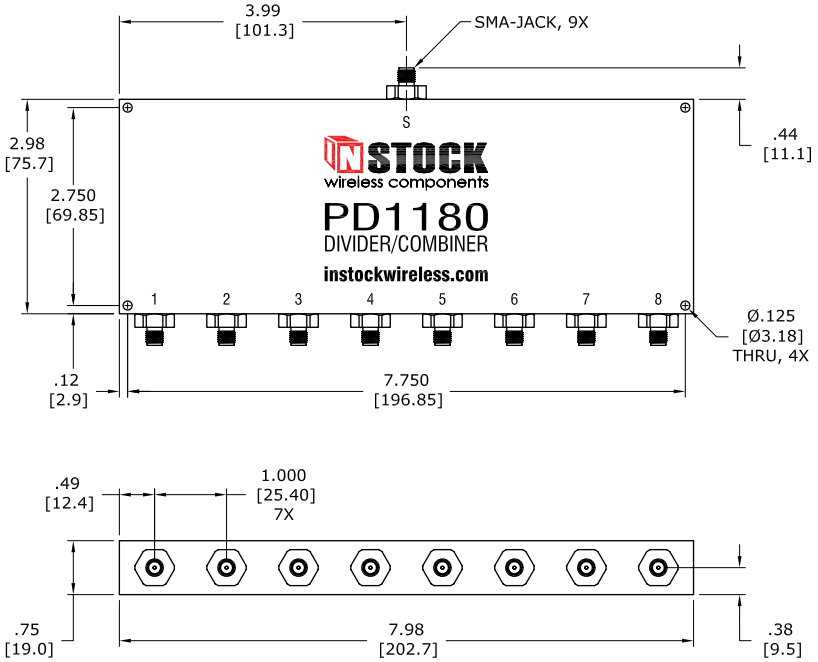
PD1180 - Power Divider/Combiner

8-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts



precision designed & etched microstrip circuit



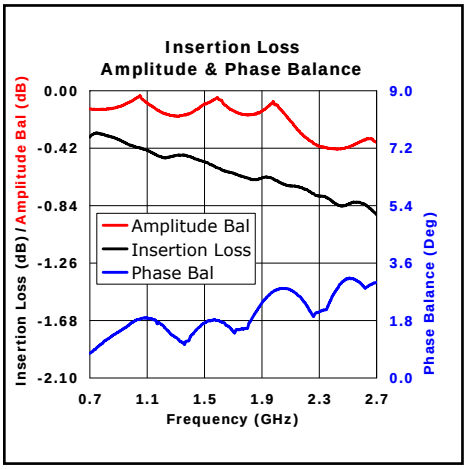
- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.6 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.15 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

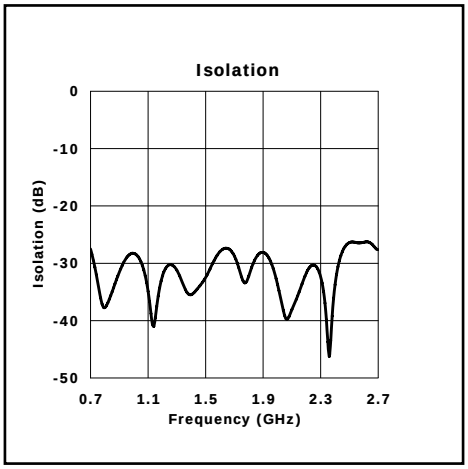
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	40 Watts
∞	20 Watts	4 Watts
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	8 X 5 Watts	8 X 0.5 Watts
Non-Coherent	8 X 1 Watt	

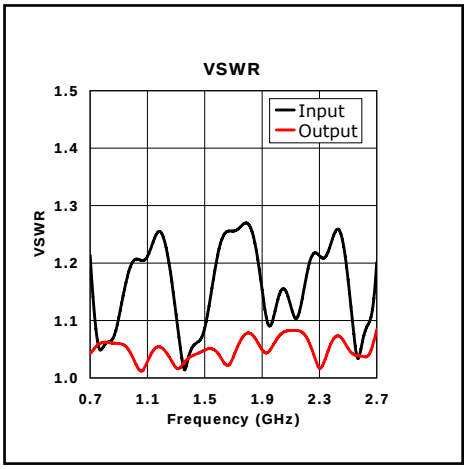
Mechanical Specifications

Connectors ..... SMA-Jack, 9X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 604 Grams

Frequency Range	Insertion Loss (above 9.03 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	1.3 dB max	0.5 dB max	6° max	22 dB min	1.35 : 1 max	1.15 : 1 max







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T-STYLE POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, 2-Way & 3-Way, N & SMA-Jack Connectors

2-Way, N-Jack Connectors

2-Way, SMA-Jack Connectors

3-Way, N-Jack Connectors

3-Way, SMA-Jack Connectors

Application Note

STOCK T-Style Power Divider, Power Combiners are available in two configurations, 2-Way and 3-Way, each offered with N-Jack and SMA-Jack connectors. All four models are optimized for broadband operation covering the frequency range from 0.7– 2.7 GHz with outstanding electrical performance. These Wilkinson-type, T-Style, power divider, power combiners are reciprocal units that can be used to divide or combine signals with equal facility.

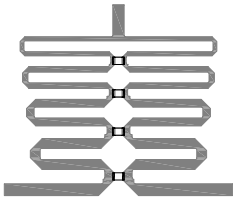
In 2-way power divider applications, the input signal is equally split into two output signals, each down 3 dB from the incident due to the 2 x 1/2 power division. No power is actually lost from this power split; it is just allocated into two amplitude and phase matched signals, thus a so-called 3 dB insertion loss. True insertion loss of less than 0.4 dB max @ 2.7 GHz will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit.

