


**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 ± 1.0 dB Max.  
 Insertion Loss: 0.1 dB Max.  
 Flatness:        ± 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.

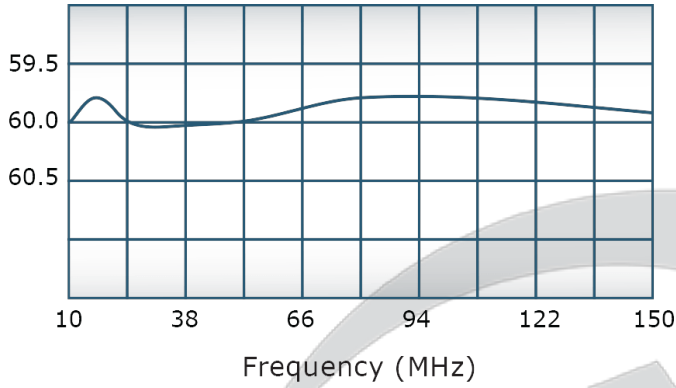


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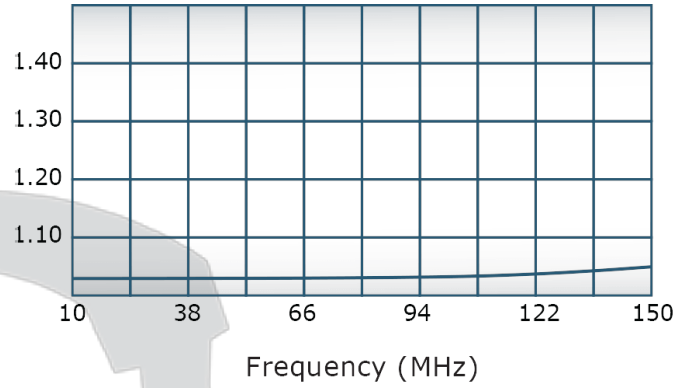
C5993

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

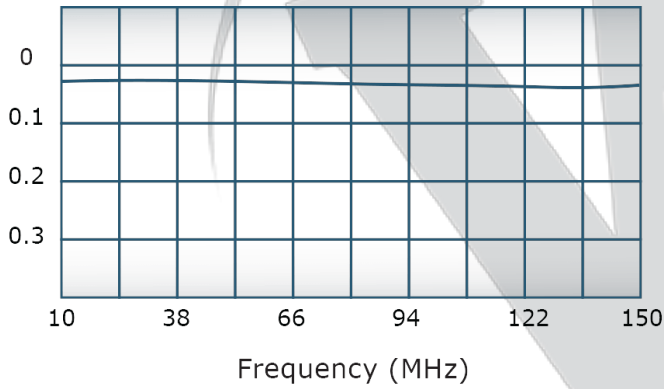
Coupling:



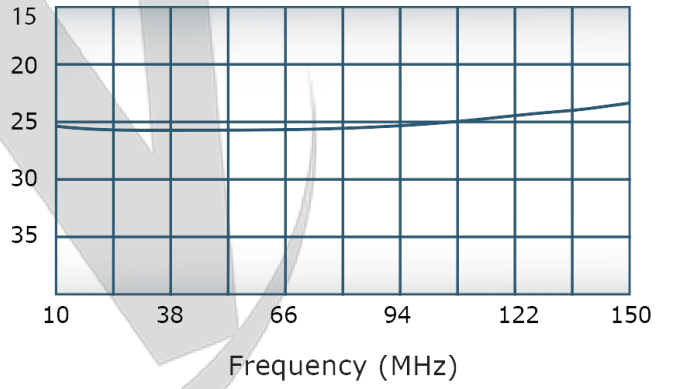
VSWR:



Insertion Loss:



Directivity:



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Werlatone, Inc.

