

The documentation and process conversion measures necessary to comply with this document shall be completed by 28 March 2025.

INCH-POUND

MIL-PRF-19500/610G
w/AMENDMENT 1
28 October 2024
SUPERSEDING
MIL-PRF-19500/610G
21 August 2019

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, DIODE, SILICON, RECTIFIER, SCHOTTKY BARRIER,
ENCAPSULATED (AXIAL LEADED AND SURFACE MOUNT) AND UNENCAPSULATED,
TYPES 1N6677-1 AND 1N6677UR-1,
QUALITY LEVELS JAN, JANTX, JANTXV, JANS, JANHC, AND JANKC

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, Schottky barrier rectifier diodes. Four levels of product assurance (JAN, JANTX, JANTXV, and JANS) are provided for each encapsulated device types as specified in [MIL-PRF-19500](#), and two levels of product assurance (JANHC and JANKC) for each unencapsulated device type die.

1.2 Physical dimensions.

1.2.1 Package outlines. The device package outlines are as follows: an axial leaded DO-204AH (formerly DO-35) package in accordance with [figure 1](#) and round end-cap surface mount DO-213AA (UR) in accordance with [figure 2](#).

1.2.2 Un-encapsulated die. The dimensions and topography for JANHC and JANKC unencapsulated die are in accordance with [figure 3](#).

1.3 Maximum ratings

Types (1)	V	I _{o1} (2)	I _{FSM}	T _{STG}	T _J
	<u>V (pk)</u>	<u>mA dc</u>	<u>A (pk)</u>	<u>°C</u>	<u>°C</u>
1N6677-1, 1N6677UR-1	40	200	5	-65 to +150	-65 to +125

(1) Maximum ratings for the 1N6677UR-1 are identical to the 1N6677-1.

(2) For derating, see [figures 4](#) and [5](#).

Comments, suggestions, or questions on this document should be addressed to DLA Land and Maritime, 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>.

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1.4 Primary electrical characteristics. Unless otherwise specified, at $T_A = +25^\circ\text{C}$.

Types	Max V_{FM1}	Max V_{FM2}	Max V_{FM3}	Max I_{RM} $V_{RM} = 40\text{ V dc}$ pulsed method (see 4.5.1)		Max $R_{\theta JL}$ or $R_{\theta JEC}$ (1) .375 inch (9.52 mm) lead length or end cap	Max $Z_{\theta JX}$	Max C_T $V_R = 0\text{ V dc}$
	$I_{FM} =$ 20 mA	$I_{FM} =$ 200 mA	$I_{FM} =$ 630 mA	$T_J = +25^\circ\text{C}$ I_{RM1}	$T_J = +100^\circ\text{C}$ I_{RM2}			
	<u>V (pk)</u>	<u>V (pk)</u>	<u>V (pk)</u>	<u>μA</u>	<u>mA</u>	<u>$^\circ\text{C/W}$</u>	<u>$^\circ\text{C/W}$</u>	<u>pF</u>
1N6677-1	0.37	0.50	0.70	5.0	0.60	250	20	50
1N6677UR-1	0.37	0.50	0.70	5.0	0.60	100	20	50

(1) For thermal impedance curves, see figures 6 and 7.

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 and 6.5 for a list of available PINs.

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 un-encapsulated die. The quality level designators for un-encapsulated devices that are applicable for this specification sheet are "JANHC" 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 "6677".

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

1.5.3.1 Package designators. The suffix symbols (or lack thereof) that designate the package outline for the devices covered by this specification sheet are as follows.

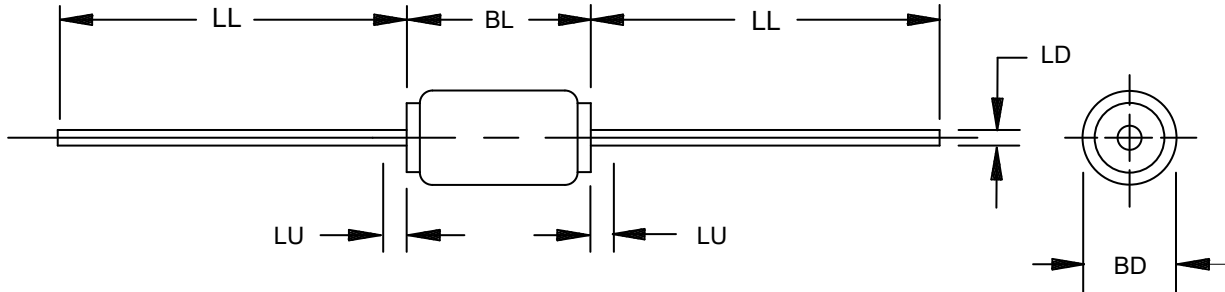
	A blank suffix symbol indicates an axial leaded through-hole mount (DO-204AH) package (see figure 1).
UR	The 'UR' suffix symbol indicates a surface mount package (DO-213AA) (see figure 2).

1.5.3.2 Diode construction. All device have a dash-one ("-1") designator that identifies that the device construction uses a metallurgically bonded double plug construction.

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 (manufacturers and critical interface identifiers). The manufacturer die identifiers that are applicable for this specification sheet is "A" (see figure 3 and 6.5.2).

