

Drop-In 90 Degree Hybrid Coupler From 20 MHz to 1,000 MHz Rated To 150 Watts

The FMCP1027 operates from 20 MHz to 1,000 MHz and can handle 150 watts of power with 16 dB isolation. The package is 2.2 inch by 3 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 0.9 dB.

The FMCP1027 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 signals while maintaining high isolation between them.

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	20		1,000	MHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Insertion Loss			0.9	dB
Isolation	16			dB
VSWR			1.3:1	
Amplitude Balance		0.25		dB
Phase Balance		12		Degrees
Input Power (CW)			150	Watts

Mechanical Specifications

Size

Length	2.2 in [55.88 mm]
Width	0.94 in [23.88 mm]
Height	3 in [76.2 mm]
Weight	0.4265 lbs [193.46 g]
Body Plating Specification	MIL-DTL-5541

Configuration

RF Connector Type	Pin
Contact Material and Plating	Silver, Gold

Environmental Specifications

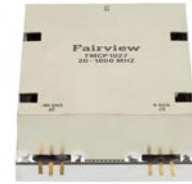
Temperature

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:

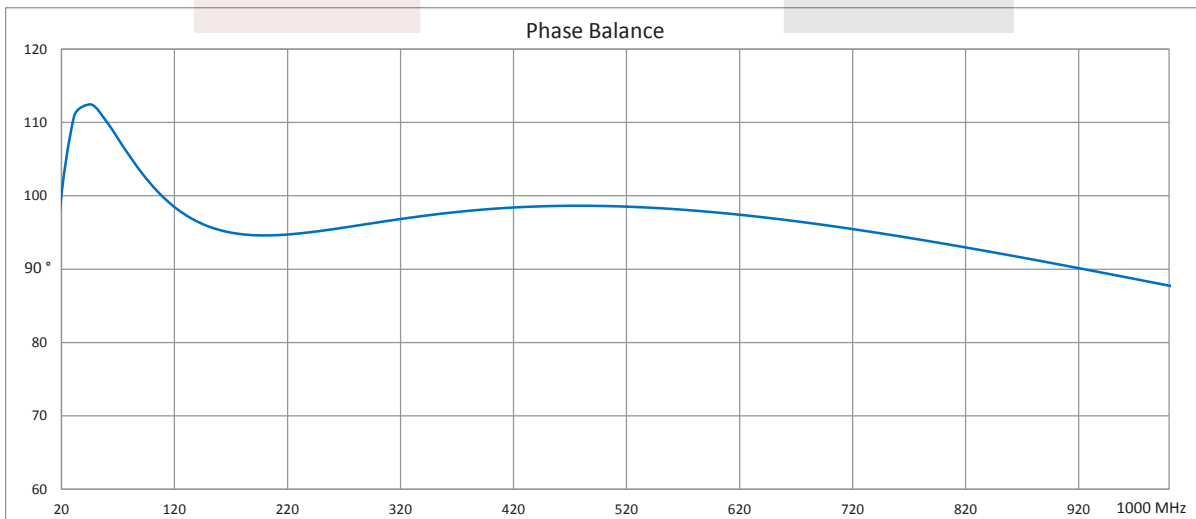
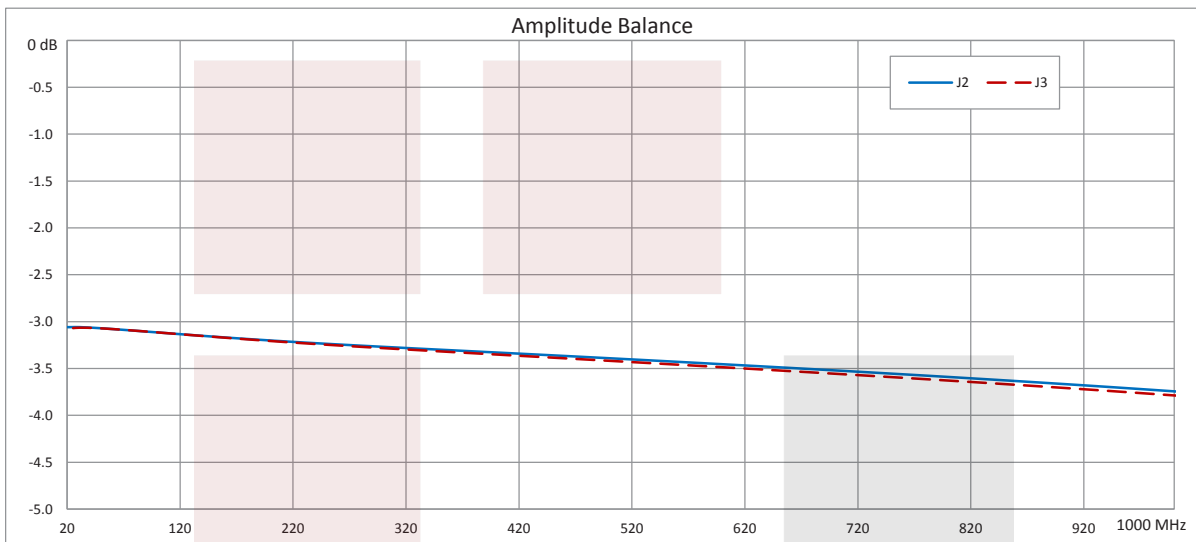
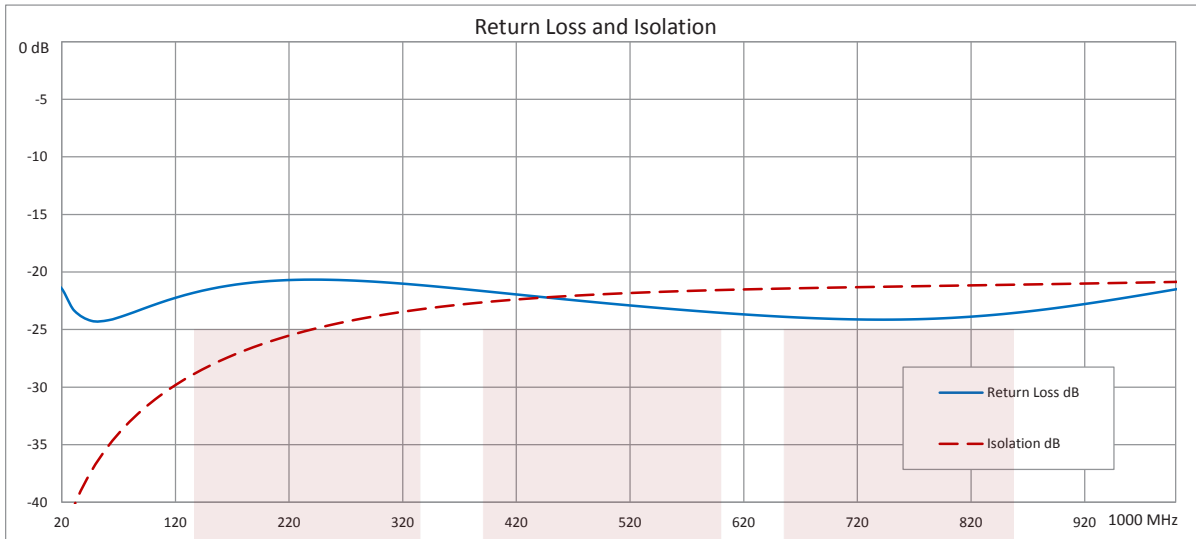
- High Power
- 16 dB isolation
- 20 MHz to 1,000 MHz Frequency Range
- Gold Plated Silver Leads
- 2.2 inch by 3 inch package
- Clear Chem Film Per MIL-DTL-5541

