REVISIONS			
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Prepared in accordance with ASME Y14.100

Selected item drawing

REV STATUS OF PAGES																		
	REV	A	A	A	A	A	A	A	A	A	A	A						
	PAGES	1	2	3	4	5	6	7	9	10	11	12						

PMIC N/A

PREPARED BY
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DESIGN ACTIVITY
DLA LAND AND MARITIME
COLUMBUS, OH

Original date of drawing
11-08-30

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TITLE
CAPACITOR, FIXED, CERAMIC, CHIP, TIGHT TOLERANCE, THIN FILM, 1210

SIZE A

CAGE CODE 037Z3

DWG NO. 09027

SCALE N/A

REV A

PAGE 1 **OF** 12

AMSC N/A

5910-2021-E09

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

1. SCOPE

1.1 Scope. This drawing and MIL-PRF-55681 describe the requirements for capacitors, ceramic, chip. These capacitors are composed of a single or double layer dielectric thin film and are of smaller size with lower voltages and tighter tolerances than those currently offered in MIL-PRF-55681.

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

09027-	BP	100	B	J	T	-
Drawing number	Dielectric (see 1.2.1)	Capacitance value (see 1.2.2)	Voltage (see 1.2.3)	Capacitance tolerance (see 1.2.4)	Termination finish (see 1.2.5)	Group C testing option (see 1.2.6)

1.2.1 Dielectric rated temperature and voltage-temperature limits. The rated temperature and voltage-temperature limits are identified by a two-letter symbol. The first letter "B" indicates the rated temperature of -55°C to +125°C; the second letter indicates the voltage-temperature limits across the rated temperature as shown in table I.

TABLE I. Voltage–temperature limit.

Symbol	Capacitance change with reference to +25°C		
	Step A through step D of MIL-PRF-55681 table XIII	Percent rated voltage	Step E through step G of MIL-PRF-55681 table XIII
P	±30 ppm/ degree C	100	±30 ppm/ degree C
H	±60 ppm/ degree C	100	±60 ppm/ degree C

1.2.2 Capacitance value. The nominal capacitance value, expressed in picofarads (pF) is identified by a three-digit number; the first two digits represent significant figures and the last digit specifies the number of zeros to follow. When the nominal value is less than 10 pF, the letter “R” is used to indicate the decimal point and the succeeding digit(s) of the group represent significant figure(s). 1R0 indicates 1.0 pF; R75 indicates 0.75 pF; and 0R5 indicates 0.5 pF.

1.2.3 Voltage. The rated voltage for continuous operation at +125°C is identified by a single letter as shown in table II.

TABLE II. Rated voltage.

Symbol	Rated voltage (volts, dc)
X	10
Y	16
Z	25
A	50
B	100

1.2.4 Capacitance tolerance. The capacitance tolerance is identified by a single letter in accordance with table III.

TABLE III. Capacitance tolerance.

Symbol	Capacitance tolerance (±)
A	0.05 pF
B	0.1 pF
C	0.25 pF
D	0.5 pF
F	1 percent
G	2 percent
J	5 percent
P	0.02 pF
Q	0.03 pF
X	0.015 pF
Z	0.01 pF

1.2.5 Termination finish. Termination finish is identified by a single letter as shown in table IV.

TABLE IV. Termination finish.

Symbol	Termination finish
T	Base metallization-barrier metal-solder coated (tin/silver alloy with a minimum of 4 percent silver)

1.2.6 Group C testing option. To require MIL-PRF-55681 group C testing, use the appropriate letter from table V. If group C testing is not desired, leave this location blank. When optional group C testing is requested, terminal strength, series resonance, and moisture resistance are not applicable. NOTE: Ordering group C options that contain a 2,000-hour life test may extend the processing time by 90 days or more.

TABLE V. Group C testing options.

