

Drop-In 90 Degree Hybrid Coupler From 400 MHz to 1,000 MHz Rated To 800 Watts

The FMCP1039 operates from 400 MHz to 1,000 MHz and can handle 800 watts of power with 20 dB isolation. The package is 2.65 inch by 2.65 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 1.25:1 VSWR and an insertion loss of 0.2 dB.

The FMCP1039 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.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	400		1,000	MHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Insertion Loss			0.2	dB
Isolation	20			dB
VSWR			1.25:1	
Amplitude Balance		0.7		dB
Phase Balance		5		Degrees
Input Power (CW)			800	Watts

Mechanical Specifications

Size

Length	2.65 in [67.31 mm]
Width	2.65 in [67.31 mm]
Height	0.42 in [10.67 mm]
Weight	0.4195 lbs [190.28 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 (see [product page](#) for current document)

Plotted and Other Data

Notes:



Features:

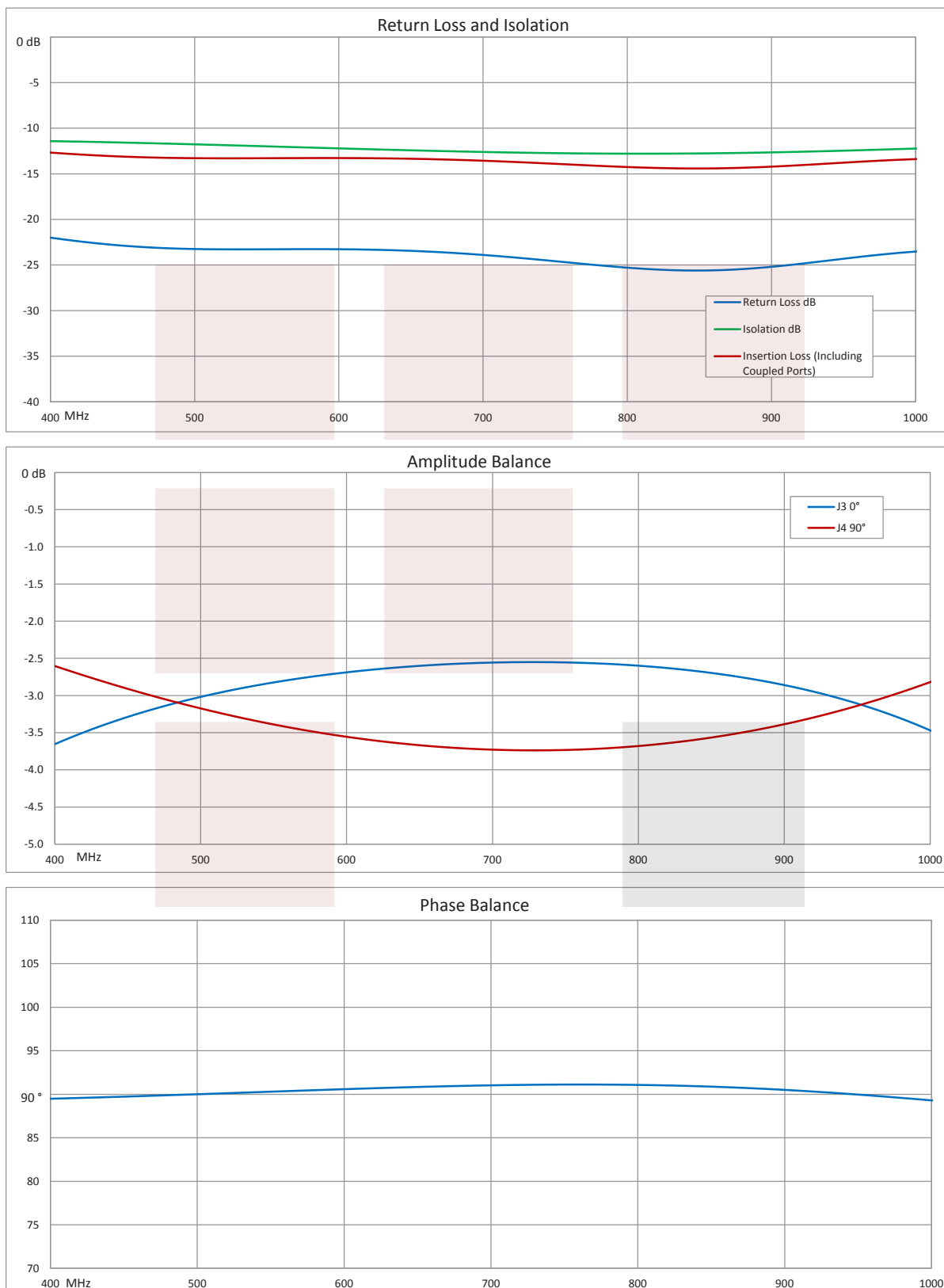
- High Power
- 20 dB isolation
- 400 MHz to 1,000 MHz Frequency Range
- Gold Plated Silver Leads
- 2.65 inch by 2.65 inch package
- Clear Chem Film Per MIL-DTL-5541

