

INCH-POUND

MIL-DTL-23971/1B
3 May 2012
SUPERSEDING
MIL-DTL-23971/1A
23 April 2002

DETAIL SPECIFICATION SHEET

POWER DIVIDERS, 4 PORT QUADRATURE,
SOLDER TERMINALS

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

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

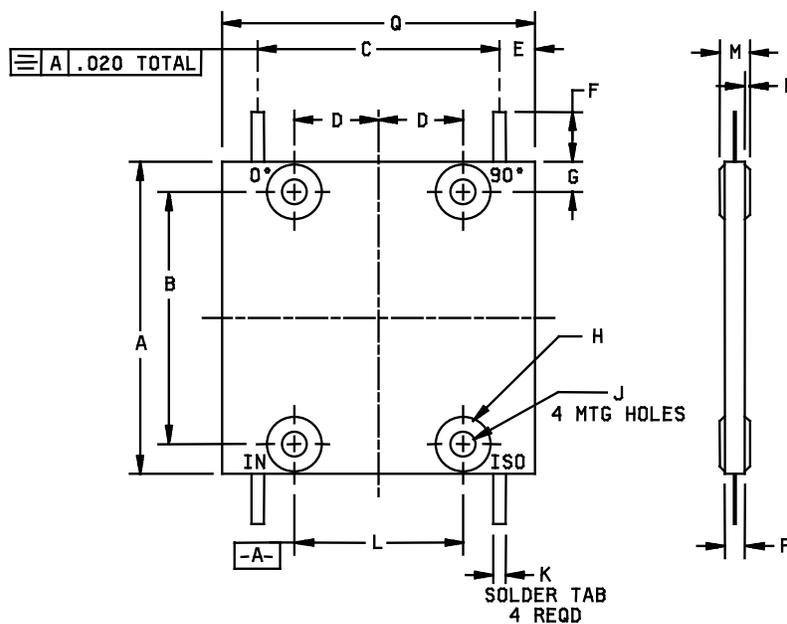


FIGURE 1. Dimensions and configuration, P/N 001 and 002.

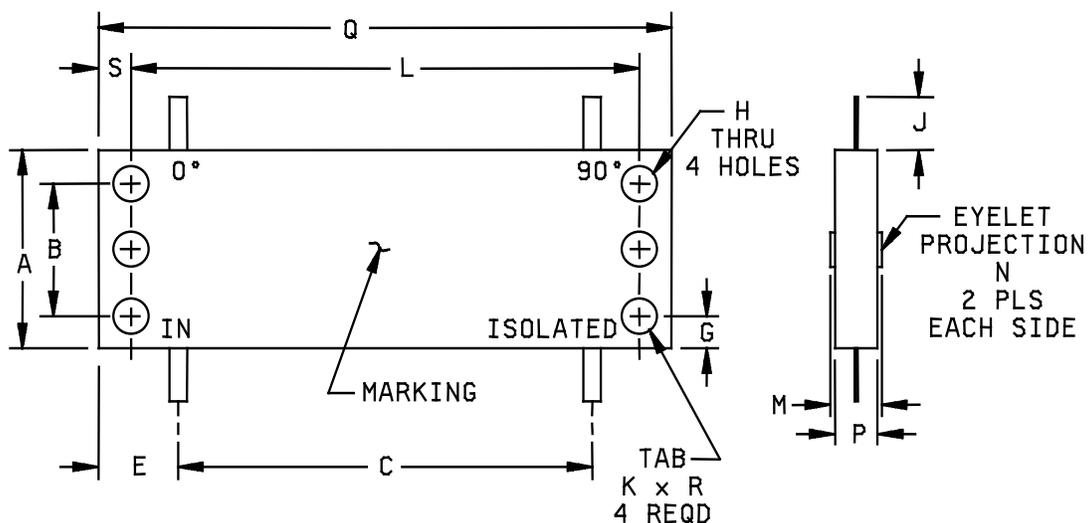
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	Dimensions			
	Inches		Millimeters	
	Max	Min	Max	Min
A	1.27	1.23	32.3	31.2
B	1.020	1.000	25.91	25.40
C	.981	.951	24.92	24.16
D	.347	.327	8.81	8.31
E	.17	.11	4.3	2.8
F	.25	.15	6.4	3.8
G	.130	.110	3.30	2.79
H	.240 dia	N/A	6.10 dia	N/A
J	.110 dia	.90 dia	2.79 dia	22.9 dia
K	.0505	.0495	1.28	1.26
L	.684	.664	17.4	16.9
M	.12	N/A	3.0	N/A
N	.025	N/A	.64	N/A
P	.095	.065	2.4	1.7
Q	1.27	1.23	32.3	31.2

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.010 (.25 mm) for three place decimals and ± 0.02 (.5 mm) for two place decimals.

FIGURE 1. Dimensions and configuration, P/N 001 and 002 - Continued.

