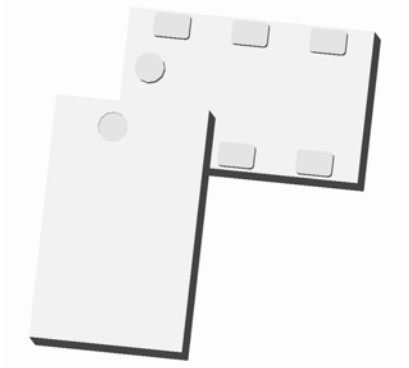
Model PD0922J5075D2

Rev D

Ultra Low Profile 0805 Power Divider 50Ω to 75Ω



Description

The PD0922J5075D2 is a low profile, sub-miniature Wilkinson power divider in an easy to use surface mount package and is ideal for high volume manufacturing while delivering higher performances than traditional printed and lumped element solutions. It has been designed for the following markets: DVB-S, GSM, DCS, PCS, WCDMA, GPS, 802.11a+g, Bluetooth, and Zigbee USA.

The PD0922J5075D2 is matched to 50Ω at the input and 75Ω at the outputs and has a height profile of 0.8 mm. A two section Wilkinson design results in increased isolation performance. Two external resistors are required for operation. Components are available on tape and reel for high volume manufacturing pick and place.

All Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability having X and Y thermal coefficient of expansion (CTE) of 17 ppm/°C.

Features:

- **950 – 2150 MHz**
- **14 dB Isolation (output ports)**
- **Good Return Loss**
- **0.8mm Height Profile**
- **50Ω Input/ 75Ω Output**
- **External resistors required**
- **Low Insertion Loss**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Surface**
- **RoHS Compliant**

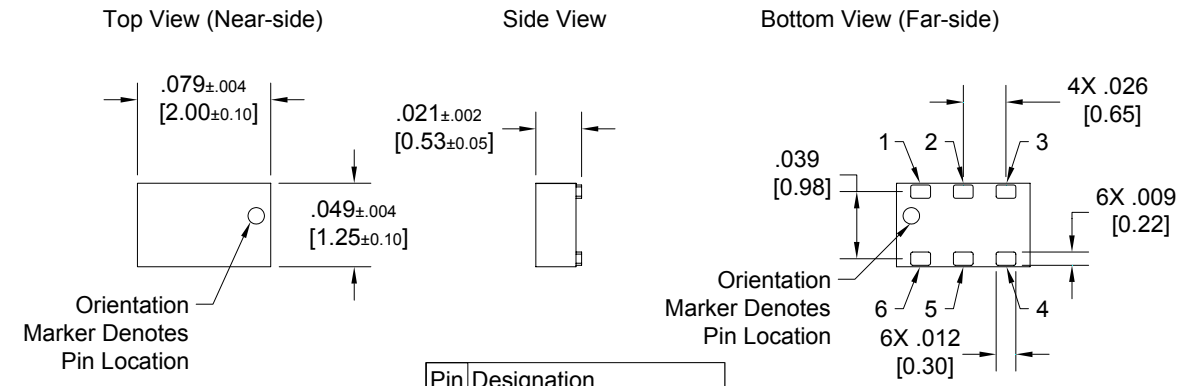
Detailed Electrical Specifications:

Specifications subject to change without notice.

	ROOM (25°C)			
Parameter	**Min.**	**Typ.**	**Max**	**Unit**
Frequency	950		2150	MHz
Input Port Impedance		50		Ω
Output Port Impedance		75		Ω
Return Loss	11	13		dB
Insertion Loss*		0.5	0.7	dB
Amplitude Balance		0.1	0.3	dB
Phase Balance		1	3	Degrees
Isolation (Output Ports)	12	14		dB
Power Handling			2	Watts
Operating Temperature	-55		+85	°C

* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 °C)

Outline Drawing



Pin	Designation
1	Mid 1
2	Input
3	Mid 2
4	Output 1
5	GND
6	Output 2

Dimensions are in Inches [Millimeters]
Mechanical Outline

Tolerances are Non-Cumulative

Available on Tape and Reel for Pick and Place Manufacturing.

