

The documentation and process conversion measures necessary to comply with this revision shall be completed by 17 April 1998

INCH POUND

MIL-PRF-19500/578C
 17 January 1998
 SUPERSEDING
 MIL-S-19500/578B
 10 June 1994

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, DIODE, SILICON, SWITCHING,
 1N6638, 1N6642, 1N6643, 1N6638U, 1N6642U, 1N6643U, 1N6638US, 1N6642US, 1N6643US
 JAN, JANTX, JANTXV AND JANS

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

The JANS1N4148-1 will no longer be qualified. The JANS1N6642 will be used in place of the JANS1N4148-1. The 1N6638US, 1N6642US and 1N6643US are directly substitutable for the 1N6638U, 1N6642U, and 1N6643U.

1. SCOPE

1.1 Scope. This specification covers the performance requirements for switching diodes. Four levels of product assurance are provided for each device type as specified in MIL-PRF-19500.

1.2 Physical dimensions. See figures 1 (similar to DO-35) and 2 (square endcap surface mount).

1.3 Maximum ratings. $T_A = +25^\circ\text{C}$.

Types	V_{BR}	V_{RWM}	I_O 1/ 2/	I_{FSM} $t_p = 1/120\text{ s}$	$T_{STG}, T_J,$ $T_L,$ or T_{EC}	$R_{\theta JL}$ $L = .375$	$R_{\theta JEC}$	$Z_{\theta JX}$
	<u>V (pk)</u>	<u>V (pk)</u>	<u>mA</u>	<u>A (pk)</u>	<u>°C</u>	<u>°C/W</u>	<u>°C/W</u>	<u>°C/W</u>
1N6638, 1N6638U, 1N6638US	150	125	300	2.5	-65 to +175	160	50	25
1N6642, 1N6642U, 1N6642US	100	75	300	2.5	-65 to +175	160	50	25
1N6643, 1N6643U, 1N6643US	75	50	300	2.5	-65 to +175	160	50	25

1/ Derate at 3.0 mA/°C above $T_L = +75^\circ\text{C}$ for axial lead, $L = .375$ inch (9.53 mm).

2/ Derate at 4.6 mA/°C above $T_{EC} = +110^\circ\text{C}$ for U suffix types.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAT, 3990 East Broad Street, Columbus, OH 43216-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC/NA
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FSC 5961

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

Types	V_{F1} $I_{FM} = 10 \text{ mA}$	V_{F2}	I_{R1} $V_R = 20 \text{ V}$	I_{R2} $V_R = V_{RWM}$	I_{R3} $V_R = 20 \text{ V}$ $T_A = +150^\circ\text{C}$	I_{R4} $V_R = V_{RWM}$ $T_A = +150^\circ\text{C}$	t_{fr} $I_F = 50 \text{ mA}$	t_{rr} $I_R = 10 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_{REC} = 1 \text{ mA}$	C_{T1} $V_R = 0$
	<u>V dc</u>	<u>V dc</u>	<u>nA dc</u>	<u>μA dc</u>	<u>μA dc</u>	<u>μA dc</u>	<u>ns</u>	<u>ns</u>	<u>pF</u>
1N6638, 1N6638U 1N6638US	0.80	1.1 <u>1/</u>	35	0.5	50	100	20	4.5	2.5
1N6642, 1N6642U, 1N6642US	1.0	1.2 <u>2/</u>	25	0.5	50	100	20	5.0	5.0
1N6643, 1N6643U, 1N6643US	1.0	1.2 <u>2/</u>	50	0.5	75	160	20	6.0	5.0

1/ $I_F = 200 \text{ mA}$.

2/ $I_F = 100 \text{ mA}$.