Applications:

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

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Typical Performance Data



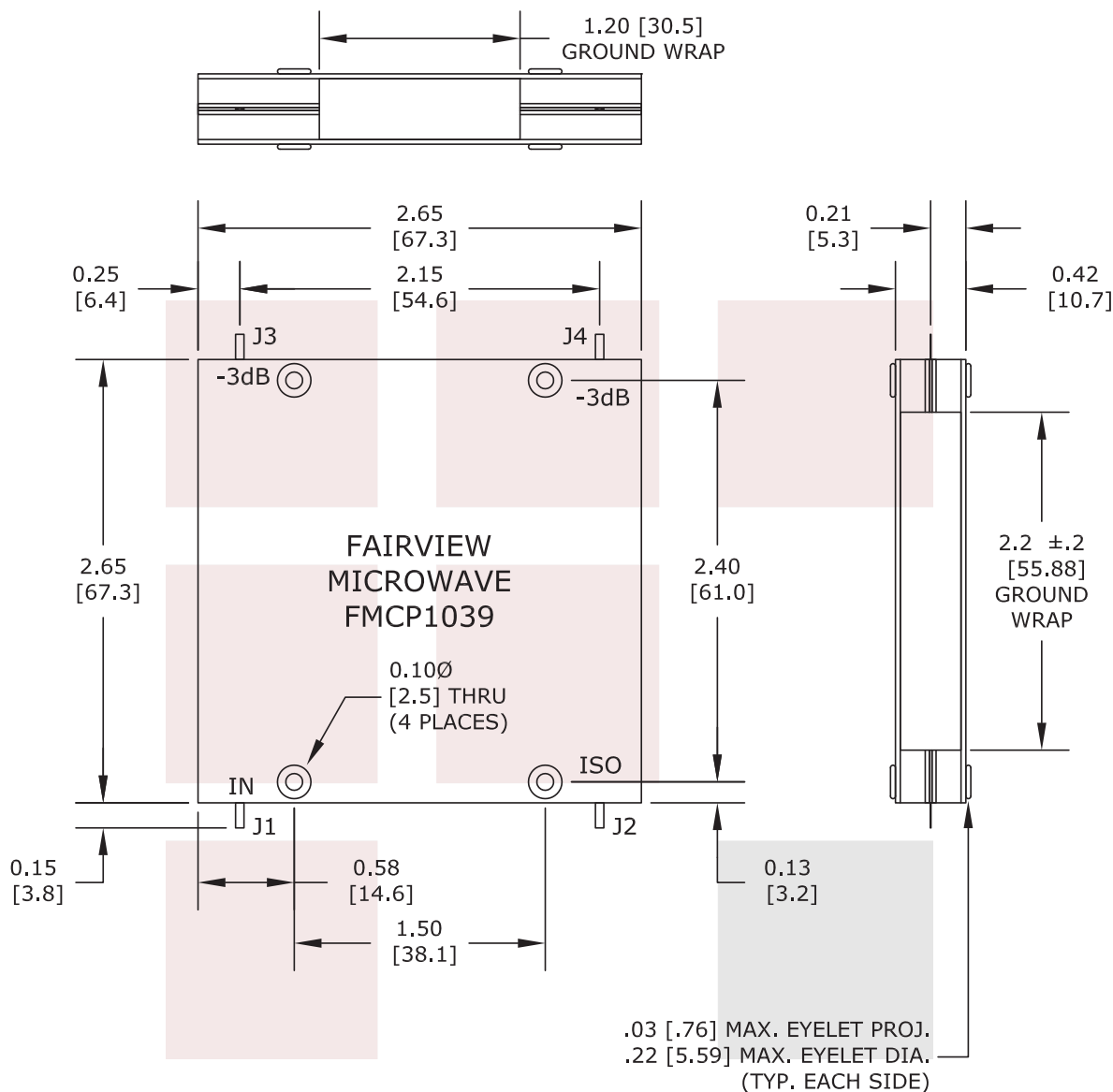
Drop-In 90 Degree Hybrid Coupler From 400 MHz to 1,000 MHz Rated To 800 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Drop-In 90 Degree Hybrid Coupler From 400 MHz to 1,000 MHz Rated To 800 Watts FMCP1039](#)

URL: <https://www.fairviewmicrowave.com/pin-90-degree-hybrid-coupler-400-1000-mhz-800-watts-fmcp1039-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.