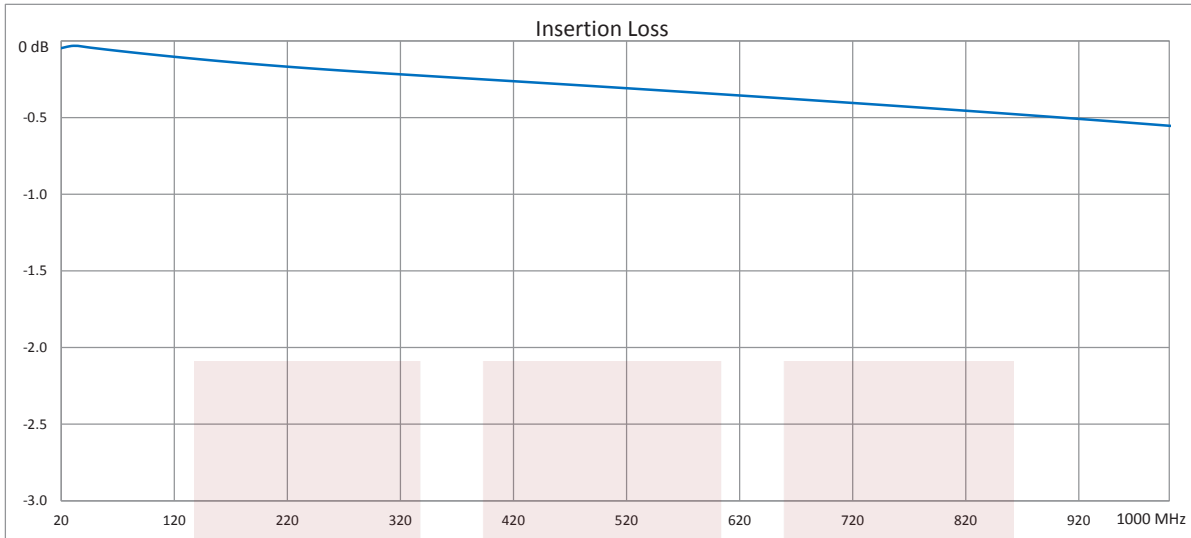
Applications:

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

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Typical Performance Data





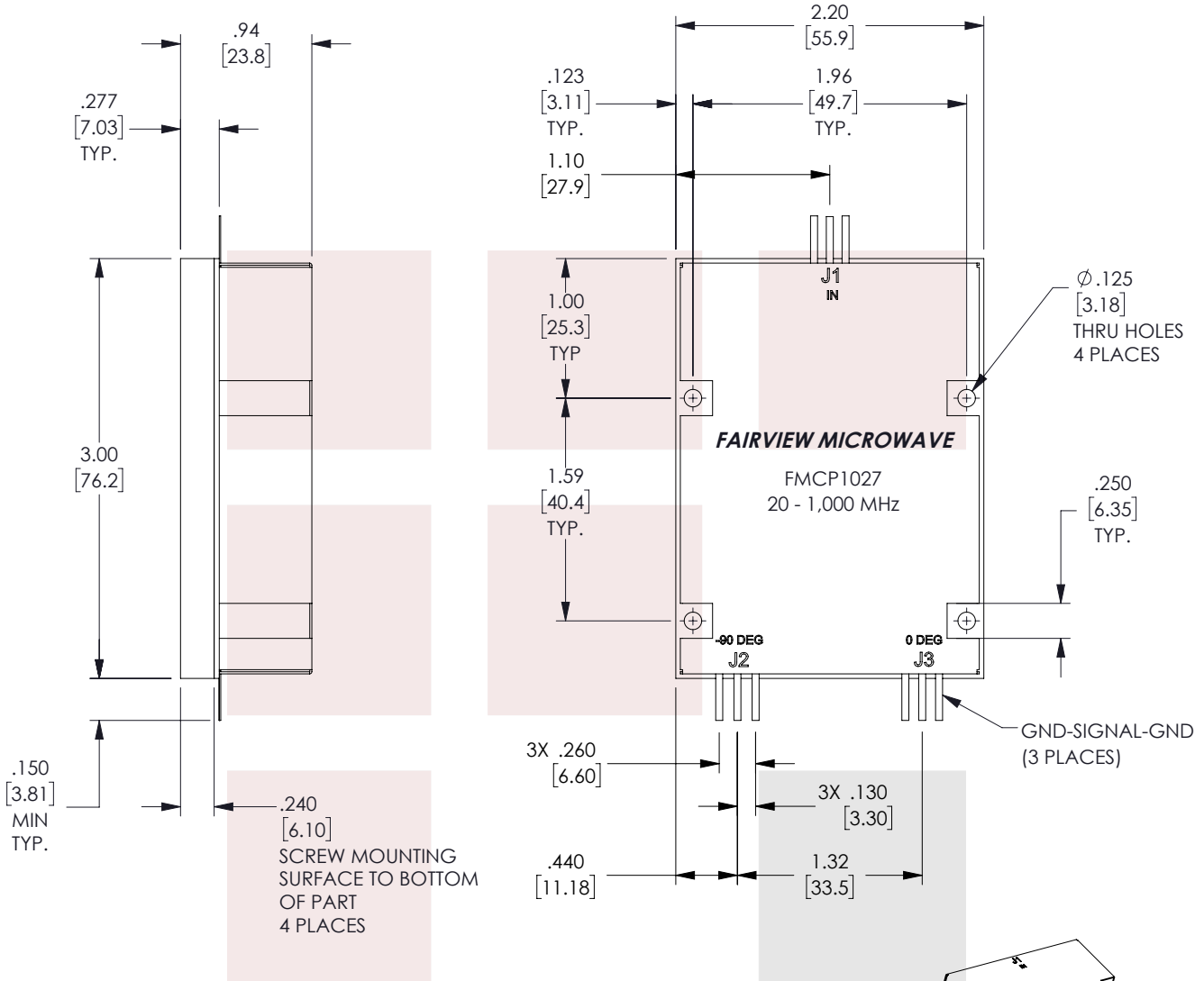
Drop-In 90 Degree Hybrid Coupler From 20 MHz to 1,000 MHz Rated To 150 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Drop-In 90 Degree Hybrid Coupler From 20 MHz to 1,000 MHz Rated To 150 Watts FMCP1027](#)

URL: <https://www.fairviewmicrowave.com/pin-90-degree-hybrid-coupler-20-1000-mhz-150-watts-fmcp1027-p.aspx>

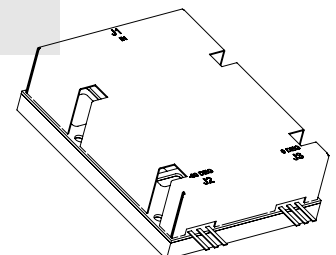
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to 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.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	PCR PE2CP1027 2022/8/25	09/02/2022	SPONG



