

Drop-In 90 Degree Hybrid Coupler From 1 GHz to 2 GHz Rated To 200 Watts

The FMCP1049 operates from 1 GHz to 2 GHz and can handle 200 watts of power with 20 dB isolation. The package is 1.35 inch by 0.5 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 1.2:1 VSWR and an insertion loss of 0.25 dB.

The FMCP1049 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 | 1 | | 2 | GHz |
| Impedance | | 50 | | Ohms |
| Phase Difference | | 90 | | Degrees |
| Insertion Loss | | | 0.25 | dB |
| Isolation | 20 | | | dB |
| VSWR | | | 1.2:1 | |
| Amplitude Balance | | ±0.5 | | dB |
| Phase Balance | | ±5 | | Degrees |
| Input Power (CW) | | | 200 | Watts |

Features:

- High Power
- 20 dB isolation
- 1 GHz to 2 GHz Frequency Range
- Gold Plated Silver Leads
- 1.35 inch by 0.5 inch package
- Clear Chem Film Per MIL-DTL-5541

Applications:

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

Mechanical Specifications

Size

| | |
|----------------------------|--------------------|
| Length | 1.35 in [34.29 mm] |
| Width | 0.14 in [3.56 mm] |
| Height | 0.5 in [12.7 mm] |
| 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 |
|-----------------|------------------|

Compliance Certifications (visit www.FairviewMicrowave.com for current document)

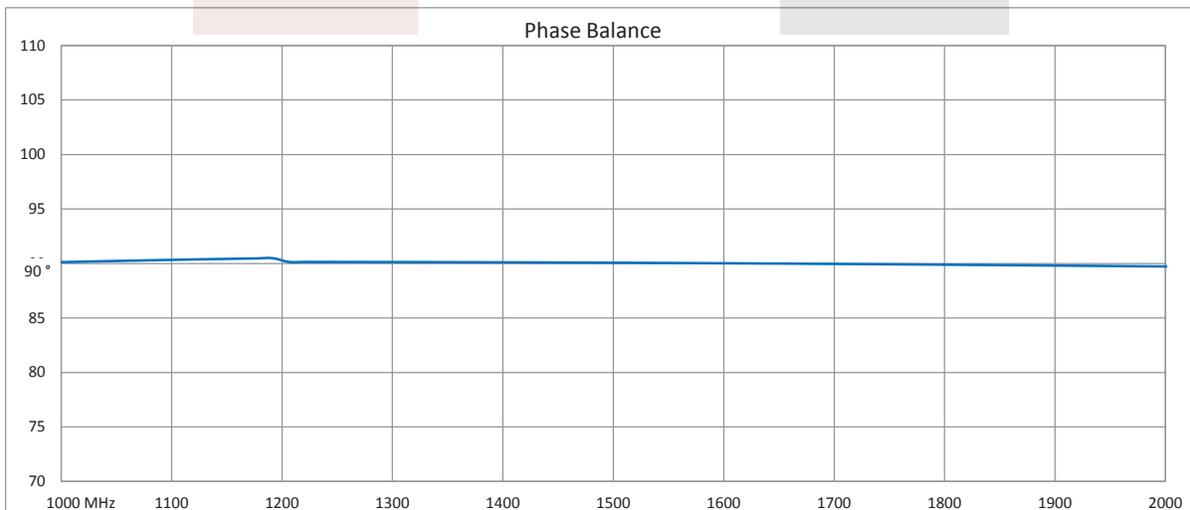
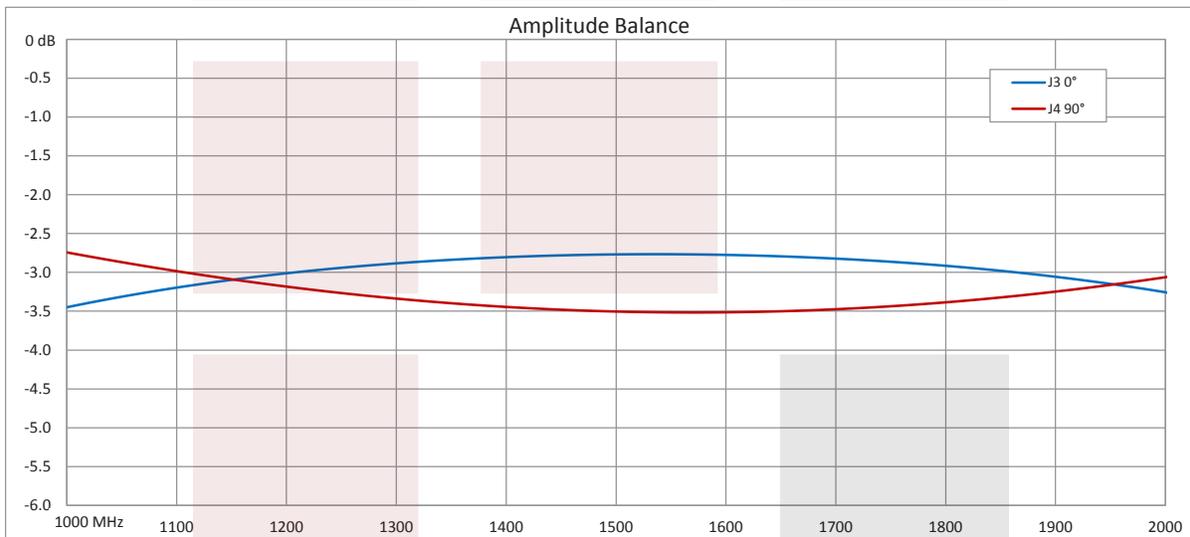
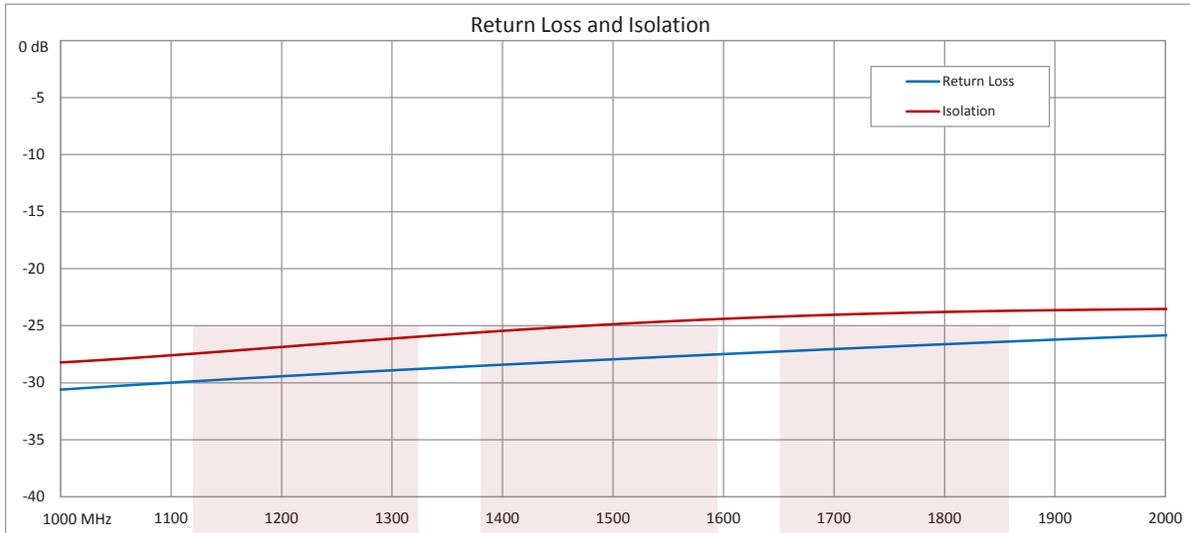
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|-----------------|------------|
| RoHS Compliant | |
| REACH Compliant | 12/17/2015 |