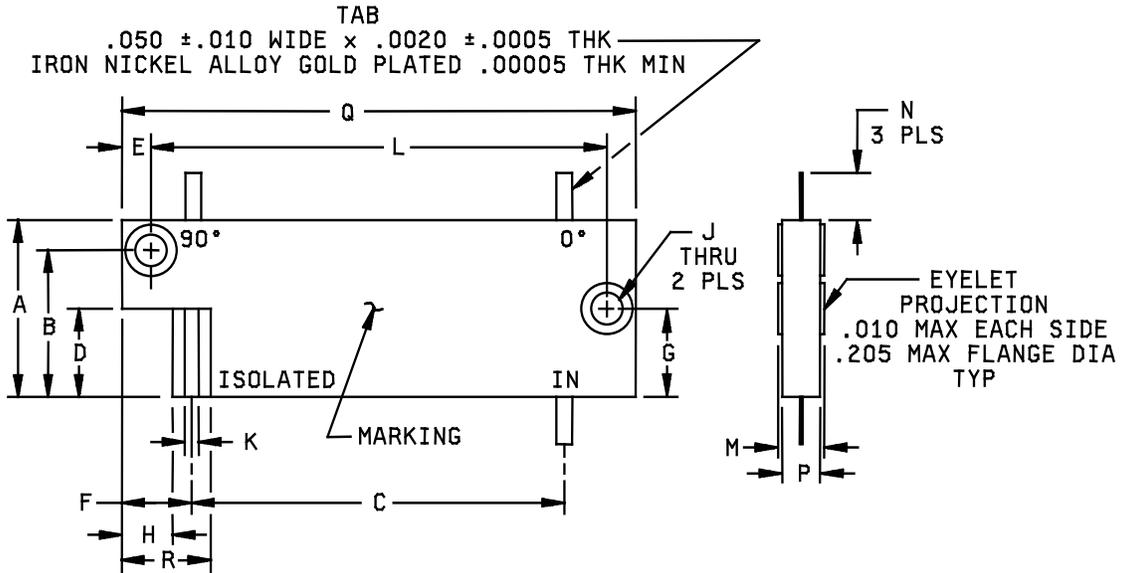


	Dimensions			
	Inches		Millimeters	
	Max	Min	Max	Min
A	.58	.54	14.7	13.7
B	.385	.365	9.78	9.27
C	1.19	1.15	30.2	29.2
D	N/A	N/A	N/A	N/A
E	.24	.20	6.1	5.1
F	N/A	N/A	N/A	N/A
G	.11	.07	2.8	1.8
H	.105 dia	.093 dia	2.67 dia	2.36 dia
J	N/A	.15	N/A	N/A
K	.0505 wide	.0495 wide	1.28 wide	1.26 wide
L	1.447	1.427	36.75	36.25
M	.144	.124	3.66	3.15
N	.007	N/A	0.2	N/A
P	.120	N/A	.120	N/A
Q	1.64	1.60	41.7	40.6
R	.0055 Thk	.0045 Thk	.14 Thk	.11 Thk
S	.11	.07	2.8	1.8

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.10 (.25 mm) for three place decimals and ± 0.02 (.5 mm) for two place decimals.

FIGURE 2. Dimensions and configuration, P/N 003.



	Dimensions			
	Inches		Millimeters	
	Max	Min	Max	Min
A	.58	.54	15	14
B	.44	.40	11	10
C	1.19	1.15	30.2	29.2
D	.30	.26	7.6	6.6
E	.11	.07	2.8	1.8
F	.24	.20	6.1	5.1
G	.30	.26	7.6	6.6
H	.18	.14	4.6	3.6
J	.105 dia	.093 dia	2.67 dia	2.36 dia
K	.054	.034	1.37	.86
L	1.442	1.432	36.63	36.37
M	.139	.129	3.53	3.28
N	N/A	.18	N/A	4.6
P	.120	N/A	3.05	N/A
Q	1.65	1.59	41.9	40.4
R	.30	.26	7.6	6.6

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.005 (.13mm) for three place decimals and ± 0.02 (.5 mm) for two place decimals.

FIGURE 3. Dimensions and configuration, P/N 004.

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REQUIREMENTS:

Design and construction: See figures 1, 2, and 3.

Terminals: Solder tabs.

Material and finish of terminals:

Part numbers 01, 03, and 04 - Nickel with electrodeposited tin coating 0.0001 to 0.0005 inch thick per ASTM-B545 "Standard Specification for Electrodeposited Coatings of Tin" or Iron-nickel alloy in accordance with SAE-AMS-I-23011 "Iron-Nickel Alloys for Sealing to Glasses and Ceramics", Class I (KOVAR), gold plated in accordance with MIL-DTL-45204 "Gold Plating, Electrodeposited ", or SAE-AMS-2422 "Plating, Gold" and/or, ASTM-B488 "Electrodeposited Coating of Gold for Engineering Uses" ; type I, grade C. Nickel is to be used only if specification cannot be met using alternate material means.

Part number 02 - Kovar, gold plated in accordance with MIL-DTL-45204, or SAE-AMS-2422 and/or, ASTM-B488, type II, class I, grade C.

Ambient temperature:

Operating - -54° to +110°C.

Storage - -62° to +125°C.

Electrical performance characteristics: See table I.

TABLE I. Electrical performance characteristics.

M23971 /1-	Impedance (ohms)	Frequency range (MHz)	Average coupling (dB)	vswr max	Insertion loss max (dB)	Isolation min (dB)	Phase balance 90°	Amplitude balance (dB)	Power level		Figure
									avg (W)	pk (W)	
01	50	225-400	3 +.2, -0	1.2:1	0.3	23	±1.5	0.4	60	300	1
02	50	250-500	3 +.2, -0	1.2:1	0.25	23	±1.5	0.5	60	300	1
03	50	225-400	3 +.2, -0	1.2:1	0.25	25	±1.5	0.4	100	200	2
04											3

Part number: M23971/1- (and dash number from table I).

Referenced documents: In addition to MIL-DTL-23971, this document references the following

MIL-DTL-45204

ASTM-B488

ASTM-B545

SAE-AMS2422

SAE-AMS-I-23011

The margins of this specification sheet are marked with vertical lines to indicate where changes from the previous revision were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5985-2012-010)

Review activities:

Navy - AS, MC, OS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil>.