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 listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATION

DEPARTMENT OF DEFENSE

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

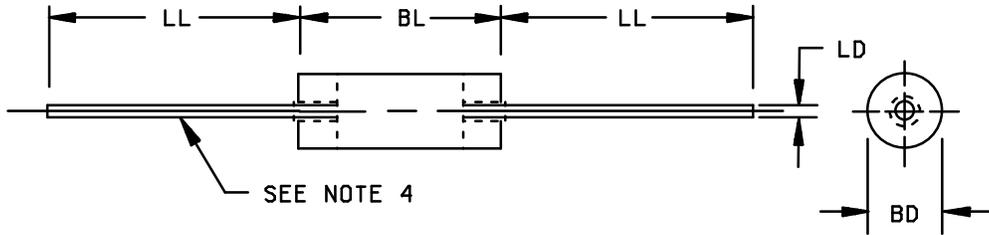
STANDARD

MILITARY

MIL-STD-750 - Test Methods for Semiconductor Devices.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or 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.



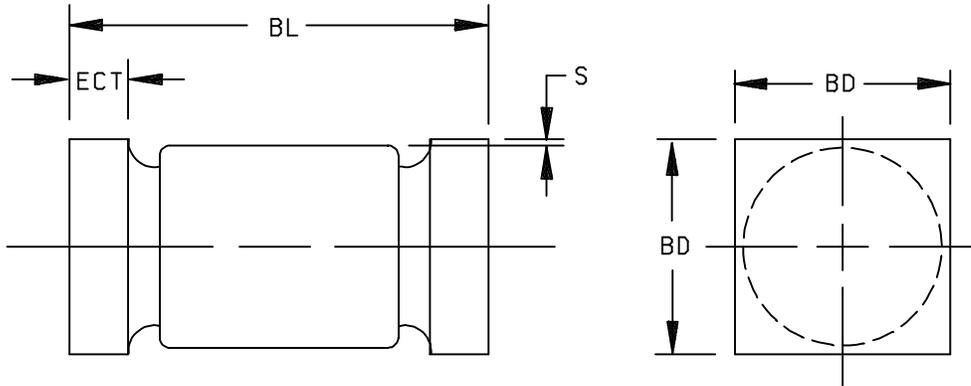
Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.018	.022	0.46	0.56	4
LD	.056	.075	1.42	1.91	2, 3
BL	.140	.180	3.56	4.57	
LL	1.000	1.500	25.40	38.10	

TYPES 1N6638, 1N6642, AND 1N6643

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimension BD shall be measured at the largest diameter.
4. The BL dimension shall include all uncontrolled areas of the device leads.

FIGURE 1. Physical dimensions (similar to DO - 35).



Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.165	.195	4.19	4.95
ECT	.019	.028	0.48	0.71
S	.003	---	0.08	---
BD	.070	.085	1.78	2.16

TYPES 1N6638U, 1N6642U, AND 1N6643U, 1N6638US, 1N6642US, AND 1N6643US

FIGURE 2. Physical dimensions of surface mount family.

3. REQUIREMENTS

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

3.2 Associated specification. The individual item performance requirements shall be in accordance with MIL-PRF-19500 and as specified herein.

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

V_{FRM} - - - - - Peak forward recovery voltage during forward recovery.

EC - - - - - End caps.

3.4 Design, construction, and physical dimensions. The design, construction, and physical dimensions for the purpose of interchangeability shall be as specified on figures 1 and 2 herein.

3.4.1 Lead finish. Unless otherwise specified, lead finish shall be solderable in accordance with MIL-PRF-19500, MIL-STD-750, and herein.

3.4.2 Diode construction. These devices shall be constructed in a manner and using materials which enable the diodes to meet the applicable requirements of MIL-PRF-19500 and this document.

a. All devices shall be of metallurgically bonded, thermally matched, noncavity-double plug construction in accordance with the requirements of category I (see MIL-PRF-19500).

b. The 'US' version shall be structurally identical to the non-US versions except for lead attachment.