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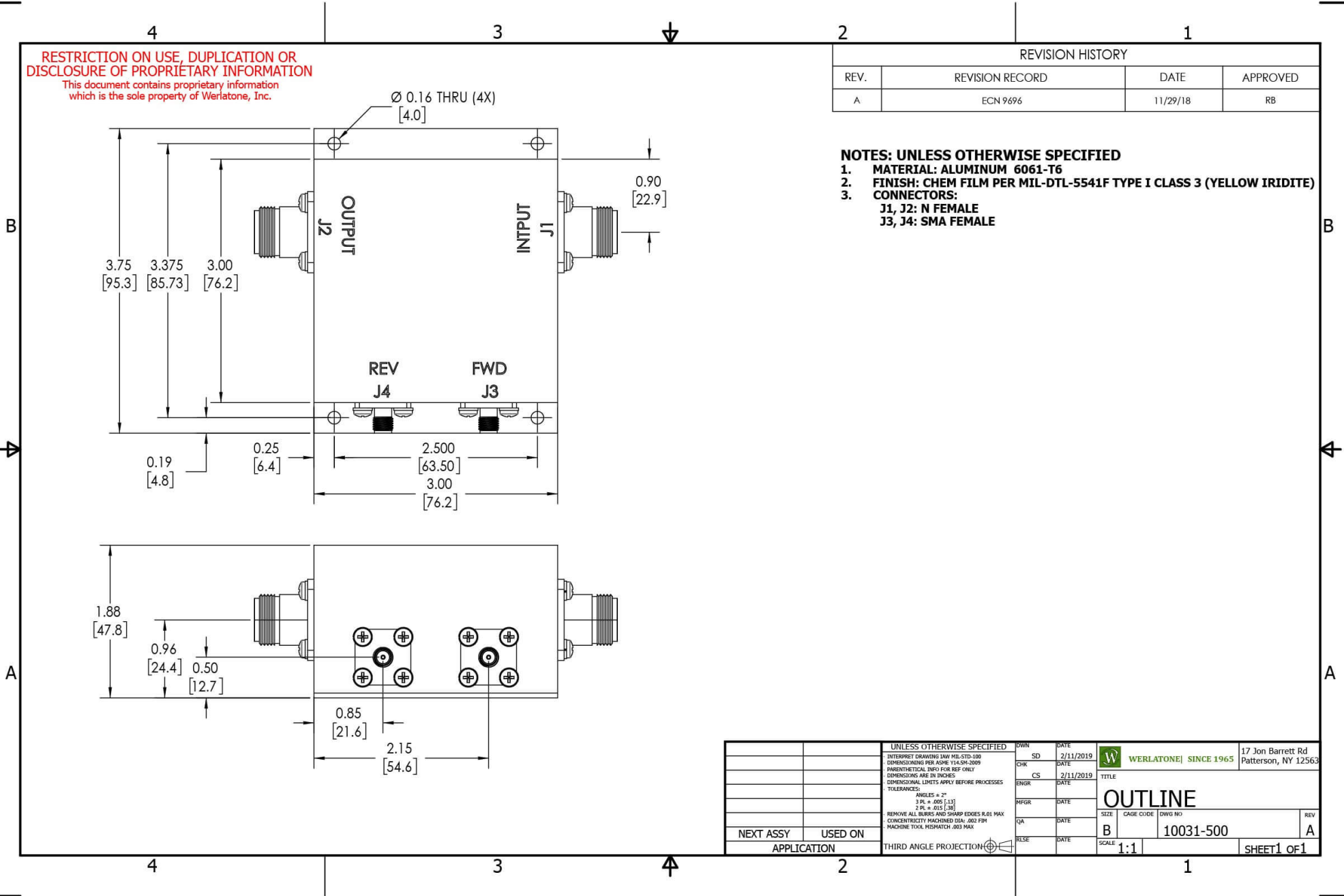
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REVISION HISTORY

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

**NOTES: UNLESS OTHERWISE SPECIFIED**

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



|                                           |         |                        |                |                                          |
|-------------------------------------------|---------|------------------------|----------------|------------------------------------------|
| UNLESS OTHERWISE SPECIFIED                |         | DWN                    | DATE           | 17 Jon Barrett Rd<br>Patterson, NY 12563 |
| INTERPRET DRAWING IAW MIL-STD-100         | SD      | 2/11/2019              |                |                                          |
| DIMENSIONS PER ASME Y14.5M-2009           | CHK     | DATE                   |                |                                          |
| PARENTHEetical INFO FOR REF ONLY          | CS      | 2/11/2019              | TITLE          |                                          |
| DIMENSIONS ARE IN INCHES                  | ENGR    | DATE                   | <b>OUTLINE</b> |                                          |
| DIMENSIONAL LIMITS APPLY BEFORE PROCESSES | INFR    | DATE                   | SIZE           | CAGE CODE                                |
| TOLERANCES:                               | QA      | DATE                   | B              | 10031-500                                |
| ANGLES = 2°                               | RLSE    | DATE                   | SCALE          | 1:1                                      |
| 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.           |         |                        |                |                                          |
| NEXT ASSY                                 | USED ON | THIRD ANGLE PROJECTION |                | REV                                      |
| APPLICATION                               |         |                        |                | A                                        |
|                                           |         |                        |                | SHEET 1 OF 1                             |

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