

**Drop-In 90 Degree Hybrid Coupler From 1 GHz to 4.2 GHz Rated To 80 Watts**

The FMCP1054 operates from 1 GHz to 4.2 GHz and can handle 80 watts of power with 18 dB isolation. The package is 2.2 inch by .8 inch with gold plated silver leads and can be attached to a heat sink and PCB by screws. Gold plated leads are resistant to oxidation for ease of soldering and ensuring superior electrical performance of 1.3:1 VSWR and an insertion loss of 0.5 dB.

The FMCP1054 is part of Fairview Microwave's family of 90 degree hybrid couplers in drop-in packages. These couplers feature small drop-in packages that can handle power up to 1,000 Watts. They are available in both narrow and broad bandwidths. These quadrature hybrids are excellent for any situation to either equally split an input signal into two paths with a 90 degree phase shift between them or to combine two signals while maintaining high isolation between them.



**Features:**

- High Power
- 18 dB isolation
- 1 GHz to 4.2 GHz Frequency Range
- Gold Plated Silver Leads
- 2.2 inch by 0.8 inch package
- Clear Chem Film Per MIL-DTL-5541

**Electrical Specifications**

Description	Min	Typ	Max	Units
Frequency Range	1		4.2	GHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Insertion Loss			0.5	dB
Isolation	18			dB
VSWR			1.3:1	
Amplitude Balance		±0.5		dB
Phase Balance		±5		Degrees
Input Power (CW)			80	Watts

**Applications:**

- Test and measurement
- Military Communications
- Commercial Communications
- Wireless Communications
- SATCOM
- Military Electronic Systems

**Mechanical Specifications**

**Size**

Length	2.2 in [55.88 mm]
Width	0.21 in [5.33 mm]
Height	0.8 in [20.32 mm]
Weight	0.03 lbs [13.61 g]
Body Plating Specification	MIL-DTL-5541

**Configuration**

RF Connector Type	Pin
Contact Material and Plating	Silver, Gold

**Environmental Specifications**

**Temperature**

Operating Range	-55 to +85 deg C
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**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