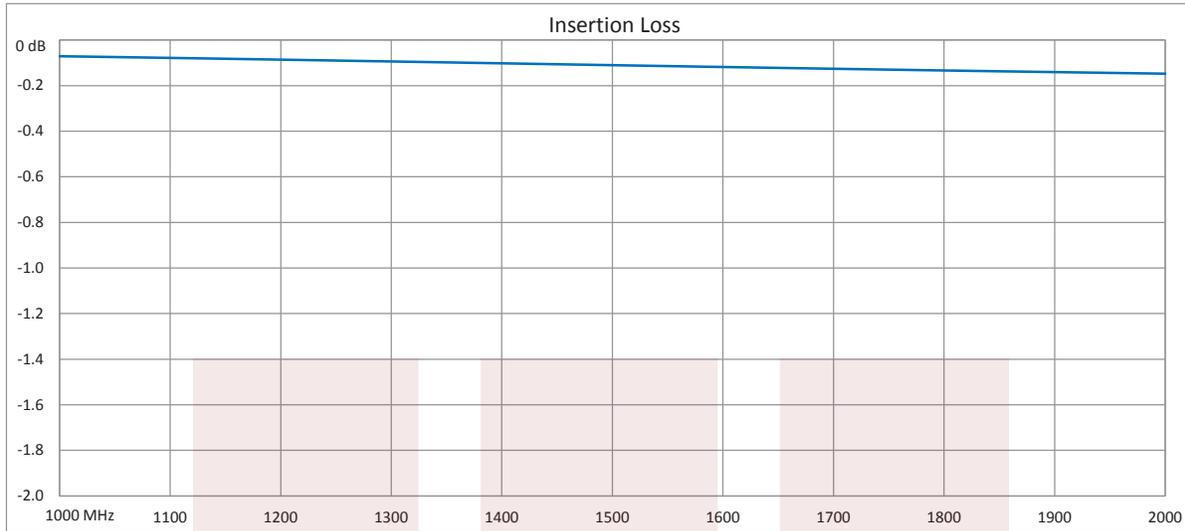
Plotted and Other Data

Notes:

