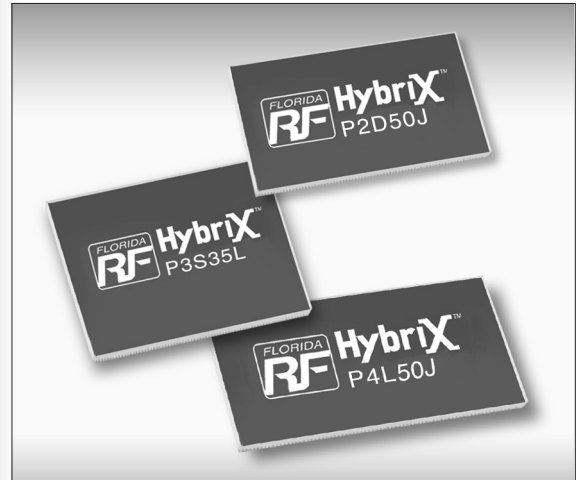


Features

- Lead free and RoHS compliant
- Frequency ranges from 420 MHz to 2.4 GHz
- Low Insertion Loss
- Surface Mountable
- High Power: 50 W Max (at 85°C)
- Excellent Isolation and low VSWR
- Available in four package sizes: Double, Standard, Large, and Extra Large
- Patent Pending Design

Applications

- Broadcast (TV and Radio)
- Combiners and Splitters
- Duplexers
- Inventory Control
- ISM Applications
- Medical
- Modulators
- Narrow Band GPS
- PCS, GSM, Cellular, 2.5G and 3G Base Stations
- Signal Distribution Nodes
- SMR Applications



Florida RF Labs® Wilkinson SMT Power Dividers are high power in-phase devices capable of combining and dividing 2-, 3-, and 4-way signals. The devices provide excellent isolation and low VSWR in a small surface mount package. They range in frequency from 420 MHz to 2.4 GHz and are lead free and RoHS compliant.

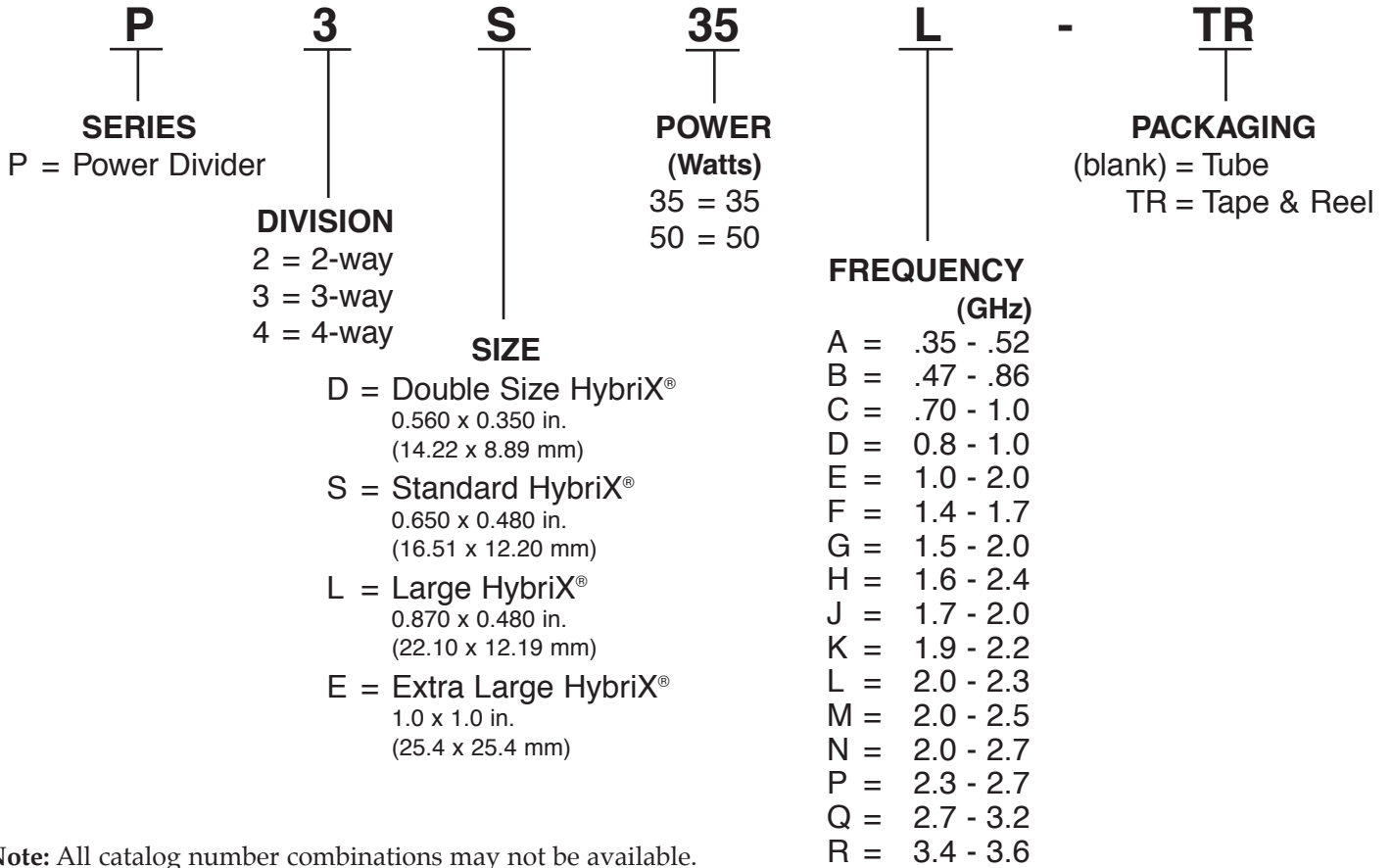
Quick Selector Chart

HybriX® Part Number	Frequency Range (GHz)	Power (Watts)
P2E50A1	0.42 - 0.46	50
P2S50D	0.8 - 1.0	50
P2D50J	1.7 - 2.0	50
P3S35J	1.7 - 2.0	35
P3S35L	2.0 - 2.4	35
P4E50D	0.7 - 0.9	50
P4L50G	1.3 - 2.0	50

