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July 31, 2026

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of Performance Specification Sheet MIL-PRF-19500/260Nam2,
Project Number 5961-2026-078.

The initial draft for this subject document, dated July 31, 2026, is now available for viewing and downloading from the DLA Weapons Support-VA Web site:

<https://LandandMaritimeApps.dla.mil/Programs/MilSpec/DocSearch.aspx>

The initial draft of the subject document was generated to propose separate Group B surge conditions and to update it to the latest document format and various editorial changes to bring it into compliance with MIL-STD-961. Highlighting has been used for easy change recognition.

Concurrence or comments are required at this Center within 30 days from the date of this letter (August 31, 2026). Late comments will be held for the next coordination of the document. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians of this office, as applicable, in sufficient time to allow for consolidating the department reply.

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/ Signed /

MUHAMMAD AKBAR
Chief
Active Devices Branch

NOTE: This draft, dated 31 July 2026 prepared by DLA – CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL.

(Project 5961-2026-078)

COMMENTS ARE DUE BY 31 August 2026.

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INCH-POUND

MIL-PRF-19500/260N

w/AMENDMENT 2

DRAFT

SUPERSEDING

MIL-PRF-19500/260N

w/AMENDMENT 1

11 February 2022

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, DIODE, SILICON, POWER RECTIFIER, ENCAPSULATED (CASE MOUNT STUD) AND UNENCAPSULATED, TYPES 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A, AND AR VERSIONS, QUALITY LEVELS JAN, JANTX, JANTXV, JANS, JANHC, AND JANKC, ENCAPSULATED (CASE MOUNT STUD), 1N1124A, 1N1126A, 1N1128A, 1N3649, 1N3650, AND R VERSIONS, QUALITY LEVEL JAN ONLY

Types 1N1124A, 1N1126A, 1N1128A, 1N3649, 1N3650 are inactive for new design after 7 June 1999.

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-19500.

1. SCOPE

1.1 Scope. This specification covers the performance requirements for silicon semiconductor power rectifier diodes. Four levels of product assurance (JAN, JANTX, JANTXV, and JANS) are provided for encapsulated device types 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A and two levels of product assurance (JANHC, AND JANKC) for each unencapsulated device type as specified in MIL-PRF-19500. One level of product assurance (JAN) is provided for device types 1N1124A, 1N1126A, 1N1128A, 1N3649, and 1N3650 as specified in MIL-PRF-19500.

1.2 Physical dimensions. See figure 1 (DO-203AA, formerly DO-4) and figure 2 (JANHC and JANKC).

1.3 Maximum ratings. Unless otherwise specified, $T_c = +25^\circ\text{C}$.

Type (1)	V_{RWM}	I_o $T_c = 150^\circ\text{C}$	$I_{f(surge)}$ $T_c = 150^\circ\text{C}$ $T = 1/120 \text{ s}$	Barometric pressure (reduced)	T_J and T_{STG}	$R_{\theta JC}$
	<u>V dc</u>	<u>A dc</u>	<u>A pk</u>	<u>mmHg</u>	<u>°C</u>	<u>°C/W max</u>
1N1202A (2)	200	12	240	N/A	-65 to +200	2.0
1N1204A (2)	400	12	240	8	-65 to +200	2.0
1N1206A (2)	600	12	240	16	-65 to +200	2.0
1N3671A (2)	800	12	240	30	-65 to +200	2.0
1N3673A (2)	1000	12	240	54	-65 to +200	2.0
1N1124A (3)	200	3.3	25	8	-65 to +175	2.0
1N1126A (3)	400	3.3	25	8	-65 to +175	2.0
1N1128A (3)	600	3.3	25	16	-65 to +175	2.0
1N3649 (3)	800	3.3	25	30	-65 to +175	2.0
1N3650 (3)	1,000	3.3	25	54	-65 to +175	2.0

See notes on next page.

Comments, suggestions, or questions on this document should be addressed to DLA Land and Maritime Weapons Support, ATTN: VAC, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to Semiconductor@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.

AMSC N/A

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FSC 5961



MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

1.3 Maximum ratings. - Continued.

- (1) Includes both normal and reverse polarity types.
- (2) Derate linearly 2 percent of I_o per degrees Celsius for $T_C = 150^\circ\text{C}$ to $T_C = 200^\circ\text{C}$.
- (3) Derate linearly 33 mA dc/ $^\circ\text{C}$ for $T_C = 50^\circ\text{C}$ to $T_C = 150^\circ\text{C}$. These devices are inactive for new design. See 6.6.

1.4 Primary electrical characteristics. Primary electrical characteristics are not applicable for this specification sheet.