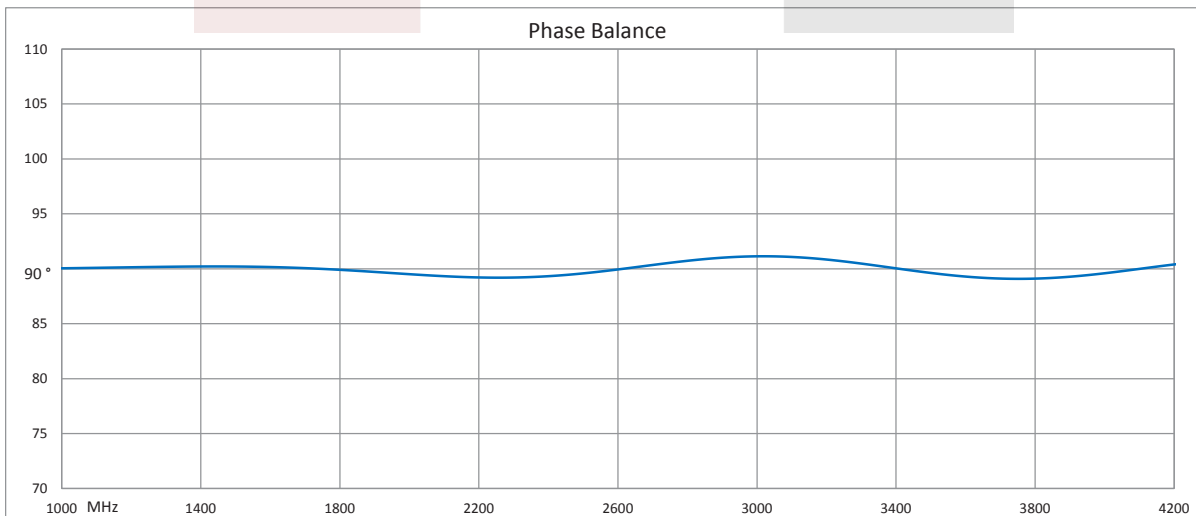
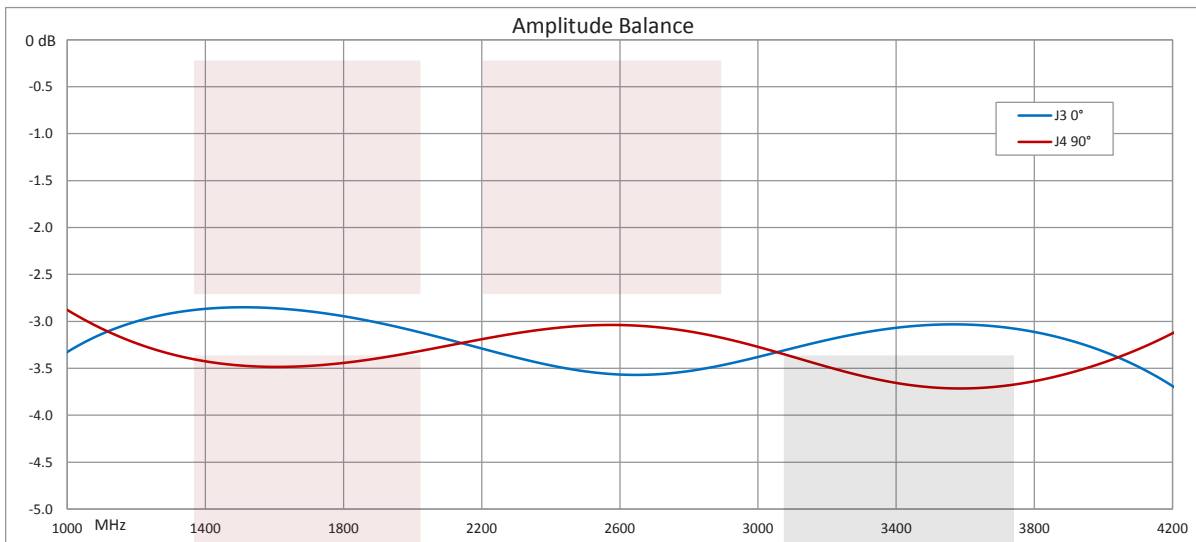
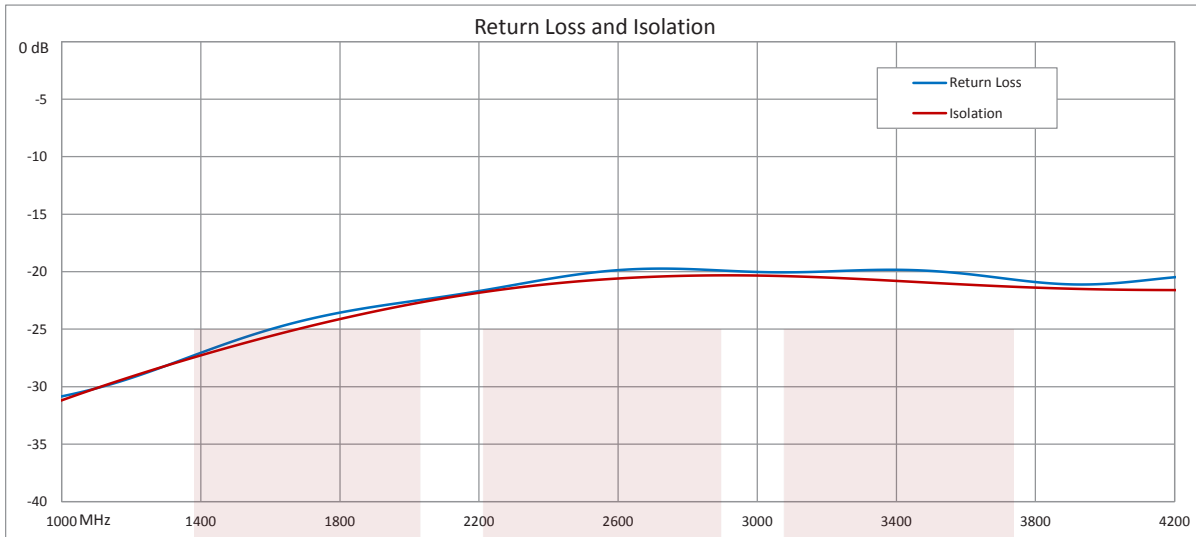
RoHS Compliant	
REACH Compliant	12/17/2015

