

INCH-POUND

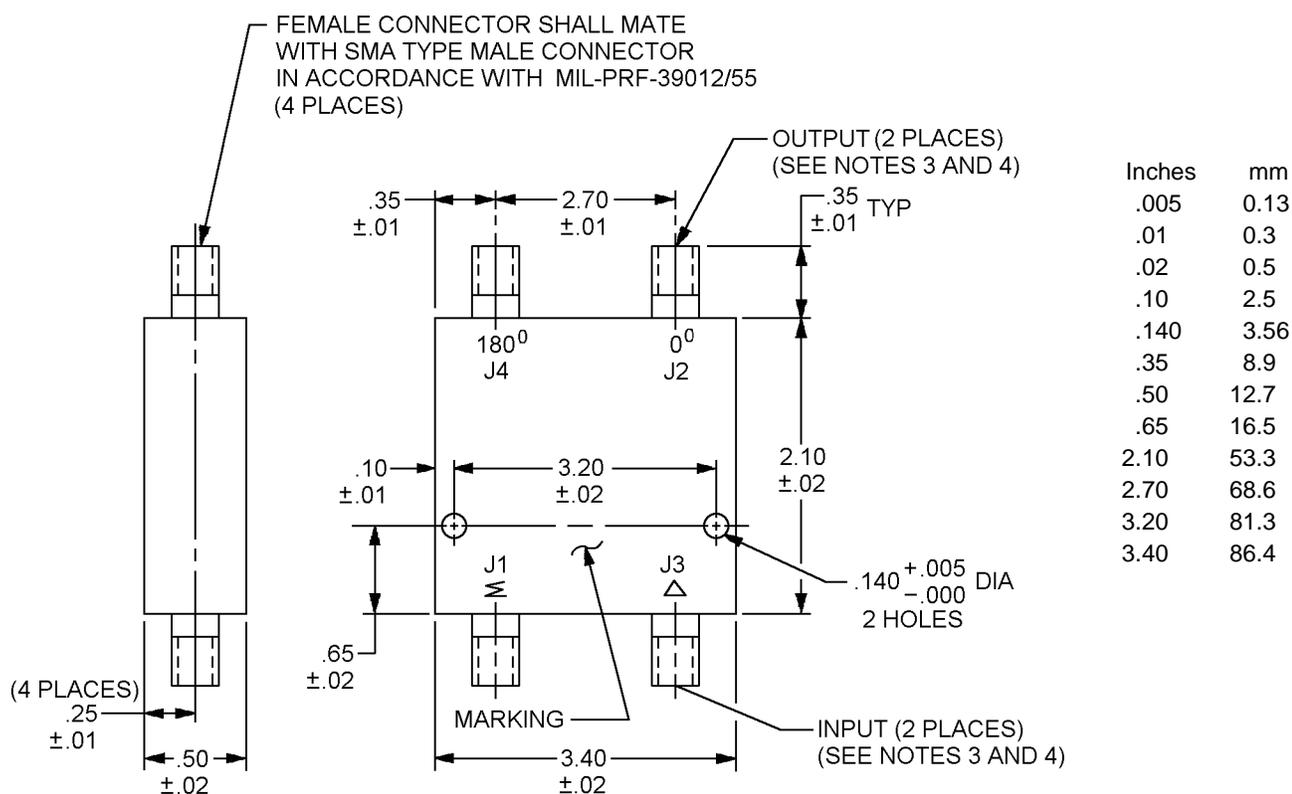
MIL-DTL-23971/13A  
 21 April 2003  
 SUPERSEDING  
 MIL-P-23971/13  
 22 February 1980

