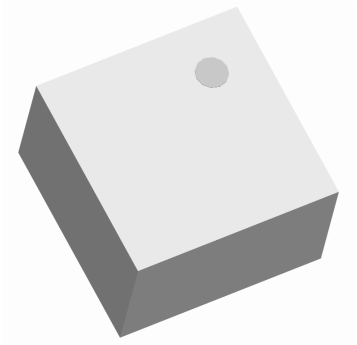
Model PD2425N5050S2

Rev A

Ultra Low Profile 0404 Power Divider 50Ω to 50Ω



Description

The PD2425N5050S2 is a low profile 1mm square, sub-miniature Wilkinson power divider in an easy to use surface mount package. The PD2425N5050S2 is ideal for high volume manufacturing and delivers higher performances than traditional printed and lumped element solutions. The PD2425N5050S2 is matched to 50Ω and has a height profile of 0.6 mm with an LGA interface which is ideal for high level integrations in module level solutions in the following markets: WiMAX, 802.11b & g, Low Energy Bluetooth, Bluetooth and ZigBee. The PD2425N5050S2 does not include the resistive element and therefore, requires an external resistor for operation. The PD2425N5050S2 is available on tape and reel for high volume manufacturing pick and place.

Features:

- **2400-2500 MHz**
- **20 dB Isolation (output ports)**
- **Good Return Loss**
- **0.6 mm Height Profile**
- **50Ω Input / 50Ω Outputs**
- **Low Insertion Loss**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Surface**
- **RoHS Compliant**
- **External Resistor Required**

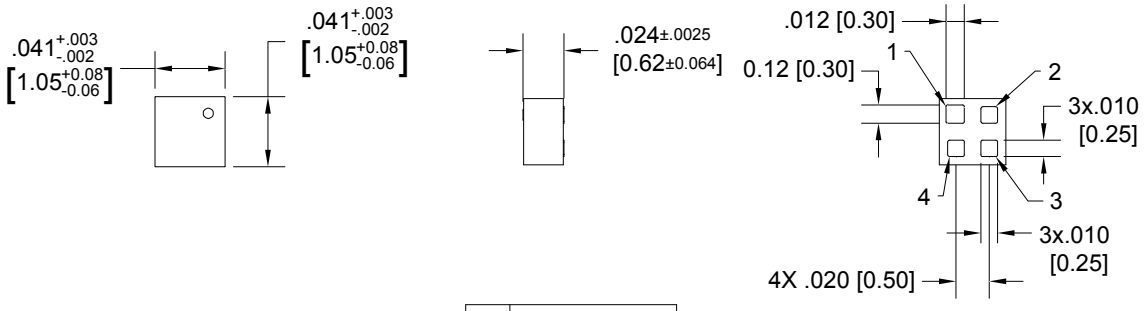
Detailed Electrical Specifications: Specifications subject to change without notice.

Parameter	ROOM (25°C) Min.	Typ.	Max	Unit
Frequency	2400		2500	MHz
Input Port Impedance		50		Ω
Output Port Impedance		50		Ω
Return Loss	21	27		dB
Insertion Loss*		0.39	0.46	dB
Amplitude Balance		0.01	0.35	dB
Phase Balance		0.5	1.3	Degrees
Isolation (Output Ports)	20	23		dB
Power Handling			0.5	Watts
Operating Temperature	-55		+85	ºC

Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 ºC)

Outline Drawing

Top View (Near-side) Side View Bottom View (Far-side)