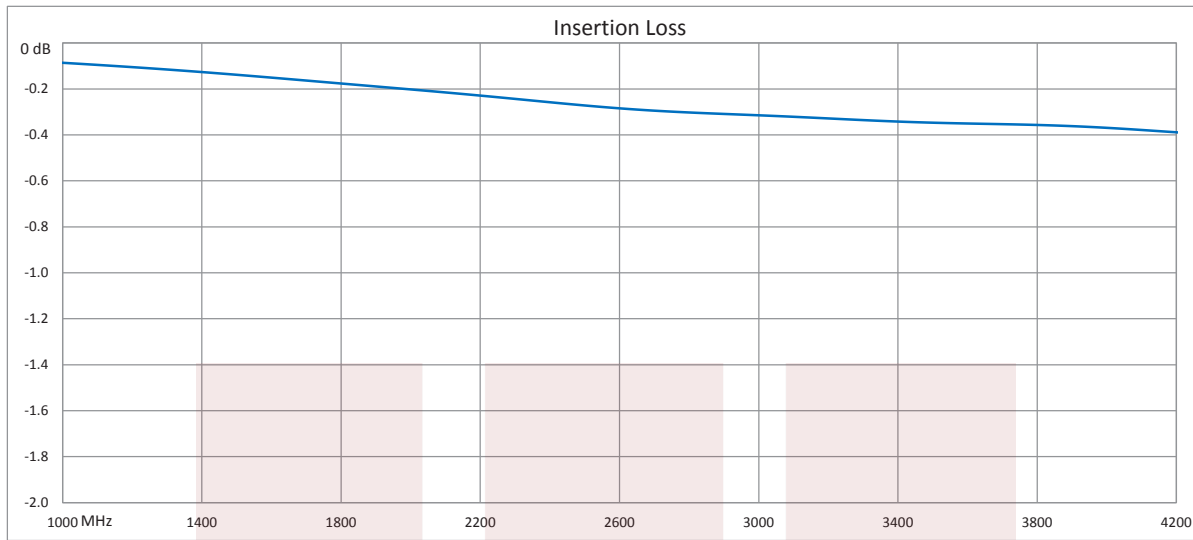
**Plotted and Other Data**

Notes:

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**Typical Performance Data**



