The documentation and process conversion measures necessary to comply with this document shall be completed by 24 March 2015.

INCH-POUND
MIL-PRF-19500/169P
24 DECEMBER 2014
SUPERSEDING
MIL-PRF-19500/169N
2 NOVEMBER 2009

PERFORMANCE SPECIFICATION SHEET

DIODE, SILICON, SWITCHING, TYPES 1N3070, 1N3070-1, 1N3070UR-1, 1N4938, 1N4938-1, 1N4938UR-1, JAN, JANTX, JANTXV, JANHC, AND JANKC

Device types 1N3070, 1N3070-1, 1N3070UR-1, and 1N4938 are inactive for new design (see 6.4).

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, switching diodes. Three levels of product assurance are provided for each device type and two product assurance levels are provided for die, as specified in MIL-PRF-19500.

* 1.2 Package outlines and die topography. The device packages for the encapsulated device types are as follows: DO-35 in accordance with figure 1, DO-7 in accordance with figure 2, and surface mount versions DO-213AA in accordance with figure 3. The dimensions and topography for JANHC and JANKC unencapsulated die are as follows: A version die in accordance with figure 4, and B version die in accordance with figure 5.

1.3 Maximum ratings. T_A = +25°C, unless otherwise specified.

V_{BR}	V_{RWM}	$I_{O(PCB)}$ T_A = 75°C (1)	I_{FSM1} t_p = 1s	I_{FSM2} t_p = 1µs	T_{STG} and T_J	$R_{\theta JL}$ L = .375 inch (9.53 mm) (2)	$R_{\theta JEC}$ (2)	$R_{\theta JA(PCB)}$ (2) (3)
V dc	V (pk)	mA	mA (pk)	A (pk)	°C	°C/W	°C/W	°C/W
200	175	100	500	2	-65 to +175	250	100	325

(1) For temperature-current derating curves, see figure 6.
(2) See figures 7 and 8 for thermal impedance curves.
(3) T_A = +75°C for both axial and metal electrode leadless face diodes (MELF) (UR) on printed circuit board (PCB), PCB = FR4 - .0625 inch (1.59 mm) 1-layer 1-Oz Cu, horizontal, in still air; pads for (UR) = .061 inch (1.55 mm) x.105 inch (2.67 mm); pads for axial = .092 inch (2.34 mm) diameter, strip = .030 inch (0.76 mm) x 1 inch (25.4 mm) long, lead length L ≤ .187 inch (≤ 4.75 mm); $R_{\theta JA}$ with a defined PCB thermal resistance condition included is measured at I_O = 200 mA dc.

* 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 .

1.4 Primary electrical characteristics. T_A = +25°C, unless otherwise indicated.

V_{F1} I_F = 100mA dc	I_{R1} at V_R = 175 V dc	t_{rr}
V dc	μA dc	ns
1.0	0.1	50

* 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 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: The base quality level "JAN" "JANTX" and "JANTXV".

* 1.5.2 Quality level designators for unencapsulated devices (die). The quality level designators for unencapsulated devices (die) that are applicable for this specification sheet from the lowest to the highest level are as follows: "JANHC" and "JANKC".

* 1.5.3 Device type. The designation system for the device types of diodes covered by this specification sheet are as follows.

* 1.5.3.1 First number and first letter symbols. The diodes of this specification sheet use the first number and letter symbols "1N".

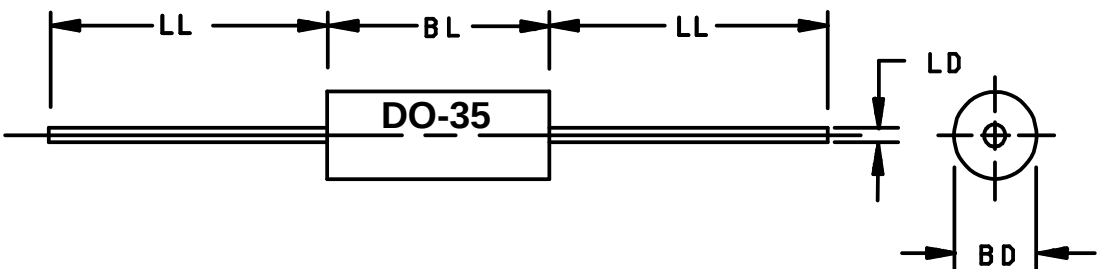
* 1.5.3.2 Second number symbols. The second number symbols for the diodes covered by this specification sheet are as follows: "3070, 3070UR-1, 4938, 4938-1, 4938UR-1".

* 1.5.4 Suffix symbols. The following suffix letters are incorporated in the PIN in the order listed in the table as applicable:

UR	Indicates a surface mount, round endcap, package.
	A blank first suffix symbol indicates an axial through-hole mount package (see figure 1 and figure 2).
-1	Indicates a metallurgical bond.
	A blank second suffix symbol indicates device does not have a metallurgical bond.

* 1.5.5 Lead finish. The lead finishes applicable to this specification sheet are listed on QML-19500. The lead finish designator shall be separated from the main PIN by a dash.