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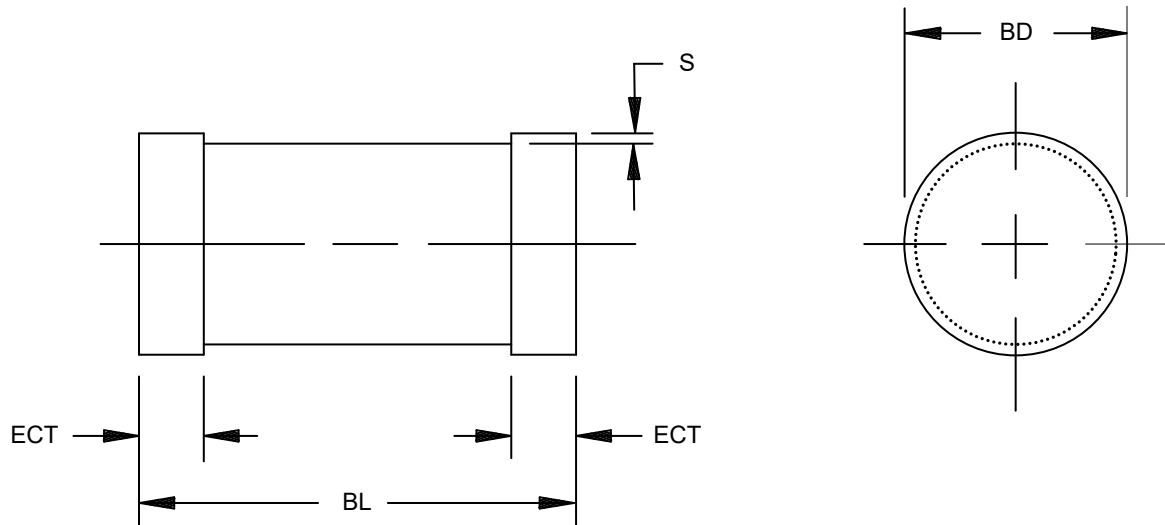
Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
LD	.018	.022	0.46	0.56	
BD	.055	.090	1.40	2.29	2
BL	.120	.200	3.05	5.08	2
LL	1.000	1.500	25.40	38.10	
LU		.050		1.27	3

NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. Package contour optional within dimension BD and length dimension BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of dimension BD.
3. Within this zone lead, diameter may vary to allow for lead finishes and irregularities other than heat slugs.

* FIGURE 1. Physical dimensions of axial leaded DO-204AH package (1N6677-1).

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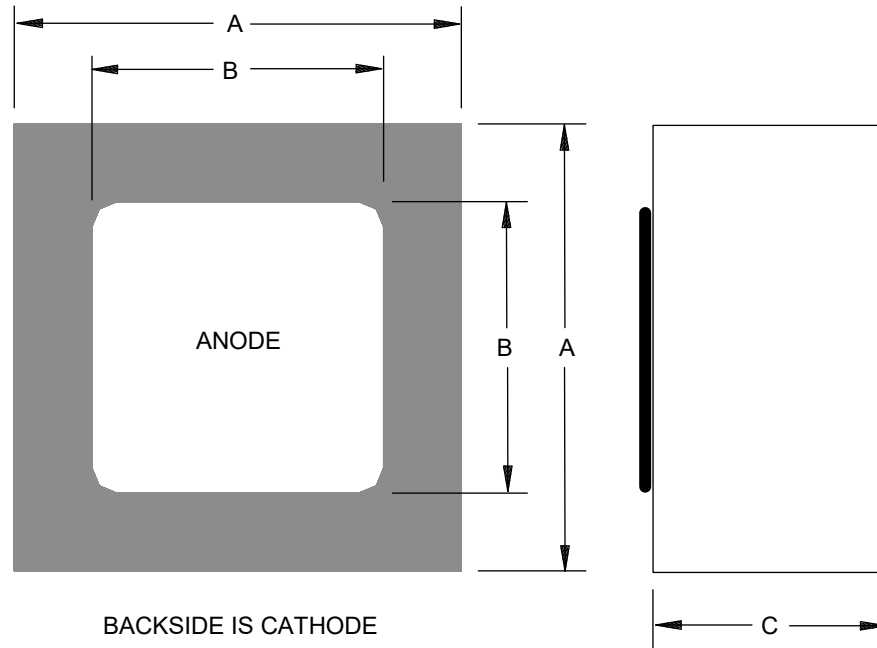
Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.063	.067	1.60	1.70
ECT	.016	.022	0.41	0.56
BL	.130	.146	3.30	3.71
S	.001 min		0.03 min	

NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. Dimensions are pre-solder dip.

* FIGURE 2. Physical dimensions of surface mount DO-213AA package (1N6677UR-1).

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A version

Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
A	.021	.025	0.53	0.64
B	.013	.017	0.33	0.43
C	.008	.012	0.20	0.31

Design data

Metallization:
 Top: (Anode)..... AL
 Back: (Cathode)..... Au

AL thickness 25,000 Å minimum
 Gold thickness 4,000 Å minimum

FIGURE 3. JANC (A-version) die dimensions.