Table of Contents

General Specifications	70-71
2-way Series	72-75
3-way Series	76-79
4-way Series	80-81

Power Divider Catalog Numbering Code*



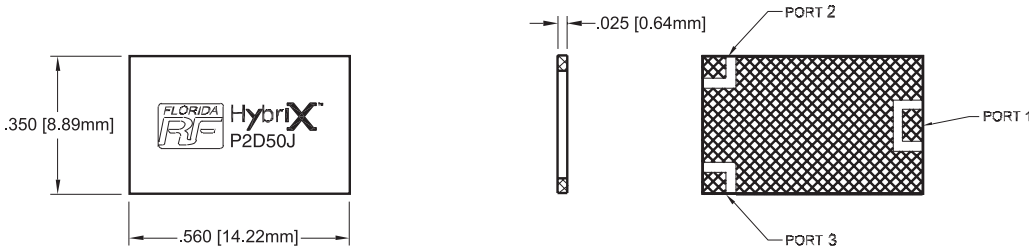
*Note: All catalog number combinations may not be available. Check appropriate catalog pages before ordering.

Division	Frequency	Size (LxW)	Isolation	Insertion Loss	VSWR (in/out)	Amplitude Balance	Phase Balance	Average Power ¹	Model Number
	GHz	Inches							
2	0.42 - 0.46	1.0 x 0.7	16	0.30	1.25/1.25	±0.20	6	50	P2E50A1
2	0.80 - 1.0	.650 x .480	16	0.30	1.4/1.3	±0.20	2	50	P2S50D
2	1.7 - 2.0	.560 x .350	20	0.30	1.4/1.3	±0.20	2	50	P2D50J
3	1.7 - 2.0	.650 x .480	19	0.25	1.4/1.4	±0.20	3	35	P3S35J
3	2.0 - 2.4*	.650 x .480	16	0.30	1.4/1.5	±0.10	8	35	P3S35L
4	0.7 - 0.9	1.0 x 1.0	14	0.70	1.25/1.25	±0.20	8	50	P4E50D
4	1.3 - 2.0*	.870 x .480	13	0.85	1.25/1.25	±0.20	4	50	P4L50G

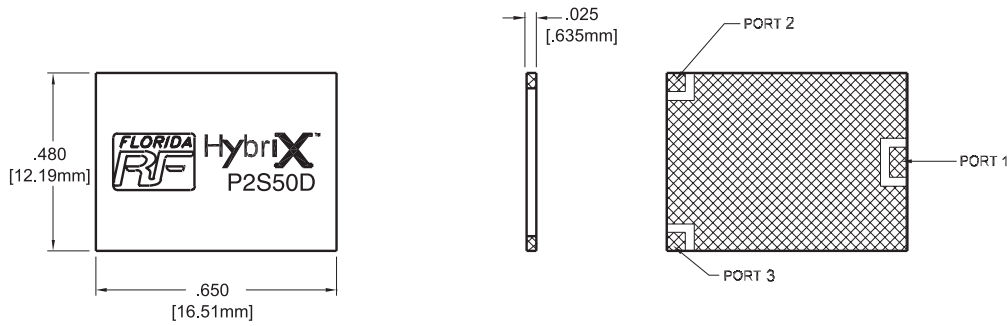
¹ at 85°C

* Extended bandwidth

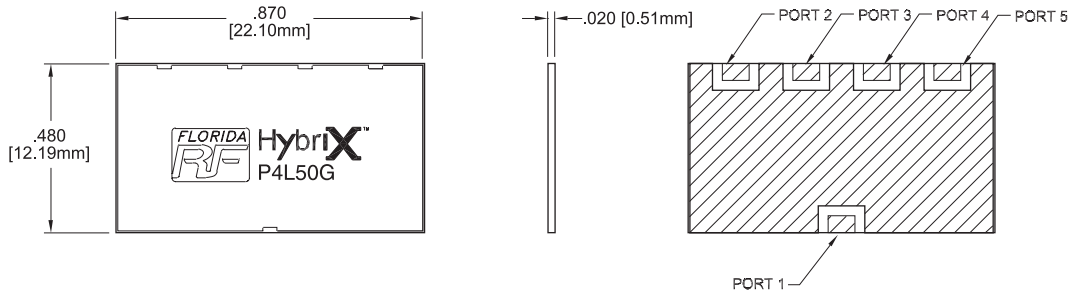
PnD Series (Double HybriX[®] Size)



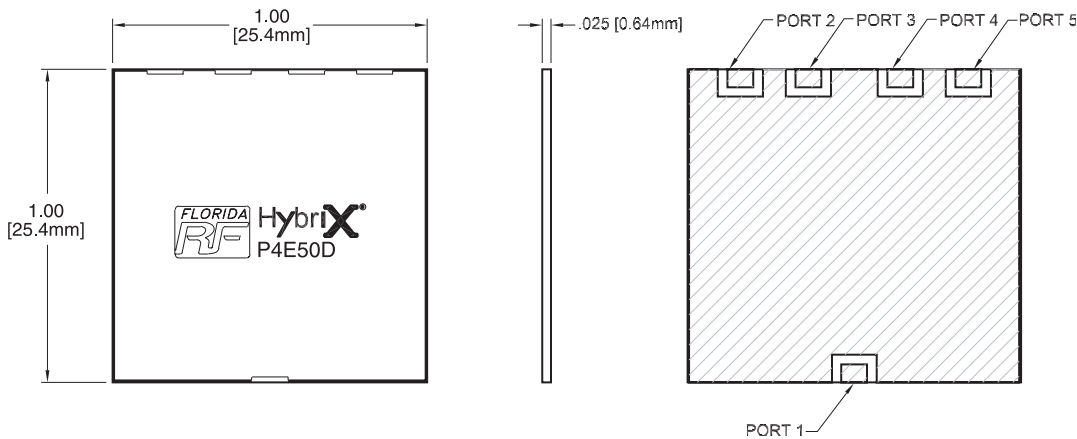
PnS Series (Standard HybriX[®] Size)



PnL Series (Large HybriX[®] Size)



