

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	Add new vendor, and correct table I. Editorial changes throughout.	2004-07-09	K. Cottongim
B	Partial inactivation for new design. Editorial changes throughout.	2010-05-04	M. Radecki
C	Add QR code. Update per VA SOP 006. Editorial changes throughout.	2019-01-11	M. Radecki
D	Correct vendor part number.	2019-05-10	M. Radecki

Notice of Partial Inactivation for New Design
 DLA Land and Maritime Drawing 02008 is inactive for new design for characteristics H, K, and M and is no longer used, except for replacement purposes.
 Use [MIL-PRF-55342/7](#) for new designs.

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](#)

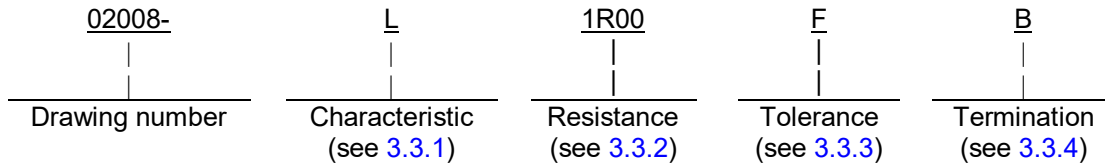
Selected item drawing

REV STATUS OF PAGES	REV	D	D	D	D	D	D											
	PAGES	1	2	3	4	5	6											
PMIC N/A	PREPARED BY Dennis L. Cross							DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH										
Original date of drawing 31 October 2002	CHECKED BY Andrew R. Ernst							TITLE RESISTOR, CHIP, FIXED, FILM, LOW AND HIGH VALUES, STYLE 1206										
	APPROVED BY Kendall A. Cottongim																	
	SIZE A	CAGE CODE 037Z3						DWG NO. 02008										
REV D							PAGE 1 OF 6											

1. SCOPE

1.1 Scope. This drawing describes the requirements for a chip resistor, style 1206 with low and high resistance values, a wide range of characteristics and tolerances.

1.2 Part or Identifying Number (PIN). The complete PIN is as shown in the following example:



2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards 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-55342 - Resistor, Chip, Fixed, Film, Nonestablished Reliability, Established Reliability, Space Level, General Specification for
- MIL-PRF-55342/7 - Resistor, Chip, Fixed, Film, Nonestablished Reliability, Established Reliability, Space Level, Style 1206

DEPARTMENT OF DEFENSE STANDARDS

- MIL-STD-690 - Failure Rate Sampling Plans and Procedures
- MIL-STD-790 - 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 <https://quicksearch.dla.mil/>.)

2.2 Order of precedence. Unless otherwise noted herein or in the contract, or 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. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3.1 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-55342, and as specified herein.

3.2 Interface and physical dimensions. The resistor shall meet the interface and physical dimensions as specified in MIL-PRF-55342/7 and herein (see figure 1).

3.3 Electrical characteristics.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CAGE CODE 037Z3	DWG NO. 02008
		REV D	PAGE 2

3.3.1 Characteristic. Resistors are available in characteristics L, and N (characteristics H, K, M are inactive for new design, use MIL-PRF-55342/7) in accordance with the resistance tolerances and resistance values as specified in table I and paragraph 6.7 herein.

3.3.2 Resistance. The nominal resistance is expressed in ohms and is identified by four digits; the first three digits represent significant figures and the last digit specifies the number of zeros to follow. When the values of resistance are less than 100 ohms, or when fractional values of an ohm are required, the letter "R" is substituted for one of the significant digits to represent the decimal point. When the letter "R" is used, succeeding digits of the group represent significant figures.

3.3.2.1 Resistance range. The resistance range shall be 1 ohm to 10 Megohms in accordance with the characteristics and resistance tolerances as specified in table I and paragraph 6.7 herein.

3.3.3 Resistance tolerance. Resistors are available in resistance tolerances F(±1 percent), G(±2 percent), J(±5 percent), and K(±10 percent) in accordance with the characteristics and resistance values as specified in table I and paragraph 6.7 herein.

TABLE I. Resistance temperature characteristic, resistance, and resistance tolerance.

Characteristic	PPM	Tolerance		
		Resistance range		
		1 percent (F)	2 and 5 percent (G, J)	10 percent (K)
H ^{1/}	50	1 ohm thru 5.49 ohms 5.76 Megohms thru 10 Megohms	1 ohm thru 5.1 ohms 6.2 Megohms thru 10 Megohms	1 ohm thru 4.7 ohms 6.8 Megohms thru 10 Megohms
K ^{1/}	100			
M ^{1/}	300			
L	200	1 ohm thru 10 Megohms		
N	400			

^{1/} Inactive for new design.

