


**PRODUCT DATA SHEET**
**C5993**

**4-Port Dual Directional Coupler** employs two, 3-Port Uni-Directional Couplers, internally connected, in tandem, providing measurement of both forward and reverse power. Ideal for simultaneously monitoring a system's forward and reverse power and for reflectometer measurements. Unlike the Bi-Directional Coupler, the directivity of the Dual Directional Coupler is unaffected by the loads on the coupled ports.

**Features:**

High Power      Wide Bandwidths      Small Size      Flat Coupling      Custom Designs Available

**Electrical Specifications:**

Frequency: 10 - 150 MHz  
Power: 2,500 W CW  
Coupling:  $60 \pm 1.0$  dB Max.  
Insertion Loss: 0.1 dB Max.  
Flatness:  $\pm 0.25$  dB Max.  
VSWR (ML): 1.10:1 Max.  
Directivity: 20 dB Min.

**Mechanical Specifications:**

Type: Connectorized  
Material: Aluminum 6061-T6  
Surface Finish: Chem. Film Per MIL-DTL-5541F  
Type I Class 3 (Yellow Iridite)  
RoHS Compliant Available  
Operating Temperature: -55°C to +75°C  
Storage Temperature: -60°C to +85°C  
Humidity: 95% Non-Condensing  
Size: 3.75 x 3.0 x 1.88"

**Connector Configurations:**

Model	Input (J1)	Output (J2)	Fwd (J3)	Rev (J4)
C5993-10	N Female	N Female	N Female	N Female
C5993-12	N Female	N Female	SMA	SMA
C5993-13	N Female	N Female	BNC	BNC
C5993-20	7/16 Female	7/16 Female	N Female	N Female
C5993-61*	HN Female	HN Female	N Female	N Female
C5993-63*	HN Female	HN Female	SMA	SMA
C5993-751*	HN Female	HN Male	BNC	BNC

\*Starred options are 3.75 x 3.0 x 1.87"

**Werlatone®** Broadband Dual, Uni, and Bi Directional RF Couplers are designed to tolerate the most stringent operating conditions associated with military and EMC testing environments. Many of our RF Directional Couplers, designated Mismatch Tolerant®, will operate continuously, at rated power, into a severe load mismatch condition. Our multi-octave Directional Couplers maintain exceptional coupling flatness, directivity, VSWR, and insertion loss.

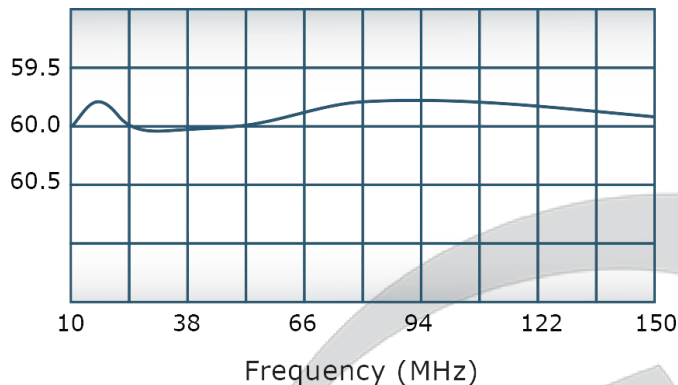


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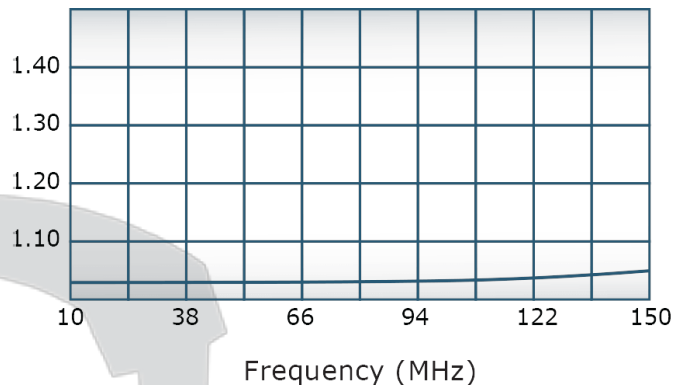
C5993

### Performance Data (Specifications subject to change without notice):

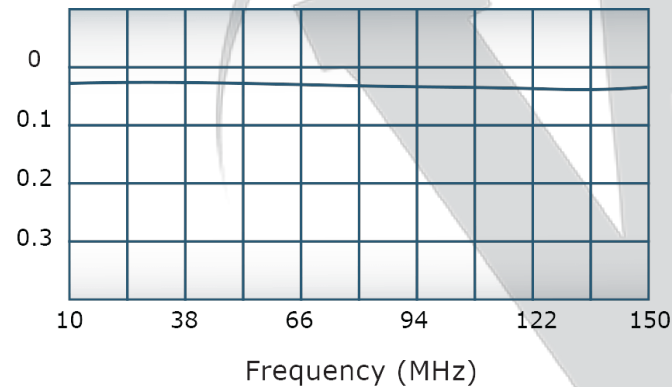
Coupling:



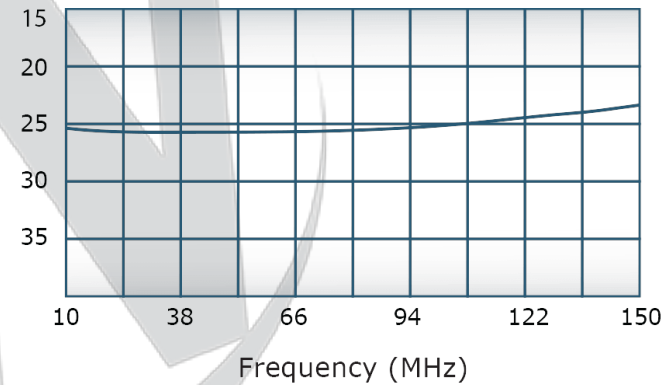
VSWR:



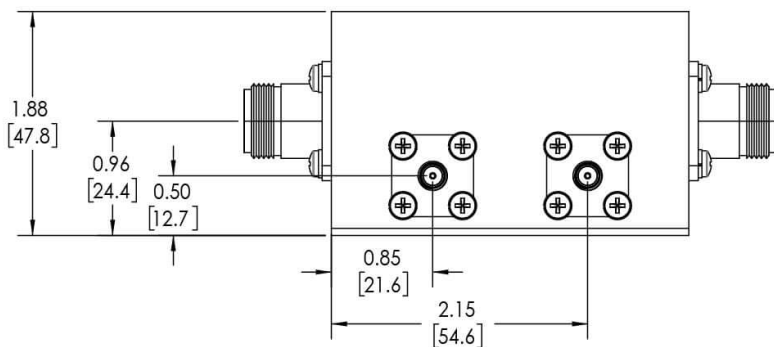
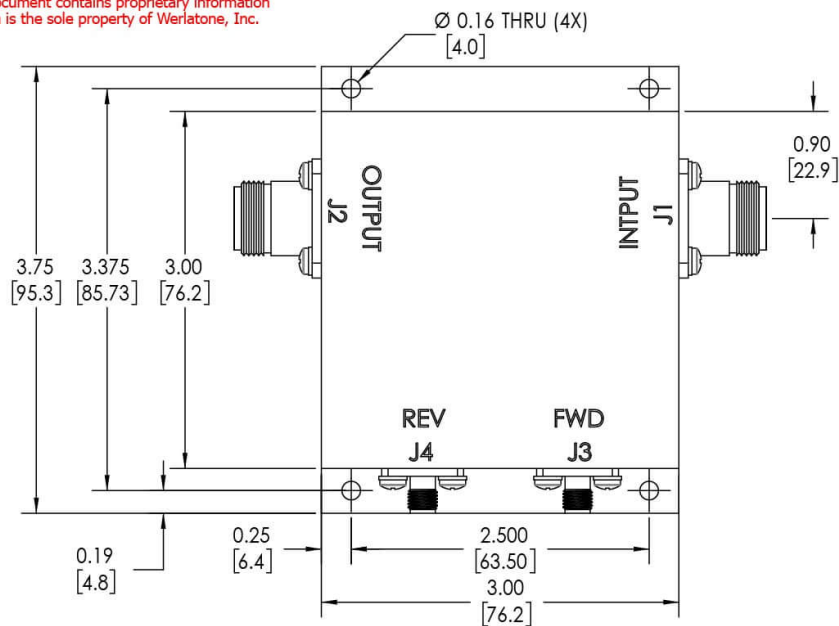
Insertion Loss:



Directivity:




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REVISION HISTORY			
REV.	REVISION RECORD	DATE	APPROVED
A	ECN 9696	11/29/18	RB

**NOTES: UNLESS OTHERWISE SPECIFIED**

1. MATERIAL: ALUMINUM 6061-T6  
2. FINISH: CHEM FILM PER MIL-DTL-5541F TYPE I CLASS 3 (YELLOW IRIDITE)  
3. CONNECTORS:  
J1, J2: N FEMALE  
J3, J4: SMA FEMALE

UNLESS OTHERWISE SPECIFIED INTERPRET DRAWING IAW MIL-STD-1300 DIMENSIONING PER ASME Y14.5M-2009 DIMENSIONAL INFO FOR REF ONLY DIMENSIONS ARE IN INCHES DIMENSIONAL LIMITS APPLY BEFORE PROCESSES TOLERANCES: ANGLES = $\pm$ 3 PL = .005 [13] 2 PL = .015 [38] REMOVE ALL BURRS AND SHARP EDGES R.01 MAX CONCENTRICITY MACHINED DIA. .002 FIM MACHINE TOOL MISMATCH .003 MAX		DOWN	DATE	 <b>WERLATONE</b>   SINCE 1965	17 Jon Barrett Rd Patterson, NY 12563	
		SD	2/11/2019			
NEXT ASSY      USED ON		CHK	DATE	TITLE  <h1>OUTLINE</h1>		
		CS	2/11/2019			
APPLICATION		ENGR	DATE	SIZE    CAGE CODE    DWSG NO  <b>B                      10031-500</b>	REV  <b>A</b>	
		NRGR	DATE			
THIRD ANGLE PROJECTION		MAX	DATE	SCALE  <b>1:1</b>	SHEET <b>1</b> OF <b>1</b>	
		RLSE	DATE			

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