

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	Add IRC to list of suggested sources of supply. Correct Dale's p/n. Editorial corrections throughout.	3 FEB 88	David E. Moore
B	Revised to present DoD policy requirements. Editorial corrections throughout.	31 MAY 00	Kendall A. Cottongim
C	Add Group B inspection certification paragraph. Lead dimensions changes. Editorial changes throughout.	11 OCT 05	William E. Sindelar
D	5 Year review. Revised to present DoD policy requirements. Editorial corrections throughout.	10 DEC 15	M. Radecki

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
HAS CHANGED NAMES TO:
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990



Prepared in accordance with ASME Y14.100

REV STATUS OF PAGES	REV	D	D	D	D	D	D											
	PAGES	1	2	3	4	5	6											

PMIC N/A	PREPARED BY Allan R. Knox		DESIGN ACTIVITY: DEFENSE ELECTRONIC SUPPLY CENTER DAYTON, OHIO 45444-5000																
Original date of drawing 3 AUGUST 1987	CHECKED BY David W. Withrow		TITLE RESISTOR, NETWORK, 14-PIN, FLAT PACK																
	APPROVED BY David E. Moore																		
	SIZE A	CODE IDENT. NO. 14933		DWG NO. 87053															
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1. SCOPE

1.1 Scope. This drawing describes the requirements for a resistor network, 14-pin, flat pack.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as follows:

87053
|

Drawing number

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.2 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation (see 6.2).

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-PRF-83401 - Resistor Networks, Fixed, Film, and Capacitor-Resistor Networks, Ceramic Capacitor and Fixed Film Resistors, General Specification For.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-1285 - Marking of Electrical and Electronic Parts.

(Copies of these documents are available online at <http://quicksearch.dla.mil>).

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence unless otherwise noted. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with **MIL-PRF-83401** and as specified herein.

3.2 Interface and physical dimensions. The resistor shall meet the interface and physical dimensions as specified in **MIL-PRF-83401** and herein (see [figure 1](#)).

3.3 Electrical characteristics.

3.3.1 Individual power ratings. The power rating for individual resistors shall be 100 milliwatts.

3.3.2 Package power ratings. The power rating for the package shall be 600 milliwatts.

3.3.3 Voltage rating. Each resistor element shall have a maximum voltage rating of 75 volts dc or ac rms.

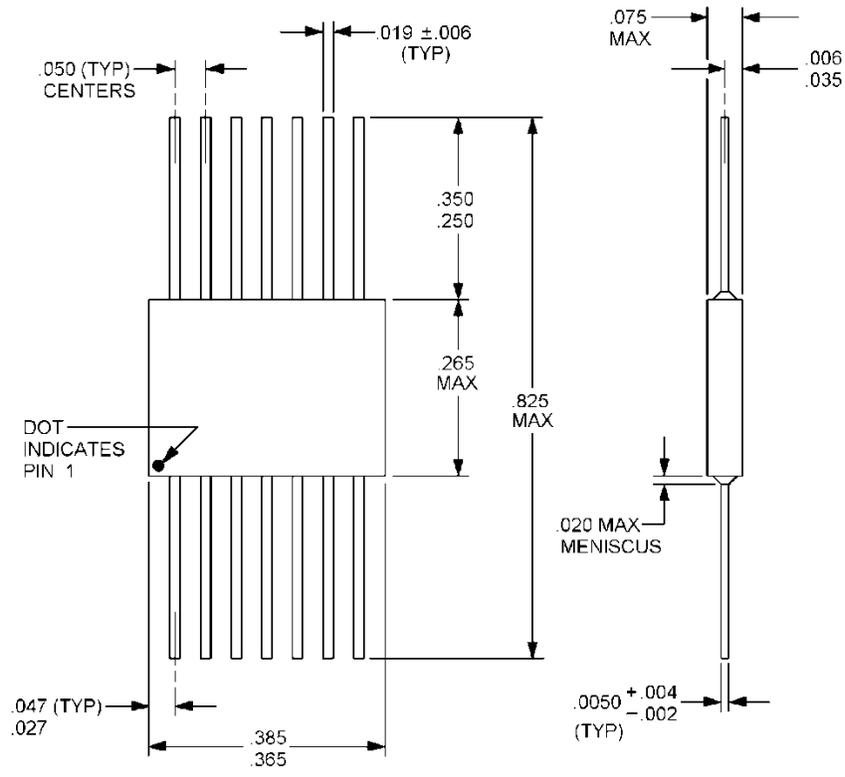
3.3.4 Resistance tolerance. The resistance tolerance shall be ±5 percent.