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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 documents cited 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 SPECIFICATION

[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-19500](#)) 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. Interface and physical dimensions shall be as specified in [MIL-PRF-19500](#) and on [figures 1, 2, and 3](#) herein.

3.4.1 Lead and finish. Lead finish shall be in accordance with [MIL-PRF-19500](#) and [MIL-STD-750](#). Where a choice of lead finish is desired, it shall be specified in the acquisition document (see [6.2](#) and [6.6](#)).

3.4.2 Diode construction. All devices shall be metallurgically bonded, double plug construction in accordance with the requirements of category I or II (see [MIL-PRF-19500](#)).

3.4.3 Surface mount. The surface mount UR version shall be considered structurally identical to the non-UR version except for lead attach.

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3.5 Marking. Marking shall be in accordance with [MIL-PRF-19500](#).

3.5.1 Marking for UR devices. UR-suffix devices only, all marking, except for the polarity, may be omitted from the body, but shall be retained on the initial container.

3.5.2 Polarity. The polarity of all types shall be indicated with a contrasting color band to denote the cathode end. Alternatively, for UR suffix devices, a minimum of three contrasting color dots spaced around the periphery on the cathode end may be used.

3.6 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in [1.3](#), [1.4](#), and [table I](#).

3.7 Electrical test requirements. The electrical test requirements shall be the subgroups specified in [table I](#).

3.8 Workmanship. Semiconductor 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](#)).

4.2 Qualification inspection. Qualification inspection shall be in accordance [MIL-PRF-19500](#) and as specified in [table II](#) herein.

4.2.1 Group E inspection. Group E inspection shall be performed herein for qualification or requalification 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 to this revision to maintain qualification.

4.2.2 JANHC and JANKC devices. Qualification for JANC devices shall be in accordance with appendix G of [MIL-PRF-19500](#). Qualification testing may be performed on a TO-5 package in lieu of the axial leaded package.

4.3 Screening of encapsulated devices (all quality levels). Screening shall be in accordance with 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.

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* 4.3 Screening of encapsulated devices (all quality levels) - Continued.

Screen	Measurements for JANS level	Measurements for JANTX and JANTXV level	Measurements for JAN level
1a	Required	Not required	Not required
1b	Required	Required (JANTXV only)	Not required
2	Not required	Not required	Not required
3a	Required	Required	Required; perform in accordance with JANTX level
3b	Not applicable	Not applicable	Not applicable
(1) 3c	Required (see 4.3.2)	Required (see 4.3.2)	Required (see 4.3.2)
4, 5, 6, and 7a	Not applicable	Not applicable	Not applicable
7b	Required	Required	Not required
8	Required	Not required	Not required
9	Required, I_{R1} and V_{F2}	Not applicable	Not applicable
(2) 10	Required, $T_A = +110^\circ\text{C}$; $V_{RWM} = 40 \text{ V(pk)}$; $I_O = 0$, half sine wave, $f = 60 \text{ Hz}$	Required, $T_A = +110^\circ\text{C}$; $V_{RWM} = 40 \text{ V(pk)}$; $I_O = 0$, half sine wave, $f = 60 \text{ Hz}$	Not applicable
11	Required, $\Delta I_{R1} \leq 100$ percent of initial reading or $2 \mu\text{A}$ whichever is greater. $\Delta V_{FM2} \leq \pm 50 \text{ mV dc}$	Required, I_{R1} and V_{FM2}	Not applicable
12	Required, see 4.3.1	Required, see 4.3.1, $t = 48 \text{ hours}$	Not applicable
13	Required, Subgroup 2 of table I herein; $\Delta I_{R1} \leq 100$ percent of initial reading or $2 \mu\text{A}$ whichever is greater; $V_{FM2} \leq \pm 50 \text{ mV dc}$	Required, Subgroup 2 of table I herein; $\Delta I_{R1} \leq 100$ percent of initial reading or $2 \mu\text{A}$ whichever is greater; $V_{FM2} \leq \pm 50 \text{ mV dc}$	Not applicable
14a	Not applicable	Not applicable	Not applicable
14b	Optional (3)	Optional (3)	Not required
15 and 16	Required	Not required	Not required

- (1) Thermal impedance shall be performed any time after sealing provided temperature cycling is performed in accordance with table E-IV of MIL-PRF-19500, screen 3 prior to this thermal test.
- (2) Junction temperature (T_J) is not to exceed 115°C at V_{RWM} . T_J is affected by the device mounting thermal resistance when parasitic power is generated by the temperature dependent leakage current. Until this leakage becomes significant near thermal runaway, T_J remains approximately equal to T_A or T_J for $I_O = 0$.
- (3) In accordance with MIL-PRF-19500.

4.3.1 Burn-in conditions. The burn-in conditions shall be in accordance with condition B of method 1038 of MIL-STD-750. The following details shall apply: $I_F = 200 \text{ mA dc}$. Devices may be mounted using any convenient method including the temporary attachment of leads on UR suffix devices, provided that the devices are burned-in at $T_J \geq +110^\circ\text{C}$.