1.5 Part or Identifying Number (PIN). The PIN is in accordance with MIL-PRF-19500, and as specified herein. See 6.4 for PIN construction example, 6.5 for a list of available PINs, and 6.6 for supersession information.

1.5.1 JAN certification mark and quality level.

1.5.1.1 Quality level designators for encapsulated devices. The quality level designators for encapsulated devices that are applicable for this specification sheet from the lowest to the highest level are as follows: "JAN", "JANTX", "JANTXV", and "JANS".

1.5.1.2 Quality level designators for unencapsulated devices (die). The quality level designators for unencapsulated devices that are applicable for this specification sheet are "JANH" and "JANKC".

1.5.2 Device type. The designation system for the devices covered by this specification sheet is as follows.

1.5.2.1 First number and first letter symbols. The devices of this specification sheet use the first number and letter symbols "1N".

1.5.2.2 Second number symbols. The second number symbols for the devices covered by this specification sheet are as follows: "1202", "1204", "1206", "3671", "3673", "1124", "1126", "1128", "3649", and "3650".

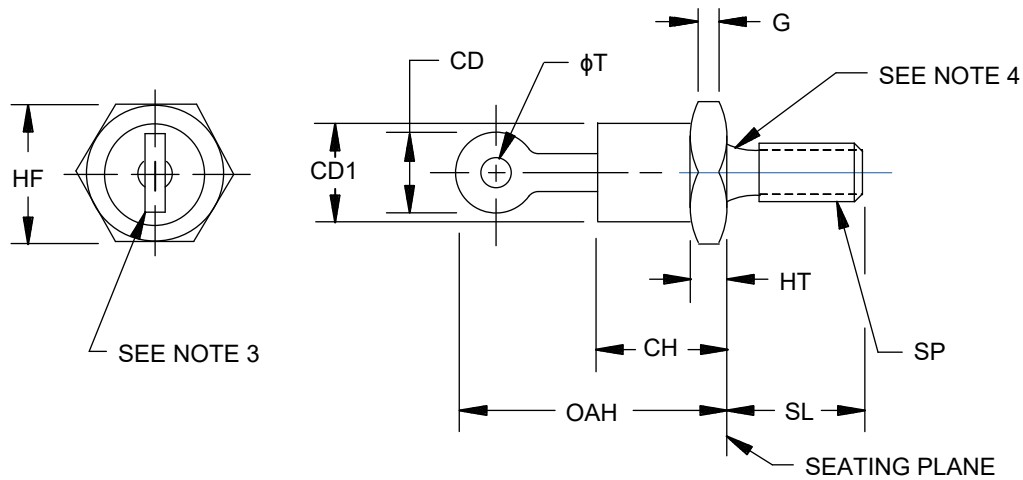
1.5.3 Suffix symbols. The following suffix symbol(s) are incorporated into the PINs for this specification sheet.

A	An "A" designator identifies that the device is a modified version of the non-suffix device. Not available for device types 1N3649 and 1N3650.
AR	An "AR" designator identifies a reverse polarity configuration (see 3.4.2). Applicable to device types 1N1202, 1N1204, 1N1206, 1N3671, 1N3673 only.
R	An "R" designator identifies a reverse polarity configuration (see 3.4.2). Applicable to device types 1N3649 and 1N3650 only.
RA	An "RA" designator identifies a reverse polarity configuration (see 3.4.2). Applicable to device types 1N1124, 1N1126, and 1N1128 only.

1.5.4 Lead finish. The lead finishes applicable to this specification sheet are listed on QPDSIS-19500.

1.5.5 Die identifiers for un-encapsulated devices. The manufacturer die identifiers that are applicable for this specification sheet are "A" (see figure 2 and 6.4.2).

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026



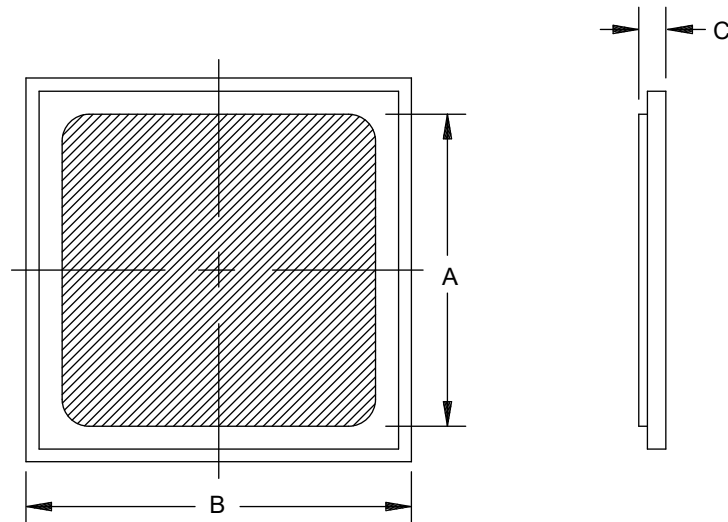
LTR	IN	IN	mm	mm	Notes
	Min	Max	Min	Max	
CD		.250		6.35	5
CD1		.424		10.77	
CH		.405		10.29	
G	.060		1.52		
HF	.424	.437	10.77	11.10	
HT	.075	.175	1.90	4.44	
OAH		.800		20.32	
SL	.422	.453	10.72	11.51	
SP					6, 7, 8
φT	.060		1.52		

* NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. The ASME thread reference is 10-32 UNF-2A.
3. Angular orientation of this terminal is undefined.
4. Diameter of unthreaded portion .189 inch (4.80 mm) maximum and .163 inch (4.14 mm) minimum.
5. Terminal shape is unrestricted.
6. The maximum pitch diameter of plated threads shall be basic pitch diameter .169 inch (4.29 mm).
7. Units must not be damaged by torque of 15 inch-pounds (1.7 N-m) applied to 10-32 UNF-2B nut assembled on thread.
8. Complete threads to extend to within .078 inch (1.98 mm) of seating plane.

* 9. In accordance with ASME Y14.5, diameters are equivalent to φx symbology.

FIGURE 1. Physical dimensions for stud mount package (DO-203AA).



A Version

LTR	IN		mm	
	Min	Max	Min	Max
A	.112	.118	2.85	2.99
B	.147	.153	3.73	3.89
C	.009	.012	0.229	0.305

* NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. Unless otherwise specified, tolerance is ± 0.005 (0.13 mm).
3. The physical characteristics of the die are as follows:
 - a. Metallization {front (anode)}, consists of: Ti thickness = 1,200 Å minimum, Ni thickness = 2,000 Å minimum, Ag thickness = 4,000 Å minimum.
 - b. Metallization {back, (cathode)} consists of: Ti thickness = 1,200 Å minimum, Ni thickness = 2,000 Å minimum, Ag thickness = 4,000 Å minimum.

- * 4. In accordance with ASME Y14.5, diameters are equivalent to ϕ symbology.

FIGURE 2. Physical dimensions JANHCA and JANKCA die 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A.

* 2. APPLICABLE DOCUMENTS PUBLICATIONS

* 2.1 General. The documents publications listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents publications 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 publications cited in sections 3 and 4 of this specification, whether or not they are listed.

* 2.2 Government documents publications.

* 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 publications are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-19500 – Semiconductor Devices, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-750 – Test Methods For Semiconductor Devices.

(Copies of these documents are available online at <https://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, 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 General. The individual item requirements shall be as specified in MIL-PRF-19500 and as modified herein.

3.2 Qualification. Devices furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturer's list (QML) before contract award (see 4.2 and 6.3).

3.3 Abbreviations, symbols, and definitions. Abbreviations, symbols, and definitions used herein shall be as specified in MIL-PRF-19500.

3.4 Interface and physical dimensions. The interface and physical dimensions shall be as specified in MIL-PRF-19500 and on figures 1 (DO-203AA) and 2 (JANHC and JANKC).

3.4.1 Lead finish. Lead finish shall be solderable in accordance with MIL-PRF-19500, MIL-STD-750 and herein. Where a choice of lead finish is desired, it shall be specified in the contract or order (see 6.2).

3.4.2 Normal and reverse polarity types. Normal (A or no suffix) and reverse (R, RA, and AR suffix) polarity types are identical except that the normal types have the cathode connected to the stud and the reverse types have the anode connected to the stud.

3.4.3 Diode construction. All devices shall be in accordance with the requirements of MIL-PRF-19500 and herein.

3.5 Marking. Marking shall be in accordance with MIL-PRF-19500.

3.5.1 Polarity. The polarity shall be indicated by a graphic symbol with the arrow pointing toward the negative end for forward bias. The reversed units shall also be marked in accordance with the PIN (see 1.5).

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

3.6 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in 1.3 and table I herein.

3.7 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table I herein.

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

4. VERIFICATION

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

- a. Qualification inspection (see 4.2).
- b. Screening (see 4.3).
- c. Conformance inspection (see 4.4).
- d. Element evaluation of un-encapsulated die (see 4.6).

4.1.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-19500 and herein, except for accumulation period shall be 3 months in lieu of 6 weeks.

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500 and herein. Tests in either polarity shall be sufficient to obtain approval of both polarities.