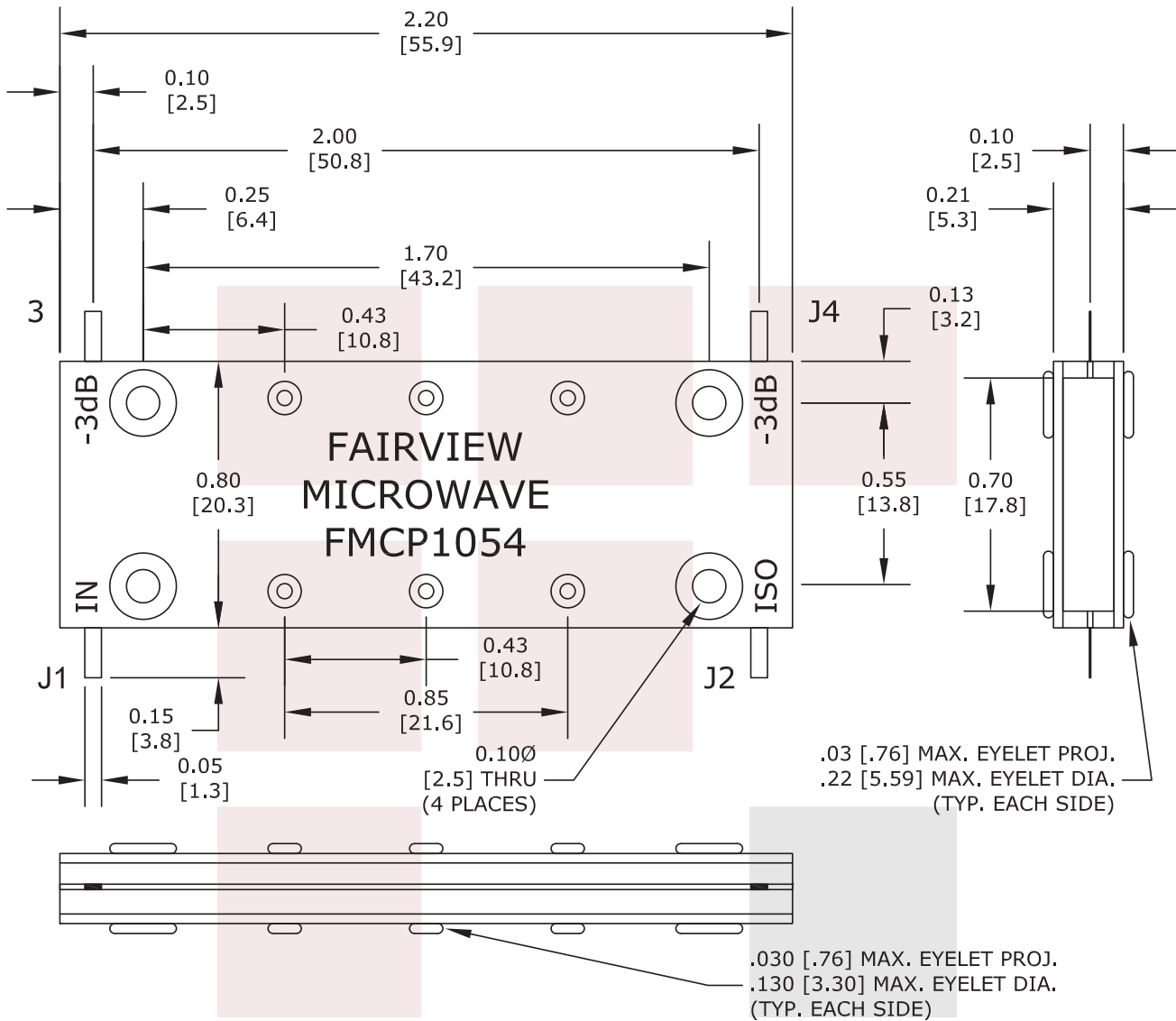


Drop-In 90 Degree Hybrid Coupler From 1 GHz to 4.2 GHz Rated To 80 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Drop-In 90 Degree Hybrid Coupler From 1 GHz to 4.2 GHz Rated To 80 Watts FMCP1054](#)

URL: <http://www.fairviewmicrowave.com/pin-90-degree-hybrid-coupler-1-4.2-ghz-80-watts-fmcp1054-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



.03 [.76] MAX. EYELET PROJ.  
.22 [5.59] MAX. EYELET DIA.  
(TYP. EACH SIDE)

.030 [.76] MAX. EYELET PROJ.  
.130 [3.30] MAX. EYELET DIA.  
(TYP. EACH SIDE)

TOLERANCE	.XX ± .02 [.50]
IN [mm]	.XXX ± .005 [.127]
ANG.	± 1/2°

\* THESE DIMENSIONS AND TOLERANCES SUPSEDE NOTE #1 ON TITLE BLOCK.