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4.3.2 Thermal impedance ($Z_{\theta JX}$ measurements). The $Z_{\theta JX}$ measurements shall be performed in accordance with method 3101 of [MIL-STD-750](#). The maximum screen limit shall be developed by the supplier using statistical methods and it shall not exceed [table I](#), subgroup 2 herein.

4.4 Conformance inspection. Conformance inspection shall be in accordance with [MIL-PRF-19500](#).

4.4.1 Group A inspection. Group A inspection shall be conducted in accordance with table E-V of [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 table E-VIA (JANS), and table E-VIB (JAN, JANTX, and JANTXV) of [MIL-PRF-19500](#).

4.4.2.1 Quality level JANS.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B3	1056	-55°C to 100°C, 25 cycles, n = 22, c = 0.
	1051	-55°C to 150°C, 100 cycles, n = 22, c = 0.
B3	4066	Condition A2; $I_{FSM} = 5$ A(pk), $I_O = 200$ mA; T_A = room ambient as defined in the general requirements of MIL-STD-750 (see 4.5); 5 surges of 8.3 ms each at 1 minute intervals.
B4	1036	$I_O = 200$ mA; T_A = room ambient as defined in the general requirements of MIL-STD-750 (see 4.5); f = 50 to 60 Hz; $V_{RWM} = 40$ V(pk); $t_{on} = t_{off} = 3$ minutes minimum for 2,000 cycles.
B5	1027	$I_F = 200$ mA dc minimum, adjust I_F or T_A to achieve $T_J = + 125^\circ\text{C}$ minimum.

4.4.2.2 Quality levels JAN, JANTX, JANTXV.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B2	1056	-55°C to 100°C, 10 cycles, n = 22, c = 0.
	1051	-55°C to 150°C, 25 cycles, n = 22, c = 0.
B2	4066	Condition A2; $I_{FSM} = 5$ A(pk), $I_O = 200$ mA; T_A = room ambient as defined in the general requirements of MIL-STD-750 (see 4.5); 5 surges of 8.3 ms each at 1 minute intervals.
B3	1027	$I_F = 200$ mA dc minimum, adjust I_F or T_A to achieve $T_J = + 125^\circ\text{C}$ minimum.
B4	2075	As specified.

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4.4.3 Group C inspection. Group C inspection shall be conducted in accordance with the conditions specified for subgroup testing in table E-VII of [MIL-PRF-19500](#).

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
C2	2036	Tension: Test condition A; weight = 10 pounds (4.54 kg); t = 15 s. Lead fatigue: Test condition E; weight 1 pound (0.45 kg). NOTE: Both tension and lead fatigue are not applicable for UR devices.
C5	3101	See 4.5.4 herein.
C6	1027	I _F = 200 mA dc minimum, adjust I _F or T _A to achieve T _J = + 125°C minimum.

4.4.4 Group E inspection. Group E inspection shall be conducted in accordance with table E-IX of [MIL-PRF-19500](#) and the conditions for subgroup testing in [table II](#) 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. The conditions for pulse measurement shall be as specified in section 4 of [MIL-STD-750](#).

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

4.5.3 Thermal impedance (Z_{θJX} measurements). The Z_{θJX} measurements shall be performed in accordance with method 3101 of [MIL-STD-750](#). The following test conditions shall be used for group A ([table I](#)) inspections:

- a. I_M measurement current..... 1 mA to 10 mA.
- b. I_H forward heating current 0.5 A to 1.0 A.
- c. t_H heating time..... 10 ms.
- d. t_{MD} measurement delay time 70 μs maximum.

4.5.4 Thermal resistance. The thermal resistance measurement shall be performed in accordance with method 3101 or 4081 of [MIL-STD-750](#). Forced moving air or draft shall not be permitted across the devices during test. The maximum limit for R_{θJL} under these test conditions shall be R_{θJL(max)} = 250°C/W and R_{θJEC(max)} = 100°C/W. The following conditions shall apply:

- a. I_M measurement current 1 mA to 10 mA.
- b. I_H forward heating current.....200 mA.
- c. t_H heating time 20 seconds minimum.
- d. t_{MD} measurement delay time 70 μs maximum.

4.6 Element evaluation of un-encapsulated die. The element evaluation of un-encapsulated die shall be in accordance with appendix G of [MIL-PRF-19500](#).

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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>						
Thermal impedance <u>2</u> /	3101	See 4.5.3	$Z_{\theta JX}$		20	°C/W
Forward voltage	4011	Condition B, $I_{FM} = 20$ mA (pk)	V_{FM1}		0.37	V
Forward voltage	4011	Condition B, pulsed (see 4.5.1); $I_{FM} = 200$ mA (pk),	V_{FM2}		0.50	V
Forward voltage	4011	Condition B, pulsed (see 4.5.1); $I_{FM} = 630$ mA (pk)	V_{FM3}		0.70	V
* Reverse current leakage	4016	Condition A or B, pulsed (see 4.5.1); $V_{RM} = 40$ V (pk)	I_{RM1}		5.0	μA
<u>Subgroup 3</u>						
High temperature operation:		$T_A = +100^\circ\text{C}$				
Reverse current leakage	4016	Condition A or B, pulsed (see 4.5.1); $V_{RM} = 40$ V (pk)	I_{RM2}		0.60	mA
* Forward voltage	4011	Condition B, pulsed (see 4.5.1); $I_F = 200$ mA (pk),	V_{FM4}		0.47	V
Low temperature operation:		$T_A = -55^\circ\text{C}$				
Reverse current leakage	4016	Condition A or B, pulsed (see 4.5.1); $V_{RM} = 40$ V (pk)	I_{RM3}		20	μA

See footnotes at end of table.