PnE Series (Extra-Large HybriX[®] Size)





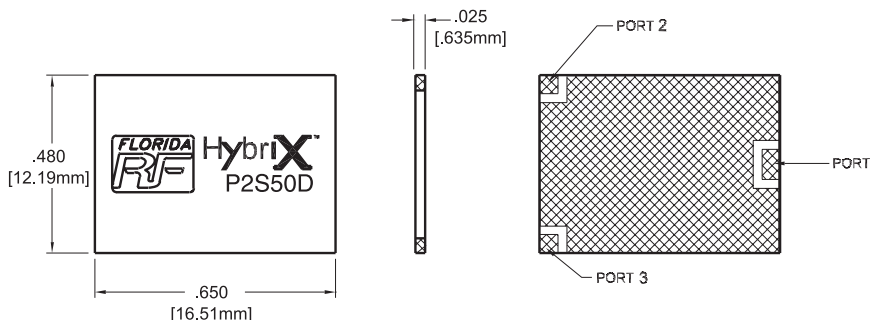
Florida RF Labs P2S50D surface mount power divider utilizes a Wilkinson circuit for 2-way power division. The device provides in phase 3 dB power division for the frequency band from 800 to 1000 MHz. In addition, it is manufactured using ceramic material which allows higher power dissipation. The P2S50D was designed for AMPS, GSM and narrowband GPS applications.

Specifications

Input Power* (W)	50
Frequency (MHz)	800 - 1000
Isolation (dB Min)	16
VSWR (In/Out Max:1)	1.40/1.30
Insertion Loss per leg (dB Max)	0.30
Amplitude Balance (dB Max)	±0.20
Phase Balance (deg Max)	±2
Size (in.)	0.650 x 0.480
Size (mm)	(16.51 x 12.19)

*Refer to Power Rating Table.

Dimensions



Features

- 2-way Power Division
- Lead free, RoHS compliant
- Ceramic Substrate
- 50W Power Rating
- Excellent Isolation
- Small Size (0.650 x 0.480 inches)
- Surface Mount

Applications

- Power Splitter
- Power Combiner
- AMPS Applications
- GSM Applications
- GPS Applications

Ordering Information

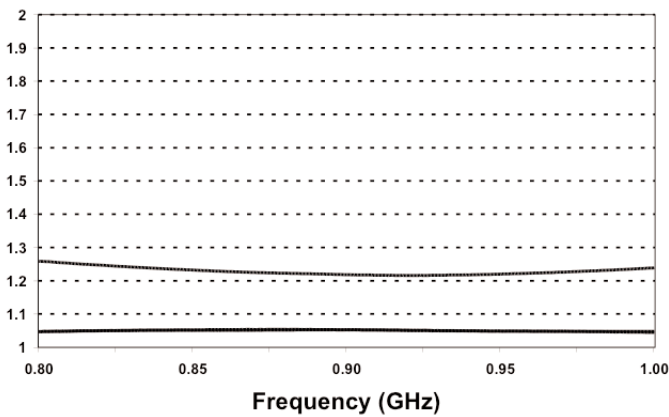
Part Number	Packaging
P2S50D	Tube
P2S50D-TR	Tape & Reel

Power Rating Table

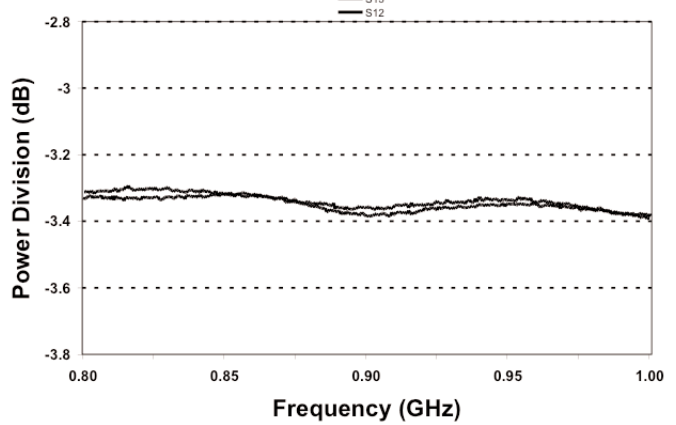
Power (W)	Output VSWR Match
50	up to 1.40:1
34	@ 1.50:1
28	@ 1.60:1
19	@ 1.70:1
17	@ 1.80:1
14	@ 1.90:1
13	@ 2.0:1

Typical Electrical Characteristics (S-Parameter data)