Pin	Designation
1	GND
2	Input
3	Output 1
4	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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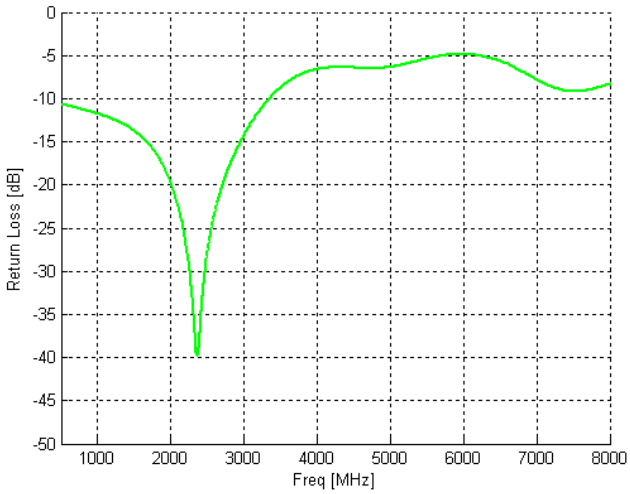
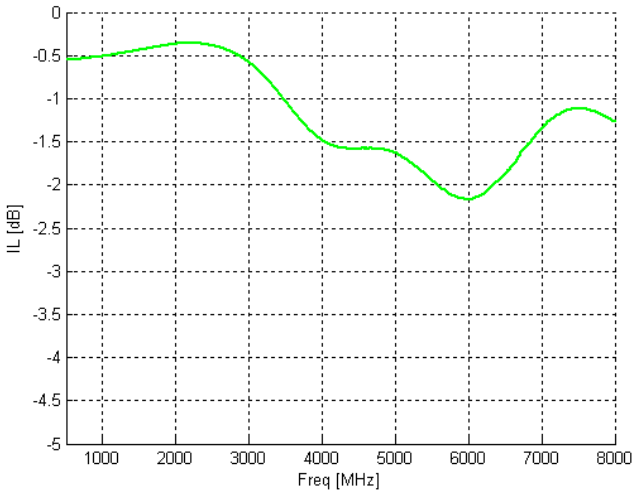
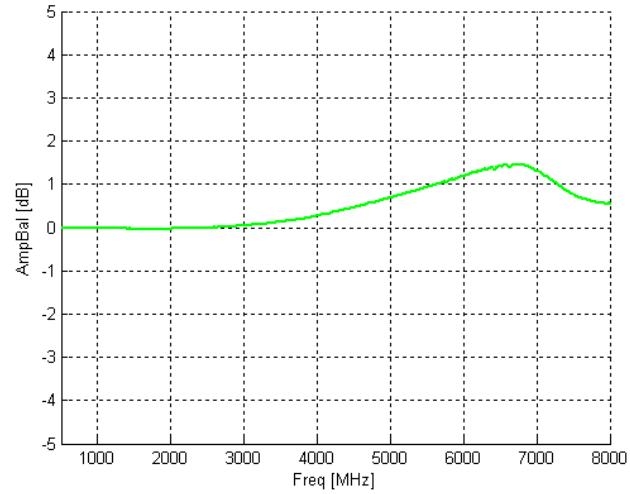
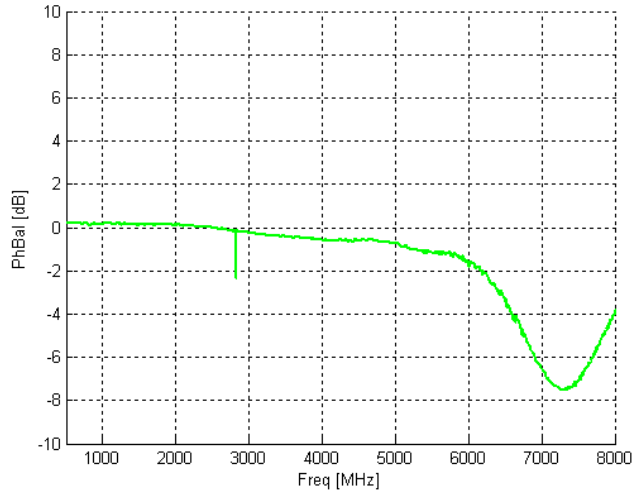
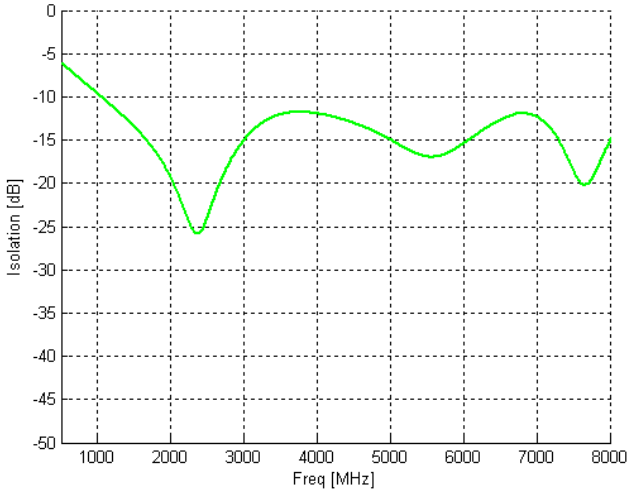
Typical Broadband Performance: 500 MHz. to 8.0 GHz.