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TABLE I. Group A inspection. - Continued.

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limits	Limits	Unit
	Method	Conditions		Min	Max	
<u>Subgroup 3</u> Continued. Forward voltage	4011	Condition B, pulsed (see 4.5.1); $I_F = 200 \text{ mA (pk)}$	V_{FM5}		0.60	V
<u>Subgroup 4</u> Capacitance	4001	$V_R = 0 \text{ V dc}$, $.01 \leq f \leq 1 \text{ MHz}$, $V_{SIG} = 15 \text{ mV p-p}$	C_T		50	pF

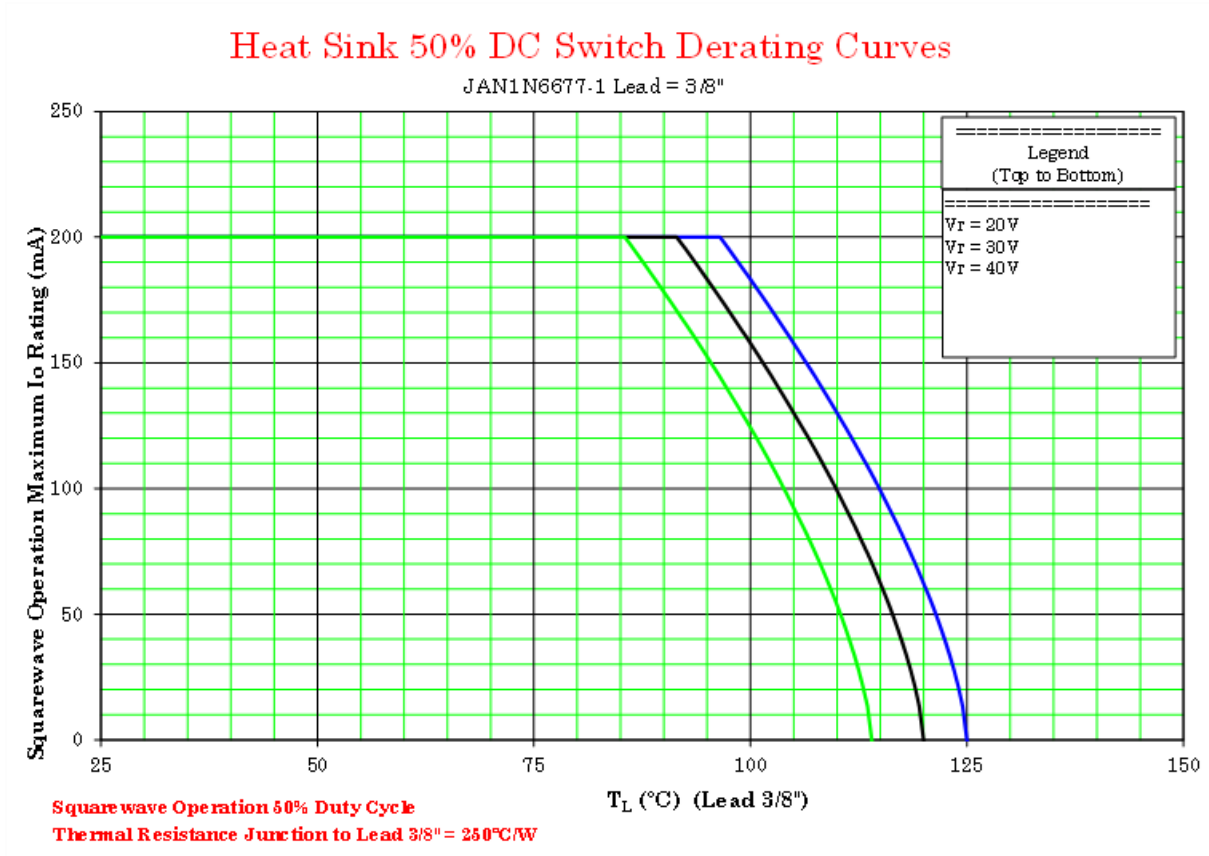
1/ For sampling plan, see [MIL-PRF-19500](#).

- * 2/ This test required for the following end-point measurements only:
Group B, subgroups 3, 4 and 5 (JANS).
Group B, subgroups 2 and 3 (JAN, JANTX, JANTXV).
Group C, subgroups 2 and 6.
Group E, subgroup 1.