4.2.1 JANHC and JANKC devices. Qualification for JANHC and JANKC devices shall be in accordance with MIL-PRF-19500.

4.2.2 Group E qualification. Group E inspection shall be performed for qualification or re-qualification only. In case qualification was awarded to a prior revision of the specification sheet that did not request the performance of table II tests, the tests specified in table II herein that were not performed in the prior revision shall be performed on the first inspection lot of this revision to maintain qualification.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

4.3 Screening (quality levels JANS, JANTXV and JANTX only). Screening shall be in accordance with appendix E, table E-IV of [MIL-PRF-19500](#), and as specified herein. The following measurements shall be made in accordance with [table I](#) herein. Devices that exceed the limits of [table I](#) herein shall not be acceptable.

Screen	JANS level	JANTX and JANTXV levels
1a	Required	Not required
1b	Required	Required (JANTXV only)
2	Optional	Not required
3a	Required	Required
(1) 3b	Surge (see 4.3.1)	Surge (see 4.3.1)
(2) 3c	Thermal impedance (see 4.3.2)	Thermal impedance (see 4.3.2)
4	Not applicable	Not applicable
5	Applicable	Not applicable
6	Not applicable	Not applicable
7a	Optional	Optional
7b	Optional	Optional
8	Required	Not required
(3) 9	V_{F1} and I_{R1}	Not applicable
10	Method 1038 of MIL-STD-750 , test condition A, $t = 96$ hours	Not applicable
11	V_{F1} and I_{R1} ; subgroup 2 of table I herein, $\Delta V_{F1} = \pm 0.1$ V(pk) from initial value; $\Delta I_{R1} = \pm 5$ μ A dc or 100 percent from the initial value, whichever is greater.	V_{F1} and I_{R1}
12	Burn-in, see 4.3.3 and 4.5.2 . method 1038 of MIL-STD-750 , test condition B.	Method 1038 of MIL-STD-750 test condition A, $t = 48$ hours
13	Subgroups 2 and 3 of table I herein; $\Delta V_{F1} = \pm 0.1$ V (PK); $\Delta I_{R1} = \pm 5$ μ A dc or 100 percent from the initial value, whichever is greater.	Subgroup 2 of table I herein, $\Delta V_{F1} = \pm 0.1$ V(pk) from initial value; $\Delta I_{R1} = \pm 5.0$ μ A dc or 100 percent from the initial value, whichever is greater.
14a	Required	Required
14b	Required	Required
15	Required	Not required
16	Required	Not required

- (1) Surge shall precede thermal impedance. These tests shall be performed anytime after screen 3a and before screen 9.
- (2) Thermal Impedance shall be performed any time after sealing provided temperature cycling is performed in accordance with [MIL-PRF-19500](#), screen 3 prior to this thermal test.
- (3) I_{R1} measurement shall not be indicative of an open condition.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

4.3.1 Surge current. The surge current test shall be performed in accordance with method 4066, Condition A, of MIL-STD-750. The following details shall apply: $I_O = 0$; $V_{RM(W)} = 0$; $I_{FSM} = 275$ A; six surges; $T_A = 25^\circ\text{C}$; $t_P = 8.3$ ms; one minute minimum time between surges.

NOTE: A shorter time between surges will be allowed as long as it can be demonstrated that $\Delta T_J \leq 10^\circ\text{C}$, as measured immediately prior to the first current pulse and immediately after the final current pulse.

4.3.2 Thermal impedance. The thermal impedance measurements shall be performed in accordance with method 3101 of MIL-STD-750 using the guidelines in that method for determining I_M , I_H , t_H , t_{MD} , and K factor where appropriate). The limit will be statistically derived. See appendix E, table E-IX subgroup 4 of MIL-PRF-19500 and table II, subgroup 4 herein.

4.3.3 Power burn-in. Power burn-in conditions shall be method 1038 of MIL-STD-750, test condition B. The following details shall apply: $T_C = 150^\circ\text{C}$, $f = 60$ Hz, $I_O = 12$ A dc (see 4.5.2); $V_R = \text{rated } V_{RWM}$ (pk) (see 1.3).

4.4 Conformance inspection. Conformance inspection shall be in accordance with MIL-PRF-19500, and as specified herein.

4.4.1 Group A inspection. Group A inspection shall be conducted in accordance with MIL-PRF-19500, and table I herein.

4.4.2 Group B inspection. Group B inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table E-VIA (JANS) and table E-VIB (JAN, JANTX, and JANTXV) of MIL-PRF-19500 and 4.4.2.1 and 4.4.2.2 herein. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 herein. Delta measurements shall be in accordance with table III herein.