DETAIL SPECIFICATION SHEET

POWER DIVIDER/COMBINERS, 2-WAY, 180 DEGREES,  
 SMA CONNECTORS

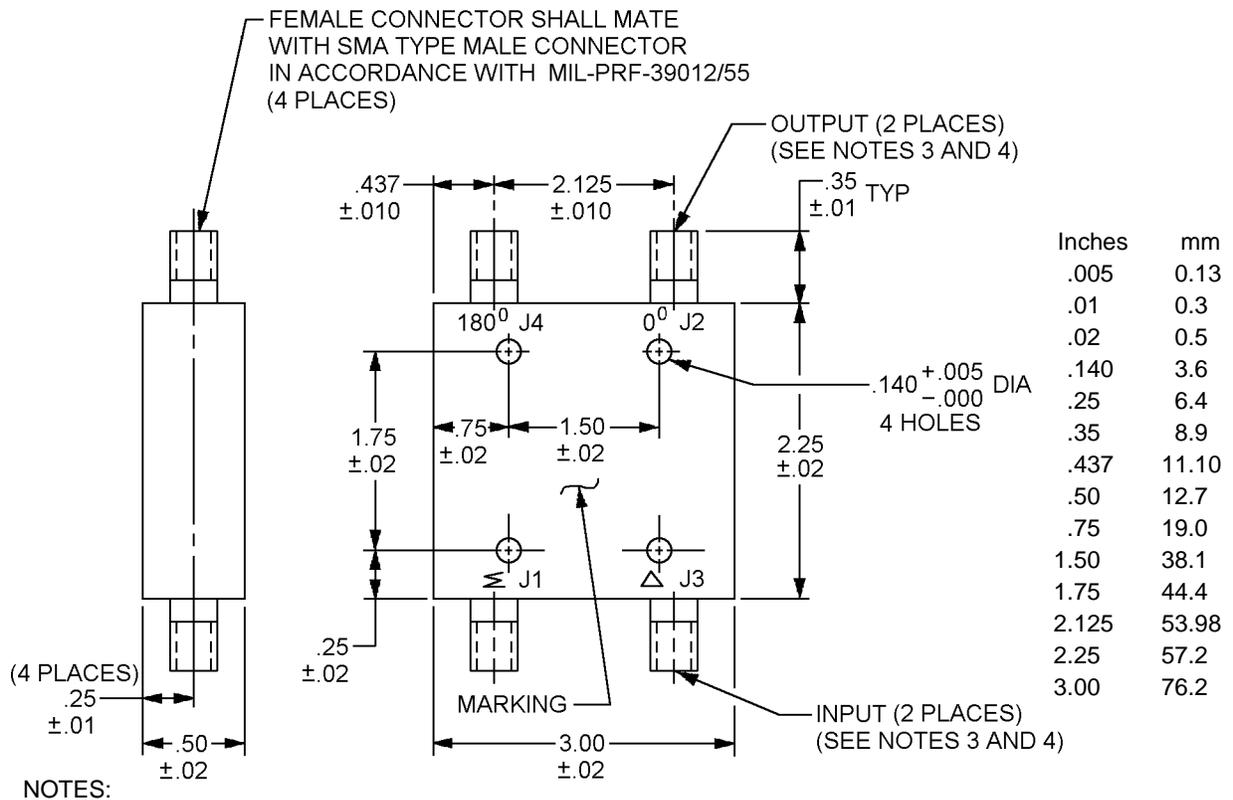
This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the power divider/combiner described herein shall consist of this specification sheet and MIL-DTL-23971.



