MILITARY SPECIFICATION SHEET

POWER DIVIDER/COMBINERS, N-WAY, 0 DEGREES,
RECTANGULAR, PC PINS

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

The complete requirements for procuring the power divider/combiners described herein shall consist of this document and the latest issue of specification MIL-P-23971

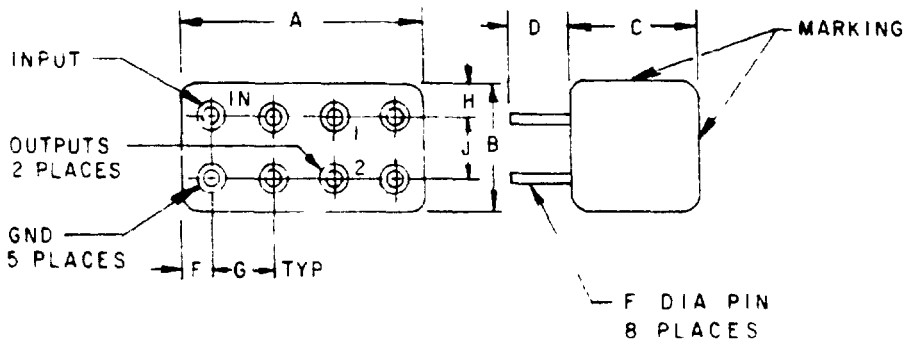
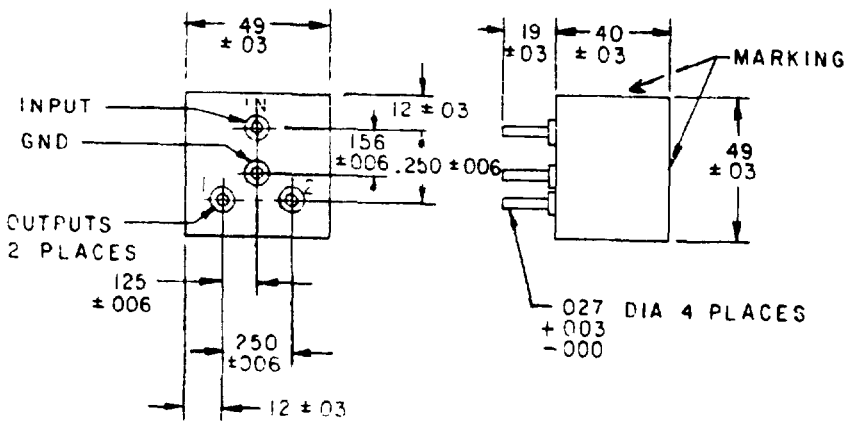


FIGURE 1 Dimensions and configurations, 2-way, dash numbers 01 and 02.



INCHES	MM
003	076
006	.15
027	.69
03	8
12	3 1
125	3 18
156	3 96
19	4.8
250	6.35
40	10.2
49	12 5

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

FIGURE 2 Dimensions and configurations, 2-way, dash numbers 03, 04, 05, 06, 07, and 08.

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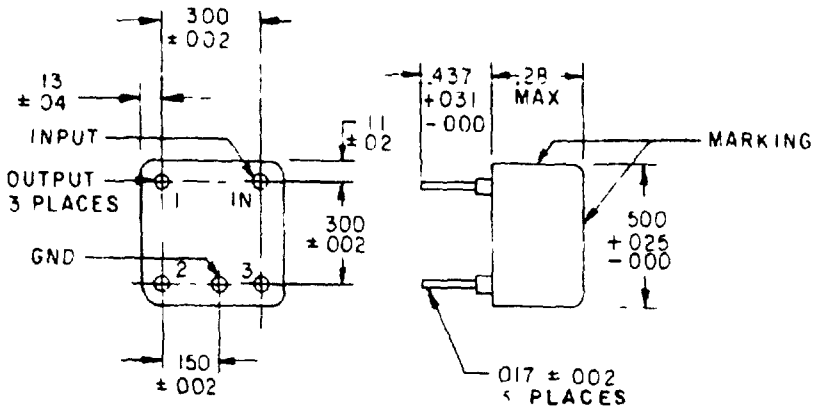