4.4.2.1 Quality level JANS.

Subgroup	Method	Condition
B3	1051	-55°C to $+175^\circ\text{C}$, 100 cycles.
* B3	4066	Condition A, $T_C = 150^\circ\text{C}$; $V_R = (\text{rated } V_R)$ AC peak (see 1.3), I_{FSM} (surge) = 240 A Rated $I_{I(\text{surge})}$ see 1.3; $I_O = 12$ A dc; six surges 1/120 s, $t_P = 8.3$ mS, one minute minimum time between surges.
B4	1037	$0.25 \text{ rated } I_O \leq I_O \text{ applied} \leq \text{rated } I_O$ (see 4.5.3) 2,000 cycles.
B5	1027	$I_F = 4$ A dc; $V_R = \text{rated } V_R$ (see 1.3), $T_A = 125^\circ\text{C}$; or adjusted as required to achieve $T_J = 275^\circ\text{C}$ minimum (see 4.5.2), $f = 60$ Hz, $t = 1,000$ hours. Option 1: $T_A = +30^\circ\text{C}$ max. ; $T_J = 225^\circ\text{C}$ minimum; $t = 216$ hours; $n = 45$, $c = 0$. or Option 2: $T_A = +100^\circ\text{C}$ max. ; $T_J = 275^\circ\text{C}$ minimum; $t = 96$ hours, $n = 22$, $c = 0$.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

4.4.2.2 Quality levels JAN, JANTX and JANTXV.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B2	1051	-55°C to +175°C, 25 cycles.
* B2	4066	Condition A, $T_C = 150^\circ\text{C}$; $V_R = \text{rated } V_R$ (ac peak) (see 1.3), $I_f(\text{surge}) = 240\text{-A Rated } I_{f(\text{surge})}$ see 1.3; $I_O = 12\text{ A dc}$; six 1/120 s surges. 1 minute minimum time between surges. $t_p = 8.3\text{ ms}$.
	or	Test condition C; $T_A = T_C = T_J = 200^\circ\text{C}$; $V_R = \text{rated } V_R$ (ac peak) (see 1.3), $I_O = 0$, $I_{FSM}(\text{surge}) = 240\text{-A Rated } I_{f(\text{surge})}$ see 1.3, six 1/120s surges. 1 minute minimum time between surges. $t_p = 8.3\text{ ms}$.
B3	1037	$0.25\text{ rated } I_O \leq I_O \text{ applied} \leq \text{rated } I_O$ (see 4.5.3) 2,000 cycles.
B3	1038 or 1049	Condition A; 340 hrs. (Separate samples maybe used.)
B5		Not required.

4.4.3 Group C inspection. Group C inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table E-VII of MIL-PRF-19500 and as follows. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 herein. Delta measurements shall be in accordance with table III herein.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
C2	1056	Test condition B.
C2	2036	Test condition A, weight = 10 pounds (4.54 kg), $t = 15\text{ s}$.
C2	2036	Test condition F, method B, weight = 5 pounds (2.27 kg), $t = 15\text{ s}$.
C2	2036	Test condition D1, seal torque = 10 ounce-inches (7.06 N-cm), $t = 15\text{ s}$.
C2	2036	Test condition D2, stud torque = 15 pound-inches (1.69 N-m), $t = 15\text{ s}$.
C5	3101	$R_{\theta JC} = 2.0^\circ\text{C/W}$ maximum; $I_M = 50\text{ to }250\text{ mA}$; $I_H \geq \text{rated } I_O$; $t_H \geq 15\text{ s}$; $t_{MD} = 50\text{ to }300\text{ }\mu\text{s}$.
C6	1037	$0.25\text{ rated } I_O \leq I_O \text{ applied} \leq \text{rated } I_O$ (see 4.5.3) 6,000 cycles.

4.4.4 Group E inspection. Group E inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table E-IX of MIL-PRF-19500. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 herein. Delta measurements shall be in accordance with table III herein.

4.5 Methods of inspection. Methods of inspection shall be as specified in the appropriate tables and as follows.

4.5.1 Pulse measurements. Conditions for pulse measurement shall be as specified in section 4 of MIL-STD-750.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

4.5.2 Burn-in and steady-state operation life tests. These tests shall be conducted with a half-sine waveform of the specified peak voltage impressed across the diode in the reverse direction followed by a half-sine waveform of the specified average rectifier current. The forward conduction angle of the rectified current not be greater than 180 degrees nor less than 150 degrees.

4.5.3 DC intermittent operation life. A cycle shall consist of an on period, when power is applied suddenly, not gradually, to the device for the time necessary to achieve a delta case temperature of $85^{\circ}\text{C} +15^{\circ}\text{C} -5^{\circ}\text{C}$ followed by an off period, when the power is suddenly removed, for cooling. Auxiliary (forced) cooling is permitted during the off period only. $30\text{ s} \leq t_{\text{Heating}} \leq 60\text{ s}$, $P = V_F \times I_F$ or $P = V_{\text{FPK}} \times I_{\text{av}}$ if using sine wave current. DC full wave current (or equivalent half sine wave current) shall be used for the power required during the on period. The test power, or current, shall be at least the free air rating. Within the time interval of 50 cycles before to 500 cycles after the termination of the test, the sample units shall be removed from the specified test conditions and allowed to reach room ambient conditions. Specified end-point measurements for qualification and quality conformance verification shall be completed within 96 hours after removal of sample units from the specified test conditions. Additional readings may be taken at the discretion of the manufacturer.