Fairview Microwave
1130 Junction Dr. #100
Allen, TX 75013
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Typical Performance Data



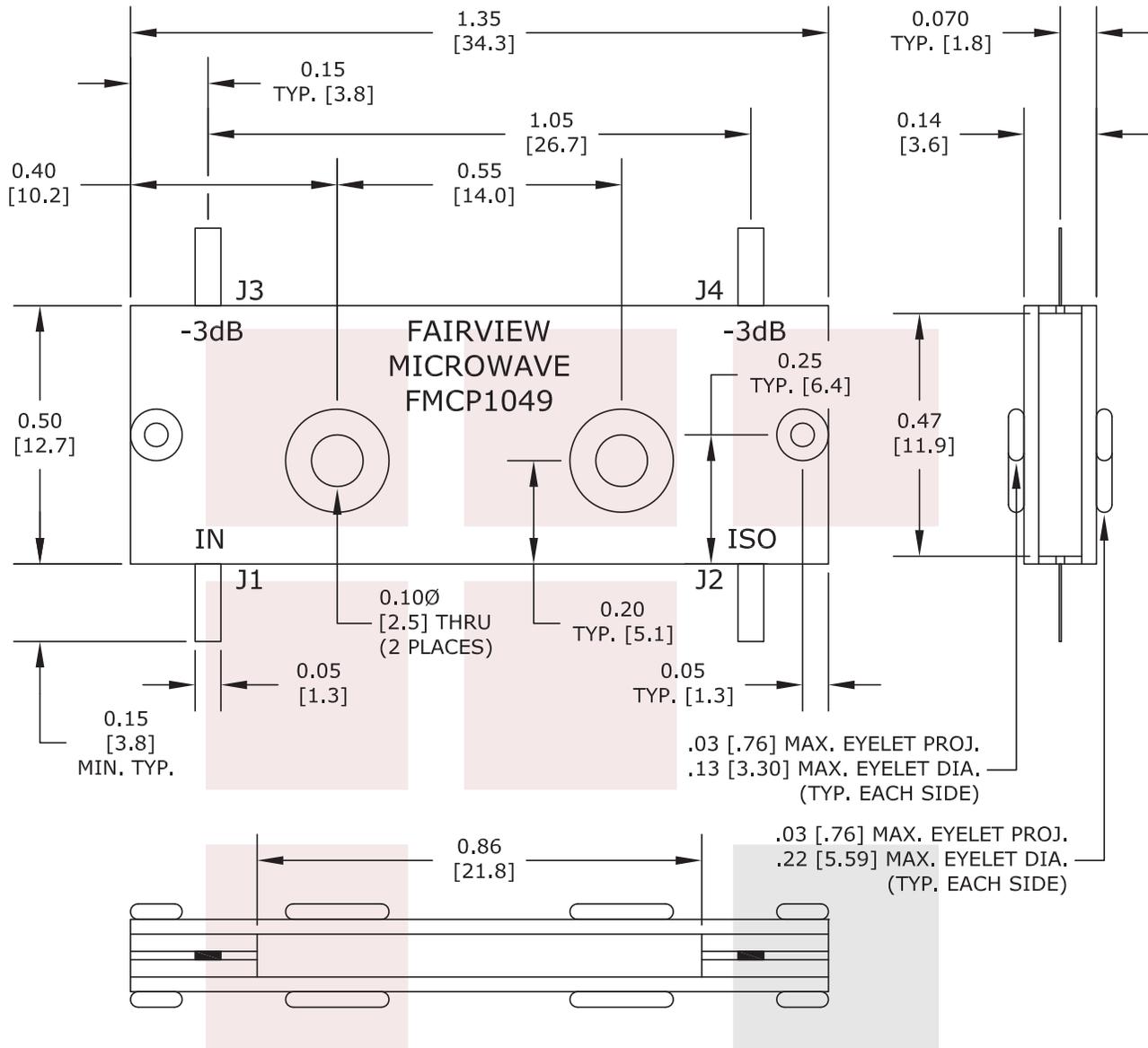


Drop-In 90 Degree Hybrid Coupler From 1 GHz to 2 GHz Rated To 200 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Drop-In 90 Degree Hybrid Coupler From 1 GHz to 2 GHz Rated To 200 Watts FMCP1049](#)