INCHES	MM
002	0 51
017	44
02	5
03	8
025	6 4
04	1.0
11	2 7
13	3 3
150	3 81
300	7 62
437	11 1

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

FIGURE 3 Dimensions and configurations, 3-way dash number 09

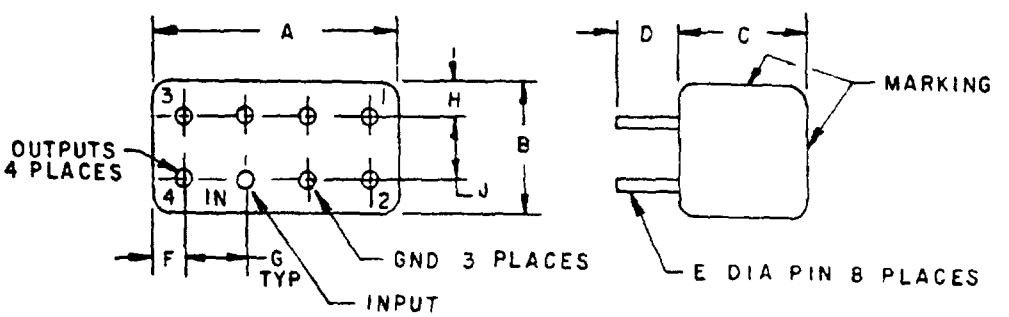
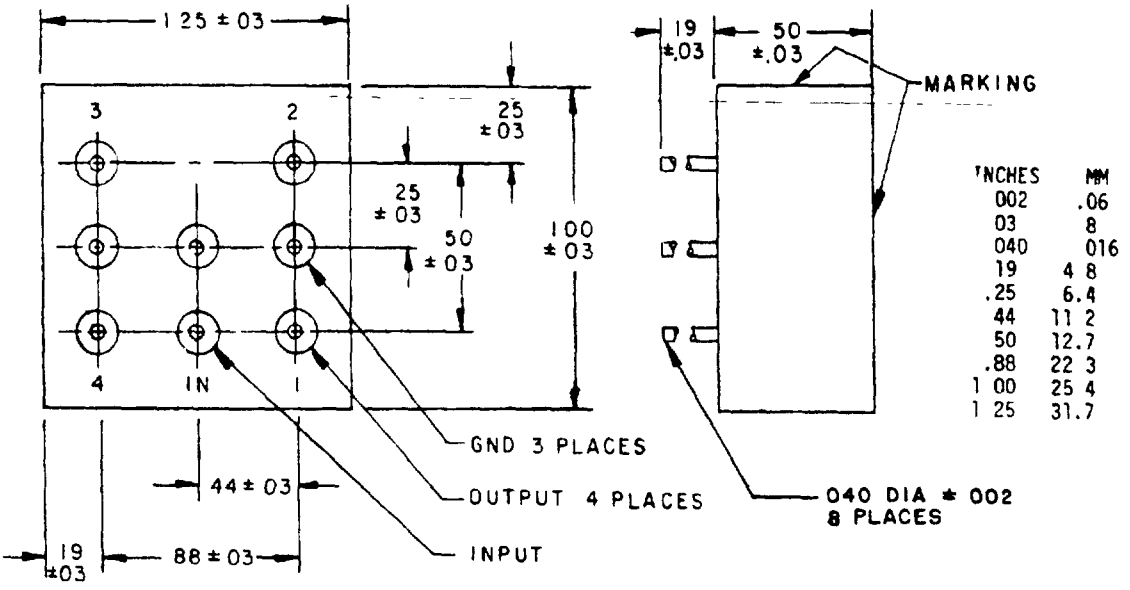


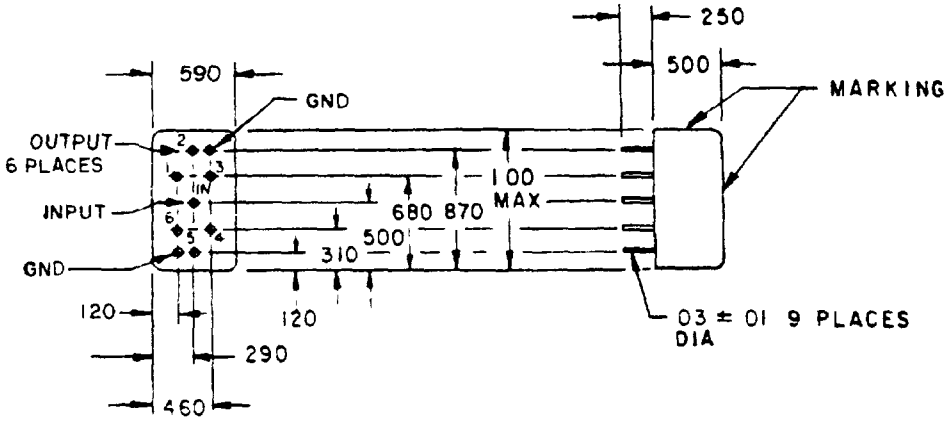
FIGURE 4 Dimensions and configurations, 4-way dash numbers 10 and 11



INCHES	MM
002	.06
03	8
040	016
19	4 8
.25	6.4
44	11 2
50	12.7
.88	22 3
1 00	25 4
1 25	31.7

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

FIGURE 5 Dimensions and configurations, 4-way, dash number 12.