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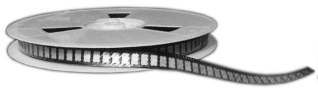

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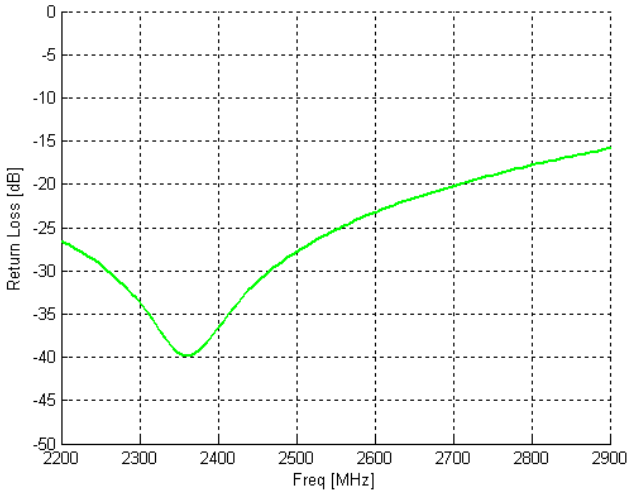
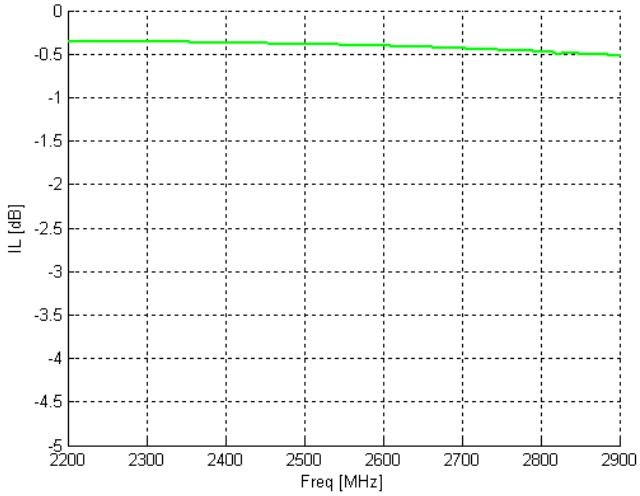
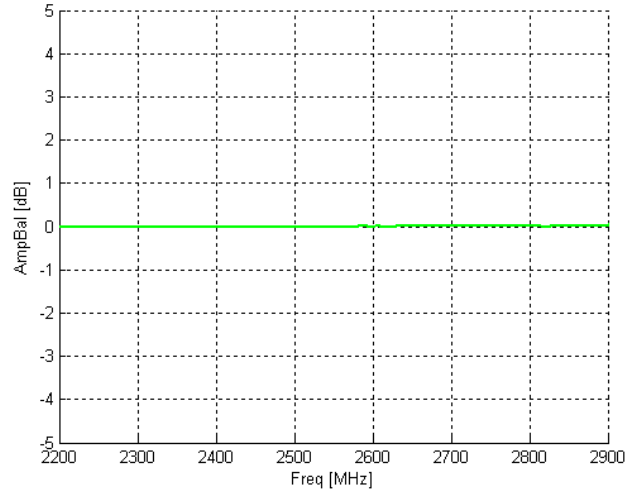
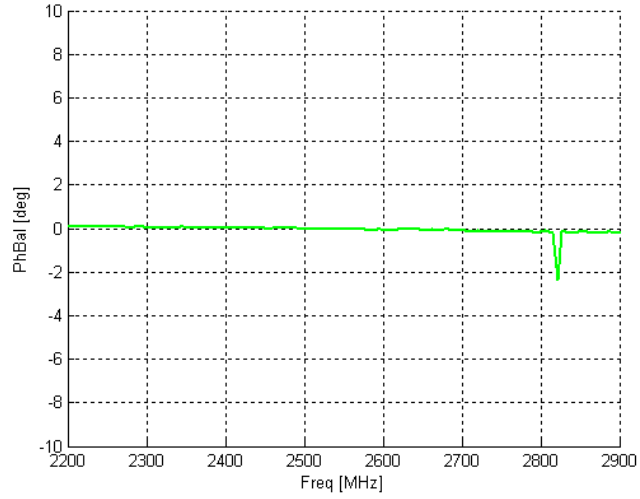
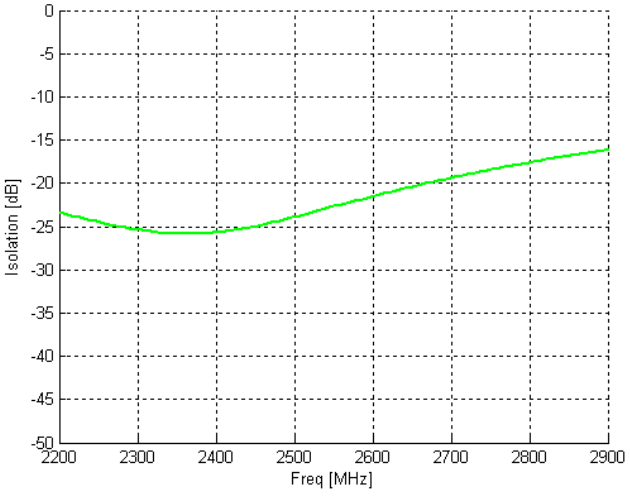
Typical Performance: 2200 MHz. to 2900 MHz.