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

* THESE DIMENSIONS AND TOLERANCES
SUPERSEDE 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 400 MHz to
1,000 MHz Rated To 800 Watts

DWG NO

FMCP1039

CAGE CODE

3FKR5

CAD FILE

011316

SHEET

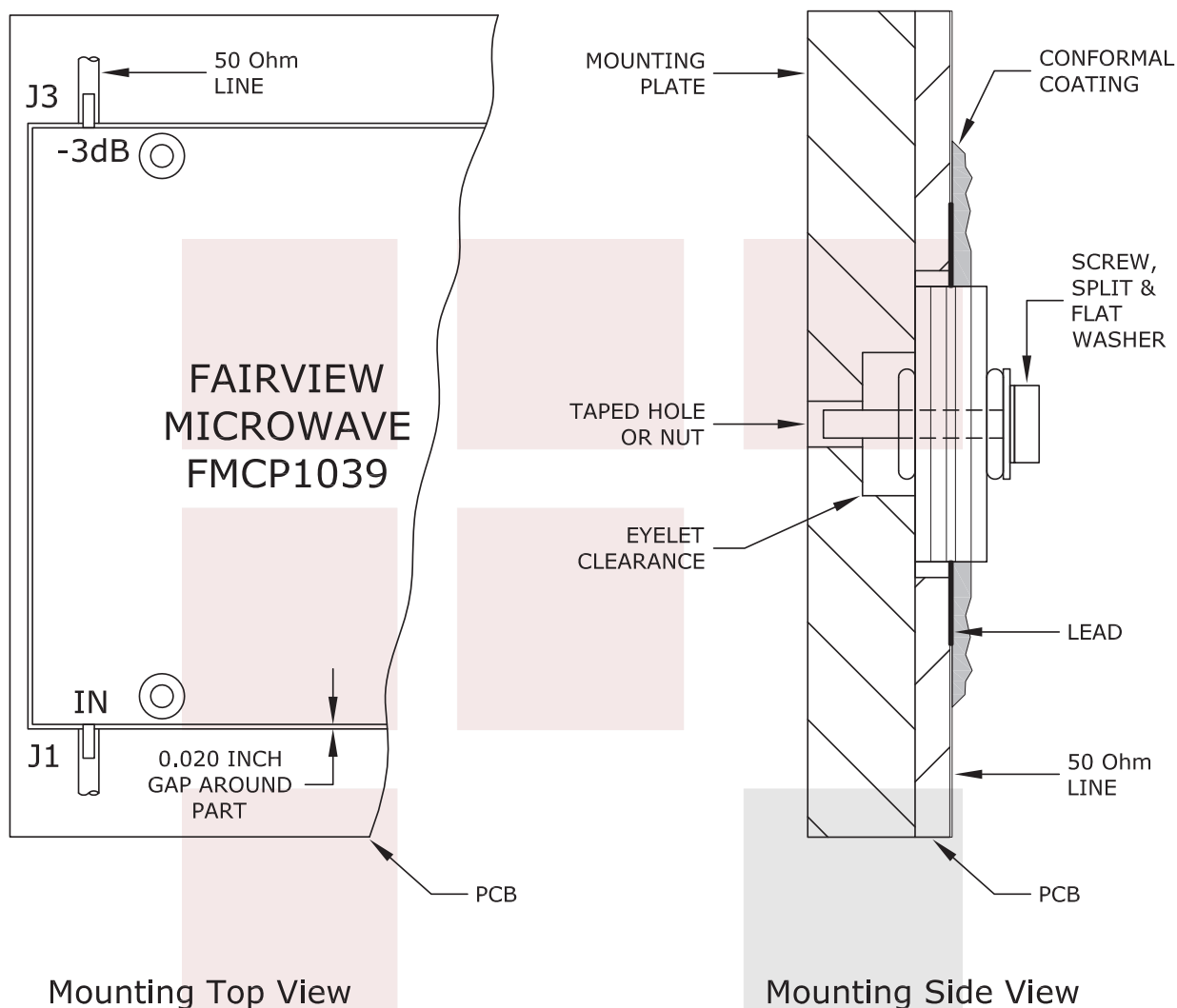
SCALE

N/A

SIZE

A

2233



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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TITLE Drop-In 90 Degree Hybrid Coupler From 400 MHz to 1,000 MHz Rated To 800 Watts		DWG NO FMCP1039		CAGE CODE 3FKR5	
CAD FILE	011316	SHEET	SCALE	N/A	SIZE A 2233