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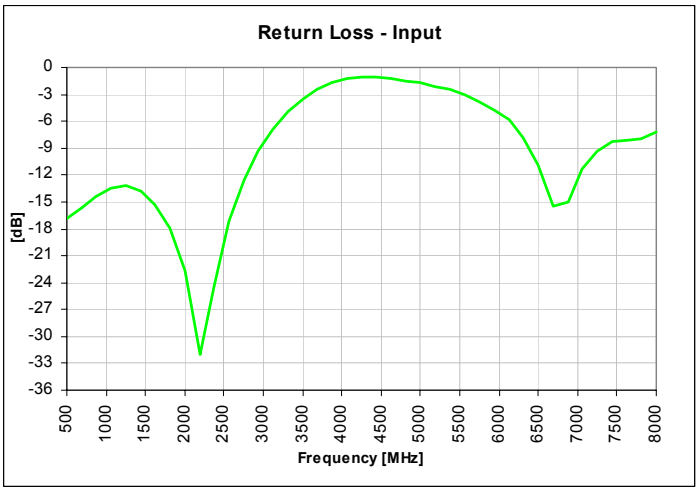
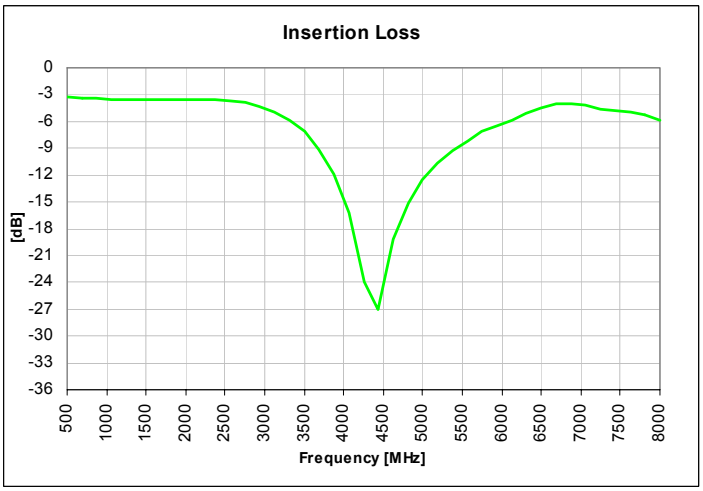
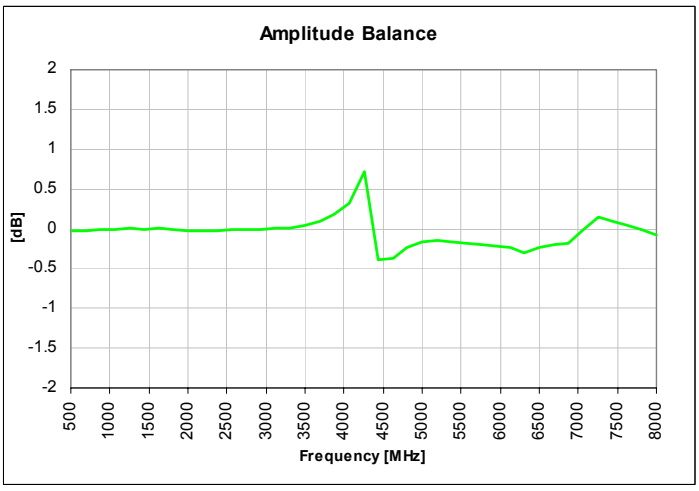
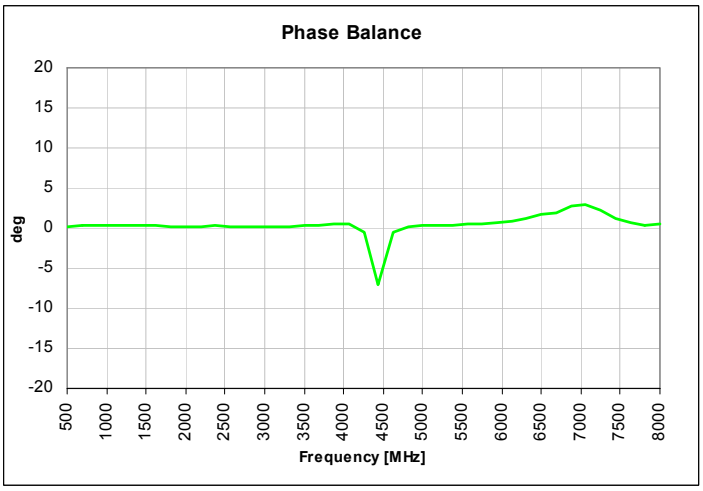
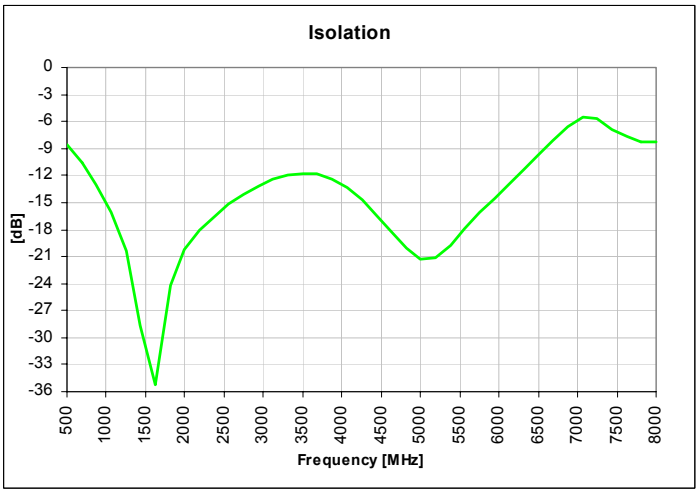
Typical Broadband Performance: 500 MHz. to 8.0 GHz.