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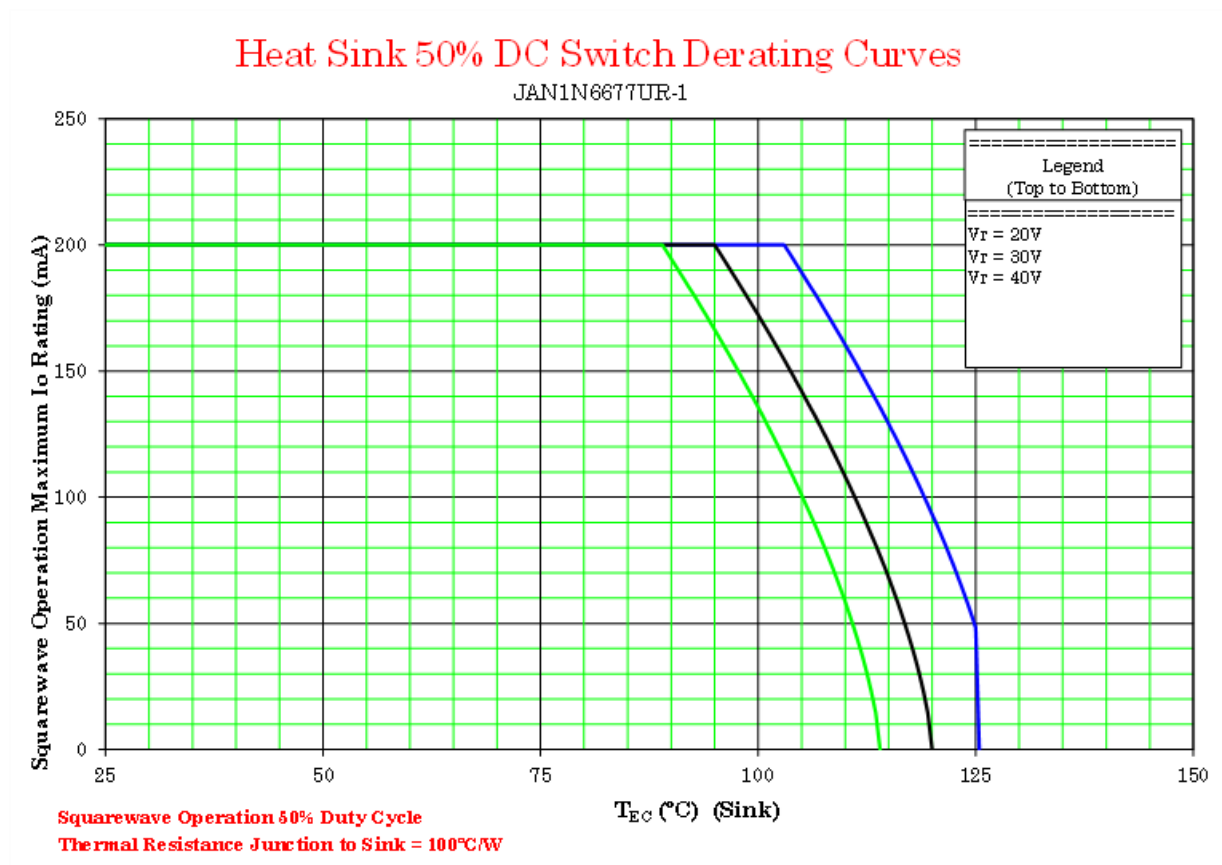
TABLE II. Group E inspection (all quality levels) for qualification and re-qualification.

Inspection	MIL-STD-750		Sampling plan
	Method	Conditions	
<u>Subgroup 1</u>			45 devices, c = 0
Thermal shock	1056	500 cycles, -55°C to +100°C.	
Temperature cycling	1051	500 cycles, -55°C to +150°C.	
Hermetic seal	1071	Test condition E.	
Electrical measurement		See table I , subgroup 2.	
<u>Subgroup 2</u>			45 devices, c = 0
Steady-state reverse bias	1038	Test condition A; 1,000 hours, see 4.4.3 , subgroup C6 herein.	
Electrical measurement		See table I , subgroup 2.	
<u>Subgroup 4</u>			
Thermal impedance curves		See subgroup 4 of table E-IX (group E) of MIL-PRF-19500 .	
<u>Subgroup 5</u>			
Not applicable			
<u>Subgroup 6</u>			
ESD	1020		
<u>Subgroup 9</u>			45 devices, c = 0
Resistance to glass cracking	1057	Test condition B. Test to destruction or 25 cycles max, whichever comes first.	



NOTE: Derate design curve constrained by the maximum junction temperatures and current rating specified.
(See 1.3 herein.)

* FIGURE 4. Temperature power derating for 1N6677-1 (DO-204AH).