Model Number	Configuration	Connectors
PD3020	2-Way	N-Jack
PD3120	2-Way	SMA-Jack
PD3030	3-Way	N-Jack
PD3130	3-Way	SMA-Jack

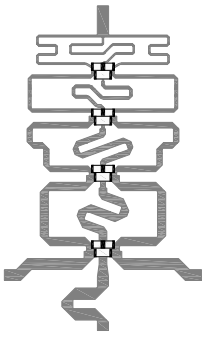
In 3-way power divider applications, the input signal is equally split into three output signals, each down 4.77 dB from the incident due to the 3 x 1/3rd power division. No power is actually lost from this power split; it is just allocated into three amplitude and phase matched signals, thus a so-called 4.77 dB insertion loss. True insertion loss of less than 0.7 dB max @ 2.7 GHz will be found at the output ports resulting from dissipation of small amounts of RF & microwave energy within the connectors and microstrip circuit.

In both configurations, all output signals are isolated from one another by 22 dB minimum through the use of resistors that dissipate any power reflected back to the circuit caused by unequal or unbalanced output loads. The 40 watt maximum power rating of these power dividers is applicable when connected to matched output load VSWR's of 1.2:1 or better. This maximum power rating must be reduced when load VSWR's increase or are unbalanced or out-of-phase with respect to one another. See **Power Divider Input Rating Tables** for additional guidelines.

The situation with power combining is a bit more complex. While it is possible to sum two or three input signals, respectively, with no loss, this can only be accomplished if the input signals are coherent and identical in phase and amplitude. Such a case would be the 2 or 3-way splitting of a signal which is then recombined after amplification, provided the amplified signals are phase-locked together. But outside this case, or cases of pure sine signals, or CW signals without any transmitted info, the combining of two non-coherent signals will result in a minimum 3 dB loss (1/2 power ratio) plus the true insertion loss of the power combiner (0.4 dB max @ 2.7 GHz). The combining of three non-coherent signals will result in a minimum 4.77 dB loss (1/3rd power ratio) plus the true insertion loss of the power combiner (0.7 dB max @ 2.7 GHz). Worst-case combining loss occurs with coherent signals 180° out-of-phase, where all input power is dissipated. Because the combining loss is dissipated through the isolation resistors, it is the power handling capability of these resistors that ultimately determines the combiner power rating. See **Power Combiner Input Rating Tables** for more information.



2-Way, T-Style, Power Divider Circuit



3-Way, T-Style, Power Divider Circuit

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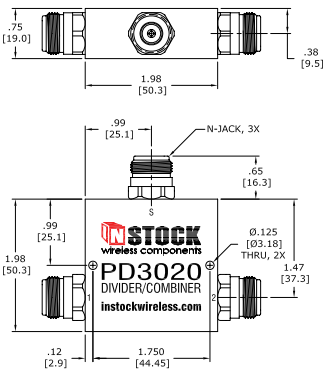
T-STYLE POWER DIVIDER/COMBINER

0.7-2.7 GHz, 40 Watts, 2-Way & 3-Way, N & SMA-Jack Connectors

2-Way/N-Jack

broadband T-Style housing

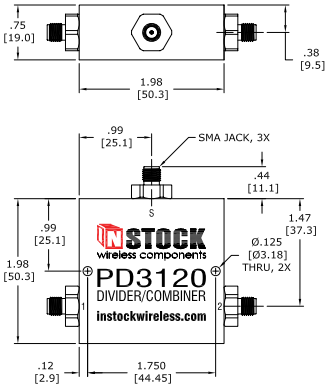
PD3020 is a broadband 2-way power divider, power combiner furnished with N-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7-2.7 GHz are covered with optimum performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See power divider input rating tables for specific details …



2-Way/SMA-Jack

T-Style convenient cable access

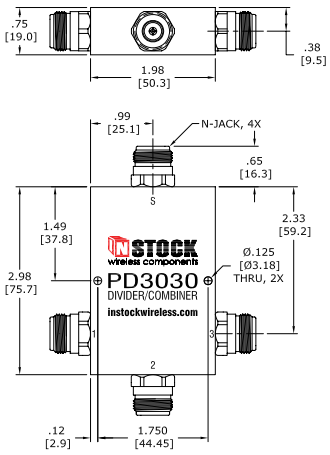
PD3120's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC-machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance. Connector pins are gold-plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE support insulators captivate the contact pins …



3-Way/N-Jack

true 3-way power split & balance

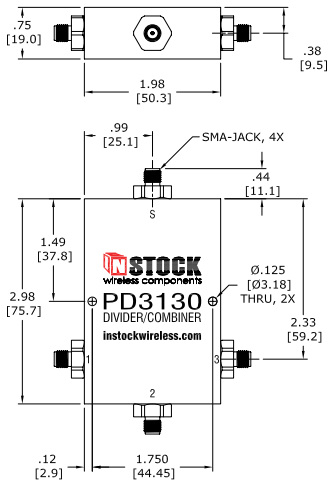
PD3030 is a true 3-way power divider, power combiner furnished with N-Jack connectors in a T-Style housing. Elecrical performance is highlighted by 0.7 dB max insertion loss, 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB amplitude balance and 4° phase balance. Narrow band performance is even better …



3-Way/SMA-Jack

precision microstrip circuit

PD3130 is a true 3-way power divider, power combiner with equal power split and balance. Furnished with SMA-Jack connectors in a T-Style housing, PD3130 covers all wireless band frequencies from 0.7-2.7 GHz with optimum performance. The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high-frequency, dielectric substrate …



Model No.	Connectors	Frequency Range	Insertion Loss (above power split)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
PD3020	2-Way/N-Jack	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25:1 max	1.15:1 max
PD3120	2-Way/SMA-Jack	0.7-2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20:1 max	1.15:1 max
PD3030	3-Way/N-Jack	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35:1 max	1.15:1 max
PD3130	3-Way/SMA-Jack	0.7-2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30:1 max	1.15:1 max

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PD3020 - Power Divider/Combiner

T-Style, 2-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3020 is a broadband, 2-way, power divider, power combiner furnished with N-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.25:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3020's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 151 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3020 power divider, power combiner is covered by a **two-year warranty**.