INCHES	MM
01	.3
03	8
120	3.05
250	6 35
290	7 37
.310	7 87
.460	11 7
.500	12 7
590	14 0
.680	17 3
870	22 1
1.00	25 4

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. Unless otherwise specified, tolerance is ± 016 (.41 mm)

FIGURE 6 Dimensions and configurations, 6-way, dash number 13

Table I Dimensions

M23971/15-	A	B	C	D	E	F	G	H	J	Figure
01	785 ± 015	.385 ±.015	.425 max	150 + 055 - 000	.030 ± 002	095 ± 015	20 ± 01	095 ± 015	20 ± 01	1
02	49 ± 01	.22 ±.01	405 max	150 + 055 - 000	020 ± 002	055 ± 015	100 ± 005	055 ± 015	100 - 005	1
10	80 ± 02	40 ± 02	40 ± 02	186 ± 008	030 ± 008	10 ± 01	20 ± 02	10 01	20 ± 02	4
11	785 ± 015	385 ±.015	425 max	150 + 055 - 000	030 ±.002	095 ± 015	200 ± 005	095 ±.015	200 ± 005	4

INCHES	MM	INCHES	MM
002	06	150	3 81
005	13	186	4 72
008	20	20	5 08
01	25	200	5 1
015	38	22	5 59
020	508	385	9 78
02	.51	40	10 2
030	76	405	10 29
055	1.40	425	10 79
095	2 41	49	12 45
10	2 5	785	19 94
100	25 4	80	20 32

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

REQUIREMENTS

Design and construction See figures 1 through 6

Housing Hermetically sealed

Electrical characteristics See table II

Weight See table II

Ambient temperature See table II

Environmental tests See table III

Part number M23971 15-(dash number from table III)

TABLE II Electrical performance characteristics and physical requirements

M23971/15-	Impedance (ohms)	Frequency range (MHz)	Average coupling (dB)	VSWR max	Insertion loss max (dB)	Isolation min (dB)	Phase balance max (degree)	Amplitude balance (dB) max	Power level avg (W)	Power level pk (W)	Weight pounds (grams)	Ambient temperature Operating	Ambient temperature Storage	Figure
01	50	0.1-0.4	–	1.2:1 typ	–	15	–	–	–	1	.004 (1.8)	−55° to +100°C	−55° to +100°C	1
		0.4-2.0				20								
		2.0-40				30								
		40-400				20								
		0.1-100	3 +.5 −.0		0.5	–	±2	±0.15						
		100-200	3 +.75 −.00		0.75		±3	±0.2						
		200-400	3 +1.0 −0.0		1.0		±4	±0.3						
02	50	0.1-0.4	–	1.2:1 typ	–	15	–	–	–	1	.004 (1.8)	−55° to +100°C	−55° to +100°C	1
		0.4-2.0				20								
		2.0-250				30								
		250-450				20								
		0.1-100	3 +.5 −.0			–	±2	±0.15						
		100-200	3 +.75 .00				±3	±0.2						
		200-450	3 +1.0 −0.0				±4	±0.3						

TABLE II. Electrical performance characteristics and physical requirements. Continued

M23971/15-	Impedance (ohms)	Frequency range (MHz)	Average coupling (dB)	VSWR max	Insertion loss max (dB)	Isolation min (dB)	Phase balance max (degree)	Amplitude balance (dB) max	Power level avg (W)	Power level pk (W)	Weight pounds (grams)	Ambient temperature Operating	Ambient temperature Storage	Figure
02	50	2-100	–	1.21 typ	0.3				–	1	.004 (1.8)	-55 to +100°C	-55 to +100°C	1
		1-250			0.4									
		250-450			0.6									
03	50	2-32	3 +2 -0	1.31	0.5	30	±1.0	±0.2		1 3/	.016 (7.3)	-55 to +85°C	-55 to +85°C	2
04	50	10-100	3 +2 -0	1.31	0.5	30	±1.0	±0.2						2
05	50	20-200	3 +2 -0	1.31	0.5	30	±1.0	±0.2						2
06	50	50-1000	3 +2 -0	1.31	1.0	25	±2.0	±0.3		1				2
07	50	100-300	3 +2 -0	1.31	0.5	30	±1.0	±0.2		1 3/				2
08	50	200-400	3 +2 -0	1.31	0.5	30	±1.0	±0.2	–					2
09	50	140-410	4.8 +3 -0	1.31	0.75	25	±3.0	±0.2		3	–	-54 to +100°C	-54 to +100°C	3
10	50	1-10	6 +4 -0	1.21 typ	0.6	20 25 1 2	±2.0	±0.15		1	.001 (5.2)	-55 to +100°C	-55 to +100°C	4