Letter	Group C testing option
C	Full group C
L	2,000 hour life test only
M	1,000 hour life test only
H	Low voltage humidity only
N/A	No group C testing

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 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-55681	-	Capacitor, Chip, Multiple Layer, Fixed, Ceramic Dielectric, Established Reliability and Non-Established Reliability, General Specification For

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-202-305	-	Method 305, Capacitance
MIL-STD-883	-	Microcircuits, Test Methods for
MIL-STD-1285	-	Marking of Electrical and Electronic Parts

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

2.3 Non-Government publications. The following documents 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.

INTERNATIONAL ELECTROTECHNICAL COMMISION (IEC)

IEC 60068-2-58	-	Test Methods for Solderability, Resistance to Dissolution of Metallization and to Soldering Heat of Surface Mounting Devices (SMD).

(Copies of this document are available online at http://www.iec.ch/)

KEYSIGHT TECHNOLOGIES

Application Note 1369-6	-	How To Accurately Evaluate Low ESR, High Q RF Chip Devices.

(Copies of this document are available online at https://www.keysight.com/)

2.4 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, 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. REQUIREMENTS

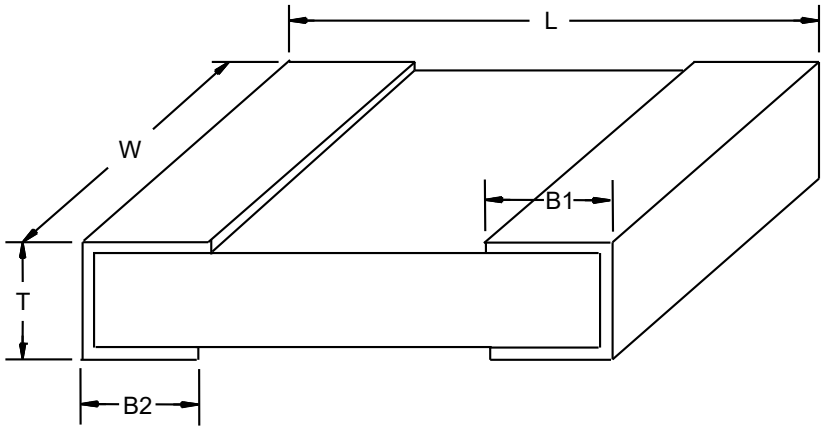
3.1 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-55681, and as specified herein. Unless otherwise stated, these capacitors shall be capable of meeting all electrical, environmental, and mechanical requirements of MIL-PRF-55681.

3.2 Pure tin. The use of pure tin, as an underplate or final finish, is prohibited both internally and externally. Tin content of capacitor components and solder shall not exceed 96 percent, by mass. Tin shall be alloyed with a minimum of 3 percent silver, by mass (see 6.4).

3.3 Interface and physical dimensions. The interface and physical dimensions shall be as specified herein (see figure 1).

3.4 Electrical characteristics.

3.4.1 Dielectric type. The dielectric type shall be BP (±30 ppm/°C) or BH (±60ppm/°C) single or double layer film as shown in table I.



Dimensions				
L ±.0039	W ±.0039	T ±.0079	B1 ±.0039	B2 ±.0039
.1189	.0984	.0366	.0169	.0169

Inches	mm
.0039	0.100
.0079	0.200
.0169	0.430
.0366	0.930
.0984	2.500
.1189	3.020

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 1. Physical dimensions and configuration.

3.4.2 Voltage conditioning. When tested in accordance with MIL-PRF-55681, capacitors shall meet the following requirements:

a. Dielectric withstanding voltage (DWV) (at +25°C): As specified in 3.4.3.

b. Insulation resistance (IR) (at +25°C): Shall be as specified in 3.4.4.

c. Capacitance (at +25°C): Shall be as specified in 3.4.5.

d. Dissipation factor (DF) (at +25°C): Shall be as specified in 3.4.6.

3.4.3 Dielectric withstanding voltage (DWV). In accordance with MIL-PRF-55681, except the test voltage shall be 6 times rated voltage, minimum.

3.4.4 Insulation resistance. When measured in accordance with MIL-PRF-55681, the insulation resistance shall be 10,000 megohms, minimum at +25°C.