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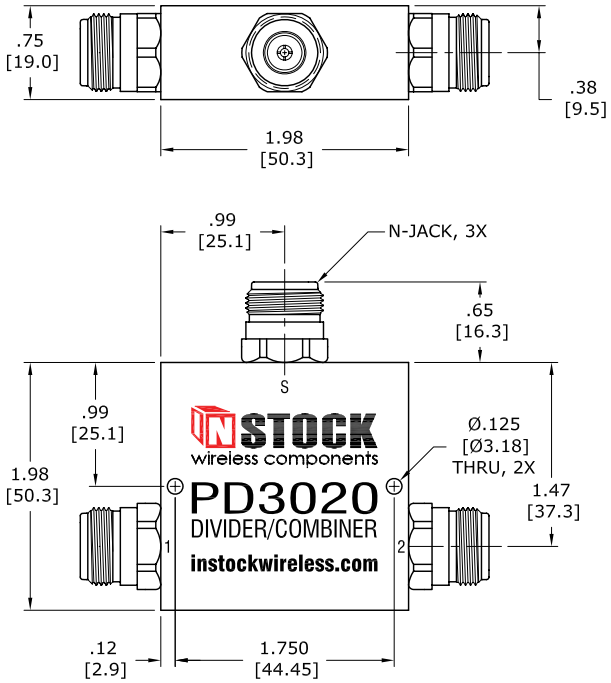
PD3020 - Power Divider/Combiner

2-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-housing allows convenient cable access

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

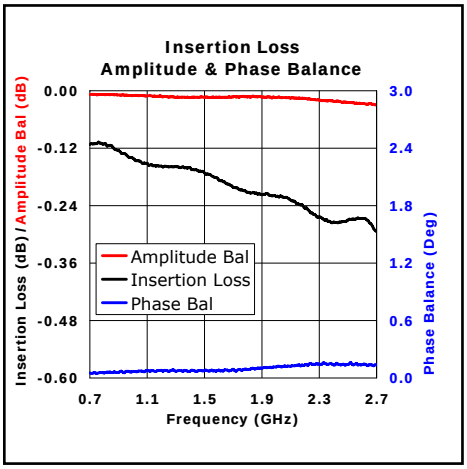


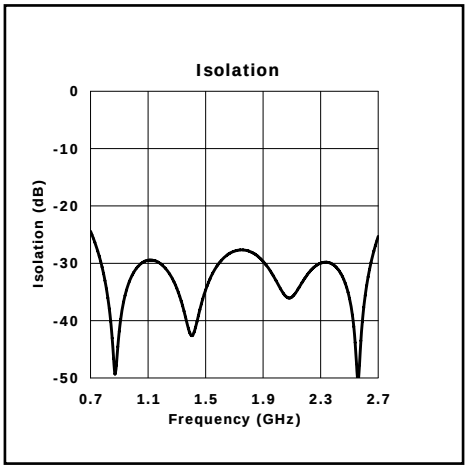
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

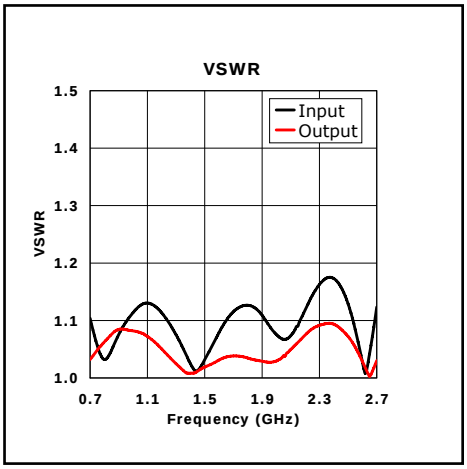
Mechanical Specifications

Connectors ..... N-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 151 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.25 : 1 max	1.15 : 1 max







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PD3120 - Power Divider/Combiner

T-Style, 2-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3120 is a broadband, 2-way, power divider, power combiner furnished with SMA-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. Electrical performance is highlighted by 0.4 dB max insertion loss (above the 3.01 dB power split), 22 dB min isolation, 1.20:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.2 dB max amplitude balance and 2 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3120's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 1.98 in. deep by 0.75 in. high (50.3 x 50.3 x 19.1 mm). The SMA-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 111 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3120 power divider, power combiner is covered by a **two-year warranty**.

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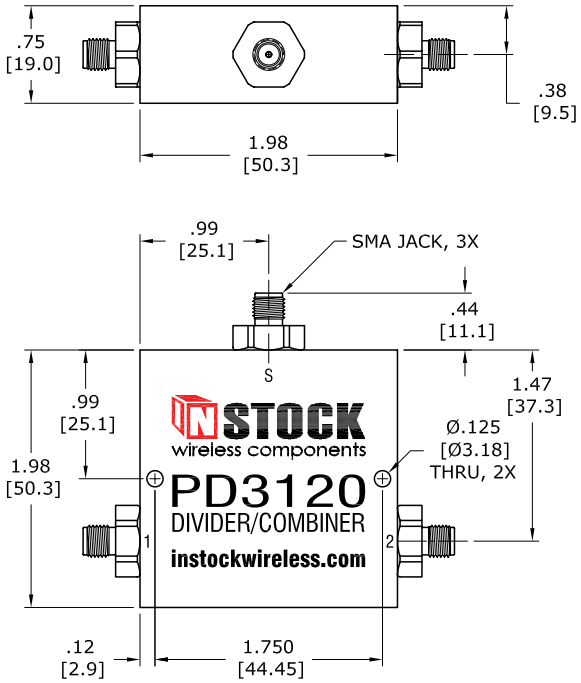
PD3120 - Power Divider/Combiner

