

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	Dimension changes. Revise 3.3.7. Editorial changes throughout.	28 AUG 1989	D. Moore
B	Dimension changes to figures. Revised 3.3.3. Editorial changes throughout.	13 NOV 1990	D. Moore
C	Revise section 4. Editorial changes throughout.	2 MAR 1992	D. Moore
D	Dimension changes to figures. Revised 4.4.1 and 4.4.1.2. Changed vendor PIN. Editorial changes throughout.	21 APR 1993	D. Moore
E	Changes in accordance with NOR 5905-R002-96.	28 MAR 1996	D. Moore
F	Update and validation of drawing. Editorial changes throughout.	8 JUN 2001	K. Cottongim
G	Add pure tin prohibition paragraph. Editorial changes throughout.	8 JAN 2008	M. Radecki
H	Vendor address change. Editorial changes throughout.	17 MAY 2013	M. Radecki
J	Change vendor's CAGE code. Add QR code. Editorial changes throughout.	12 FEB 2016	M. Radecki

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



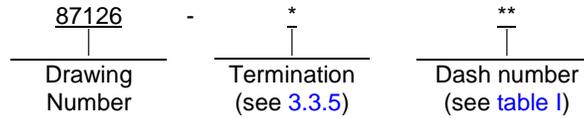
Prepared in accordance with [ASME Y14.100](#)

REV STATUS OF PAGES	REV	J	J	J	J	J	J											
	PAGES	1	2	3	4	5	6											
PMIC N/A Original date of drawing 8 March 1988	PREPARED BY Allan R. Knox							DESIGN ACTIVITY: DEFENSE ELECTRONIC SUPPLY CENTER DAYTON, OHIO 45444-5000										
	CHECKED BY David W. Withrow							TITLE RESISTOR, VARIABLE, NONWIRE-WOUND (ADJUSTMENT TYPE, LEAD SCREW ACTUATED)										
	APPROVED BY David E. Moore																	
	SIZE A	CODE IDENT. NO. 14933						DWG NO. 87126										
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1. SCOPE

1.1 Scope. This drawing describes the requirements for a variable, nonwire-wound (adjustment type, lead screw actuated) resistor.

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



2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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 or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-39035	-	Resistor, Variable, Nonwire Wound (Adjustment Type), Nonestablished Reliability and Established Reliability, General Specification for.
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DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-690	-	Failure Rate Sampling Plans and Procedures.
MIL-STD-790	-	Standard Practice for Established Reliability and High Reliability Qualified Products List (QPL) Systems for Electrical, Electronic, and Fiber Optic Parts Specifications.

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

2.2 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-39035](#) and as specified herein.

3.2 Interface, and physical dimensions. The resistor shall meet the interface, and physical dimensions as specified in MIL-PRF-39035 and herein (see [figure 1](#)).