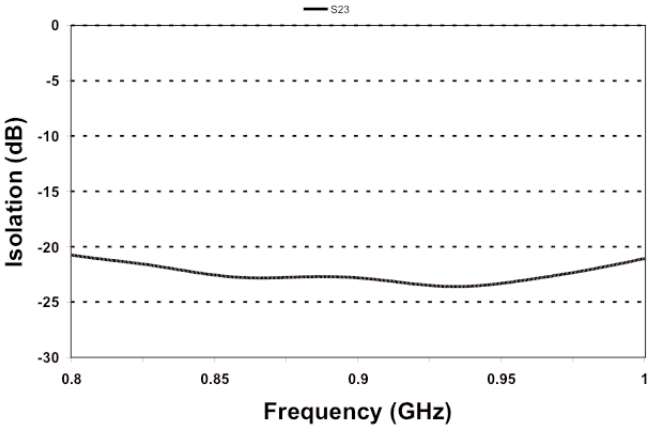
VSWR P2S50D



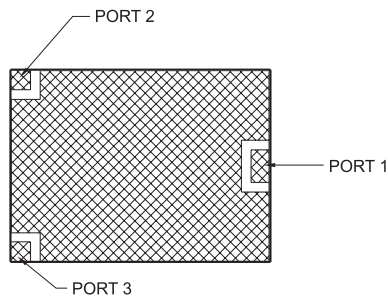
Transmission Loss P2S50D



Isolation P2S50D



Pin Configuration



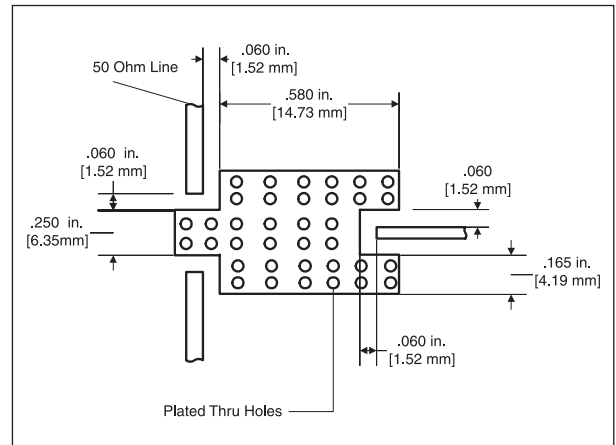
Power Division

Port 1 Input
Port 2 & 3 3 dB Output

Combiner

Port 1 Combined Output
Port 2 & 3 Input

Mounting Configuration





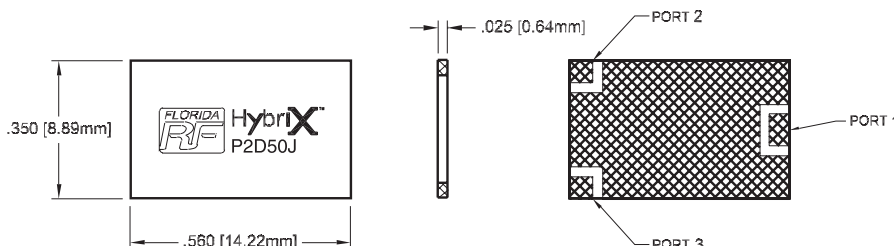
Florida RF Labs P2D50J surface mount power divider utilizes a Wilkinson circuit for 2-way power division. The device provides in phase 3 dB power division for the frequency band from 1.7 to 2.0 GHz. In addition, it is manufactured using ceramic material which allows higher power dissipation. The P2D50J was designed for PCS and 2G applications.

Specifications

Input Power* (W)	50
Frequency (GHz)	1.7 - 2.0
Isolation (dB Min)	20
VSWR (In/Out Max:1)	1.40/1.30
Insertion Loss per leg (dB Max)	0.30
Amplitude Balance (dB Max)	±0.20
Phase Balance (deg Max)	±2
Size (in.)	0.560 x 0.350
Size (mm)	(14.22 x 8.89)

*Refer to Power Rating Table.

Dimensions



Features

- 2-way Power Division
- Lead free, RoHS compliant
- Ceramic Substrate
- 50W Power Rating
- Excellent Isolation
- Small Size (0.560 x 0.350 inches)
- Surface Mount

Applications

- Power Splitter
- Power Combiner
- PCS Applications
- 2G Applications

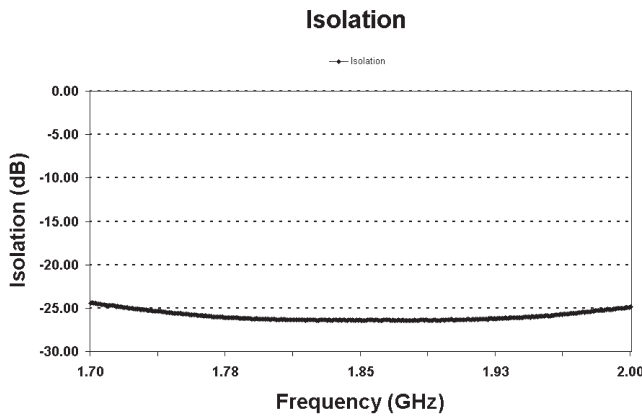
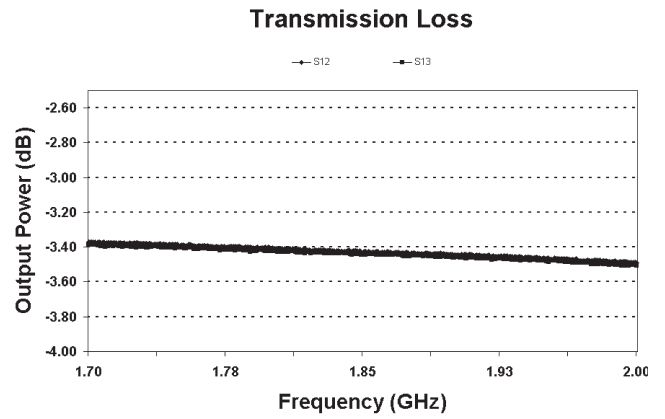
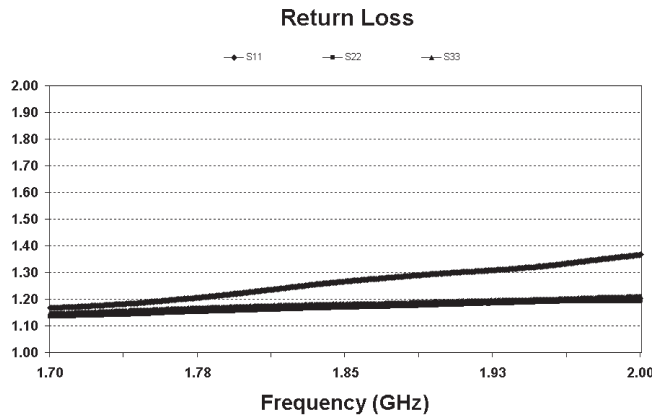
Ordering Information

Part Number	Packaging
P2D50J	Tube
P2D50J-TR	Tape & Reel

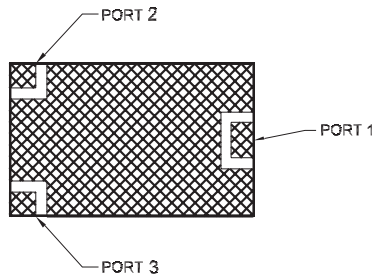
Power Rating Table

Power (W)	Output VSWR Match
50	up to 1.40:1
34	@ 1.50:1
28	@ 1.60:1
19	@ 1.70:1
17	@ 1.80:1
14	@ 1.90:1
13	@ 2.0:1

Typical Electrical Characteristics (S-Parameter data)