2-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-housing allows convenient cable access

- Broadband Frequency (0.7 - 2.7 GHz)
- Low Insertion Loss (0.2 dB avg)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

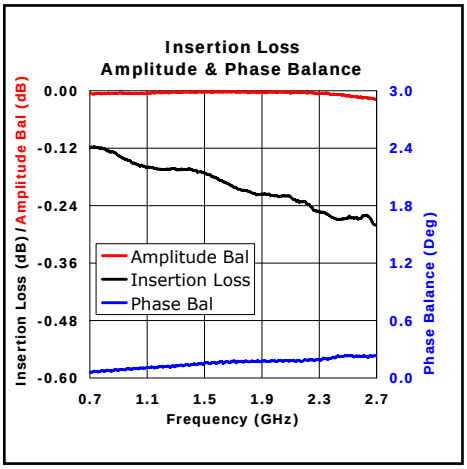


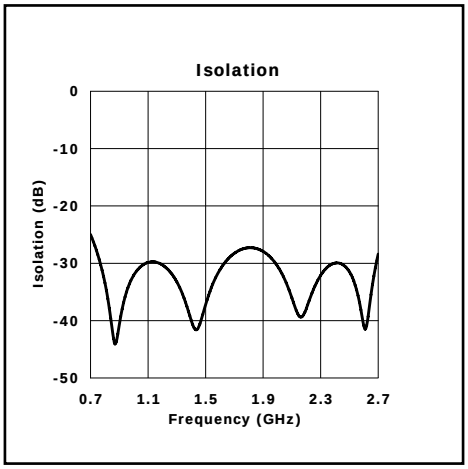
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	2 X 20 Watts	2 X 0.5 Watts
Non-Coherent	2 X 1 Watt	

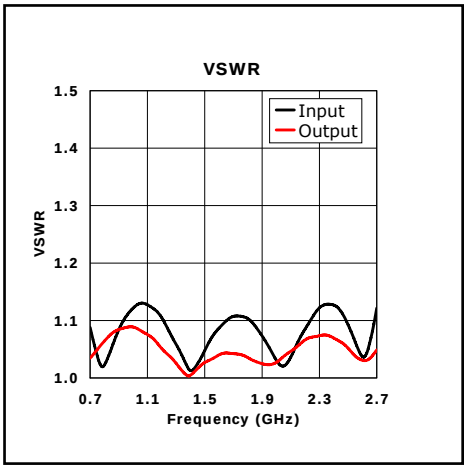
Mechanical Specifications

Connectors ..... SMA-Jack, 3X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 111 Grams

Frequency Range	Insertion Loss (above 3.01 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.4 dB max	0.2 dB max	2° max	22 dB min	1.20 : 1 max	1.15 : 1 max







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PD3030 - Power Divider/Combiner

T-Style, 3-Way, N-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3030 is a broadband, 3-way, power divider, power combiner furnished with N-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider, power combiner with equal power split and balance, the PD3030's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.35:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3030's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, N-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated phosphor bronze for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 2.98 in. deep by 0.75 in. high (50.3 x 75.7 x 19.1 mm). The N-Jack connectors extend 0.65 in. (16.5 mm) from the housing. Weight is 217 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3030 power divider, power combiner is covered by a **two-year warranty**.

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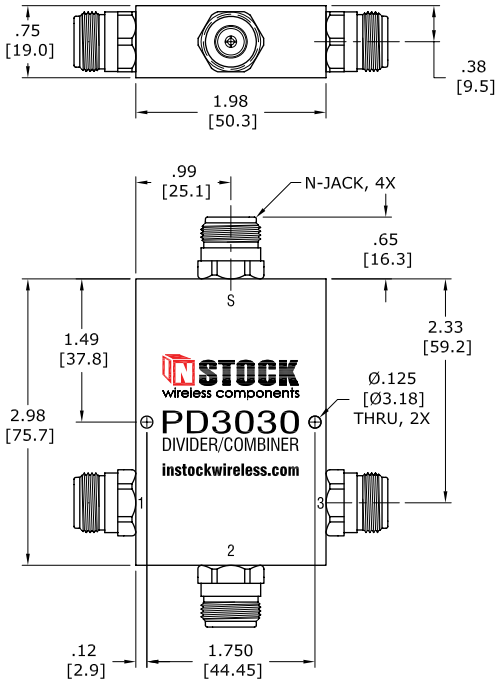
PD3030 - Power Divider/Combiner

3-Way, N-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

T-Housing allows convenient cable access

- True 3-Way Equal Power Split and Balance
- Broadband Frequency (0.7 - 2.7 GHz)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

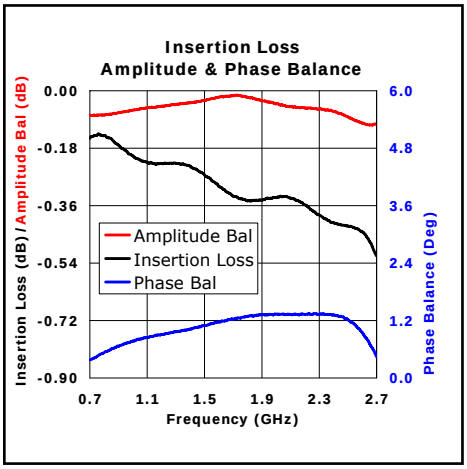


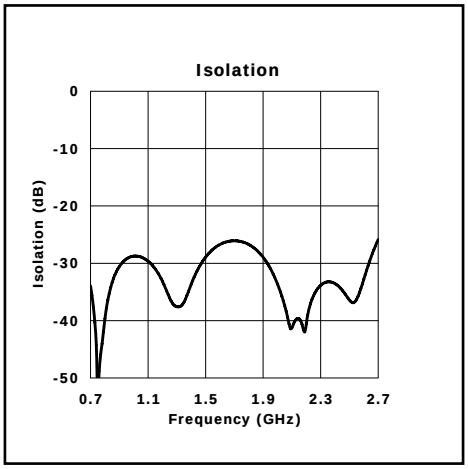
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

