

Our patented 3 dB 90° Hybrid Couplers provide:

- Superior component performance starting at 3:1 Bandwidth.
- Thicker center boards for high power and increased repeatability.
- Bonded structures which eliminate any air gaps between substrates.
- More sections per bandwidth for better coupling flatness.
- Electrically shorter and physically smaller RF components.

Features:

High Power Wide Bandwidths Small Size Excellent Amplitude Balance

Electrical Specifications:

Frequency:	2000 - 6000 MHz
Power:	150 W CW
Insertion Loss	0.55 dB Max.
VSWR:	1.35:1 Max.
Phase Balance:	± 5° dB Max.
Amplitude Balance:	± 0.6 dB Max.
Isolation:	18 dB Min.

Mechanical Specifications:

Type:	Surface Mount
Plating Options:	QH12404-Ag: Immersion Silver (RoHS) QH12404-Pb: Electrodeposited Tin/Lead
Size:	1.20 x 0.45 x 0.087"
Weight:	5 grams

Port Configurations:

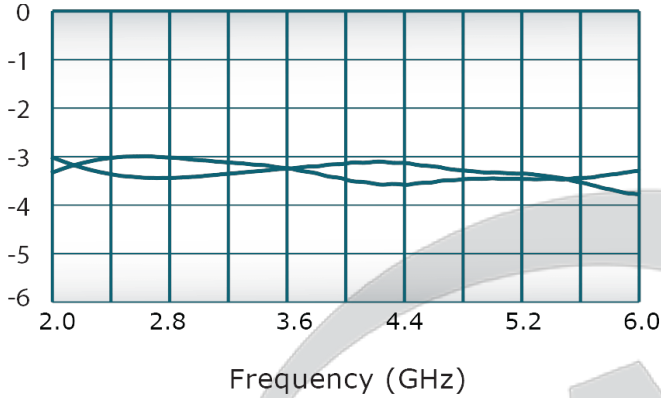
J1	J2	J3	J4
Input	-3 dB, 0°	-3 dB, +90°	Isolated
-3 dB, 0°	Input	Isolated	-3 dB, +90°
-3 dB, +90°	Isolated	Input	-3 dB, 0°
Isolated	-3 dB, +90°	-3 dB, 0°	Input

Werlatone's breakthrough technology allows us to build our existing line of Broadband 3 dB High Power 90° Hybrid Couplers. Connectorized 3 dB 90° Hybrid Coupler models are available with a choice of connectors. Several of our existing High Power 3 dB 90° RF Couplers are three port designs, wherein the difference port is internally terminated with a high power termination. This eliminates the need for a customer supplied external load for each Hybrid Coupler.

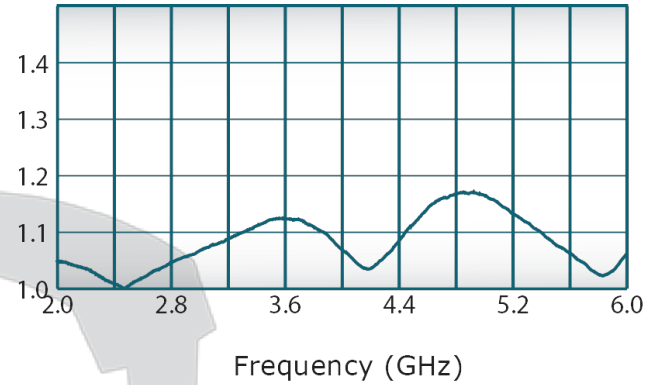


Performance Data (Specifications subject to change without notice):

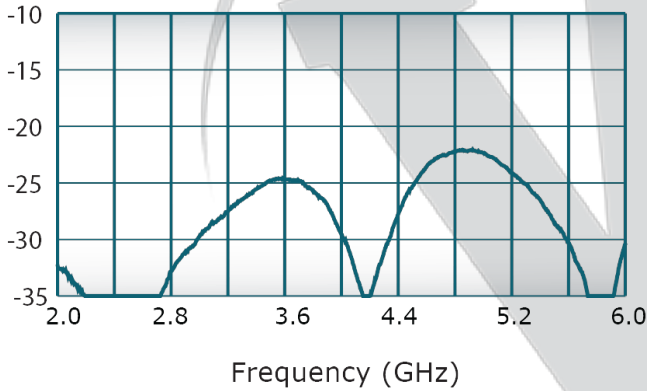
Coupling:



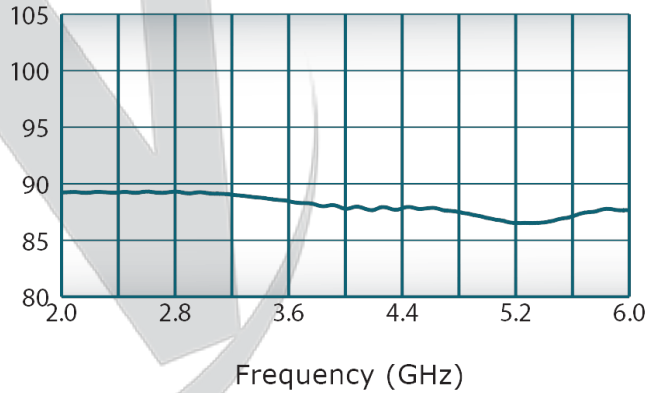
VSWR:



Isolation:



Phase Balance:



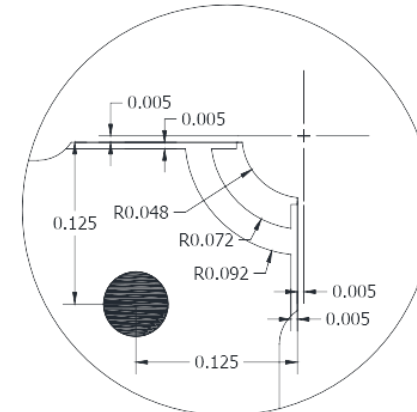
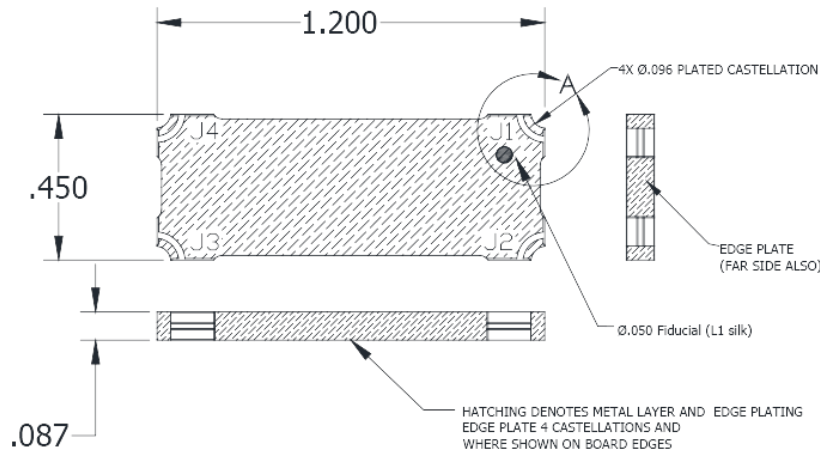
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Werlatone, Inc.

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1	A	B	C	D
REVISION HISTORY				
2	REV	REVISION RECORD	DATE	APPROVED
3	-	INITIAL RELEASE	7/1/2022	BW
4				
5				
6				



DETAIL A
SCALE 8:1

ELECTRICAL SPECIFICATIONS

Frequency: 2.0 - 6.0 GHz
 Power: 150 Watts CW
 Insertion Loss: 0.55 dB Max.
 Amplitude Balance: ±0.6 dB Max.
 Phase Balance: 90° ± 5° Max.
 VSWR: 1.35:1
 Isolation: 18 dB Min.
 Temperature (Operating): -55 to +85 °C

PART MARKING
(BLACK EPOXY ON TOP SURFACE)



SCALE 1:1

Port Configurations

J1	J2	J3	J4
Input	-3 dB, 0°	-3 dB, +90°	Isolated
-3 dB, 0°	Input	Isolated	-3 dB, +90°
-3 dB, +90°	Isolated	Input	-3 dB, 0°
Isolated	-3 dB, +90°	-3 dB, 0°	Input

NOTES: UNLESS OTHERWISE SPECIFIED

1. SURFACE MOUNT UNIT
2. SURFACE FINISH: IMMERSION SILVER (RoHS Compliant).
3. OTHER SURFACE FINISHES AVAILABLE UPON REQUEST.
4. UNIT INTENDED TO BE SOLDERED TO A MICROSTRIP SUBSTRATE. FOR MORE INFO, REQUEST APPLICATION NOTE

UNLESS OTHERWISE SPECIFIED		DWN	DATE	WERLATONE SINCE 1965		17 Jon Barrett Rd Patterson, NY 12563	
• INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100	• DIMENSIONING PER ASME Y14.5M-2009	GP	6/29/2022	TITLE		QH12404 90° Hybrid Coupler	
• PARENTHESES FOR REF ONLY	• DIMENSIONS ARE IN INCHES	CHK	DATE				
• DIMENSIONAL LIMITS APPLY BEFORE PROCESSES	• TOLERANCES: ANGLES ± 2° 3 PL ± .010 2 PL ± .015	MS	7/1/2022	SIZE		CAGE CODE	
THIRD ANGLE PROJECTION		ENGR	DATE				
		GP	7/1/2022	SCALE		21874-500	
		QA	DATE	2:1		REV	
		RLSE	DATE			-	
				SHEET 1 OF 1			

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