4.6 Element evaluation of unencapsulated die (quality levels JANHC and JANKC). The element evaluation of unencapsulated die shall be in accordance with appendix G of [MIL-PRF-19500](#). For subgroup 4, the burn-in duration for the JANKC level shall follow the JANS requirements and the JANHC level shall follow the JANTX requirements.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

TABLE I. Group A inspection.

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limits	Limits	Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u>						
Visual and mechanical examination	2071					
<u>Subgroup 2</u>						
Forward voltage 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A	4011	Condition B, $I_F = 38$ A (pk) pulse; $t_p \leq 8.5$ ms, duty cycle ≤ 2 percent pulse	V_{F1}		1.35	V (pk)
Forward voltage 1N1124A, 1N1126A, 1N1128A, 1N3649, 1N3650	4011	Condition B, $I_F = 10$ A dc (pulse); $t_p \leq 8.5$ ms	V_{F1}		2.2	V (pk)
Reverse current	4016	DC method, condition A or B, $V_R = \text{rated } V_{R(dc)}$ (see 1.3)	I_{R1}		5	$\mu\text{A dc}$
Thermal impedance	3101	See 4.3.2	$Z_{\theta JX}$			$^{\circ}\text{C/W}$
<u>Subgroup 3</u>						
High temperature operation:		$T_C = +150^{\circ}\text{C}$				
Reverse current 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A	4016	DC method, condition A or B, $V_R = \text{rated } V_{R(dc)}$ (see 1.3)	I_{R2}		1	mA dc
1N1124A, 1N1126A, 1N1128A, 1N3649, 1N3650	4016	DC method, condition A or B, $V_R = \text{rated } V_{R(dc)}$ (see 1.3)	I_{R2}		200	$\mu\text{A dc}$
Low temperature operation		$T_C = -65^{\circ}\text{C}$				
Reverse current 1N1202A, 1N1204A, 1N1206A, 1N3671A, 1N3673A	4016	DC method, condition A or B, $V_R = \text{rated } V_{R(dc)}$ (see 1.3)	I_{R3}		1	mA dc
<u>Subgroups 4 and 5</u>						
Not applicable						

See footnotes at end of table.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

TABLE I. Group A inspection. - Continued

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limits	Limits	Unit
	Method	Conditions		Min	Max	
<u>Subgroup 6 2/</u>						
Forward voltage	4011	Condition B, $I_F = I_{FSM}$, $t_P = 800 \mu s$	V_{F2}		2.5	V dc
Forward voltage	4011	Condition B, $I_F = I_{FSM}$, $t_P \leq 8.3 ms$	V_{F2}		2.3	V dc

1/ For sampling plan, see [MIL-PRF-19500](#).

2/ V_{F2} shall be performed with either $t_P = 800 \mu s$ or $t_P = 8.3 ms$. This subgroup does not apply to 1N1124A, RA; 1N1126A, RA; 1N1128A, RA; 1N3649, R; and 1N3650, R.

TABLE II. Group E inspection (all quality levels) for qualification and requalification only.

Inspection	MIL-STD-750		Sampling plan
	Method	Conditions	
<u>Subgroup 1</u>			45 devices $c = 0$
Thermal shock	1056	100 cycles, 0°C to 100°C.	
Electrical measurements		See table I , subgroup 2.	
Hermetic seal	1071		
Electrical measurements		See table I , subgroup 2 and table III , step 1.	
<u>Subgroup 2</u>			45 devices $c = 0$
Steady-state dc blocking life	1048	1,000 hours.	
Electrical measurements		See table I , subgroup 2 and table III , steps 1 and 2.	
<u>Subgroup 4</u>			
Thermal impedance curves		See table E-IX, subgroup 4 of MIL-PRF-19500 .	
<u>Subgroup 5</u>			22 devices $c = 0$
Barometric pressure, reduced (altitude operation)	1001	Hg = rated Hg (see 1.3), $t = 60 s$, While the test is being performed, I_R shall be monitored and shall not exceed table I limits.	
1N1202A, AR		N/A	
1N1204A, AR		400 V dc	
1N1206A, AR		600 V dc	
1N3671A, AR		800 V dc	
1N3673A, AR		1,000 V dc	