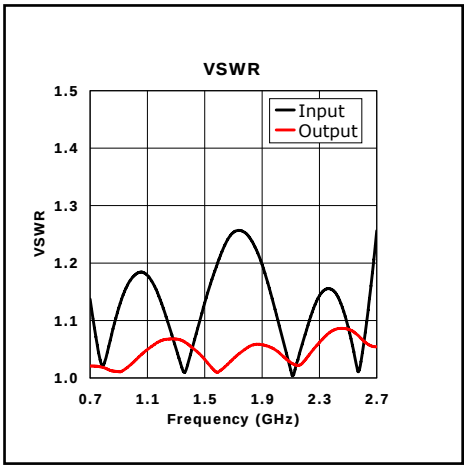
Mechanical Specifications

Connectors ..... N-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Phosphor Bronze, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 217 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.35 : 1 max	1.15 : 1 max







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PD3130 - Power Divider/Combiner

T-Style, 3-Way, SMA-Jack, 0.7-2.7 GHz, 40 Watts

Features & Benefits

T-housing allows convenient cable access

Overview

PD3130 is a broadband, 3-way, power divider, power combiner furnished with SMA-Jack connectors in a T-Style housing. All wireless-band frequencies from 0.7 - 2.7 GHz are covered with optimal performance. Input power levels up to 40 watts can be handled in both power divider and power combiner applications. See **input power rating tables** for specific details.

Electrical

The heart of the unit is a precision designed and etched microstrip circuit on a low-loss, high frequency, dielectric substrate. A true 3-way power divider, power combiner with equal power split and balance, the PD3130's electrical performance is highlighted by 0.7 dB max insertion loss (above the 4.77 dB power split), 22 dB min isolation, 1.30:1 max input VSWR and 1.15:1 max output VSWR. Equal power split and balance is displayed by 0.3 dB max amplitude balance and 4 degrees max phase balance. Narrow band performance over your frequency range may be even better. See **power divider test sweeps** for specific details.

Mechanical

The PD3130's T-Style housing allows convenient cable access to all connector ports. Mechanical features include precision CNC machined, brass, SMA-Jack connectors with tri-alloy plating to insure tarnish resistance and low-PIM operation. Connector pins are gold plated beryllium copper for reliability and low contact resistance. Virgin electrical grade PTFE insulators support the contact pins enabling high withstand voltage. Long-term operation and superior shielding is maintained by the rugged CNC-machined aluminum housing with yellow iridite finish. Secure mounting is provided by two 0.125 in. diameter (3.18 mm) through holes.

Physical

Housing dimensions are 1.98 in. wide by 2.98 in. deep by 0.75 in. high (50.3 x 75.7 x 19.1 mm). The SMA-Jack connectors extend 0.44 in. (11.1 mm) from the housing. Weight is 163 grams. Operating temperature range is from -65°C to +85°C. See **power divider outline drawing** for more information.

Warranty

Each unit is 100% electrically tested to insure complete compliance with all specifications. The PD3130 power divider, power combiner is covered by a **two-year warranty**.

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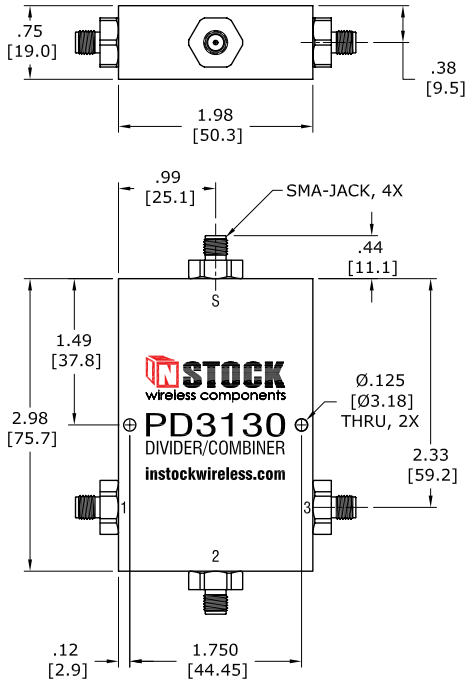
PD3130 - Power Divider/Combiner

3-Way, SMA-Jack, T-Style, 0.7-2.7 GHz, 40 Watts

designed for optimum broadband performance

- True 3-Way Equal Power Split and Balance
- Broadband Frequency (0.7 - 2.7 GHz)
- High Isolation (30 dB avg)
- Excellent VSWR (1.10 : 1 avg)
- Tri-Alloy Plated Connectors for Low PIM