3.3.4 Termination material. Termination material shall be in accordance with MIL-PRF-55342, code letter B.

3.3.4.1 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).

3.3.5 Power rating. The power rating for all characteristics shall be 250 milliwatts at 70°C derated to zero power at +150°C.

3.3.6 Voltage rating. The maximum continuous working voltage shall not exceed 100 volts.

3.4 Marking. Marking is not required on the resistor; however, each unit package shall be marked with the PIN assigned herein (see 1.2), vendor CAGE code, and date and lot codes.

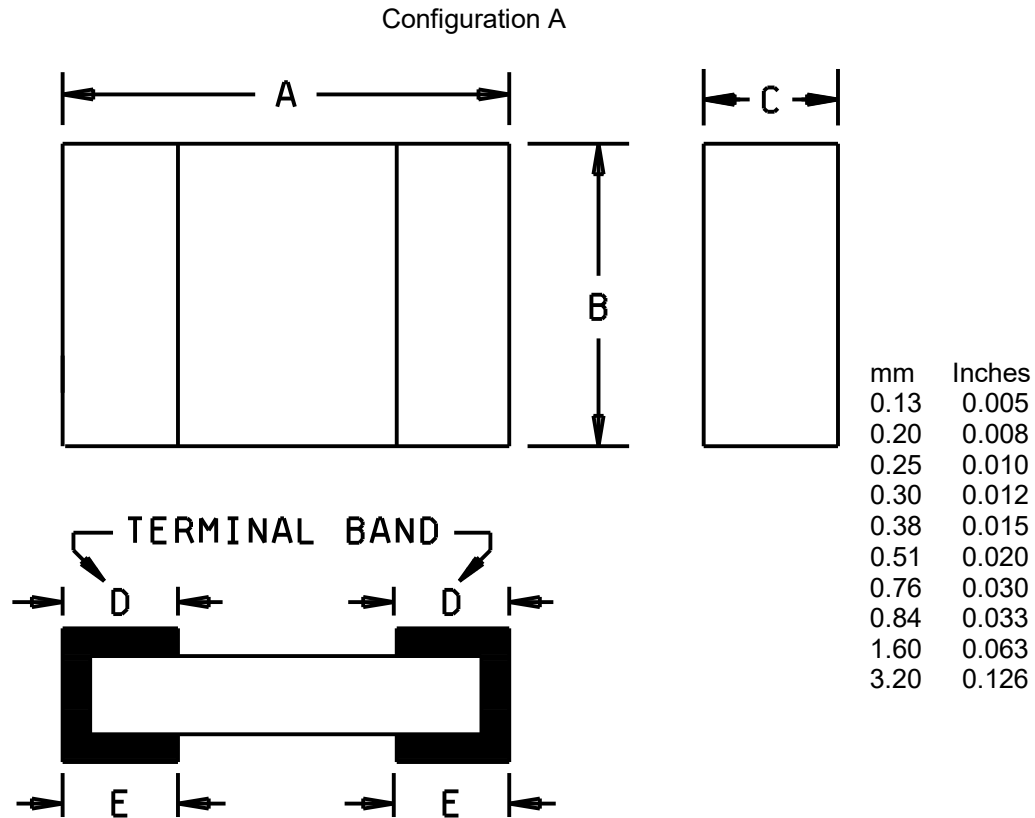
3.5 Recycled, recovered, environmentally preferable or biobased materials. Recycled, recovered, environmentally preferable or biobased materials should be used to the maximum extent possible provided that the materials meet or exceed the operational and maintenance requirements, and promote economically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

3.6 Manufacturer eligibility. To be eligible to added as an approved source of supply, a manufacturer shall be listed on the MIL-PRF-55342 Qualified Products List for at least one part, or perform the group A and group B inspections specified herein on a sample agreed upon by the manufacturer and DLA Land and Maritime -VAT.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CAGE CODE 037Z3	DWG NO. 02008
		REV D	PAGE 3

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

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



Configuration B

Configuration	Dimension A mm	Dimension B mm	Dimension C mm	Dimension D mm	Dimension E mm
A	3.20 ±0.13	1.60 ±0.13	0.30/0.76	0.51 +0.13 -0.25	N/A
B	3.20 ±0.20	1.60 ±0.13	0.38/0.84	0.51 +0.13 -0.25	0.51 +0.13 -0.25

NOTES:

1. Dimensions are in millimeters.
2. Inch equivalents are given for general information only.
3. The pictorial view of the styles 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 device are acceptable.
4. Configuration A is not applicable to this document.