TABLE III. Groups B, C, and E delta measurements. 1/ 2/ 3/ 4/

Step	Inspection	MIL-STD-750		Symbol	Limits (Unit)
		Method	Conditions		
1.	Forward voltage	4011	Condition B, $I_F = 38$ A (pk) pulse; $t_p \leq 8.5$ ms, duty cycle ≤ 2 percent pulse	ΔV_{F1}	± 50 mV dc maximum change from initial measured value.
2.	Reverse current	4016	DC method, condition A or B, $V_R = \text{rated } V_R$ (dc) (see 1.3)	$\Delta I_{R1} \ 5/$	± 100 percent of initial value or ± 5.0 μ A (whichever is greater) from previous measured values.

- 1/ The delta electrical measurements for appendix E, table E-VIA (JANS) of MIL-PRF-19500 are as follows:
- Subgroup 3, see table III herein, steps 1 and 2.
 - Subgroup 4, see table III herein, steps 1 and 2.
 - Subgroup 5, see table III herein, step 2.
- 2/ The delta electrical measurements for appendix E, table E-VIB (JAN, JANTX, and JANTXV) of MIL-PRF-19500 are as follows:
- Subgroup 2, see table III herein, step 1.
 - Subgroup 3, see table III herein steps 1 and 2.
- 3/ The delta electrical measurements for appendix E, table E-VII of MIL-PRF-19500 are as follows:
- Subgroup 2, see table III herein, step 1 (JAN, JANTX, and JANTXV), steps 1 and 2 (JANS).
 - Subgroup 6, see table III herein, steps 1 and 2 (JANS), and steps 1 and 2 (JAN, JANTX, and JANTXV).
- 4/ The delta electrical measurements for appendix E, table E-IX of MIL-PRF-19500 are as follows:
- Subgroup 1, see table III herein, step 1.
 - Subgroup 2, see table III herein, steps 1 and 2.
- 5/ Devices which exceed the group A limits for this test shall be rejected.

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. The notes specified in MIL-PRF-19500 are applicable to this specification.)

6.1 Intended use. Semiconductors conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.

6.2 Acquisition requirements. Acquisition documents should specify the following:

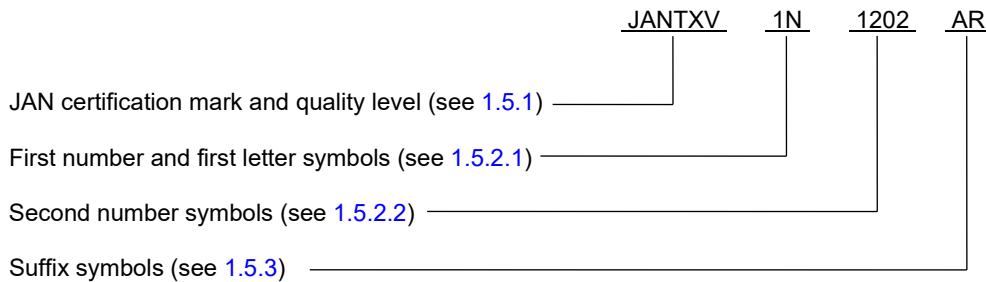
- Title, number, and date of this specification.
- Packaging requirements (see 5.1).
- Lead finish (see 3.4.1).
- The complete PIN, see 1.5 and 6.4.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

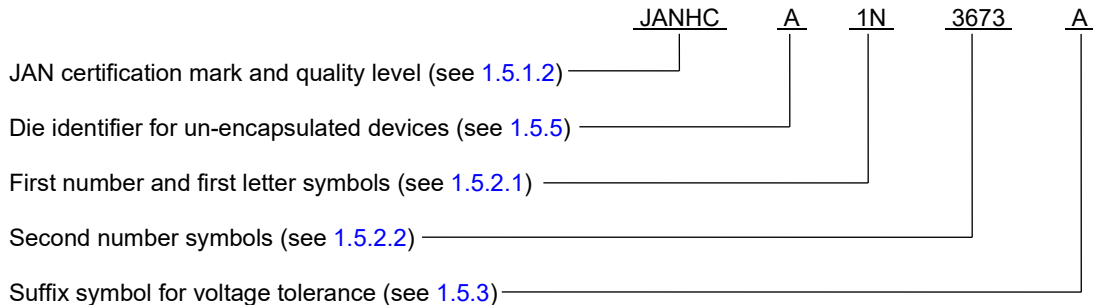
6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List (QML-19500) whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from DLA ~~Land and Maritime~~ **Weapons Support**, ATTN: VQE, P.O. Box 3990, Columbus, OH 43218-3990 or e-mail vqe.chief@dla.mil. An online listing of products qualified to this specification may be found in the Qualified Products Database (QPD) at <https://qpldocs.dla.mil>.