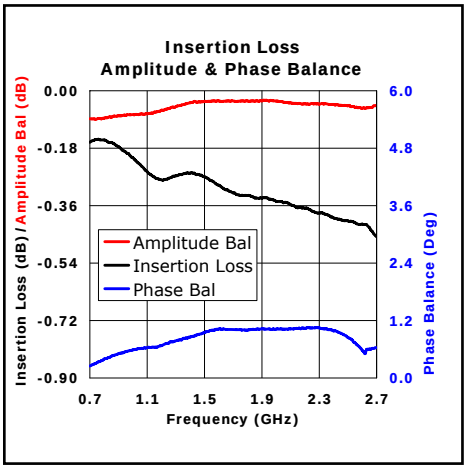


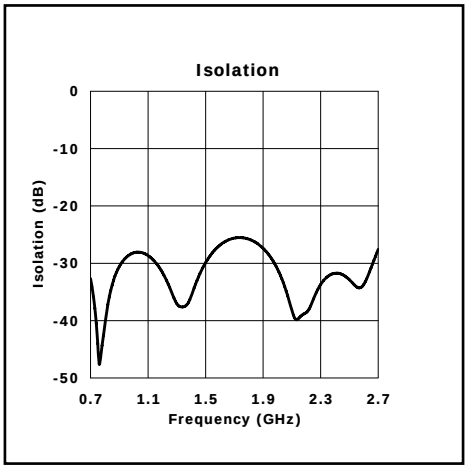
Power Divider Input Ratings		
Into Matched Load VSWR's	**In-Phase**	**180° Out-of-Phase**
1.2 : 1	40 Watts	40 Watts
2.0 : 1	40 Watts	10 Watts
∞	20 Watts	1 Watt
Power Combiner Input Ratings		
Input Signals	**In-Phase**	**180° Out-of-Phase**
Coherent	3 X 13.3 Watts	3 X 0.33 Watts
Non-Coherent	3 X 0.66 Watts	

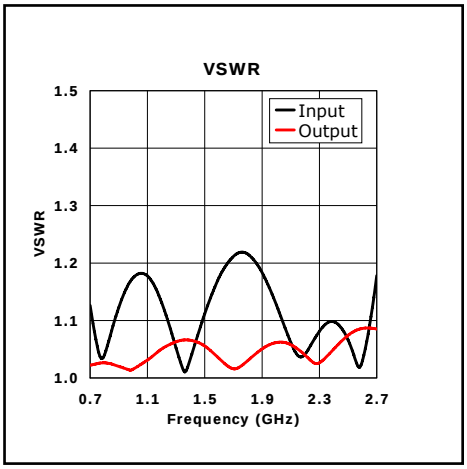
Mechanical Specifications

Connectors ..... SMA-Jack, 4X
Body ..... Brass, Tri-Alloy Plate
Connector Pin ..... Berylllium Copper, Gold Plate
Insulator ..... PTFE, Virgin Electrical Grade
Housing ..... Aluminum, Yellow Iridite
Operating Temp ..... -65°C to +85°C
Weight ..... 163 Grams

Frequency Range	Insertion Loss (above 4.77 dB)	Amplitude Balance	Phase Balance	Isolation	Input VSWR	Output VSWR
0.7 - 2.7 GHz	0.7 dB max	0.3 dB max	4° max	22 dB min	1.30 : 1 max	1.15 : 1 max







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Power Divider/Power Combiner

Glossary of Terms

Amplitude Balance: The attribute of the output signals of an equal power divider having the same magnitude.

Characteristic Impedance: For a microwave signal in a transmission line, the ratio of the electric field to the magnetic field. Characteristic impedance is related to free-space impedance (377 ohms) and can be calculated based on the physical dimensions and dielectric properties of the transmission line. Most RF and microwave systems are designed to operate with a characteristic impedance of 50 ohms. An advantage of coaxial cable and microstrip is that its characteristic impedance is not frequency dependent.

Coherent Signals: RF or microwave signals exhibiting attributes such that, when input to a power combiner, their wave forms add constructively or subtract destructively. For RF and microwave signals, the attributes of frequency, shape and transmitted information (if present) must be identical for signal coherence to exist.

Combining Loss: Loss of signal due to the vector summing, in a power combiner, of coherent input signals that differ in phase and/or amplitude. The combining loss of coherent signals is proportional to the phase and amplitude unbalance of the signals. Identical coherent signals summed through a power combiner exhibit no combining loss. Coherent signals 180° out-of-phase exhibit total combining loss (zero sum or transmitted power). Non-Coherent signals exhibit a loss equal to 10 log (1/n), where n = number of combined signals. All combining loss is dissipated through the isolation resistors.

Frequency Range: The span of frequency over which the power divider, power combiner maintains all specified performance values.

In-Line Housing: A power divider, power combiner housing having input and output connectors parallel or "in-line" with each other.

Input VSWR: Voltage standing wave ratio measured at the power divider input port with all output ports terminated in 50 ohm loads.

Insertion Loss: In a power divider or power combiner, the total signal reduction within the device from input to output including such factors as theoretical power split, combining loss, mismatch loss and dissipation loss (including conductor and dielectric losses). Insertion loss (in dB) is expressed by the formula:

Insertion Loss = 10 log (P_T/P_I), where:

P_T = Transmitted Power,
P_I = Incident Power

Isolation: In a power divider, the ability to keep signals at the output ports separate from one another; to prevent cross-talk between ports. In a power combiner, the ability to prevent signals at any input from appearing at any other. Achieved through the placement of resistors of precisely calculated values at the ends of transformer sections between port pairs.

Microstrip Circuit: A circuit constructed of thin strip-like transmission lines separated from a ground plane by a dielectric substrate. Commonly used for constructing RF and microwave devices utilizing discrete components attached to the top of the circuit board.

Mismatch Loss: A measure of power loss due to reflections within a device, usually of very small magnitude, and caused by design and manufacturing limitations.

N Connector: A threaded coaxial connector with an air interface suitable for carrying medium power RF & microwave signals. Original design attributed to Paul Neill of Bell Labs in the 1940's. Available in mating jack and plug configurations. Connect finger tight or to 12 in-lb (136 N-cm) if a torque wrench is used.

Non-Coherent Signals: RF or microwave signals differing in frequency, shape or transmitted information such that, when input to a power combiner, their wave forms do not add constructively or subtract destructively but exhibit a loss equal to 10 log (1/n), where n = number of combined signals.

Output VSWR: Voltage standing wave ratio measured at the power divider output port with all other ports terminated in 50 ohm loads.

Phase Balance: The attribute of the output signals of a zero degree power divider being in phase (having no phase difference).