Pin Configuration



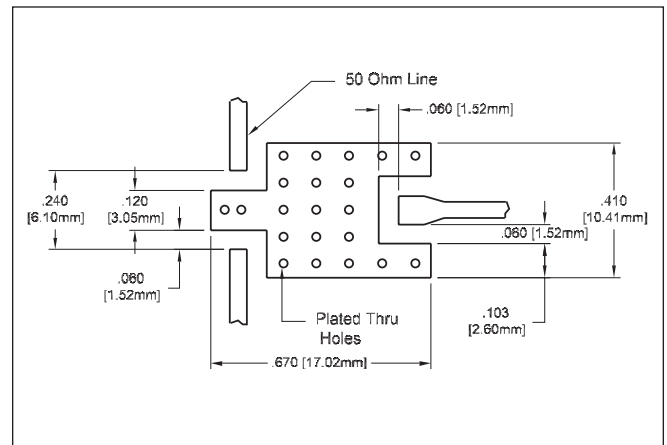
Power Division

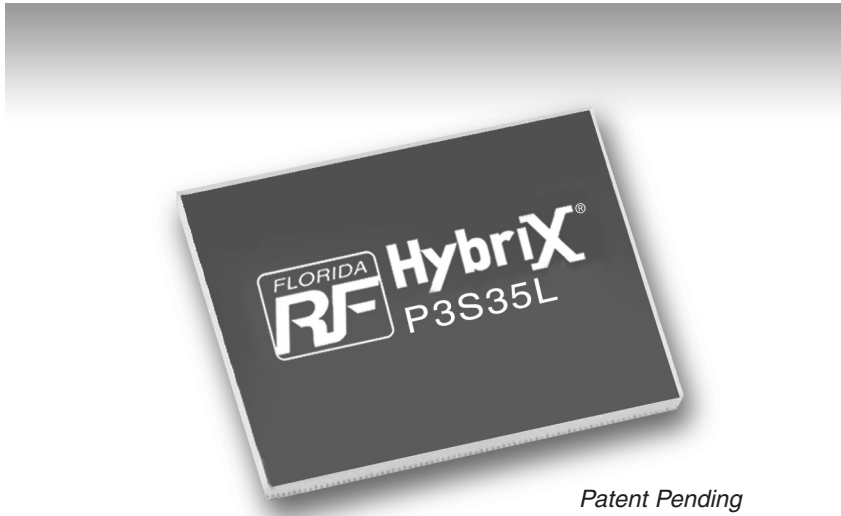
Port 1 Input
Port 2 & 3 3 dB Output

Combiner

Port 1 Combined Output
Port 2 & 3 Input

Mounting Configuration





Patent Pending

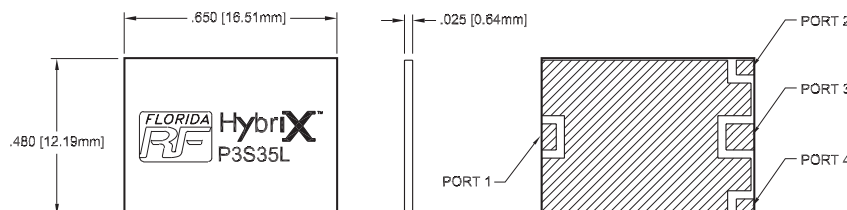
Florida RF Labs P3S35L surface mount power divider utilizes a Wilkinson circuit for 3-way power division. The device provides in phase 4.77 dB power division for the frequency band for 2.0 to 2.4 GHz. In addition, it is manufactured using ceramic material which allows higher power dissipation. The P3S35L was designed for PCS, 2.5G and 3G UMTS applications.

Specifications

Input Power* (W)	35
Frequency (GHz)	2.0 - 2.4
Isolation (dB Min)	16
VSWR (In/Out Max:1)	1.40/1.50
Insertion Loss per leg (dB Max)	0.30 total
Amplitude Balance (dB Max)	±0.10
Phase Balance (deg Max)	8
Size (in.)	0.650 x 0.480
Size (mm)	(16.51 x 12.19)

*Refer to Power Rating Table.

Dimensions



Features

- 3-way Power Division
- Lead free, RoHS compliant
- Ceramic Substrate
- 35W Power Rating
- Excellent Isolation
- Small Size (0.650 x 0.480 inches)
- Surface Mount
- Patent Pending Design

Applications

- Power Splitter
- Power Combiner
- UMTS Applications
- 2.5G and 3G Applications
- PCS Applications

Ordering Information

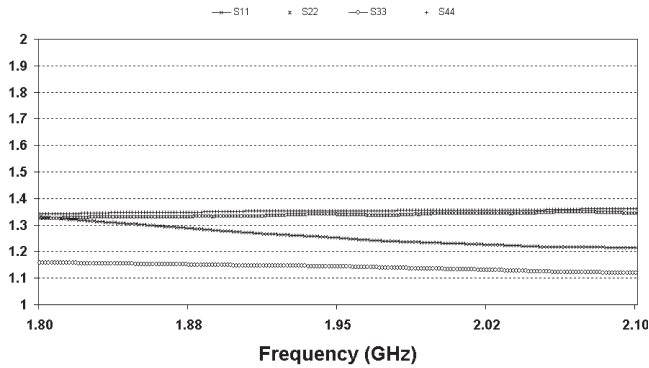
Part Number	Packaging
P3S35L	Tube
P3S35L-TR	Tape & Reel

Power Rating Table

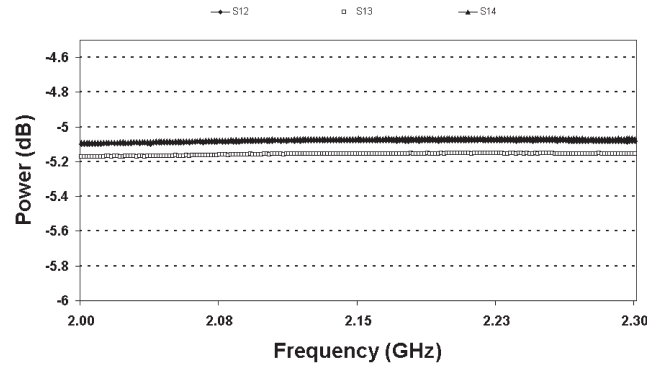
Power (W)	Output VSWR Match
35	up to 1.40:1
24	@ 1.50:1
19	@ 1.60:1
14	@ 1.70:1
12	@ 1.80:1
10	@ 1.90:1
9	@ 2.0:1