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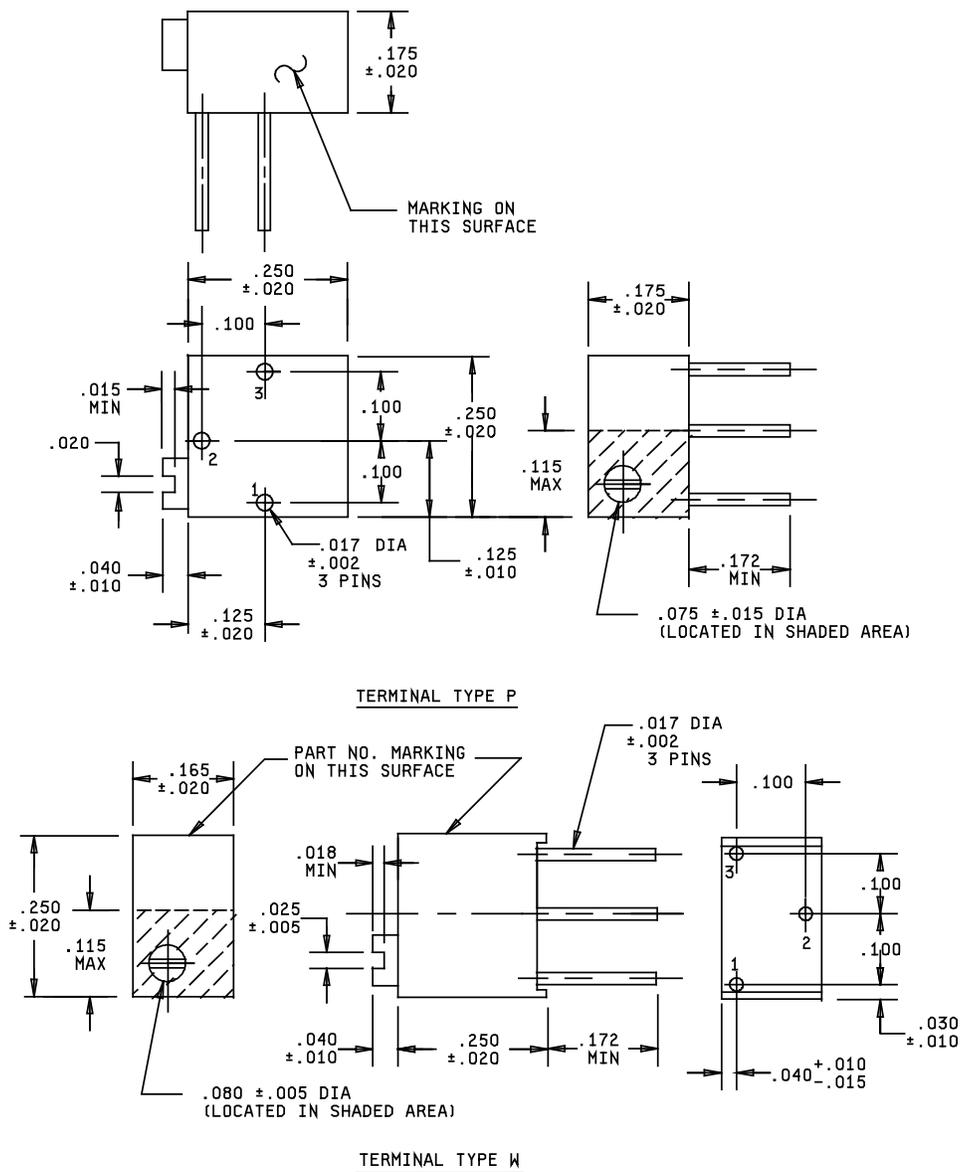
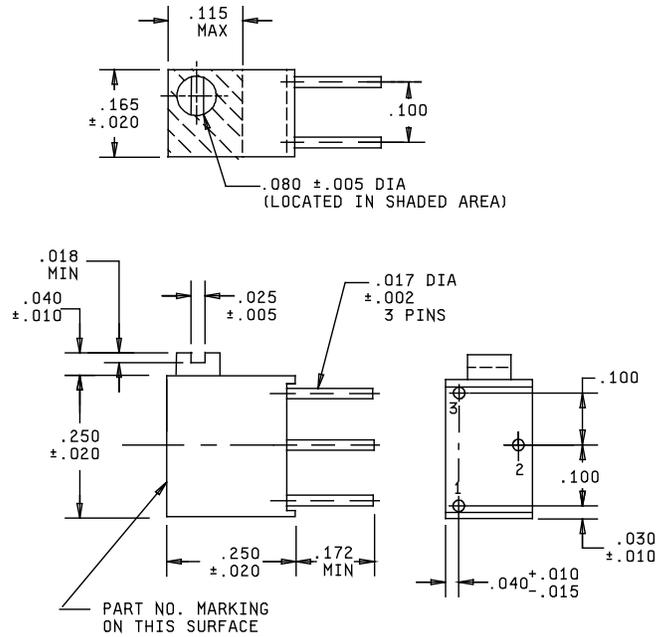


FIGURE 1. Dimensions and configurations.

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TERMINAL TYPE X

Inches	mm												
.002	0.05	.015	0.38	.020	0.51	.035	0.88	.075	1.90	.115	2.92	.172	4.37
.005	0.12	.017	0.43	.025	0.64	.040	1.02	.080	2.03	.125	3.18	.175	4.44
.010	0.25	.018	0.46	.030	0.76	.055	1.40	.100	2.54	.165	4.19	.250	6.35

NOTES:

- Dimensions are in inches.
- Metric equivalents are given for general information.
- Unless otherwise specified, tolerance is $\pm .005$ (0.13 mm).
- The entire slot of the actuating screw must be above the surface of the unit.
- The head of the lead screw actuator shall not extend beyond any edge of the surface upon which it is mounted.
- Mounting means are by use of pins only.
- The PIN is preferred as indicated; however, the PIN may be placed on any surface except where the leads egress.