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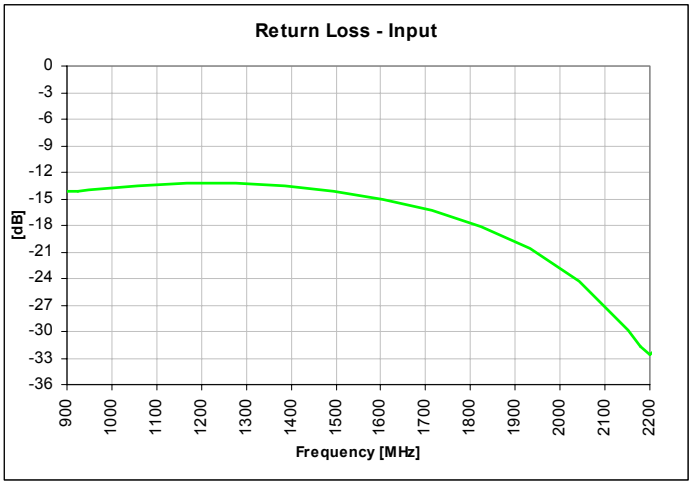
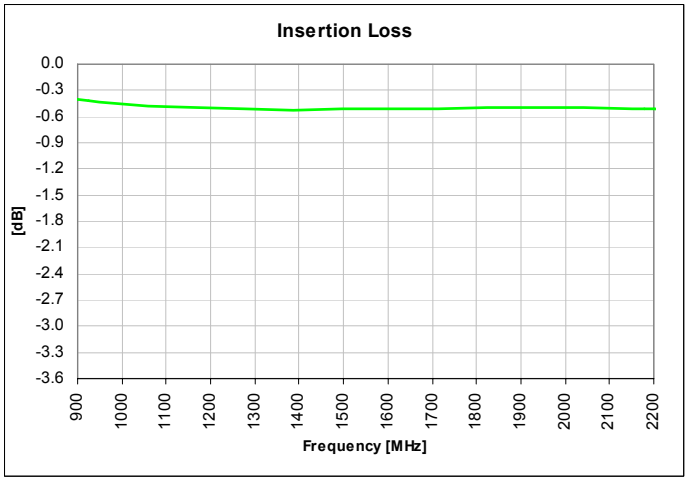
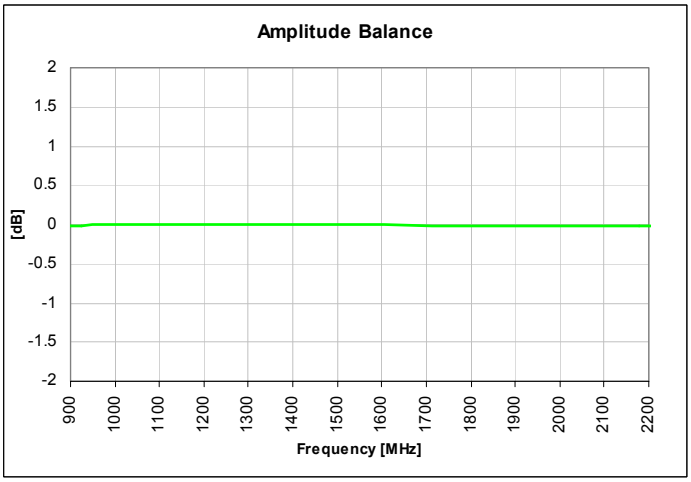
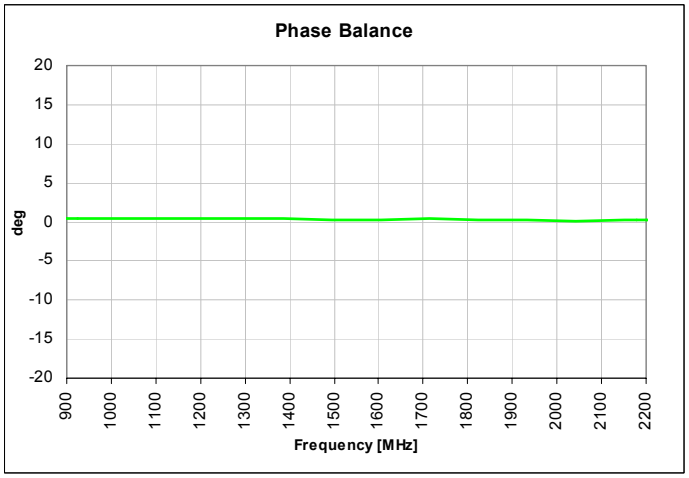
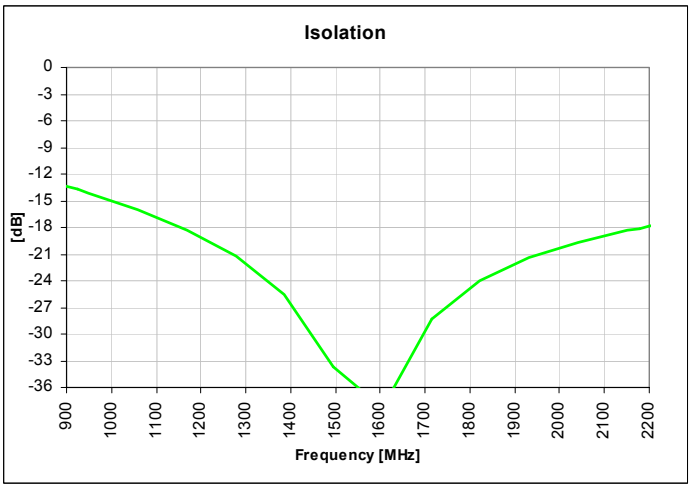
Typical Performance: 900 MHz. to 2200 MHz.











