
**PRODUCT DATA SHEET**
**QH10828**
**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      Connectorized      Drop-In &amp; Surface Mount

**Electrical Specifications:**

Frequency: 1000 - 8000 MHz  
Power: 100 W CW  
Insertion Loss: 0.9 dB Max.  
VSWR: 1.40:1 Max.  
Phase Balance:  $\pm 5^\circ$  dB Max.  
Amplitude Balance:  $\pm 0.7$  dB Max. (1200-8000 MHz)  $\pm 1.5$  dB Max. (1000-1200 MHz)  
Isolation: 17 dB Min.

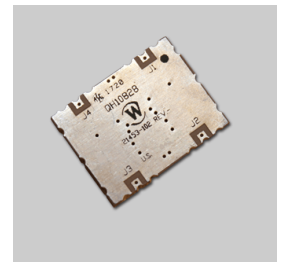
**Mechanical Specifications:**

Type: Surface Mount  
Plating Options: QH10828-Pb: Electrodeposited Tin/Lead  
QH10828-Sn: Immersion Tin (RoHS Compliant)  
QH10828-Ag: Immersion Silver (RoHS Compliant)  
Size: 0.65 x 0.5 x 0.07"

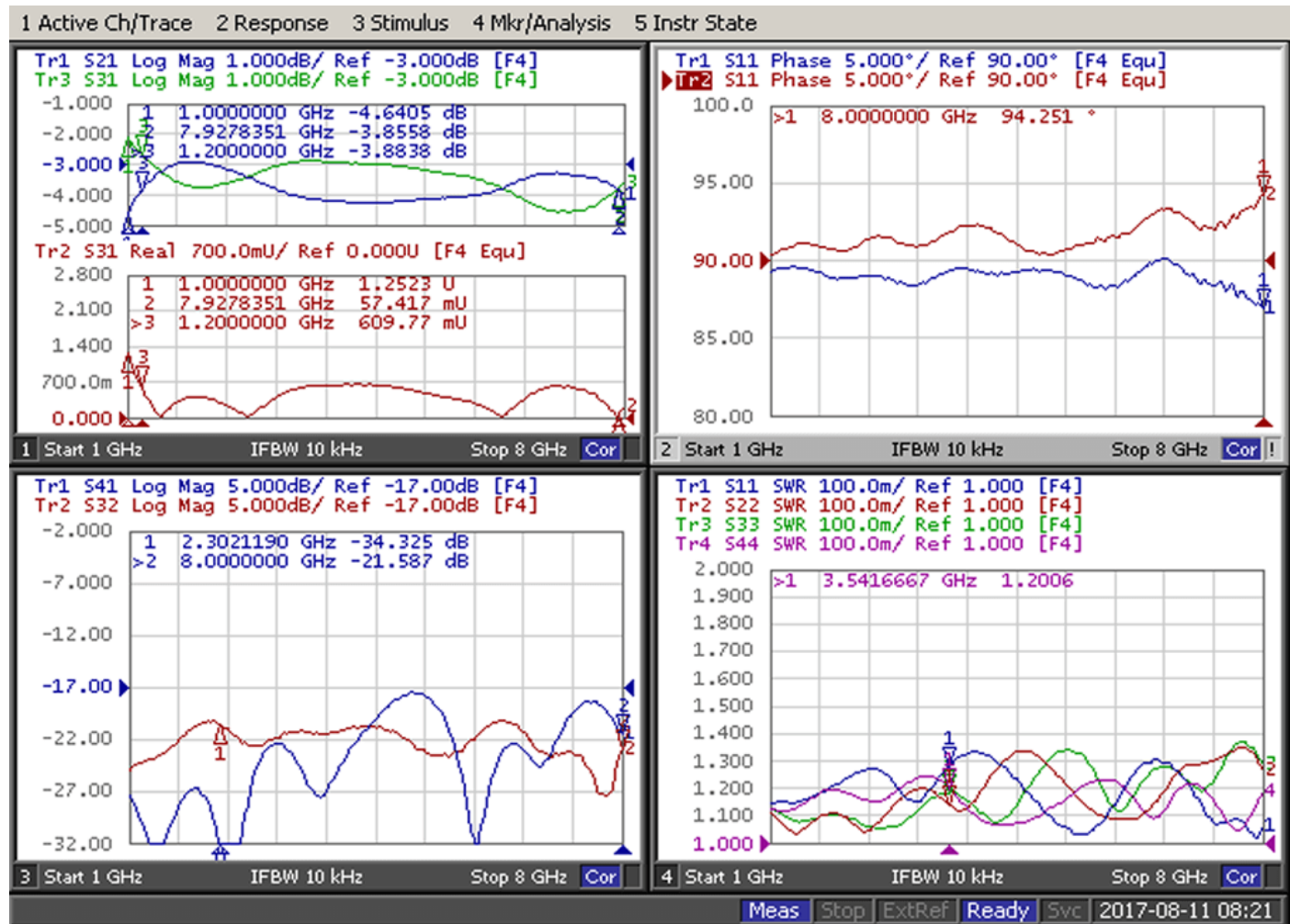
**Port Configurations:**

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.