3.3.5 Resistance characteristic. The resistance characteristic shall be in accordance with **MIL-PRF-83401**, characteristic K.

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3.3.6 Schematic. Resistor networks are available in the schematic listed on [figure 2](#).

3.3.7 Resistance. Resistance values shall be as specified on [figure 2](#).



<u>Inches</u>	<u>mm</u>										
.002	0.050	.006	0.15	.020	0.51	.047	1.19	.250	6.35	.365	9.27
.004	0.101	.015	0.38	.027	0.69	.050	1.27	.265	6.73	.385	9.78
.005	0.127	.019	0.48	.035	0.89	.075	1.91	.350	8.89	.825	20.96

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is $\pm .005$ (0.13 mm).
4. The pictorial view of the style above is given as representative of the envelope of the item. Slight deviations from the outline shown, which are contained within the envelope, and do not alter the functional aspects of the devices are acceptable.

FIGURE 1. Resistor network, 14-pin flat pack

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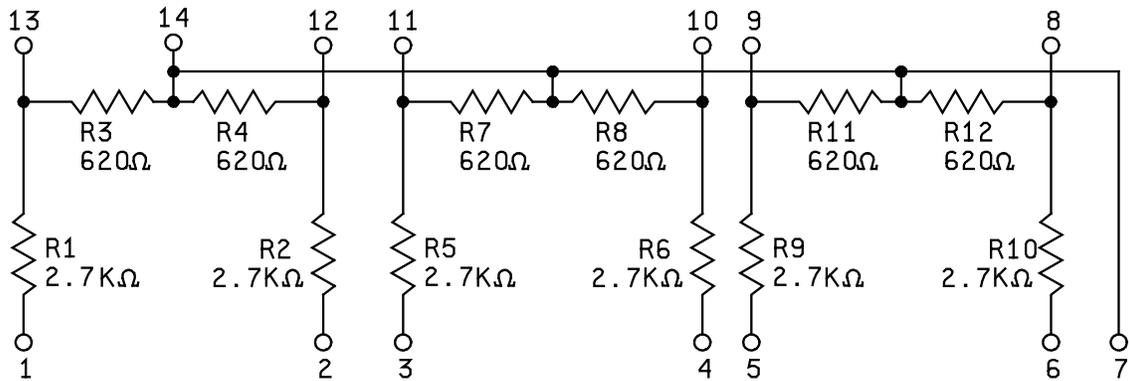


FIGURE 2. Schematic diagram.

3.3.8 TC tracking The TC tracking shall be as follows:

$$\frac{R1}{R2} \quad \frac{R3}{R4} \quad \frac{R5}{R6} \quad \frac{R7}{R8} \quad \frac{R9}{R10} \quad \frac{R11}{R12}$$

Shall track within 150 ppm/°C.

$$\frac{R1}{R3} \quad \frac{R2}{R4} \quad \frac{R5}{R7} \quad \frac{R6}{R8} \quad \frac{R9}{R11} \quad \frac{R10}{R12}$$

Shall track within 150 ppm/°C.

3.3.9 Matching ratio. The matching ratio shall be as follows:

$$\frac{R1}{R2} \quad \frac{R3}{R4} \quad \frac{R5}{R6} \quad \frac{R7}{R8} \quad \frac{R9}{R10} \quad \frac{R11}{R12}$$

Shall equal 1,000 ±0.5 percent.

$$\frac{R1}{R3} \quad \frac{R2}{R4} \quad \frac{R5}{R7} \quad \frac{R6}{R8} \quad \frac{R9}{R11} \quad \frac{R10}{R12}$$

Shall equal 4.355 ±0.5 percent.