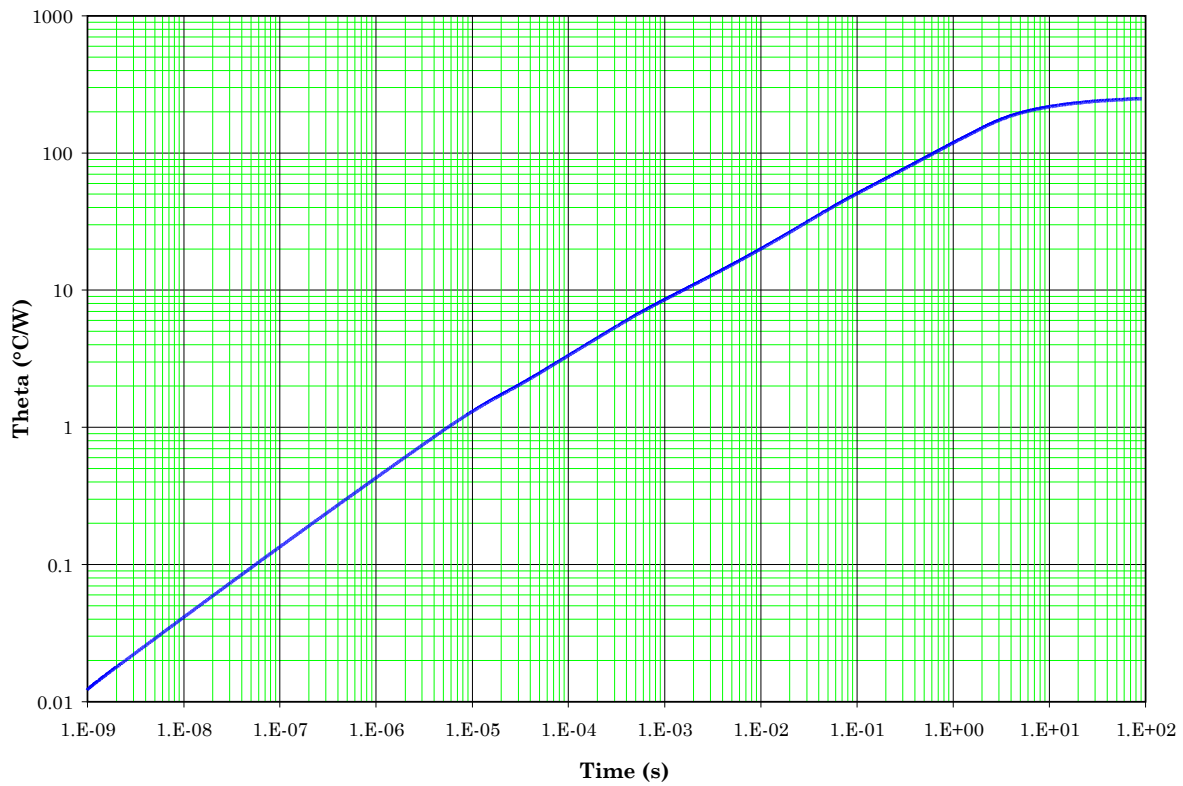


NOTES:

- Derate design curve constrained by the maximum junction temperatures and current rating specified. (See 1.3 herein.)

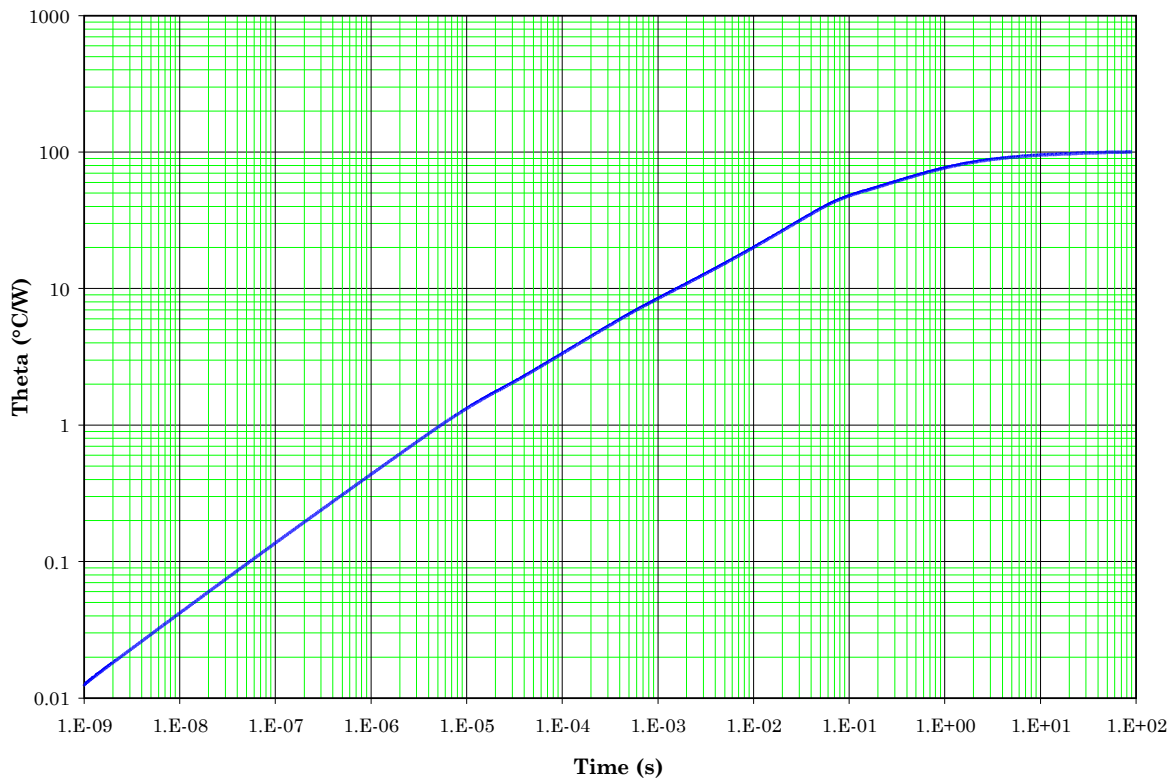
* FIGURE 5. Temperature power derating for 1N6677UR-1 (DO-213AA).