3.4.5 Capacitance. When measured in accordance with MIL-STD-202-305, capacitance shall be as specified in table VIII. The following conditions shall apply:

a. Test frequency: 1 MHz ± 100 kHz.

b. Test voltage: 1.0 volt ± 0.2 volt rms.

3.4.6 Dissipation factor (+25°C). When measured at the frequency and voltage specified in 3.4.5, the dissipation factor shall be less than 0.15 percent.

3.4.7 Equivalent series resistance (ESR). When tested on Agilent RF Impedance/Material Analyzer 4291B/E4991A or equivalent, in accordance with Application Note 1369-6, the ESR shall be less than the limits shown in table VIII. The following details shall apply:

Test frequency: For capacitance values ≤ 1 pF: 1.8 GHz.
For capacitance values > 1 pF: 1.0 GHz.

3.5 Visual and mechanical examination. In accordance with MIL-PRF-55681.

3.6 Solderability. When tested in accordance with IEC 60068-2-58, the immersed metallized surface shall be least 95 percent covered with a smooth solder coating. The remaining 5 percent of the surface may contain small pinholes or exposed termination material; however, these shall not be concentrated in one area. The following details shall apply:

a. Solder temperature: +235°C ± 5°C.

b. Dwell time: 2 +0, -0.5 seconds.

3.7 Temperature cycling (air to air). In accordance with method 1010 of MIL-STD-883, the following details and requirements shall apply:

a. Number of cycles: 15.

b. Exposure time at extreme temperatures: 30 ± 1 minute.

c. Capacitance change: Shall change not more than ± 2 percent for capacitor values ≥ 5 pF.
Shall change not more than ± 0.25 pF for capacitor values < 5 pF.

3.8 Resistance to soldering heat. In accordance with IEC 60068-2-58, the following details and requirements shall apply:

a. Temperature: 260 ± 5°C.

b. Test duration: 10 ± 0.5 seconds.

c. Capacitance change: Shall change not more than ± 2 percent for capacitor values ≥ 5p F.
Shall change not more than ± 0.25 pF for capacitor values < 5 pF.

3.9 Humidity, steady state, low voltage. In accordance with MIL-PRF-55681, except:

a. Test duration: 1,000 hours.

b. Test voltage: rated.

c. Capacitance change: Shall change not more than ± 2 percent for capacitor values ≥ 5 pF.
Shall change not more than ± 0.25 pF for capacitor values < 5 pF.

d. IR: Not applicable.

3.10 Life (at elevated ambient temperature). In accordance with MIL-PRF-55681, except:

a. Test duration: As specified (see table V).

b. Sample size: 20 pieces per production lot.

c. Capacitance change: Shall change not more than ± 2 percent for capacitor values ≥ 5 pF.
Shall change not more than ± 0.25 pF for capacitor values < 5 pF.

d. DF: ≤ 0.3 percent.

e. IR: Not applicable.

3.11 Marking. As a minimum, marking shall be on the package due to the small size of the chips. The package marking shall be in accordance with MIL-STD-1285, except the PIN shall be as specified in 1.2 with manufacturer's name or CAGE code and date code. The manufacturer may, at their option, mark some information on the chips.

3.12 Manufacturer eligibility. To be eligible for listing as an approved source of supply, a manufacturer shall be listed on the MIL-PRF-55681 Qualified Products List for at least one part, or perform the group A and group C inspections specified herein on a sample of parts agreed upon by the manufacturer and DLA Land and Maritime-VA.

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

3.14 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.

3.15 Workmanship. In accordance with MIL-PRF-55681.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Qualification inspection. Qualification inspection is not required.

b. Conformance inspection (see 4.2).

4.2 Conformance inspection.

4.2.1 Inspection of product for delivery. Inspection of product for delivery shall consist of all tests specified in group A herein (see table VI). When optional group C of MIL-PRF-55681 testing is requested (see table V), the following exceptions shall apply:

a. Terminal strength, series resonance, and moisture resistance are not applicable.

b. Thermal shock and immersion shall be replaced by temperature cycling (air to air) herein (see 3.7).