TABLE II. Electrical performance characteristics and physical requirements. Continued.

M23971/15	Impedance (ohms)	Frequency range (MHz)	Average coupling (dB)	VSWR max	Insertion loss max (dB)	Isolation min (dB)	Phase balance max (degree)	Amplitude balance (dB) max	Power level avg (W)	Power level pk (W)	Weight pounds (grams)	Ambient temperature Operating	Ambient temperature Storage	Figure
10	50	10-100	6 + .4 0	1.21 typ	0.75	30 20 1/ 2/	±2.0	±0.15	-	1	.011 (5.2)	-55° to +100°C	-55° to +100°C	4
		100-200			1.0			±0.25						
11	50	25-10	6 + .7 - 0	1.11 typ	0.7	20 20 1/ 2/	±2.0	±0.15	-	1	.011 (5.2)	-55° to +100°C	-55° to +100°C	4
		10-100	6 + .75 .00		0.75	30 1/		±0.15						
		100-250	6 + 1.2 - 0.0		1.2	20 1/		±0.25						
12	50	10-100	6 + .4 - 0	1.31	0.7	30	±1.0	±0.2	-	2 3/	.040 (18)	-55° to +100°C	-55° to +100°C	5
13	50	235-275	7.78 + .60 .00	1.15:1	1.0	30	±2.0	±0.2	-	5		-54 to +100°C	-54° to +100°C	6

1/ Isolation: Between port 1 and ports 3 and 4; between port 2 and ports 3 and 4.
2/ Isolation: Between ports 1 and 2; and between ports 3 and 4.
3/ Power level: When used as a power combiner, the maximum power to each port is 5 W for coherent (equal amplitude, phase, and frequency) signals. For 180° out of phase signals power rating is reduced to 1.25 W per port.

TABLE III Environmental tests In accordance with MIL-P-23971 except

M23971/15–	Thermal shock	Terminal strength	Vibration, high frequency	Shock	Salt spray
01, 02, 11	6/	6	test condition D	test condition I	6/
03, 04, 05, 07, 08	6/	6/	6/	6	test condition A
06	6	6	test condition B	6/	6
09	test condition A 4	test condition C 1 pound load 5	test condition D	6	6
10	6/	test condition C 1 pound load 5	test condition D	test condition A	6
12	6	6	test condition B	6	test condition A
13	6	6	test condition D	test condition A	6

4 The upper temperature limit shall be 100°C
5 This test shall be performed in addition to terminal strength test in accordance with 4.7.13
6/ Not applicable

NOTE Power dividers covered by this specification sheet are substituted for the following manufacturer's part number This information in no way implies that the manufacturer s part is suitable as a substitute for the military part number

Dash number	Manufacturer s code	Manufacturer s part number	FSN
01	05869 15542	712440-1 PSC-2-1	
02	05869 15542	723136-1 MSC-2-1	
03	05869 12457	721720-1 PDS-20-17/11727	
04	05869 12457	721720-2 PDS-20-55/11727	
05	05869 12457	721720-3 PDS-20-110/11727	
06	12436 12457	6010440-001 PDS-20-600/22536	
07	05869 12457	721720-4 PDS-20-200/11727	
08	05869 12457	721720-5 PDS 20 300/11727	
09	13499 32252	277-0422-010 PI-HJ-3-701	
10	13499 15542	277-0406-010 PSC-4-1	
11	05869 15542	723157-1 PSC-4-3	
12	10001 12457	2938814-1 PDS-40-55/14532	
13	26687 32252	TL-2621 P-HJ-6-690	

Custodians
Army - ER
Navy - EC
Air Force - 85

Review activities.
Army -
Navy -
Air Force -
DLA - ES

User activities
Army -
Navy - AS, OS, MC
Air Force -

Preparing activity
Navy - EC

Agent
DLA - ES

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