PIM (Passive Intermodulation): The production of unwanted signals in a wireless receive path from the non-linear mixing of two or more high power transmit signals in a passive component. PIM problems may be minimized by careful contact and current path junction design (including connector mating interfaces), use of linear materials such as brass and copper alloys, avoidance of or shielding from ferromagnetic materials, and cleanliness in the manufacturing process.

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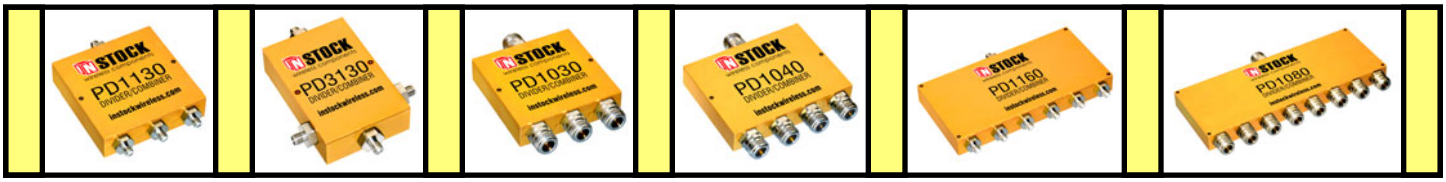
POWER DIVIDER/POWER COMBINER



Power Combiner: A device that combines or sums "N" number of input signals to a common output.

Power Divider: A device that divides or splits an input signal into "N" number of output signals.

Power Rating: The maximum amount of continuous input power (in watts) a power divider or power combiner can safely handle without permanent performance degradation. For a power divider, max input power is dependent on the VSWR and phase of loads connected to the outputs. For a power combiner, max input power is dependent on the properties of the input signals and the magnitude of any combining loss they suffer. Ultimately, power rating is directly related to the power handling capability of the isolation resistors, as it is through these resistors that most power is dissipated.

Power Split: The theoretical power ratio from input to output of a power divider (in dB) expressed by the formula:

Power Split = 10 log (1/N), where:

N = number of outputs of an equal power divider.

Often referred to as insertion loss, although not a true loss as this power is recoverable.

PTFE (PolyTetraFluoroEthylene): A thermoplastic member of the fluoropolymer family of plastics. PTFE is commonly used as a support insulator in RF and microwave coaxial connectors because of its low & stable dielectric constant and loss factor over a wide temperature and frequency range. The original PTFE resin was invented by Dupont in 1938 and called Teflon®.

SMA Connector (SubMiniature version A): A threaded coaxial connector with a dielectric loaded interface providing excellent electrical performance from DC to 18 GHz. Precursor designs first appeared in 1958; current designation established in 1968. Available in mating jack and plug configurations. Recommended mating torque is 7-10 in-lb (80-110 N-cm).

T-Housing: A power divider, power combiner housing having input and output connectors perpendicular to one another in the configuration of a "T".

Tri-Alloy Plating: An alloy of copper, tin and zinc providing good electrical performance and tarnish resistance. Being non-magnetic, it provides passive intermodulation performance comparable to silver. Appearance resembles stainless steel. Similar in composition and characteristics to proprietary processes such as albaloy, white bronze, sucoplate, etc.

True Insertion Loss: For a power divider or power combiner, the non-recoverable power loss due to internal mismatch and dissipation losses. Does not include power split or combining losses. This is the value specified for insertion loss of INSTOCK Wireless Power Divider, Power Combiners.

True 3-Way: A non-binary, modified, Wilkinson power divider, power combiner constructed of three transformers joined at a common node. Differs from 3-Way divider/combiners constructed from a 4-Way with one terminated port. Theoretical insertion loss due to power split is 4.77 dB.

True 6-Way: A non-binary, modified, Wilkinson power divider, power combiner constructed by cascading 2-Way and true 3-Way power divider/combiners. Differs from 6-Way divider/combiners constructed from an 8-Way with two terminated ports. Theoretical insertion loss due to power split is 7.78 dB.

VSWR: Voltage Standing Wave Ratio. An expression of the voltage standing wave pattern in a device caused by the phase addition and subtraction of incident and reflected waves. VSWR is the ratio of maximum to minimum voltage of this standing wave pattern and is expressed by the formula:

$VSWR = E_{max}/E_{min} = (E_I + E_R)/(E_I - E_R)$, where:

E_I = incident voltage wave amplitude,
E_R = reflected voltage wave amplitude, and
the sign of voltage wave amplitudes is positive

Wilkinson Power Divider: A device capable of splitting an input signal into equal phase, equal amplitude output signals or combining like signals to a common port. A unique feature of the Wilkinson divider is output port isolation. Constructed of one or more quarter-wave length transformer sections matching input and output impedances with a resistor placed between the ends of each transformer section. First demonstrated by Ernest Wilkinson with the 1960 publication of his paper, "An N-Way Hybrid Power Divider."

Zero Degree (0°) Power Divider: A power divider whose output signals are in-phase (having no phase difference, subject to specified design and manufacturing limitations). All INSTOCK Wireless Power Divider, Power Combiners are zero degree (in-phase).