URL: <http://www.fairviewmicrowave.com/pin-90-degree-hybrid-coupler-1-2-ghz-200-watts-fmcp1049-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 [1.50] |
| IN [mm] | .XXX ± .005 [1.27] |
| ANG. | ± 1/2° |

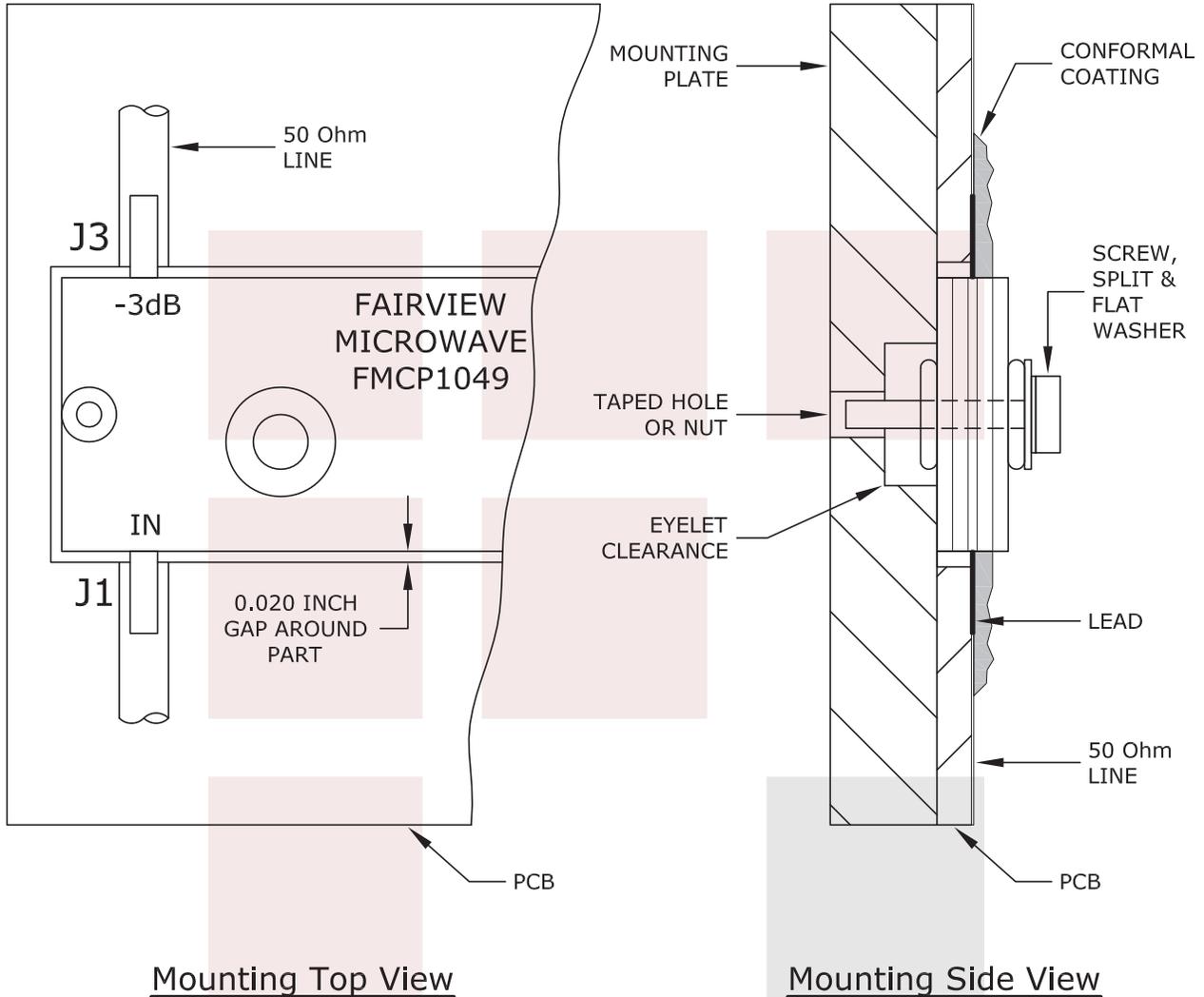
* THESE DIMENSIONS AND TOLERANCES
SUPERSEDE NOTE #1 ON TITLE BLOCK.

| 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.
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

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 2 GHz Rated To 200 Watts | | DWG NO | FMCP1049 | CAGE CODE | 3FKR5 | | |
| | CAD FILE | 121115 | 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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