4.2.1.1 Group A inspection. Group A inspection shall consist of the examinations and tests specified in table VI, in the order shown.

TABLE VI. Group A inspection.

Inspection	Requirement paragraph	Sampling Procedure
Subgroup 1		
Voltage conditioning	3.4.2	
Dielectric withstanding voltage (DWV)	3.4.3	
Insulation resistance (IR) (+25°C)	3.4.4	100 percent
Capacitance	3.4.5	
Dissipation factor (DF)	3.4.6	
Subgroup 2		
Visual and mechanical examination	3.5	Table VII, 0 failures
Subgroup 3		
ESR	3.4.7	6 samples, 0 failures
Subgroup 4		
Solderability	3.6	5 samples, 0 failures

4.2.1.1.1 Subgroup 1 tests.

4.2.1.1.1.1 Sampling plan. Subgroup 1 tests shall be performed on a production lot basis on 100 percent of the product supplied under this drawing. Capacitors failing the tests of subgroup 1 shall be removed from the lot. If during the 100 percent inspection, screening requires that more than 8 percent of the capacitors be discarded, the entire production lot shall be rejected.

4.2.1.1.1.2 Rejected lots. Production lots exceeding the eight percent defective allowance (PDA) of group A, subgroup 1 inspection shall be segregated from new lots and lots that have passed inspection. Lots rejected may be offered for acceptance only if the manufacturer 100 percent retests to the requirements of subgroup 1. Resubmitted lots shall be kept separate and shall be clearly identified as resubmitted lots. If, during the 100 percent reinspection to subgroup 1, the lot exceeds 3 percent defective, the lot shall be rejected and shall not be resubmitted.

TABLE VII. Sampling plan for subgroup 2.

Lot size	Sample size
1 - 13	100%
14 - 125	13
126 - 150	13
151 - 280	20
281 - 500	29
501 - 1,200	34
1,201 - 3,200	42
3,201 - 10,000	50
10,001 - 35,000	60
35,001 - 150,000	74
150,001 - 500,000	90
500,001 - up	102

4.2.1.1.2 Subgroup 2 tests .

4.2.1.1.2.1 Sampling plan. Subgroup 2 tests shall be performed on an inspection lot basis. Samples subjected to subgroup 2 shall be selected in accordance with table VII, based on the size of the inspection lot. In the event of one or more failures the lot shall be rejected.

4.2.1.1.2.2 Rejected lots. The rejected lot shall be segregated from new lots and those lots that have passed inspection. The rejected lot shall be 100 percent inspected for those quality characteristics found defective in the sample and any defectives found removed from the lot. A new sample of parts shall then be randomly selected in accordance with table VII. If one or more defects are found in this second sample, the production lot shall be rejected and shall not be supplied to this drawing.

4.2.1.1.3 Subgroup 3 tests.

4.2.1.1.3.1 Sampling plan. Subgroup 3 shall be performed on an inspection lot basis. The sampling procedure shall be as specified in table VI.

4.2.1.1.3.2 Rejected lots. The rejected lots shall be segregated from new lots and those lots that have passed inspection. Lots rejected because of failures in subgroup 3 shall be reinspected, using the sampling procedure specified in table VI. If one or more defects are found in the second sample, the lot shall be rejected and shall not be supplied to this drawing. Resubmitted lots shall be kept separate from new lots, and shall be identified as resubmitted lots.

4.2.1.1.4 Subgroup 4 tests.

4.2.1.1.4.1 Sampling plan. Five samples shall be selected randomly from every inspection lot and subjected to the subgroup 4 solderability test. The manufacturer may use electrical rejects from the subgroup 1 screening tests for all or part of the samples to be used for the solderability testing. If there are one or more defects, the lot shall be considered to have failed.

