
**PRODUCT DATA SHEET**
**QH8105**
**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:	800 - 4200 MHz
Power:	150 W CW
Insertion Loss	0.55 dB Max.
VSWR:	1.35:1 Max.
Phase Balance:	± 5° dB Max.
Amplitude Balance:	± 0.5 dB Max.
Isolation:	18 dB Min.

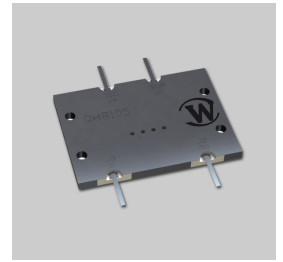
**Mechanical Specifications:**

Type:	Surface Mount
Plating Options:	QH8105-Sn: Immersion Tin (RoHS) QH8105-Ag: Immersion Silver (RoHS) QH8105-Au: ENIG (RoHS) QH8105-Pb: ED Tin/Lead
Size:	1.5 x 1.08 x 0.09"
Weight:	5 grams

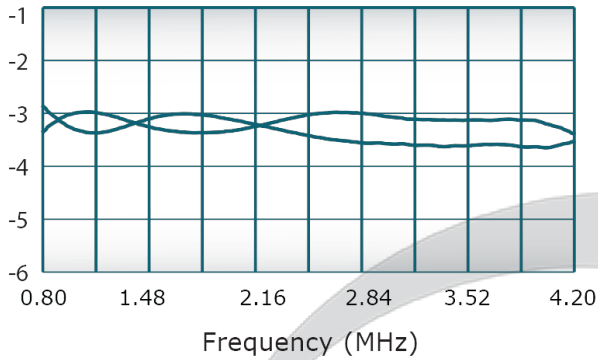
**Port Configurations:**

<b>J1</b>	<b>J2</b>	<b>J3</b>	<b>J4</b>
Sum Port	90° Port	0° Port	Isolated Port

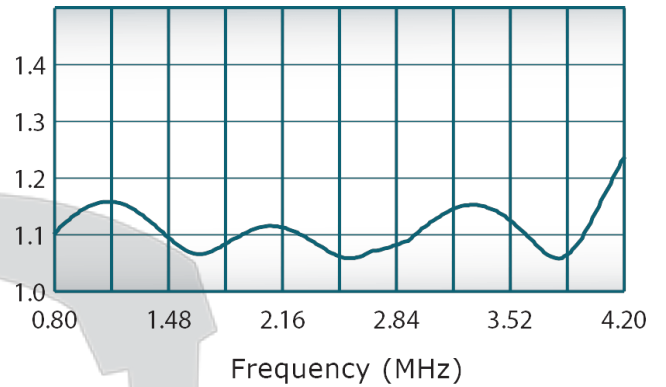
**Werlatone's** breakthrough technology allows us to build our existing line of Broadband 3 dB High Power 90° Hybrid Couplers. Connectorized 3 dB 90° Hybrid Coupler models are available with a choice of connectors. Several of our existing High Power 3 dB 90° RF Couplers are three port designs, wherein 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):**

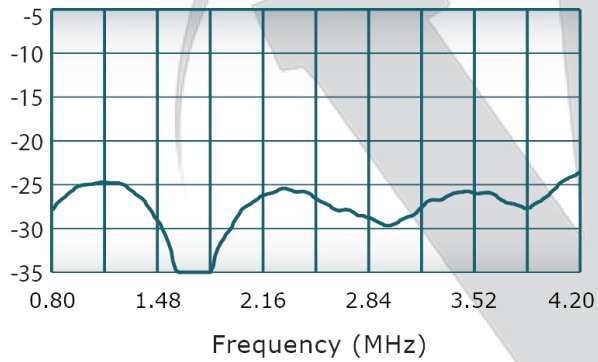
Coupling:



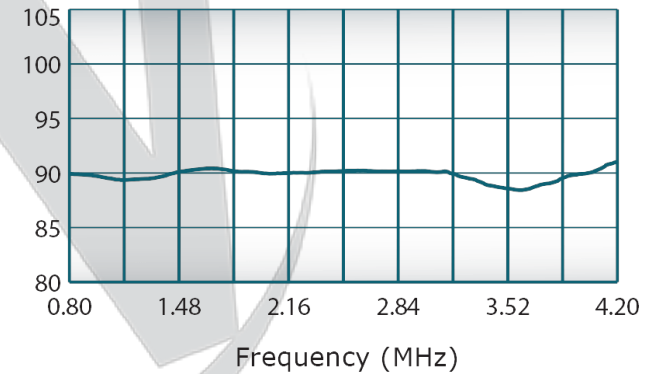
VSWR:



Isolation:

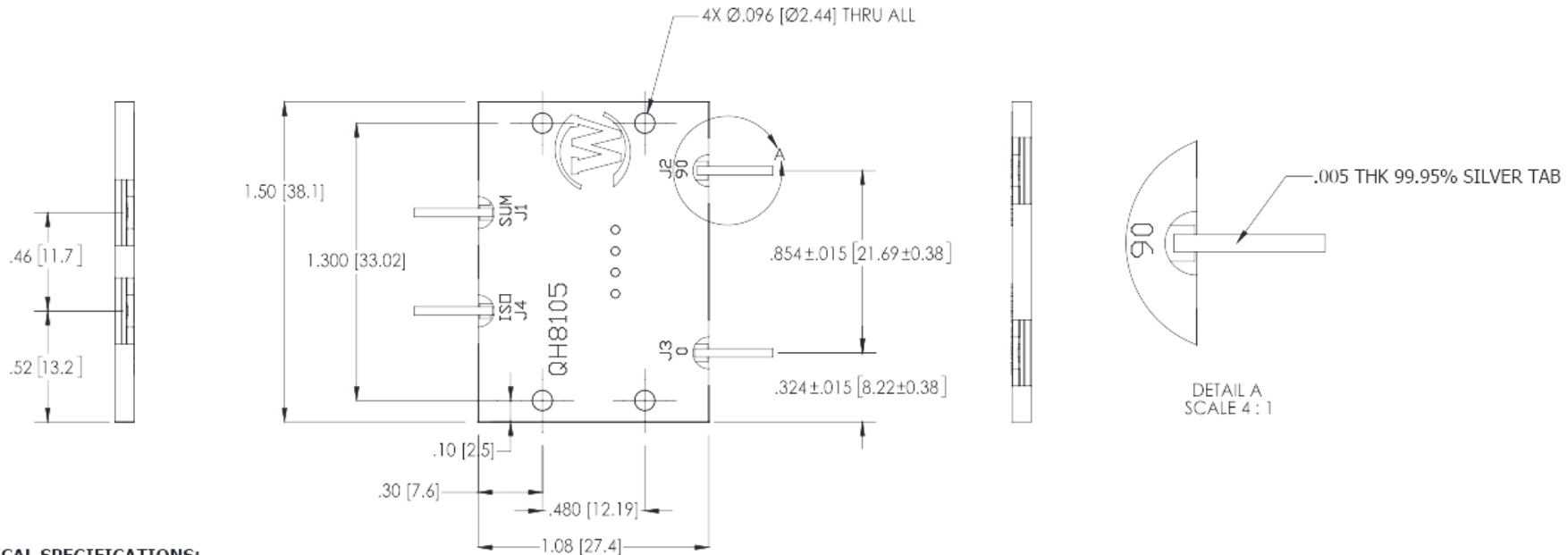


Phase Balance:



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REVISIONS			
REV.	REVISION RECORD	DATE	APPROVED
-	INITIAL RELEASE	10/19/2012	GP
A	ECN 7577	10/19/2012	GP
B	ECN 8213	6/6/2013	BW
C	ECN 10009	3/5/2021	BW



**ELECTRICAL SPECIFICATIONS:**

Frequency: 0.8 - 4.2 GHz  
 Power: 150 Watts CW  
 Insertion Loss: 0.55 db Max.  
 Amplitude Balance: ±0.5 db Max.  
 Phase Balance: 90° ± 5° Max. (J2-J3)  
 VSWR: 1.35:1  
 Isolation: 18 dB Min.  
 Operating Temperature: -55°C To +85°C

**NOTES: UNLESS OTHERWISE SPECIFIED**

- 4X LEADS/TABS SHOULD BE SOLDERED TO 50 Ω TRANSMISSION LINES.
- BODY OF PART IS GND AND IS A SOLDERABLE SURFACE.
- ORDERING INFORMATION:

QH8105-PB-T

INTERFACE  
 Surface Finish  
 Pb: ED Tin/Lead  
 Ag: Immersion Silver  
 Sn: Immersion Tin  
 Au: ENIG

-T: RF TABS / LEADS  
 BLANK: NO TABS. SOLDER PAD.

CREATE CAVITY IN PCB AND MOUNT THIS SURFACE TO HEATSINK. LEADS SHOULD BE ON SAME PLANE AS MICROSTRIP TRACE.  
 ALTERNATIVELY, THIS SURFACE COULD BE SOLDERED TO A GND PLANE ON PCB WITH THERMAL VIA ARRAY.

UNLESS OTHERWISE SPECIFIED		DRAWN	DATE	<b>WERLATONE</b> SINCE 1965 17 Jon Barrett Rd Patterson, NY 12563
* INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.5-2009 * DIMENSIONS PER ASME Y14.5M-2009 * PROTECTIVE INFO FOR REF ONLY * DIMENSIONS ARE IN INCHES * DIMENSIONAL LIMITS APPLY BEFORE PROCESSING * TOLERANCES: ANGLES ± 2° 3 PL ± .005 2 PL ± .015 * REMOVE ALL BURRS AND SHARP EDGES 0.015 MAX * CONCENTRICITY MACHINED DIA. REQ FOR * MACHINE TOOL VARIATION: .005 MAX		GP	10/19/2012	
NEXT ASSY	USED ON	CHKR	DATE	TITLE
		ENGR	DATE	QH8105 -3dB Hybrid Coupler
		MFR	DATE	SIZE: CAGE CODE DWG NO
		QA	DATE	B 28812 20406-500
		WSE	DATE	SCALE 2:1
APPLICATION		THIRD ANGLE PROJECTION		SHEET 1 OF 1

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