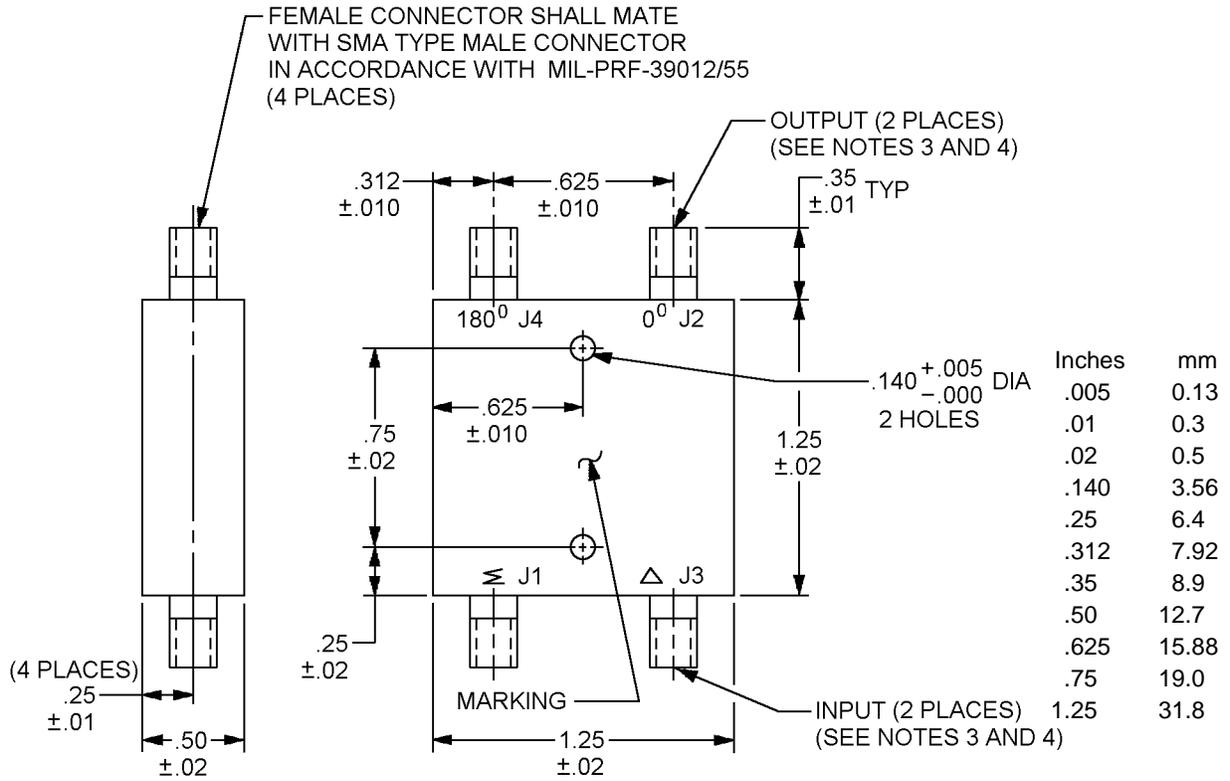
- NOTES: 1. Dimensions are in inches.  
 2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.  
 3. When power is applied to the sum  $\Sigma$  (J1) port, the power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both in phase with port J1.  
 4. When power is applied to the difference  $\Delta$  (J3) port, power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both 180° out of phase with port J3.

FIGURE 1. Dimensions and configuration, dash number 01.



1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. When power is applied to the sum  $\Sigma$  (J1) port, the power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both in phase with port J1.
4. When power is applied to the difference  $\Delta$  (J3) port, the power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both 180° out of phase with port J3.

FIGURE 2. Dimensions and configuration, dash number 02.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. When power is applied to the sum  $\Sigma$  (J1) port, the power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both in phase with port J1.
4. When power is applied to the difference  $\Delta$  (J3) port, the power is divided equally between the 180° (J4) and the 0° (J2) ports, and the power at the output ports J2 and J4 are both 180° out of phase with port J3.

FIGURE 3. Dimensions and configuration, dash number 03.

TABLE I. Electrical performance characteristics and physical requirements.

M23971/13-	Impedance (ohms)	Frequency range GHz	Average coupling (dB)	VSWR max	Insertion loss max (dB)	Isolation min (dB)	Phase balance (db) max	Amplitude balance (dB) max	Power level		Weight pounds (grams)	Ambient temperature		Figure
									avg (W)	pk (W)		Operating	Storage	
01	50	1-2	3.0 + 0.2 - 0.0	1.35:1	0.5	20	± 6	± 0.2	50	4K	.357 (162)	-54°C to +55°C	-62°C to +85°C	1
02	50	2-4	3.0 + 0.2 - 0.0	1.5:1	0.65	20	± 6	± 0.4	50	4K	.344 (156)	-54°C to +55°C	-62°C to +85°C	2
03	50	4-8	3.0 + 0.2 - 0.0	1.6:1	0.6	15	± 8	± 0.5	50	4K	.081 (37)	-54°C to +55°C	-62°C to +85°C	3

REQUIREMENTS:

Design and construction: See figures 1 through 3.

Case: O-ring seal.

Electrical characteristics: See table I.

Weight: See table I.

Ambient temperature: See table I.

Environmental tests: In accordance with MIL-DTL-23971 except:

Explosion: Applicable.

Part or Identifying Number (PIN): M23971/13- (dash number from table I).

Custodians:

Army -CR

Navy - EC

Air Force - 11

DLA - CC

Preparing activity:

DLA - CC

(Project 5985-1256 )

Review activities:

Navy - AS, MC, OS