4.2.1.1.4.2 Rejected lots. In the event of one or more defects, the inspection lot shall be rejected. The manufacturer may use one of the following options to rework the lot:

a. Each production lot that was used to form the failed inspection lot shall be individually submitted to the solderability test as required in 4.2.1.1.4.1. Production lots failing the solderability test can be reworked only if submitted to the reprocessing procedure in 4.2.1.1.4.2b.

b. The manufacturer shall submit the failed production lot to 100 percent reprocessing of the terminations. Following the reprocessing, the electrical measurements required in the group A, subgroup 1 test shall be repeated on 100 percent of the lot. The PDA for electrical measurements shall be as for the subgroup 1 tests. Five additional samples shall then be selected and subjected to the solderability test with no defects allowed. If the lot fails this solderability test, the lot shall be considered rejected and shall not be furnished against the requirements of this drawing.

4.2.1.1.4.3 Disposition of samples. The solderability test is considered a destructive test and samples submitted to the solderability test shall not be supplied on the contract.

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 activities within the Military Service 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. Capacitors conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application. This drawing is intended exclusively to prevent the proliferation of unnecessary duplicate specifications, drawings, and stock catalog listings. When a military specification exists and the product covered by this drawing has been qualified for listing, this drawing becomes obsolete and will not be used for new design.

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

a. Complete DLA Land and Maritime CAGE code and PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data or certificate of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.

c. Requirements for notification of change of product to acquiring activity, if applicable.

d. Requirements for packaging and packing.

6.3 Replaceability. Capacitors covered by this drawing will replace the same commercial device covered by a contractor-prepared specification or drawing.

6.4 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) (see 3.2).

6.5 Users of record. Coordination of this document for future revisions is coordinated only with the approved sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990, by e-mail to capacitorfilter@dla.mil, or by telephone (614) 692-4709 or DSN 850-4709.

6.6 Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue 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.

6.7 Approved sources of supply. Approved sources of supply are listed herein. Additional sources will be added as they become available. For assistance in the use of this drawing, contact DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990, by e-mail to capacitorfilter@dla.mil, or by telephone (614) 692-4709 or DSN 850-4709.

TABLE VIII. Capacitor characteristics.

1/ DLA Land and Maritime Drawing PIN 09027- 2/	Capacitance (pF) 3/	Max ESR +25°C (mΩ)	Available tolerances	Vendor A					
				Available voltages					Similar designation 4/
				X	Y	Z	A	B	
				10	16	25	50	100	
BP0R1 - - T -	0.1	6000	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R1_BTTR
BP0R2 - - T -	0.2	3600	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R2_BTTR
BP0R3 - - T -	0.3	1800	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R3_BTTR
BP0R4 - - T -	0.4	1500	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R4_BTTR
BP0R5 - - T -	0.5	1300	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R5_BTTR
BP0R6 - - T -	0.6	1100	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R6_BTTR
BP0R7 - - T -	0.7	950	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R7_BTTR
BP0R8 - - T -	0.8	800	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R8_BTTR
BP0R9 - - T -	0.9	700	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J0R9_BTTR
BP1R0 - - T -	1.0	600	A, B, C, P, Q, X, Z	•	•	•	•	•	DQ10_J1R0_BTTR
BP1R2 - - T -	1.2	500	A, B, C, P, Q, X	•	•	•	•	•	DQ10_J1R2_BTTR
BP1R5 - - T -	1.5	400	A, B, C, P, Q, X	•	•	•	•	•	DQ10_J1R5_BTTR
BP1R8 - - T -	1.8	330	A, B, C, P, Q	•	•	•	•	•	DQ10_J1R8_BTTR
BP2R2 - - T -	2.2	280	A, B, C, Q	•	•	•	•	•	DQ10_J2R2_BTTR
BP2R7 - - T -	2.7	260	A, B, C, Q	•	•	•	•	•	DQ10_J2R7_BTTR
BP3R0 - - T -	3.0	250	A, B, C, Q	•	•	•	•	•	DQ10_J3R0_BTTR
BP3R3 - - T -	3.3	240	A, B, C	•	•	•	•	•	DQ10_J3R3_BTTR
BP3R9 - - T -	3.9	230	A, B, C	•	•	•	•	•	DQ10_J3R9_BTTR
BP4R7 - - T -	4.7	225	A, B, C	•	•	•	•	•	DQ10_J4R7_BTTR
BP5R1 - - T -	5.1	220	A, B, C	•	•	•	•	•	DQ10_J5R1_BTTR
BP5R6 - - T -	5.6	215	A, B, C	•	•	•	•	•	DQ10_J5R6_BTTR
BP6R8 - - T -	6.8	210	B, C, D	•	•	•	•	•	DQ10_J6R8_BTTR
BP7R5 - - T -	7.5	205	B, C, D	•	•	•	•	•	DQ10_J7R5_BTTR
BP8R2 - - T -	8.2	200	B, C, D	•	•	•	•	•	DQ10_J8R2_BTTR
BP9R1 - - T -	9.1	195	B, C, D	•	•	•	•	•	DQ10_J9R1_BTTR
BP100 - - T -	10.0	190	F, G, J	•	•	•	•	•	DQ10_J100_BTTR
BP110 - - T -	11.0	185	F, G, J	•	•	•	•	•	DQ10_J110_BTTR
BH120 - - T -	12.0	180	F, G, J	•	•	•	•	•	DQ10_K120_BTTR
BH130 - - T -	13.0	175	F, G, J	•	•	•	•	•	DQ10_K130_BTTR
BH150 - - T -	15.0	170	F, G, J	•	•	•	•	•	DQ10_K150_BTTR
BP180 - - T -	18.0	165	F, G, J	•	•	•	•	•	DQ10_J180_BTTR
BP220 - - T -	22.0	160	F, G, J	•	•	•	•	•	DQ10_J220_BTTR
BP240 - - T -	24.0	155	F, G, J	•	•	•	•	•	DQ10_J240_BTTR
BP270 - - T--	27.0	150	F, G, J	•	•	•	•	•	DQ10_J270_BTTR
BP300 - - T -	30.0	145	F, G, J	•	•	•	•	•	DQ10_J300_BTTR