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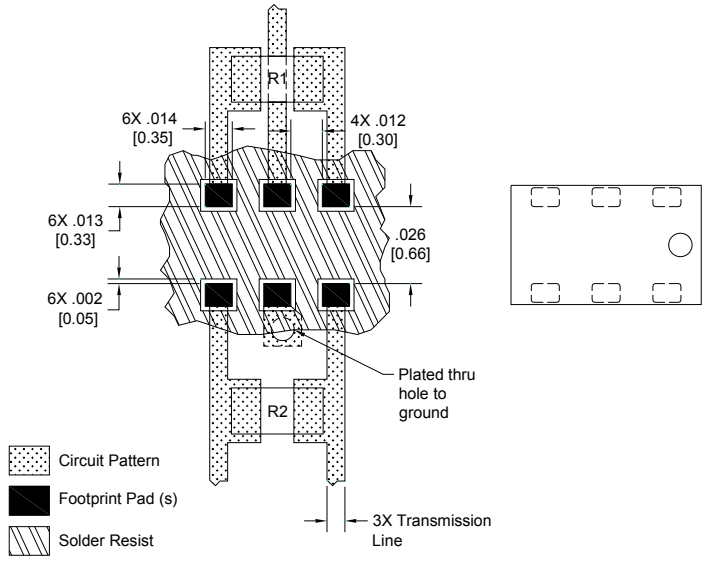
Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability having X and Y thermal coefficient of expansion (CTE) of 17 ppm/^{o}C.