3.5 Marking. Devices shall be marked as specified in MIL-PRF-19500.

3.6 Polarity. The polarity shall be indicated with a contrasting color band to denote the cathode end.

3.7 Interface requirements and physical dimensions. The interface requirements and physical dimensions shall be as specified in MIL-PRF-19500, and figure 1 (similar to DO-35) and figure 2 ("U and US" suffix types).

3.8 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in 1.3, 1.4, and table I.

3.9 Electrical test requirements. The electrical test requirements shall be the subgroups specified in 4.4.2 and 4.4.3.

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).

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500.

4.3 Screening (JANS, JANTX, and JANTXV levels only). Screening shall be in accordance with appendix E, table 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 (see appendix E, table IV of MIL-PRF-19500)	Measurement	
	JANS level	JANTX and JANTXV levels
3C <u>1/</u>	Thermal impedance (see 4.3.2)	Thermal impedance (see 3.4.2)
9	I_{R1} , V_{F1} , and $V_{(BR)}$	Not applicable
11	I_{R1} , V_{F1} , and $V_{(BR)}$; $\Delta I_{R1} \leq 100$ percent of initial value or ± 15 nA, whichever is greater. $\Delta V_{F1} \leq \pm 0.02$ V.	I_{R1} and V_{F1}
12	See 4.3.1	See 4.3.1
13 <u>2/</u>	Subgroup 2 and 3 of table I herein; $\Delta I_R \leq 100$ percent of initial value or 15 nA, whichever is greater. $\Delta V_{BR} \leq \pm 15$ percent of initial reading. Reverse scope display (see 4.5.3).	Subgroup 2 of table I herein; $\Delta I_R \leq 100$ percent of initial value or 15 nA, whichever is greater. $\Delta V_{F1} \leq \pm 0.02$ V dc. Scope display evaluation(see 4.5.3).

1/ Thermal impedance shall be performed any time after screen 3.

2/ $Z_{\theta JX}$ is not required in screen 13 if already performed.

4.3.1 Power burn-in conditions. Power burn-in conditions are as follows:

Method 1038, condition B, T_A = room ambient as defined in the general requirements of MIL-STD-750, (see 4.5); V_R = rated V_{RWM} ; $f = 50-60$ Hz; $I_O = 300$ mA. An alternative of $I_F(dc) = 300$ mA may be used (at T_A = room ambient as defined in the general requirements of MIL-STD-750, see 4.5).

4.3.2 Thermal impedance $Z_{\theta JX}$ measurements for screening. The $Z_{\theta JX}$ measurements shall be performed in accordance with MIL-STD-750, method 3101. Test each device separately. The maximum limit and conditions for $Z_{\theta JX}$ in screening (table II of MIL-PRF-19500) shall be derived statistically by each vendor by means of actual measurements which characterize the die attach process (not to exceed the group A limit.)

4.3.2.1 Thermal impedance ($Z_{\theta JX}$ measurements) for initial qualification or requalification. The $Z_{\theta JX}$ measurements shall be performed in accordance with MIL-STD-750, method 3101. Read and record data $Z_{\theta JX}$ derived conditions (random sample of 500 devices minimum) limits shall be supplied to the qualifying activity on the qualification lot and screening prior to qualification approval. Twenty-two serialized devices shall be sent to the qualifying activity for test correlation.

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 appendix E, table V of MIL-PRF-19500, table I herein, and as specified herein. Electrical measurements (end-points) and delta requirements shall be in accordance with the applicable steps of table II herein. The following test conditions shall be used for $Z_{\theta JX}$, group A inspection.

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

The maximum limit for $Z_{\theta JX}$ under these test conditions is $Z_{\theta JX(max)} = 25^\circ\text{C/W}$.

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 VIa (JANS) and table VIb (JAN, JANTX, and JANTXV) of MIL-PRF-19500. Electrical measurements (end-points) shall be in accordance with table I, group A, subgroup 2, except $Z_{\theta JX}$, and as specified in table II herein. Leaded samples from the same lot may be used in lieu of U and US suffix sample for life test.