Typical Electrical Characteristics (S-Parameter data)

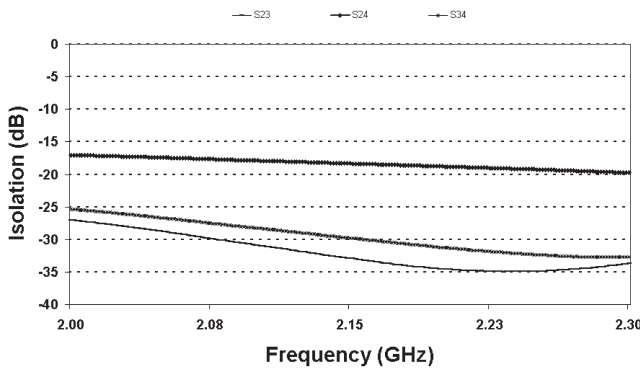
Return Loss



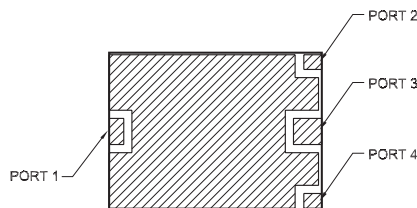
Transmission Loss



Isolation



Pin Configuration



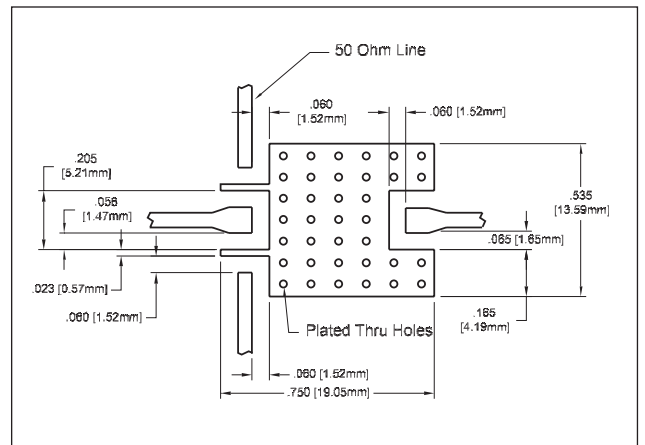
Power Division

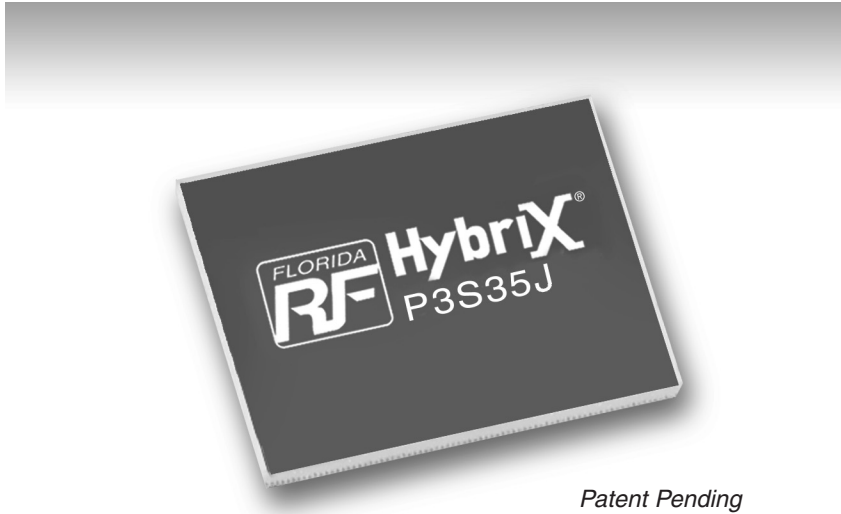
Port 1 Input
Port 2,3 & 4 3 dB Output

Combiner

Port 1 Combined Output
Port 2,3 & 4 Input

Mounting Configuration





Patent Pending

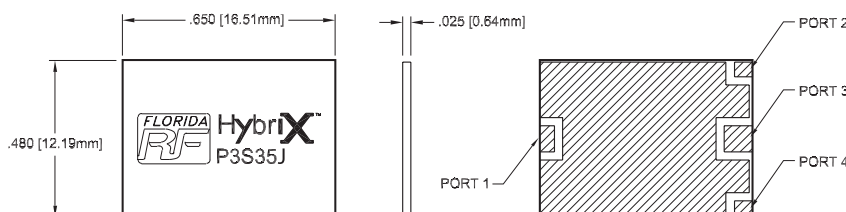
Florida RF Labs P3S35J surface mount power divider utilizes a Wilkinson circuit for 3-way power division. The device provides in phase 4.77 dB power division for the frequency band for 1.7 to 2.0 GHz. In addition, it is manufactured using ceramic material which allows higher power dissipation. The P3S35J was designed for PCS, 2.5G and 3G UMTS applications.

Specifications

Input Power* (W)	35
Frequency (GHz)	1.7 - 2.0
Isolation (dB Min)	19
VSWR (In/Out Max:1)	1.40/1.40
Insertion Loss per leg (dB Max)	0.25 total
Amplitude Balance (dB Max)	±0.20
Phase Balance (deg Max)	3
Size (in.)	0.650 x 0.480
Size (mm)	(16.51 x 12.19)

*Refer to Power Rating Table.