An example of the PCB footprint used in the testing of these parts is shown below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances. In addition, since the PD0922J5075D2 is a Wilkinson power divider, external 0402 200Ω resistors must be mounted in locations R1 and R2 respectively, as shown in the Figure below.

Pad Footprint w/ 0402 Resistor Locations



Dimensions are in Inches [Millimeters]
Mounting Footprint

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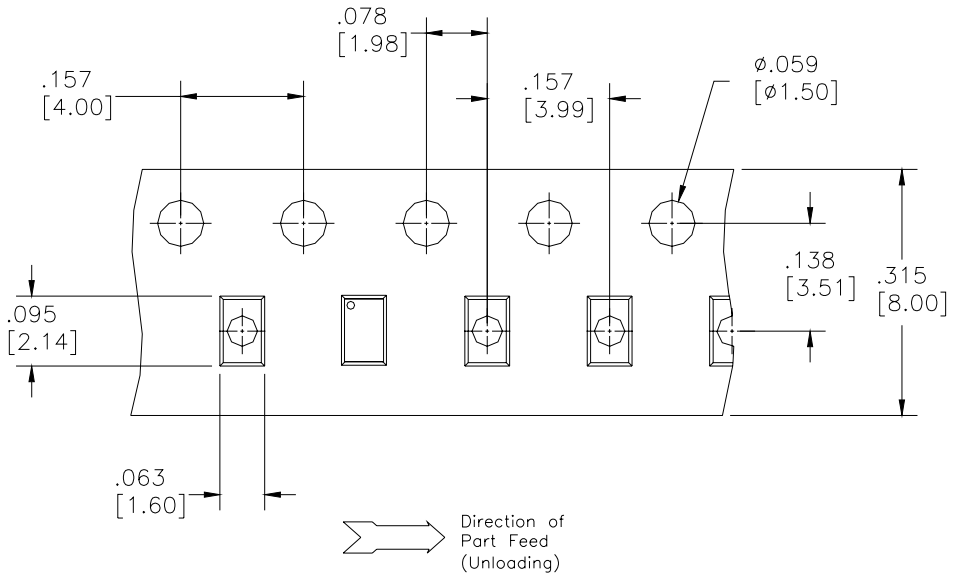
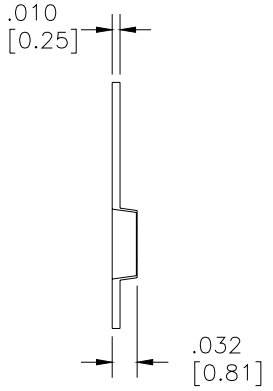
Packaging and Ordering Information

Parts are available in reel and are packaged per EIA 481-2. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel. See Model Numbers below for further ordering information.