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2-Way Power Divider, N-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1020
Qty:

2-Way Power Divider, SMA-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1120
Qty:

2-Way Power Divider, T-Style, N-Jack, 0.7-2.7 GHz, 40 Watts
PD3020
Qty:

2-Way Power Divider, T-Style, SMA-Jack, 0.7-2.7 GHz, 40 Watts
PD3120
Qty:

3-Way Power Divider, N-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1030
Qty:

3-Way Power Divider, SMA-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1130
Qty:

3-Way Power Divider, T-Style, N-Jack, 0.7-2.7 GHz, 40 Watts
PD3030
Qty:

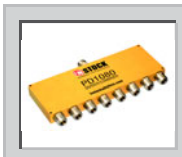
3-Way Power Divider, T-Style, SMA-Jack, 0.7-2.7 GHz, 40 Watts
PD3130
Qty:

4-Way Power Divider, N-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1040
Qty:

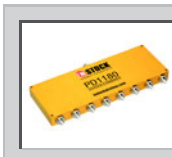
4-Way Power Divider, SMA-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1140
Qty:

6-Way Power Divider, N-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1060
Qty:

6-Way Power Divider, SMA-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1160
Qty:



8-Way Power Divider, N-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1080
Qty:



8-Way Power Divider, SMA-Jack Connectors, 0.7-2.7 GHz, 40 Watts
PD1180
Qty:

Name: _____

Company: _____

Title/Position: _____

Phone: _____

Fax: _____

Email: _____

Address: _____

_____

City: _____

State: _____

Postal Code: _____

Country: _____

Quote Status: ☐ Estimate ☐ Buy ☐ Bid ☐ Other

Delivery Date: _____

Comments: _____

_____

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Phone » Speak with a sales engineer at 973-335-6550.

Tell us about your application:

Power Divider application ☑ Power Combiner application ☐ Both ☐

For Divider, indicate number of outputs.
For Combiner, indicate number of inputs. ☐

Connector Style: ☐

Frequency Range: ☐

Input Power: ☐

Tell us about your buying preferences:

One-time purchase ☐ Recurring purchase ☐

Estimated Annual Usage: ☐ Target Price: ☐

Current Vendor: ☐

Current Model No: ☐

Please select your sample for evaluation

2-Way Power Divider
N-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1020

2-Way Power Divider
SMA-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1120

3-Way Power Divider
N-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1030

3-Way Power Divider
SMA-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1130

4-Way Power Divider
N-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1040

4-Way Power Divider
SMA-Jack Connectors
0.7-2.7 GHz, 40 Watts
☐ PD1140

Name: _____

Company: _____

Title/Position: _____

Phone: _____

Fax: _____

Email: _____

Address: _____

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City: _____

State: _____

Postal Code: _____

Country: _____

Comments: _____

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Company Information

Business Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone: _____ Fax: _____

Business Type: ☐ Corporation ☐ LLC ☐ Partnership ☐ Proprietorship Federal ID#: _____

Accounts Payable Info (if different)

A/P Contact Person: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone: _____ Fax: _____

Owner or Responsible Officer Information

Name:_____ Title: _____ Name:_____ Title: _____

Bank Reference

Bank Name: _____ Account#: _____

Address: _____ Banking Officer: _____

City: _____ Phone: _____ Fax: _____

State: _____ Zip Code: _____

Trade References

(1) Company Name: _____ Contact Person: _____

Address: _____ Phone: _____ Fax: _____

City: _____ State: _____ Zip Code: _____

(2) Company Name: _____ Contact Person: _____

Address: _____ Phone: _____ Fax: _____

City: _____ State: _____ Zip Code: _____

(3) Company Name: _____ Contact Person: _____

Address: _____ Phone: _____ Fax: _____

City: _____ State: _____ Zip Code: _____

Authorization

I hereby certify that the information contained herein is complete and accurate. This information has been furnished with the understanding that it is to be used to determine the amount and conditions of the credit to be extended. Furthermore, I hereby authorize the financial institutions listed in this credit application to release necessary information to INSTOCK Wireless Components in order to verify the information contained herein.

Authorized Signature: _____ Title: _____

Name (Please Print): _____ Date: _____

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Acceptance of Terms and Conditions: By placing an order the purchaser ackowledges having read the terms and conditions herein and accepts them fully unless specific exception has been requested and agreed to by INSTOCK Wireless Components, Inc.

Shipping Terms

Shipping Method: You may specify a carrier, and we will use this carrier when possible. When no carrier is specified, we will ship via UPS to most domestic locations.

FOB Point: All shipments are FOB shipping point (Boonton, NJ 07005 USA).

Shipping Charges: Prepaid and separately added to the invoice.

Insurance: Available by carrier at current rates and by specific request when placing your order. Insurance costs are assumed by the buyer.

Title and Ownership: Title and ownership of all merchandise is transferred to consignee upon delivery to a commercial carrier. Acknowledgement of receipt of merchandise in good condition is made by the commercial carrier.

Payment Terms

Established Accounts: Net 30 days from date of invoice to firms in good credit standing.

Non-Established Accounts: You may apply for a new account, with or without a new order, by simply completing our Credit Approval Form and faxing or mailing it to us. We will do our utmost to expedite the process, however, allow up to two weeks for processing. In the interim, payment for orders may be made by credit card, C.O.D., electronic wire transfer, certified check, irrevocable letter of credit, or payment in advance.

Merchandise Return and/or Exchange

Material will be accepted for return or exchange within 90 days from the date of invoice provided the returned goods are unused, undamaged and in a resalable condition as determined by our inspection. Please contact us to obtain a **Return Material Authorization (RMA)**. Packaging and all transportation expenses are assumed by the customer. All returned material is subject to a 15% restocking charge except for the return of items covered by the standard terms of warranty.

Damaged Goods

Inspect carton upon receipt for visible signs of damage. If carton is received conspicuously damaged, refuse acceptance and/or alert carrier to the condition.

Warranty

All products manufactured by INSTOCK Wireless Components, Inc. are guaranteed to be free from defects in material and workmanship, under normal use, for a period of 2 years from date of invoice. This warranty is limited to repair or replacement of defective components as determined by our inspection and discretion.

Export Orders

Normal shipping terms are Ex-Works. Depending upon destination, export orders may be subject to additional charges for Customs Documentation, Letters of Credit, Sight Drafts, Certifications, Insurance, etc. These charges are assumed by the purchaser. Please request a ProForma Invoice prior to placement of orders to avoid any delays.

INSTOCK Wireless Components designed & manufactured in the USA

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