Dimensions



Features

- 3-way Power Division
- Lead free, RoHS compliant
- Ceramic Substrate
- 35W Power Rating
- Excellent Isolation
- Small Size (0.650 x 0.480 inches)
- Surface Mount
- Patent Pending Design

Applications

- Power Splitter
- Power Combiner
- UMTS Applications
- 2.5G and 3G Applications
- PCS Applications

Ordering Information

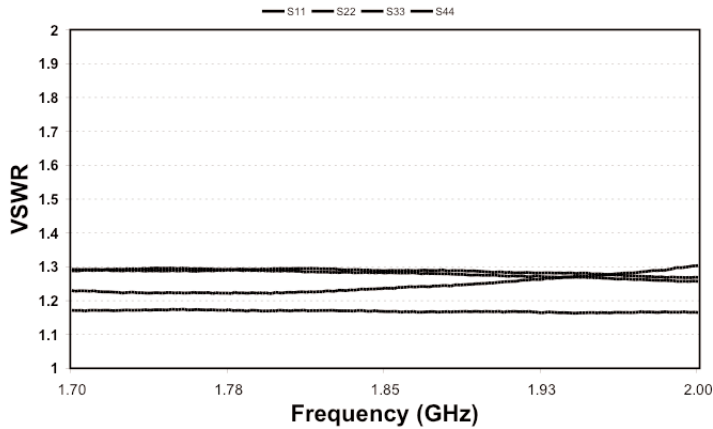
Part Number	Packaging
P3S35J	Tube
P3S35J-TR	Tape & Reel

Power Rating Table

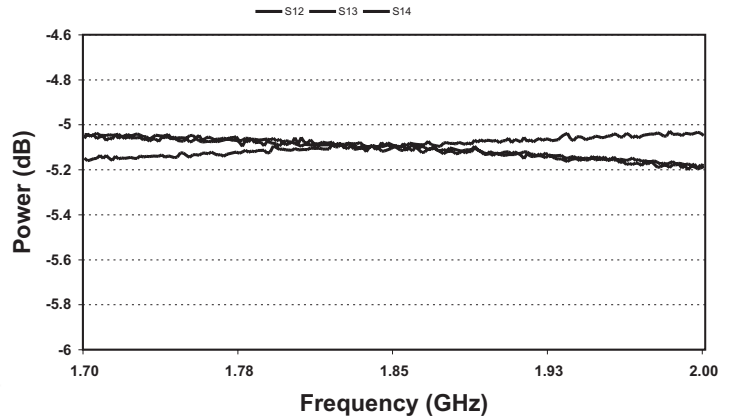
Power (W)	Output VSWR Match
35	up to 1.40:1
24	@ 1.50:1
19	@ 1.60:1
14	@ 1.70:1
12	@ 1.80:1
10	@ 1.90:1
9	@ 2.0:1

Typical Electrical Characteristics (S-Parameter data)