FIGURE 1. Dimensions and configurations - Continued.

3.3 Electrical characteristics.

3.3.1 Nominal resistance value and maximum rated ac or dc working voltage. Nominal resistance values and maximum rated ac or dc working voltages are as specified in [table 1](#).

3.3.2 Power rating. The power rating shall be .250 watt.

3.3.3 Actual effective electrical travel. Actual effective electrical travel shall be 21 ± 2 turns.

3.3.4 Operating torque. The operating torque shall be 3 ounce-inches maximum.

3.3.5 Terminals. Resistors are available in P, W, and X terminals.

3.3.6 Maximum voltage. The maximum rated ac or dc working voltage shall be 200 volts.

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3.3.7 Resistance temperature coefficient. Resistance temperature coefficient shall not exceed ± 10 ppm/ $^{\circ}\text{C}$ for dash numbers 3 through 10. For dash numbers 1 and 2, the resistance temperature coefficient shall be ± 20 ppm/ $^{\circ}\text{C}$.

TABLE I. Nominal resistance value and maximum rated ac or dc working voltage.

Dash number 87126-	Nominal resistance value (ohms)	Maximum rated ac or dc working voltage per characteristic (volts)	Dash number 87126-	Nominal resistance value (ohms)	Maximum rated ac or dc working voltage per characteristic (volts)
01	10	1.58	06	500	11.1
02	20	2.23	07	1,000	15.8
03	50	3.54	08	2,000	22.3
04	100	5.0	09	5,000	35.4
05	200	7.07	10	10,000	50.0

3.4 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).

3.5 Marking. Resistors shall be marked with the PIN assigned herein (see 1.2) and manufacturer's identification code (CAGE or logo). Pin 1 indicator shall be located adjacent to pin 1.

* 3.6 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 materials meet or exceed the operational and maintenance requirements, and promote economically advantageous life cycle costs.

3.7 Manufacturer eligibility. To be eligible for listing as an approved source of supply, a manufacturer shall perform the group A specified herein on a sample of parts agreed upon by the manufacturer and DLA Land and Maritime-VAT.

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

3.8 Workmanship. Resistors shall be processed in such a manner as to be uniform in quality and free from defects that will affect life, serviceability, or appearance.

4. VERIFICATION

4.1 Reliability assurance provisions. The reliability assurance provisions specified in MIL-PRF-39035 and maintained in accordance with MIL-STD-790 is not applicable to this document.

4.2 Qualification inspection. Qualification inspection in accordance with MIL-PRF-39035 is not applicable to this document.

4.3 Failure rate qualification. Failure rate qualification in accordance with MIL-PRF-39035 and MIL-STD-690 is not applicable to this document.

4.4 Conformance inspection.

4.4.1 Inspection of product for delivery. Inspection of product for delivery shall be in accordance with group A inspection of MIL-PRF-39035.

4.4.2 Dielectric withstanding voltage. In the dielectric withstanding voltage test, the applied potential shall be 600 V rms at atmospheric pressure and 250 V rms at reduced barometric pressure.

4.4.3 High temperature exposure. The maximum temperature for the high temperature exposure test shall be 125 $^{\circ}\text{C}$.

4.5 Inspection of packaging. Inspection of packaging shall be in accordance with MIL-PRF-39035.

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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 requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's Services System Command. 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 covered by this document are intended for use in electronic equipment, and are used for matching, balancing, and adjusting circuit variables in computers, telemetering equipment, and other critical applications.

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 a certificate of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.
- c. Requirements for packaging and packing.

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, ATTN: VAT, P.O. 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, ATTN: VAT, P.O. Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-8754 or DSN 850-8754.

DLA Land and Maritime drawing PIN 87126	Vendors similar designation or type number <u>1/</u>	Vendor CAGE	Vendor's name and address
-P01 through -P10	1240P	0066A	Vishay Precision Group, Inc. 3 Great Valley Parkway Suite 150 Malvern, PA 19355 <u>Plants:</u> Vishay Advanced Technologies, Ltd. 2 Dr. Felix Zandman Street Holon 58125, Israel
-W01 through -W10	1240W3		
-X01 through -X10	1240X3		

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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