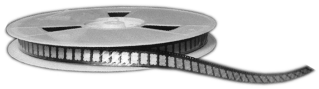












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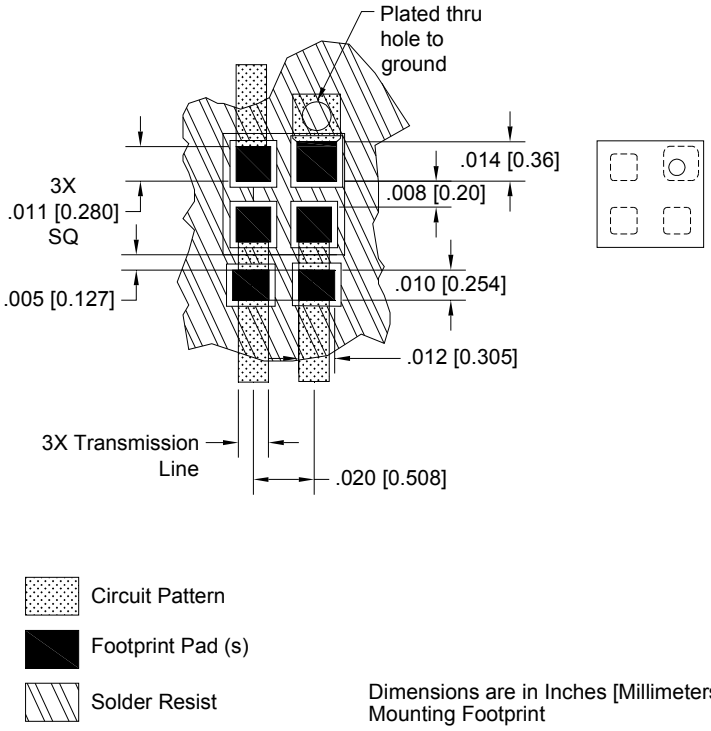
Mounting Configuration:

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.