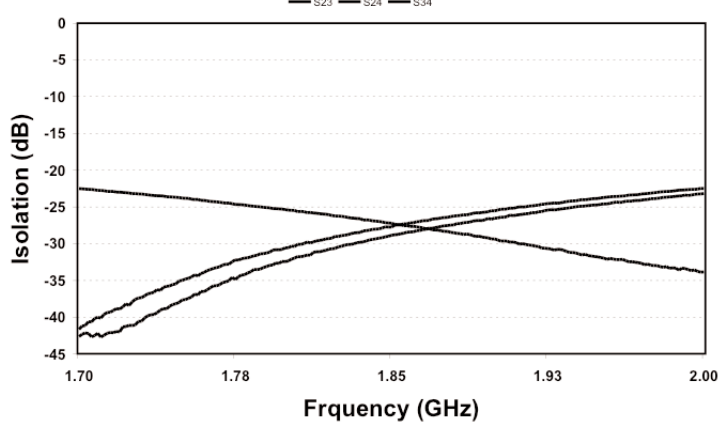
P3S35J VSWR



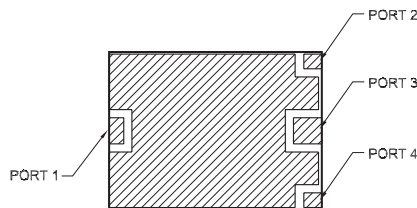
P3S35J Transmission Loss



P3S35J Isolation



Pin Configuration



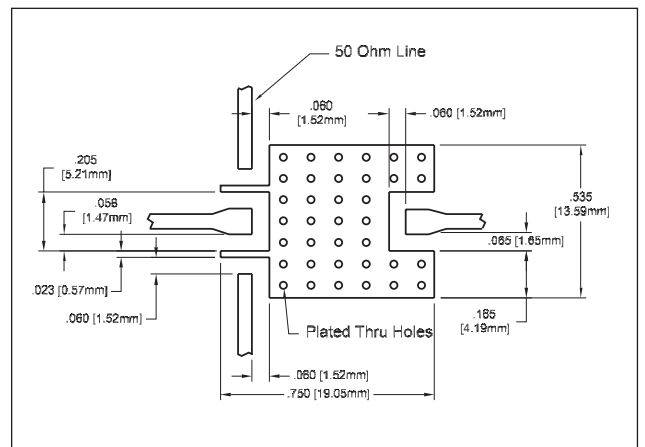
Power Division

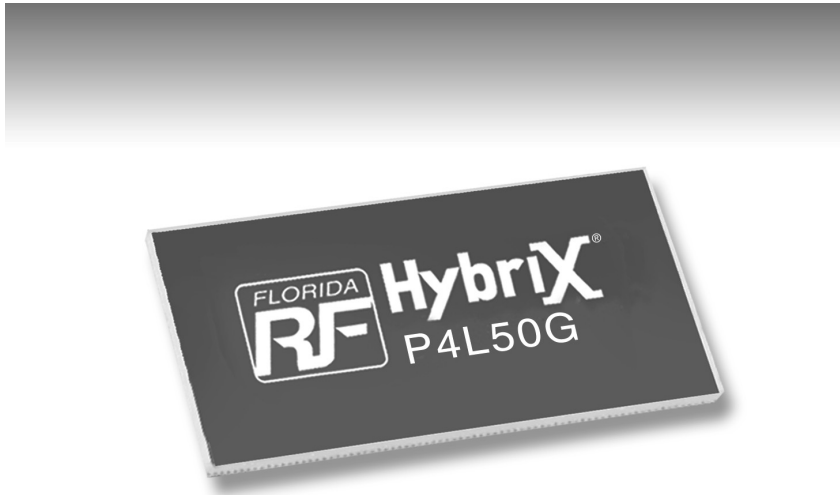
Port 1 Input
Port 2,3 & 4 3 dB Output

Combiner

Port 1 Combined Output
Port 2,3 & 4 Input

Mounting Configuration





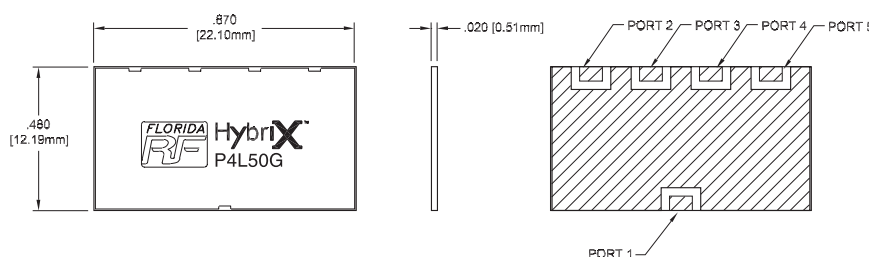
Florida RF Labs P4L50G surface mount power divider utilizes a Wilkinson circuit for 4-way power division. The device provides in phase 6 dB power division for the frequency band of 1300 to 2000 MHz. In addition, it is manufactured using alumina ceramic which allows for higher power dissipation. The P4L50G was designed for PCS and 2G applications.

Specifications

Input Power* (W)	50
Frequency (MHz)	1300 - 2000
Isolation (dB Min)	13
VSWR (In/Out Max:1)	
1.3 to 1.6 GHz	1.25/1.20
1.6 to 2.0 GHz	1.25/1.25
Insertion Loss per leg (dB Max)	
1.3 to 1.6 GHz	0.70
1.6 to 2.0 GHz	0.85
Amplitude Balance (dB Max)	±0.10
Phase Balance (deg Max)	
1.3 to 1.6 GHz	6
1.6 to 2.0 GHz	7
Size (in.)	0.875 x 0.480
Size (mm)	(22.22 x 12.19)

*Refer to power rating table.

Dimensions



Features

- 4-way Power Division
- Lead free, RoHS compliant
- Alumina Substrate
- 50 Watt Power Rating
- Excellent Isolation
- Small Size (0.870 x 0.480 inches)
- Surface Mount

Applications

- Power Splitter
- Power Combiner
- PCS Applications
- 2G Applications

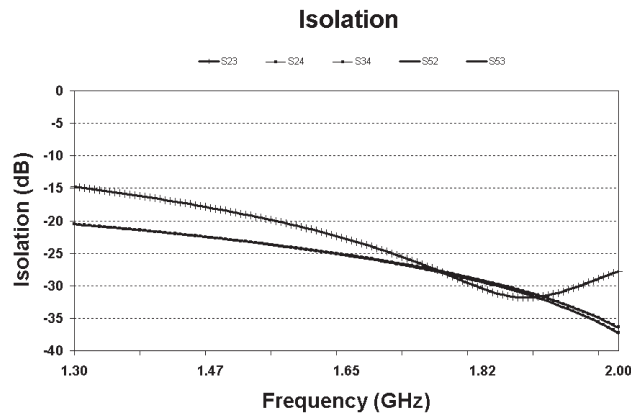
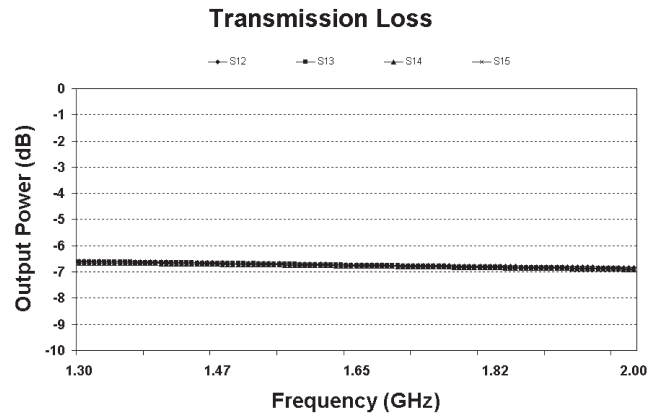
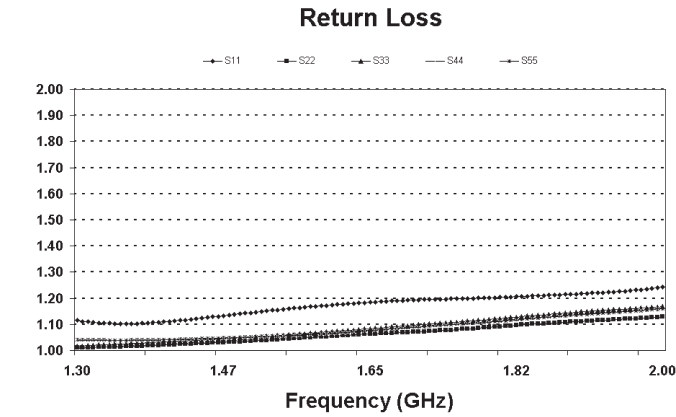
Ordering Information

Part Number	Packaging
P4L50G	Tube
P4L50G-TR	Tape & Reel

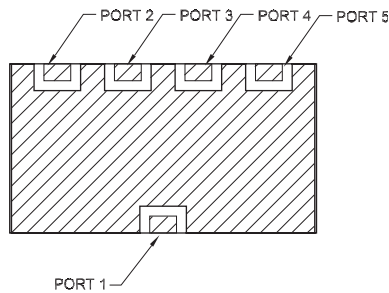
Power Rating Table

Power (W)	Output VSWR Match
50	up to 1.40:1
34	@ 1.50:1
28	@ 1.60:1
19	@ 1.70:1
17	@ 1.80:1
14	@ 1.90:1
13	@ 2.0:1

Typical Electrical Characteristics (S-Parameter data)



Pin Configuration



Power Division

Port 1 Input
Port 2,3,4 & 5 6.0 dB Output

Combiner

Port 1 Combined Output
Port 2,3,4 & 5 Input

Mounting Configuration