FIGURE 1. Chip resistor.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CAGE CODE 037Z3	DWG NO. 02008
		REV D	PAGE 4

4. VERIFICATIONS

4.1 Product assurance program. The product assurance program specified in [MIL-PRF-55342](#) and maintained in accordance with [MIL-STD-790](#) is not applicable to this document.

4.2 Product level qualification. The product level qualification specified in MIL-PRF-55342 and [MIL-STD-690](#) is not applicable to this document.

4.3 Conformance provisions.

4.3.1 Inspection of product for delivery. Inspection of product for delivery shall consist of group A inspection and group B inspection of MIL-PRF-55342.

4.3.2 Certification. The procuring activity may accept a certificate of compliance in lieu of group B inspection (see [6.2d](#)).

4.5 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-55342](#).

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 Department or Defense Agency, or within the military service's 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. Chip resistors are intended for use in thick or thin film circuits where microcircuitry is intended. Chip resistors can also be used in surface mount applications.

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

- a. Complete DLA Land and Maritime CAGE CODE and PIN (see [1.2](#)).
- b. Requirements for delivery; one copy of the conformance inspection data that parts have passed conformance inspection, with each shipment of parts by the manufacturer.
- c. Packaging requirements. (e.g., Electrostatic discharge (ESD) sensitivity) (see [5.1](#)).
- d. Whether the manufacturer performs the group B inspection or provides a certificate of compliance (see [4.3.2](#)).

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).

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CAGE CODE 037Z3	DWG NO. 02008
		REV D	PAGE 5

6.4 Electrostatic charge. Under several combinations of conditions, these resistors can be electrically damaged, by electrostatic charges, and drift from specified value. Users should consider this phenomena when ordering or shipping resistors. Direct shipment to the Government is controlled by [MIL-DTL-39032](#) which specifies a preventive packaging procedure.

6.5 Pulse applications. Designers are CAUTIONED on using the above resistors in high power pulse applications. Since they have not been qualified nor tested for such applications, damage and premature failure are possible. These resistors only see a one time pulse (Short-time overload) as part of the group B inspection of [MIL-PRF-55342](#).

6.6 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) 692-0552 or DSN 850-0552.

* 6.7 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) 692-0552 or DSN 850-0552.

DLA Land and Maritime drawing PIN 02008-*****	Vendor similar designation or type number <u>1/</u>	Vendor CAGE	Vendor name and address
Char. L and N, res. value 1 ohm thru 10 Megohms, res. tol. 1, 2, 5, and 10 pct.	WA87 PS-****-NS62P WA87 PS-****-NS62	50316	Mini-Systems, Inc. 20 David Rd. North Attleboro, MA 02760-2102
Char. L and N, res. value 1 ohm thru 10 Megohms, res. tol. 1, 2, 5, and 10 pct.	H1206CPX***** (D02008)	56235	State of the Art, Inc. 2470 Fox Hill Rd. State College, PA 16803-1797
Char. L, res. values 1 ohm thru 1 Megohm, res. tol. 1, 2, and 5 pct.	W1206RV-0*-****	57027	TT Electronics/IRC 4222 S. Staples St. Corpus Christi, TX 78411-2702
Char. L and N, res. value 1 ohm thru 10 Megohms, res. tol. 1, 2, 5, and 10 pct.	RCWP-1206-14	SH903	Vishay Dale Electronics, Inc. PO Box 609 Columbus, NE 68602-0609 <u>Plant:</u> Vishay Israel, LTD. Emek-Sara "B" Industrial Park Beer Sheva, Israel 84874
Char. L, res. values 10 ohm thru 10 Megohms, res. tol. 1, 2, 5, & 10 pct. Char. N, res. values 1 ohm thru 10 Megohms, res. tol. 1, 2, 5, & 10 pct.	M1206LXXXXZ L1206NXXXXZ M1206NXXXXZ	SH903	Vishay Thin Film 2160 Liberty Drive Niagara Falls, NY 14304 <u>Plant:</u> Vishay Israel, LTD. Emek-Sara "B" Industrial Park Beer Sheva, Israel 84874

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

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CAGE CODE 037Z3	DWG NO. 02008
		REV D	PAGE 6