**Maximum thermal impedance
1N6677-1 DO-204AH, $T_L = 25^\circ\text{C}$**



* FIGURE 6. Thermal impedance curve for 1N6677-1 (DO-204AH).

**Maximum thermal impedance
1N6677UR-1 DO-213AA, $T_{EC} = 25^{\circ}\text{C}$**



* FIGURE 7. Thermal impedance curve for 1N6677UR-1 (DO-213AA).

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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 actual 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.

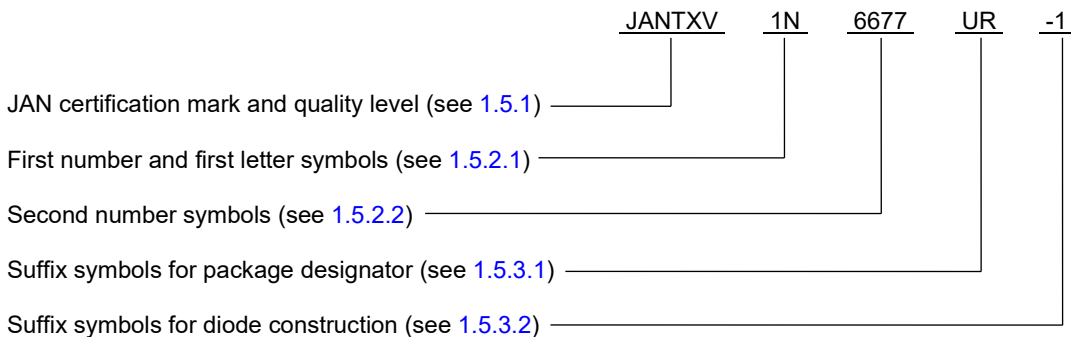
6.2 Acquisition requirements. Acquisition documents should specify the following:

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

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 Manufacturer's 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, VQE, P.O. Box 3990, Columbus, OH 43216-5000 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>.

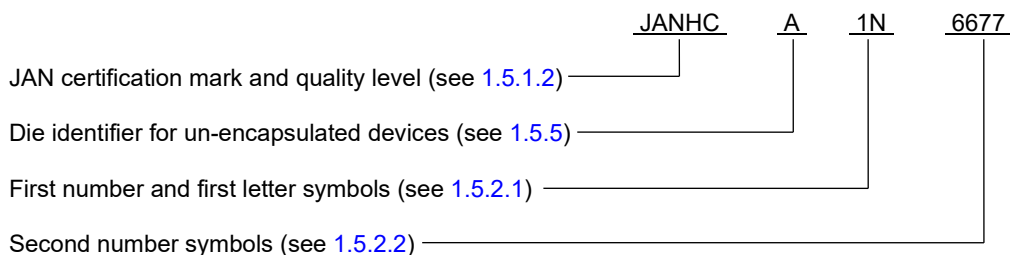
6.4 PIN construction examples. The PINs for encapsulated and un-encapsulated devices and are constructed using the following forms.

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



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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
JAN1N6677-1	JANTX1N6677-1	JANTXV1N6677-1	JANS1N6677-1
JAN1N6677UR-1	JANTX1N6677UR-1	JANTXV1N6677UR-1	JANS1N6677UR-1

6.5.2 Un-encapsulated devices. The following is a list of possible PINs available for un-encapsulated devices covered by this specification sheet.

Quality level "JANHC"		Quality level "JANKC"	
JANHCA1N6677		JANKCA1N6677	

6.6 Lead material. The original issue of this specification through MIL-PRF-19500/610C (29 May 1997) did not specify a lead material. MIL-PRF-19500/610D (7 December 2000) added requirements that specified that the lead material as copper clad steel with a minimum of 50 percent copper by weight. Because of the performance format of this document, a lead material is no longer specified.

6.7 Suppliers of die. The qualified die suppliers with the applicable letter version (e.g., JANHCA1N6677) will be identified on the QML.

JANC ordering information	
PIN	Manufacturer
	43611
1N6677	JANHCA1N6677
	JANKCA1N6677

6.8 Ordering data. Acquisition documents may specify the lead material and finish.

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6.9 Request for new types and configurations. Requests for new device types or configurations for inclusions in this specification sheet should be submitted to: DLA Land and Maritime, ATTN: VAC, Post Office Box 3990, Columbus, OH 43218-3990 or by electronic mail at Semiconductor@dla.mil or by facsimile (614) 692-6939 or DSN 850-6939.

* 6.10 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.

Custodians:

Army – CR
* Navy – SH
Air Force – 85
NASA – NA
DLA – CC

Preparing activity:
DLA – CC

(Project 5961-2024-099)

Review activities:

Army – AR, MI, SM
* Navy – AS, MC, OS
Air Force – 19

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>.