4.4.2.1 Group B inspection, appendix E, table VIa (JANS) of MIL-PRF-19500.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
B4	1037	V_R = rated V_{RWM} , T_A = room ambient as defined in the general requirements of MIL-STD-750 (see 4.5); f = 50-60 Hz (see 4.5.1); "on" time, "off" time, and I_O shall be adjusted to achieve a delta lead temperature at $L = .062$ inch (1.58 mm) from the body of $+85^\circ\text{C}$, -5°C , $+15^\circ\text{C}$; $t_{on} = t_{off} = 3$ minutes minimum; 2,000 cycles; $I_O = 300$ mA dc maximum.
B5	1027	$I_O = 250$ mA dc; $V_{RWM} = 0$; $f = 50-60$ Hz (see 4.5.1); $T_A = +125^\circ\text{C}$.
B6	3101 or 4081	$L = .375$ inch (9.53 mm); $R_{\theta JL} = 160^\circ\text{C/W}$ maximum (see 4.5.4); $R_{\theta JEC} = 50^\circ\text{C/W}$ maximum (see 4.5.4).

4.4.2.2 Group B inspection, appendix E, table VIb (JAN, JANTX and JANTXV) of MIL-PRF-19500. Leaded samples from the same lot may be used in lieu of U and US suffix sample for life test.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
B3	1027	T_A = room ambient as defined in the general requirements of MIL-STD-750, (see 4.5); $T_{EC} = +100^\circ\text{C}$ to $+125^\circ\text{C}$ for U suffix devices; V_R = rated V_{RWM} ; $f = 50-60$ Hz (see 4.5.1); $I_O = 300$ mA dc.
B6	1032	$T_A = +175^\circ\text{C}$ maximum.

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 VII of MIL-PRF-19500. Electrical measurements (end-points) shall be in accordance with table I, group A, subgroup 2, except $Z_{\theta JX}$, and as specified in table II herein. Leaded samples from the same lot may be used in lieu of U and US suffix sample for life test.

4.4.3.1 Group C inspection, table V of MIL-PRF-19500.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
C2	2036	Tension - test condition A; weight = 8 pounds, $t = 15$ s; lead fatigue = condition E (not applicable to U and US suffix types).
C6	1026	1,000 hours at T_A = room ambient as defined in the general requirements of MIL-STD-750, (see 4.5); V_R = rated V_{RWM} ; $f = 60$ Hz (see 4.5.2); $I_O = 300$ mA dc.

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

4.5.1 Life test. 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 rectified current. The forward conduction angle of the rectified current shall be neither greater than 180 degrees, nor less than 150 degrees.

4.5.2 Forward-recovery voltage and time. Forward recovery time shall be measured as the time interval between zero time and the point where the pulse has decreased to 110 percent of the steady-state value of V_F when $I_F = 50$ mA dc. The maximum rise time of the response detector shall be 1 ns. The maximum forward recovery voltage (V_{fr}) during the forward recovery interval shall also be measured.

4.5.3 Scope display. The reverse breakdown characteristics shall be viewed on an oscilloscope with display calibration factors of 20 μ A per division and 20 V per division. Reverse current over the knee shall be at least 100 μ A and less than 200 μ A. Any discontinuity or dynamic instability of the trace shall be cause for rejection of that device.

4.5.4 Thermal resistance. Thermal resistance shall be measured in accordance with method 3101 or 4081 of MIL-STD-750. The reference point shall be the lead temperature at .375 inch (9.53 mm) from the body of the device, and shall be held between +25° C and +85° C. The measuring current, I_M shall be 1.0 mA dc. Thermal resistance values shall be in accordance with 1.3 herein.

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

TABLE I. Group A inspection.