See footnotes at end of table.

TABLE VIII. Capacitor characteristics. – Continued.

1/ DLA Land and Maritime Drawing PIN 09027- 2/	Capacitance (pF) 3/	Max ESR +25°C (mΩ)	Available tolerances	Vendor A					
				Available voltages					Similar designation 4/
				X	Y	Z	A	B	
				10	16	25	50	100	
BH330 - - T -	33.0	140	F, G, J	•	•	•	•	•	DQ10_K330_BTTR
BH390 - - T -	39.0	140	F, G, J	•	•	•	•	•	DQ10_K390_BTTR
BH470 - - T -	47.0	140	F, G, J	•	•	•	•	•	DQ10_K470_BTTR
BH560 - - T -	56.0	140	F, G, J	•	•	•	•		DQ10_K560_BTTR
BH680 - - T -	68.0	140	F, G, J	•	•	•	•		DQ10_K680_BTTR
BH820 - - T -	82.0	140	F, G, J	•	•	•	•		DQ10_K820_BTTR
BH910 - - T -	91.0	140	F, G, J	•	•	•	•		DQ10_K910_BTTR
BH101 - - T -	100.0	140	F, G, J	•	•	•	•		DQ10_K101_BTTR

1/ Parts must be purchased to the DLA Land and Maritime CAGE code and PIN to assure that all performance requirements and tests are met.
2/ Complete PIN shall include symbols to indicate voltage, capacitance tolerance, and group C testing option (see 1.2).
3/ Intermediate capacitance values are available upon request.
4/ Complete vendor “A” PIN shall include symbols to indicate voltage (1=100V, 5=50V, 3=25V, Y=16V, and Z=10V) and capacitance tolerance.

Vendor	Vendor CAGE	Vendor name and address
A	04222	AVX Corporation 2200 AVX Drive Myrtle Beach, SC 29577-4898
	2965A	AVX Israel LTD 3 Hamarpe Har Hahotzvim Jerusalem, Israel 9777403
	1154G	AVX Czech Republic s.r.o. Dvorakova 328 Usti Nad Orlici, Czech Republic 56301