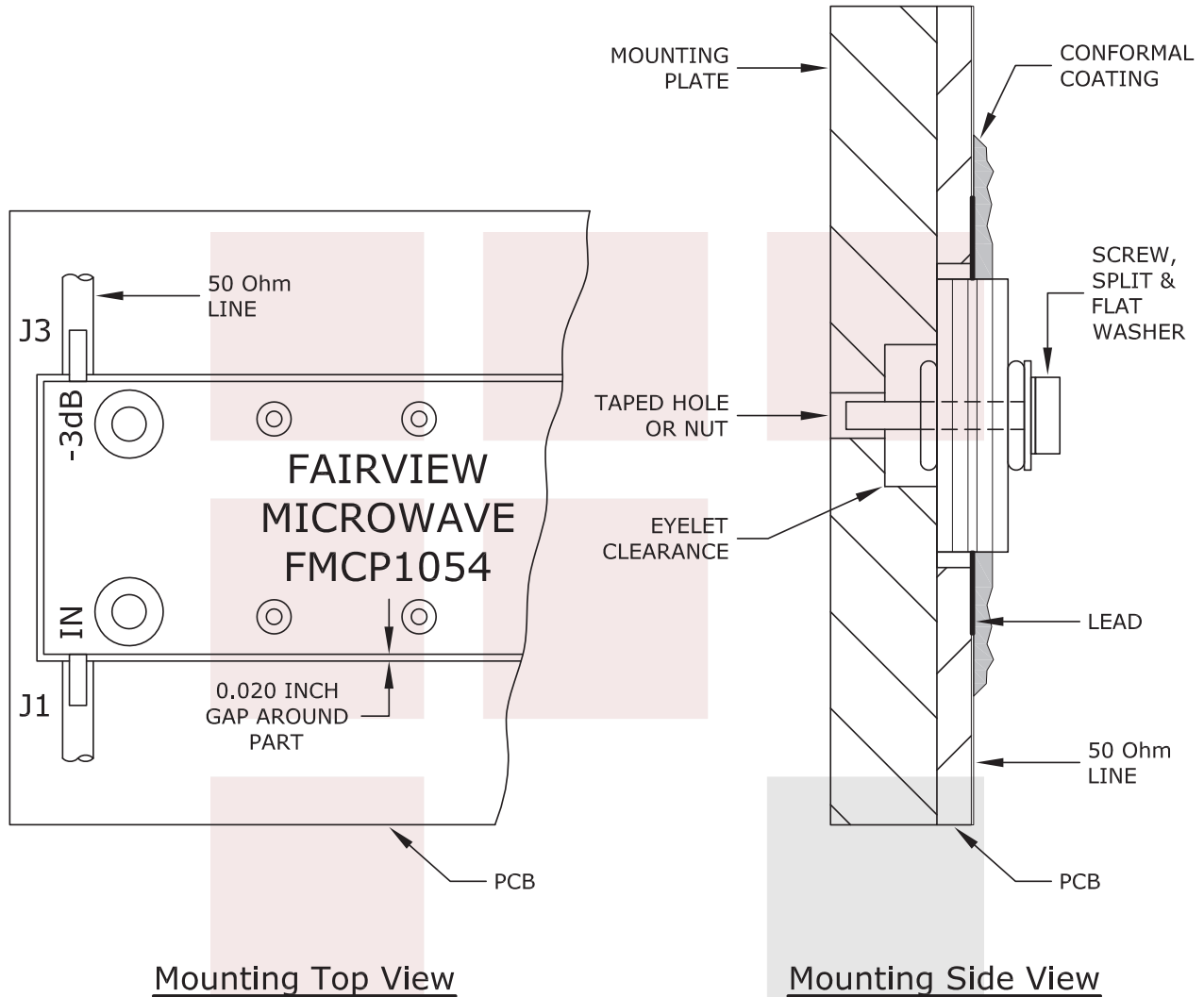
PORT CONFIGURATION				
INPUT	J1	J2	J3	J4
J1	---	ISOLATION	-3dB<0 DEG	-3dB<90 DEG
J2	ISOLATION	---	-3dB<90 DEG	-3dB<0 DEG
J3	-3dB<0 DEG	-3dB<90 DEG	---	ISOLATION
J4	-3dB<90 DEG	-3dB<0 DEG	ISOLATION	---

**FAIRVIEW MICROWAVE INC.**  
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NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

TITLE  
Drop-In 90 Degree Hybrid Coupler From 1 GHz to 4.2 GHz Rated To 80 Watts

DWG NO	FMCP1054	CAGE CODE	3FKR5				
CAD FILE	022416	SHEET	SCALE	N/A	SIZE	A	2233



Mounting Top View

Mounting Side View

**NOTE:**

1. CONFORMAL COATING IS RECOMMENDED AT THE LEAD / 50 Ohm LINE INTERFACE FOR HIGH POWER APPLICATIONS TO PREVENT VOLTAGE ARCING.
2. TO INSURE PROPER GROUNDING THE BOTTOM PLATE OF COUPLER MUST LAY FLAT ON MOUNTING SURFACE. PLEASE ALLOW CLEARANCE FOR ALL EYELET PROJECTIONS IN BASE PLATE.
3. SOLDER LEADS TO 50 Ohm LINES USING LEAD FREE OR Sn63 ALLOY.
4. TORQUE STAINLESS STEEL SCREW, SPLIT AND FLAT WASHER TO 2.5 in-lbs.

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