Inspection 1/	MIL-STD-750		Symbol	Limits		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u>						
Visual and mechanical examination	2071					
<u>Subgroup 2</u>						
Thermal impedance	3101	See 4.3.2	$Z_{\theta JX}$		25.0	°C/W
Forward voltage	4011	$t_p = 5$ ms maximum $I_F = 10$ mA dc pulsed	V_{F1}		0.8	V dc
1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US					1.0	
					1.0	
Breakdown voltage	4021	$I_R = 100$ μ A dc	V_{BR}			V dc
1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US				150		
				100		
				75		
Reverse current	4016	DC method; $V_R = 20$ V dc	I_{R1}			nA dc
1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US					35	
					25	
					50	
Reverse current	4016	DC method	I_{R2}			nA dc
1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US		$V_R = 125$ V dc			500	
		$V_R = 75$ V dc			500	
		$V_R = 50$ V dc			500	
Forward voltage	4011		V_{F2}			V dc
1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US		$I_F = 200$ mA pulsed			1.1	
		$I_F = 100$ mA pulsed			1.2	
		$I_F = 100$ mA pulsed			1.2	

See footnote at end of table.

TABLE I. Group A inspection - Continued.

Inspection 1/	MIL-STD-750		Symbol	Limits		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 3</u>						
High temperature operation		$T_A = +150^\circ\text{C}$				
Reverse current	4016	DC method, $V_R = 20\text{ V dc}$	I_{R3}			$\mu\text{A dc}$
1N6638, 1N6638U, 1N6638US				50		
1N6642, 1N6642U, 1N6642US				50		
1N6643, 1N6643U, 1N6643US				75		
Reverse current	4016	DC method	I_{R4}			$\mu\text{A dc}$
1N6638, 1N6638U, 1N6638US		$V_R = 125\text{ V dc}$		100		
1N6642, 1N6642U, 1N6642US		$V_R = 75\text{ V dc}$		100		
1N6643, 1N6643U, 1N6643US		$V_R = 50\text{ V dc}$		160		
Forward voltage	4011	$I_F = 10\text{ mA dc pulsed}$ $t_p = 5\text{ ms maximum}$	V_{F3}			V dc
1N6638, 1N6638U, 1N6638US					0.65	
1N6642, 1N6642U, 1N6642US					0.80	
Low temperature operation		$T_A = -55^\circ\text{C}$				
Forward voltage	4011	Pulsed	V_{F4}			V dc
1N6638, 1N6638U, 1N6638US		$I_F = 200\text{ mA pulsed}$			1.2	
1N6642, 1N6642U, 1N6642US		$I_F = 100\text{ mA pulsed}$			1.2	
1N6643, 1N6643U, 1N6643US		$I_F = 100\text{ mA pulsed}$			1.4	
<u>Subgroup 4</u>						
Capacitance	4001	$V_R = 0\text{ V dc}; V_{\text{sig}} = 50\text{ mV(p-p)}$ $f = 1\text{ MHz}$	C_{T1}			pF
1N6638, 1N6638U, 1N6638US					2.5	
1N6642, 1N6642U, 1N6642US					5.0	
1N6643, 1N6643U, 1N6643US					5.0	

See footnote at end of table.

TABLE I. Group A inspection - Continued.

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limits		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 4 continued</u>						
Capacitance 1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U, 1N6642US 1N6643, 1N6643U, 1N6643US	4001	$V_R = 1.5 \text{ V dc}$; $V_{\text{sig}} = 50 \text{ mV(p-p)}$ $f = 1 \text{ MHz}$	C_{T2}		2.0 2.8 2.8	pF
Reverse recovery time 1N6638, 1N6638U, 1N6638US 1N6642, 1N6642U 1N6642US 1N6643, 1N6643U, 1N6643US	4031	Condition A, $I_F = I_R = 10 \text{ mA dc}$; I_{RR} $= 1.0 \text{ mA dc}$; $c \geq 1 \text{ nf}$; $R \geq 1,000 \Omega$; $i_{R(\text{REC})} = 1.0 \text{ mA dc}$	t_{rr}		4.5 5.0 6.0	ns
<u>Subgroup 5</u>						
Not applicable						
<u>Subgroup 6</u>						
Surge current	4066	$I_{\text{FSM}} = 2.5 \text{ A(pk)}$ ten surges at one per minute (max) surge duration 1/100 to 1/120 seconds				
Electrical measurements		See table II, steps 1 and 2				
<u>Subgroup 7</u>						
Forward recovery voltage and time	4026	$I_F = 50 \text{ mA dc}$ (see 4.5.2)	V_{fr} t_{fr}		5.0 20.0	V(pk) ns

1/ For sampling plan, see MIL-PRF-19500.