3.4 Marking. Marking shall be in accordance with MIL-STD-1285 except the networks shall be marked with the PIN as specified herein (see 1.2), the manufacturer's name or Commercial and Government Entity (CAGE) code, and date lot codes.

3.5 Recycled, recovered, environmentally preferable, or biobased materials. Recycled, recovered, environmentally preferable, or biobased materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

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3.6 Manufacturer eligibility. To be eligible for listing as a approved source of supply, a manufacturer shall be listed on the [MIL-PRF-83401](#) Qualified Products List for at least one part, or perform the group A and group B inspections specified herein on a sample of parts agreed upon by the manufacturer and DLA Land and Maritime - VAT.

3.6.1 Certificate of compliance. A certificate of compliance shall be required from manufacturers requesting to be a approved source of supply.

3.7 Pure tin. The use of pure tin, as an underplate or final finish, is prohibited both internally and externally. Tin content of resistor components and solder shall not exceed 97 percent, by mass. Tin shall be alloyed with a minimum of 3 percent lead, by mass (see 6.3).

3.8 Workmanship. Resistors shall be uniform in quality and free from defects that will affect life, serviceability, or appearance.

4. VERIFICATION

4.1 Qualification inspection. Qualification inspection is not applicable to this document.

4.2 Conformance inspection.

4.2.1 Inspection of product for delivery. Inspection of product for delivery shall consist of group A and group B inspection of [MIL-PRF-83401](#).

4.2.2 Certification. The acquiring activity, at its discretion, may accept a certificate of compliance with group B requirements in lieu of performing group B tests (see [6.2c](#)).

4.3 Visual and mechanical examination. Resistors shall be examined to verify that the materials, design, construction, physical dimensions, marking, and workmanship are in accordance with the applicable requirements of [MIL-PRF-83401](#).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see [6.2](#)). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service or Defense Agency, or within the military services system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Resistor networks described herein are intended for use in circuits where microcircuitry is intended.

6.2 Ordering data. The contract or purchase order should specify the following:

- a. Complete PIN (see [1.2](#)).
- b. Requirements for delivery: One copy of the conformance inspection data or certification of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.
- c. Whether the manufacturer performs the group B tests or provides certification of compliance with group B requirements.
- d. Requirements for packaging and packing.

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6.3 Tin whisker growth. The use of alloys with tin content greater than 97 percent, by mass, may exhibit tin whisker growth problems after manufacture. Tin whiskers may occur anytime from a day to years after manufacture and can develop under typical operating conditions, on products that use such materials. Conformal coatings applied over top of a whisker-prone surface will not prevent the formation of tin whiskers. Alloys of 3 percent lead, by mass, have shown to inhibit the growth of tin whiskers. For additional information on this matter, refer to [ASTM-B545](#) (Standard Specification for Electrodeposited Coatings of Tin).

6.4 User of record. Coordination of this document for future revisions is coordinated only with the approved source of supply and the users of record of this document. Requests to be added as a recorded user of this drawing may be achieved online at resistor@dla.mil or in writing to: DLA Land and Maritime-VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-8754 or DSN 850-8754.

6.5 Approved source of supply. Approved source of supply is listed herein. Additional sources will be added as they become available. Assistance in the use of this drawing may be obtained online at resistor@dla.mil or contact DLA Land and Maritime-VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-8754 or DSN 850-8754.

DLA Land and Maritime drawing PIN	Vendors similar designation or type number ^{1/}	Vendor CAGE	Vendor's name and address
87053	DFP-14-**-***	91637	Vishay Dale PO Box 609 1122 23rd Street Columbus, NE 68602-0609
87053	8178	57027	IRC, Incorporated 4222 S. Staples Street Corpus Christi, TX 78411-2702

^{1/} Parts must be purchased to the DLA Land and Maritime PIN to assure that all performance requirements and test are met.

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