6.4 PIN construction examples. The PINs for encapsulated and un-encapsulated devices and are constructed using the following forms.

6.4.1 Encapsulated devices The PINs for encapsulated devices are constructed using the following form.



6.4.2 Un-encapsulated devices. The PINs for un-encapsulated devices are constructed using the following form.



6.5 List of PINs.

6.5.1 Encapsulated devices. The following is a list of possible PINs available for encapsulated devices covered by this specification sheet.

PINs for devices of the base quality level	PINs for devices of the "TX" quality level	PINs for devices of the "TXV" quality level	PINs for devices of the "S" quality level
JAN1N1202A	JANTX1N1202A	JANTXV1N1202A	JANS1N1202A
JAN1N1204A	JANTX1N1204A	JANTXV1N1204A	JANS1N1204A
JAN1N1206A	JANTX1N1206A	JANTXV1N1206A	JANS1N1206A
JAN1N3671A	JANTX1N3671A	JANTXV1N3671A	JANS1N3671A
JAN1N3673A	JANTX1N3673A	JANTXV1N3673A	JANS1N3673A

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

6.5.1 Encapsulated devices. – Continued.

PINs for devices of the base quality level	PINs for devices of the "TX" quality level	PINs for devices of the "TXV" quality level	PINs for devices of the "S" quality level
JAN1N1202AR	JANTX1N1202AR	JANTXV1N1202AR	JANS1N1202AR
JAN1N1204AR	JANTX1N1204AR	JANTXV1N1204AR	JANS1N1204AR
JAN1N1206AR	JANTX1N1206AR	JANTXV1N1206AR	JANS1N1206AR
JAN1N3671AR	JANTX1N3671AR	JANTXV1N3671AR	JANS1N3671AR
JAN1N3673AR	JANTX1N3673AR	JANTXV1N3673AR	JANS1N3673AR
JAN1N1124A (1)			
JAN1N1126A (1)			
JAN1N1128A (1)			
JAN1N3649 (1)			
JAN1N3650 (1)			
JAN1N1124RA (1)			
JAN1N1126RA (1)			
JAN1N1128RA (1)			
JAN1N3649R (1)			
JAN1N3650R (1)			

(1) See 6.6.

6.5.2 Un-encapsulated devices.

PINs for die of the quality level for standard military applications	PINs for die of the quality level for space applications
JANHCA1N1202A	JANKCA1N1202A
JANHCA1N1204A	JANKCA1N1204A
JANHCA1N1206A	JANKCA1N1206A
JANHCA1N3671A	JANKCA1N3671A
JANHCA1N3673A	JANKCA1N3673A

6.6 Supersession information.

6.6.1 Superseded PINs. The following supersession data applies to PINs associated with this document:

Superseding PIN as specified within MIL-PRF-19500/260F, dated 10 December 1999	Superseded PIN as specified within MIL-S-19500/104C, 29 November 1965	Superseding PIN as specified within MIL-PRF-19500/260F, dated 10 December 1999	Superseded PIN as specified within MIL-S-19500/104C, 29 November 1965
1N1124A	1N1124A	1N1124RA	1N1124RA
1N1126A	1N1126A	1N1126RA	1N1126RA
1N1128A	1N1128A	1N1128RA	1N1128RA
1N3649	1N3649	1N3649R	1N3649R
1N3650	1N3650	1N3650R	1N3650R

6.6.2 Inactive device types. The device types transferred from MIL-S-19500/104 (canceled on 10 December 1999) are inactive for new design. No supersession information is available.

MIL-PRF-19500/260N
w/AMENDMENT 2
DRAFT DATED: 31 July 2026 COMMENTS DUE BY 31 August 2026

6.7 Suppliers of JANHC and JANKC die. The qualified JANHC and JANKC suppliers with the applicable letter version (example, JANHCA1N1202A) will be identified on the QML.

PIN	Manufacturer
	43611
1N1202A	JANHCA1N1202A, JANKCA1N1202A
1N1204A	JANHCA1N1204A, JANKCA1N1204A
1N1206A	JANHCA1N1206A, JANKCA1N1206A
1N3671A	JANHCA1N3671A, JANKCA1N3671A
1N3673A	JANHCA1N3673A, JANKCA1N3673A

6.8 Amendment notations. The margins of this specification are marked with asterisks to indicate modifications generated by this amendment. 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 previous issue.

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - SH
Air Force - 85
NASA - NA
DLA - CC

Preparing activity:

DLA - CC

(Project 5961-2026-078)

Review activities:

Army - AR, MI
Navy - AS, MC
Air Force - 19, 71

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.dla.mil>.