TABLE II. Groups A, B, and C electrical measurements. 1/ 2/ 3/

Step	Inspection	MIL-STD-750		Symbol	Limits		Unit
		Method	Conditions		Min	Max	
1	Forward voltage	4011	$t_p = 5 \text{ ms}$ $I_F = 10 \text{ mA dc}$ pulsed	ΔV_{FI} 4/		$\pm 25 \text{ mV dc}$ <u>maximum change</u>	
2	Reverse current	4016	DC method $V_R = 20 \text{ V dc}$	ΔI_{RI} 4/		100 percent or 20 nA dc, whichever is greater.	

- 1/ The electrical measurements for appendix E, table VIa (JANS) of MIL-PRF-19500 are as follows: Subgroup 5, see table II herein, steps 1 and 2.
- 2/ The electrical measurements for appendix E, table VIb (JANTX and JANTXV) of MIL-PRF-19500 are as follows: Subgroups 3 and 6, see table II herein, steps 1 and 2.
- 3/ The electrical measurements for appendix E, table VII of MIL-PRF-19500 are as follows: Subgroup 6, see table II herein, steps 1 and 2 for JANS, JANTX, and JANTXV.
- 4/ Devices which exceed the group A limits for this test shall not be accepted.

5. PACKAGING

5.1 Packaging. Packaging shall prevent mechanical damage of the devices during shipping and handling and shall not be detrimental to the device. When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Points' packaging activity within the Military Department or Defense Agency, or within the Military Departments' System Command. Packaging data retrieval is available from the managing Military Departments' or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

5.2 Marking. Unless otherwise specified (see 6.2), marking shall be in accordance with MIL-STD-129.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

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

6.2 Acquisition requirements. See MIL-PRF-19500.

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 Products List QPL No.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 purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from Commander, Defense Supply Center Columbus, DSCC-VQE, Columbus, OH 43216-5000.

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

6.5 Cross reference substitution list. JANS 1N4148 is prohibited and will not longer be built or qualified. Devices in stock are acceptable. A PIN for PIN replacement table follows, and these devices are directly interchangeable. The 1N4148 design is unsuitable for space flight applications.

Nonpreferred PIN	Preferred PIN
JANS1N4148-1 JANS1N4148-1UR	JANS1N6642 JANS1N6642US

Custodians:
 Army - CR
 Navy - EC
 Air Force - 17
 NASA - NA

Preparing activity:
 DLA - CC
 (Project 5961-1872)

Review activities:
 Army - AR, MI, SM
 Navy - AS, MC
 Air Force - 19, 85, 99

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
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3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-PRF-19500/578C

2. DOCUMENT DATE
980117

3. DOCUMENT TITLE SEMICONDUCTOR DEVICE, DIODE, SILICON, SWITCHING, 1N6638, 1N6642, 1N6643, 1N6638U, 1N6642U, 1N6643U, 1N6638US, 1N6642US, 1N6643US JAN, JANTX, JANTXV, AND JANS

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)
Commercial
DSN
FAX
EMAIL

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. Point of contact:
Alan Barone

b. TELEPHONE
Commercial DSN FAX EMAIL
614-692-0510 850-0510 614-692-6939 alan_barone@dscclia.mil

c. ADDRESS: Commander, Defense Supply Center Columbus, DSCC-VAT, Columbus, OH 43216-5000

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