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 PD2425S5050S2 is a Wilkinson power divider, an external 0201 100Ω resistor must be mounted in locations R1 as shown in the Figure below.

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.

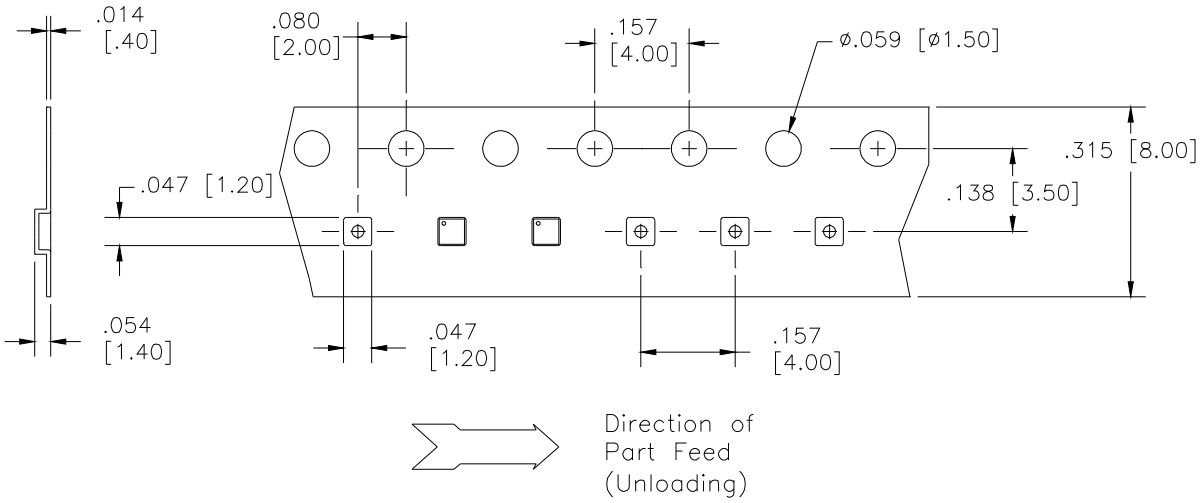
Pad Footprint w/ 0201 Resistor Locations



Dimensions are in Inches [Millimeters]
Mounting Footprint

Packaging and Ordering Information

Parts are available in reels 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.



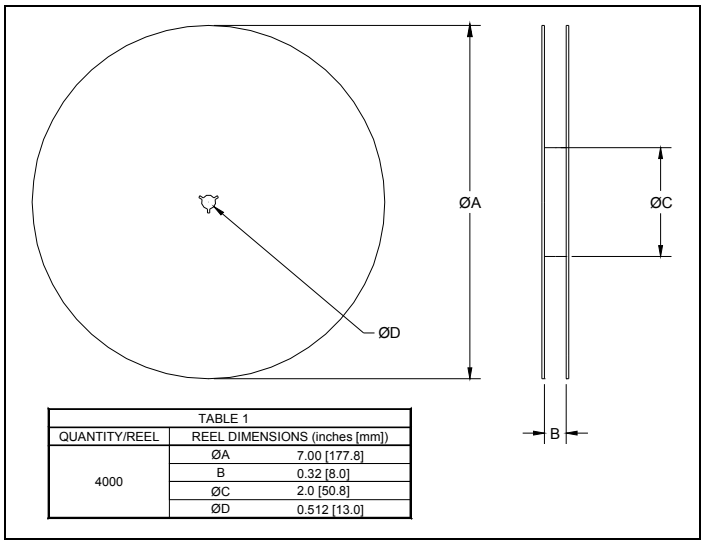
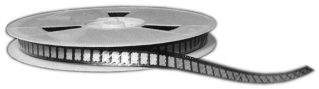


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS (inches [mm])	
4000	ØA	7.00 [177.8]
	B	0.32 [8.0]
	ØC	2.0 [50.8]
	ØD	0.512 [13.0]



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Rev A

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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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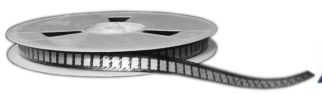

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