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**QH10828**
**Performance Data (Specifications subject to change without notice):**

Plot 1: Coupling &amp; Insertion Loss, Plot 2: Phase Balance, Plot 3: Isolation, Plot 4: VSWR

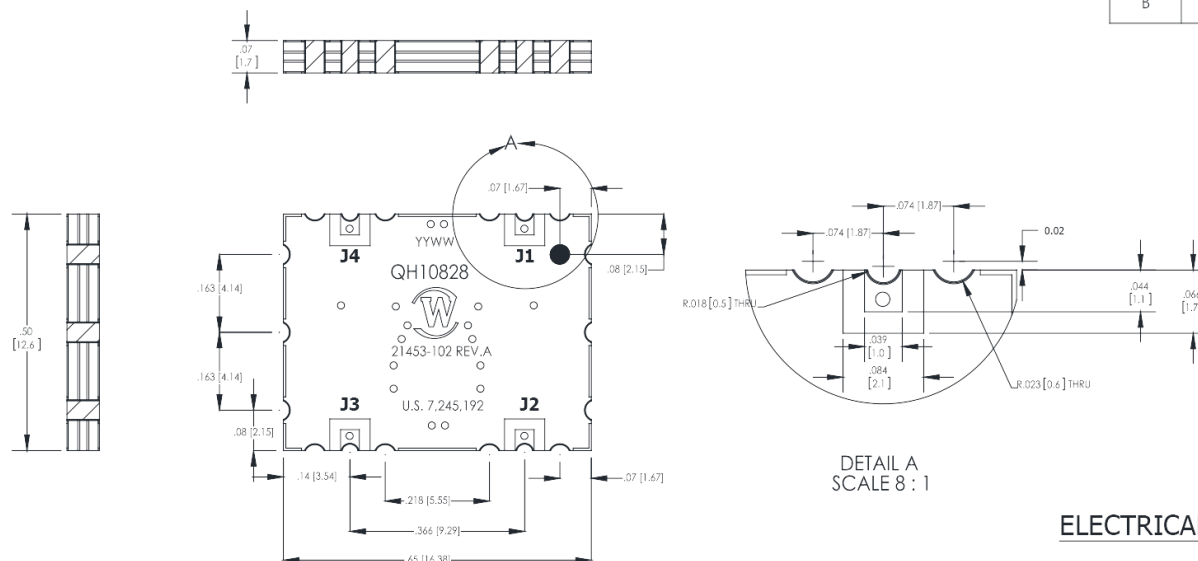


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REVISION HISTORY			
REV.	REVISION RECORD	DATE	APPROVED
-	PRE-RELEASE	2/1/2017	CS
A	ECN9328	6/1/2017	CS
B	ECN10098	9/16/21	CS





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

## ELECTRICAL SPECIFICATIONS

Frequency: 1000 - 8000 MHz  
 Power: 60 Watts CW  
 Insertion Loss: 0.9 dB Max.  
 Amplitude Balance:  $\pm 0.7$  dB Max. 1200-8000 MHz  
 $\pm 1.5$  dB Max. 1000 - 1200 MHz  
 Phase Balance:  $\pm 5^\circ$  Max.  
 VSWR: 1.4 :1  
 Isolation: 17 dB Min.

## NOTES: UNLESS OTHERWISE SPECIFIED

- SURFACE MOUNT UNIT**
- SURFACE FINISH: IMMERSION SILVER (RoHS Compliant).**  
**OTHER SURFACE FINISHES AVAILABLE UPON REQUEST.**
- SEE SURFACE MOUNT TECH NOTE FOR INSTALLATION GUIDELINES.**

		UNLESS OTHERWISE SPECIFIED		OWN	DATE	 WERLATONE SINCE 1965	17 Jon Barrett Rd Patterson, NY 12563
		• INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100 • DIMENSIONS UNLESS OTHERWISE SPECIFIED PER ASME Y14.5M-2009 • DIMENSIONS ARE IN INCHES (mm) • DIMENSIONAL UNITS APPLY BEFORE PROCESSES • TOLERANCES: ANGLES = $\pm 5^\circ$ 3 PL = .005 [ .13] 2 PL = .015 [ .4]		MB	2/1/2017		
				CHK	DATE	TITLE	
				BW	2/1/2017		
				ENGR	DATE	OUTLINE	B
				MB	2/1/2017		
				DATE		SIZE CAGE CODE DWG NO	
				QA	DATE		
				RLSE	DATE	SCALE	
APPLICATION		THIRD ANGLE PROJECTION 					
NEXT ASSY		QH0828 USED ON				A 4:1	
							SHEET 1 OF 1

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