Dimensions are in inches [mm]

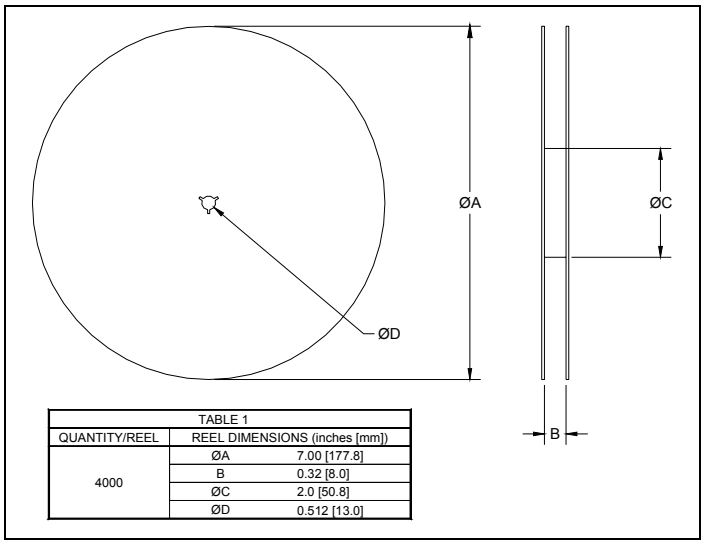


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS (inches [mm])	
4000	ØA	7.00 [177.8]
	B	0.32 [8.0]
	ØC	2.0 [50.8]
	ØD	0.512 [13.0]

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BD 2425 J 50 100 A 00

Function	Frequency	Package Dimensions	Unbalanced Impedance	Balanced Impedance + Coupling	Plating Finish	Codes
B = Balun BD = Balun + DC F = Filter FB = Filter / Balun C = 3dB Coupler DC = Directional J = RF Jumper X = RF cross over	0110 = 100 – 1000 MHz 0810 = 800 – 1000 MHz 0922 = 950 – 2150 MHz 0826 = 800 – 6200 MHz 1222 = 1200 – 2200 MHz 1416 = 1400 – 1600 MHz 1722 = 1700 – 2200 MHz 2326 = 2300 – 2600 MHz 2425 = 2400 – 2500 MHz 3150 = 3100 – 5000 MHz 3436 = 3400 – 3600 MHz 4859 = 4800 – 5900MHz 5153 = 5100 – 5300 MHz 5159 = 5100 – 5900 MHz 5759 = 5700 – 5900 MHz	A = 150 x 150 mils (4mm x 4mm) C = 120 x 120 mils (3mm x 3mm) E = 100 x 80 mils (2.5mm x 2mm) J = 80 x 50 mils (2mm x 1.25mm) L = 60 x 30 mils (1.5mm x 0.75mm) N = 40 x 40 mils (1mm x 1mm)	50 = 50 Ohm 75 = 75 Ohm	25 = 25 Ω Balanced 30 = 30 Ω Balanced 50 = 50 Ω Balanced 75 = 75 Ω Balanced 100 = 100 Ω Balanced 150 = 150 Ω Balanced 200 = 200 Ω Balanced 300 = 300 Ω Balanced 400 = 400 Ω Balanced 03 = 3dB Hybrid 10 = 10dB Directional 20 = 20dB Directional	A = Gold P = Tin-Lead	

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