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

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TITLE

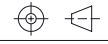
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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08] FRACTIONS L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51] ± 1/32 12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13] ANGLES ± 1° 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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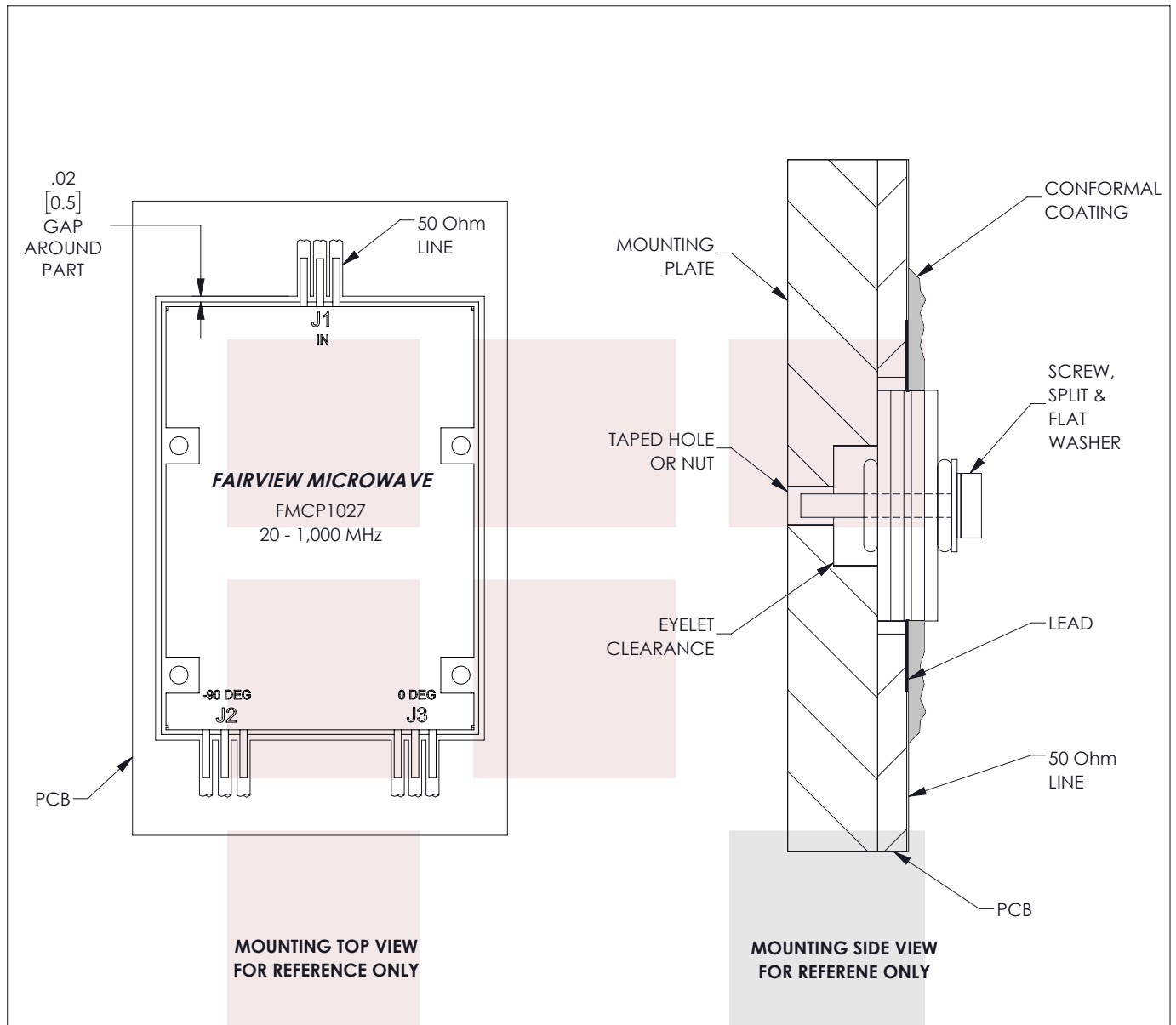
SHEET 1 OF 2

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY KGLEBOVA	ITEM NO. FMCP1027	REV B
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T-Rev.D



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CABLE LENGTH (L) TOLERANCES:		SHEET 2 OF 2	
X = ± 2 [5.08]	FRACTIONS ± 1/32	L ≤ 12 [305] = +1 [25] / -0	SCALE N/A
.XX = ± 0.02 [.51]	ANGLES ± 1°	12 [305] < L ≤ 60 [1524] = +2 [51] / -0	
.XXX = ± 0.005 [.13]		60 [1524] < L ≤ 120 [3048] = +4 [102] / -0	
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0	
		300 [7620] < L = +5%L / -0	
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SIZE A	CAGE CODE 3FKR5	DRAWN BY KGLEBOVA	ITEM NO. FMCP1027
			REV B

T-Rev.D