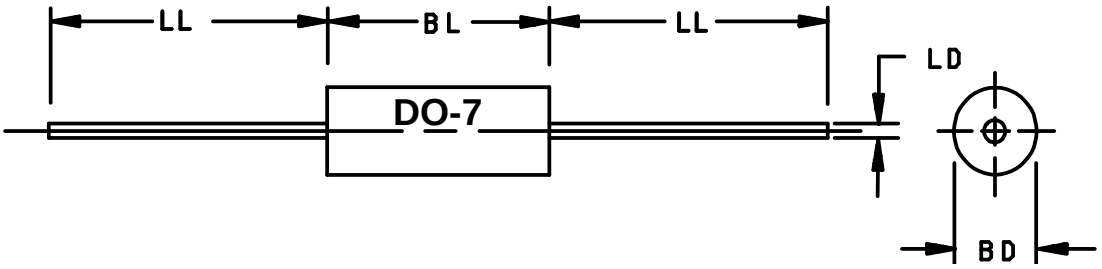
* 1.5.6 Die identifiers for unencapsulated devices (manufacturers and critical interface identifiers). The manufacturer die identifiers that are applicable for this specification sheet are "A" and "B"



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

NOTES:
1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

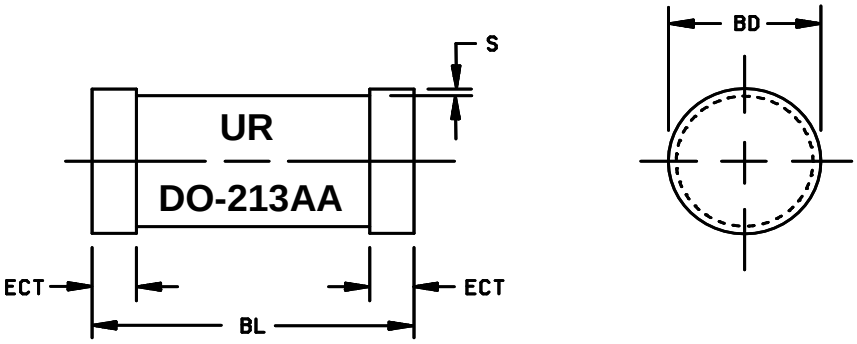
FIGURE 1. Physical dimensions of 1N4938, 1N4938-1 and 1N3070-1 (DO-35).



Type	Symbol	Dimensions			
		Inches		Millimeters	
		Min	Max	Min	Max
1N3070 1N3070-1	BD	.078	.107	1.98	2.72
	BL	.195	.300	4.95	7.62
	LD	.018	.022	0.46	0.56
	LL	1.000	1.500	25.40	38.10

NOTES:
1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

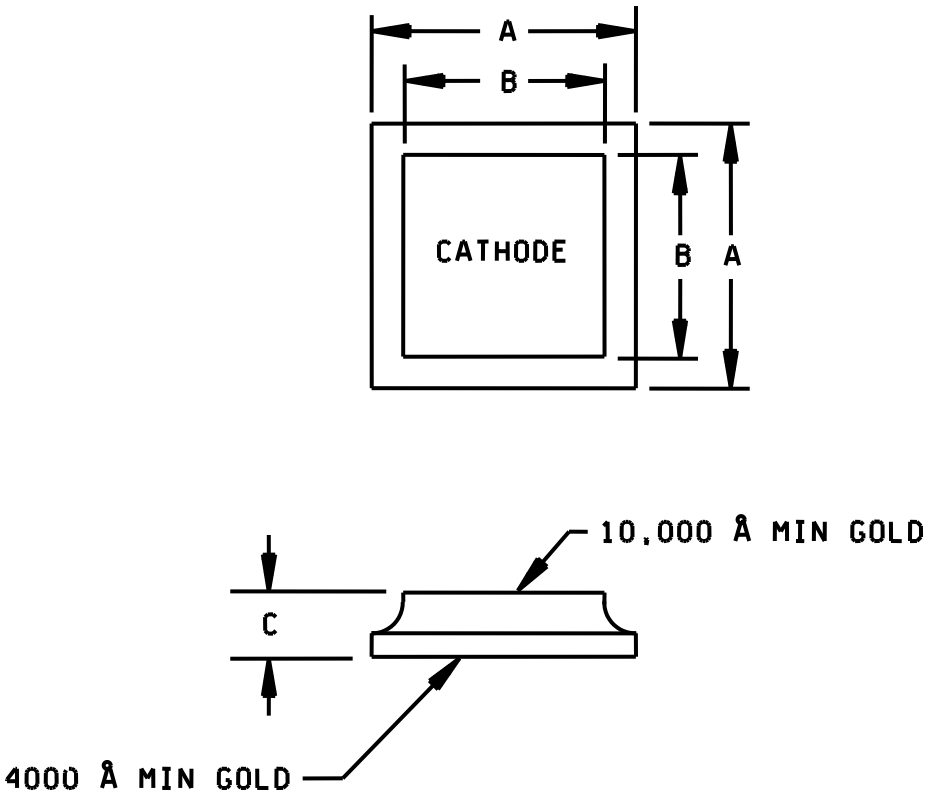
FIGURE 2. Physical dimensions of 1N3070 and 1N3070-1 (DO-7).



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

NOTES:
1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Dimensions are pre-solder dip.
4. Referencing to dimension S, minimum clearance of glass body to mounting surface on all orientations.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

FIGURE 3. Physical dimensions and configuration for 1N3070UR-1 and 1N4938UR-1 (DO-213AA).



Symbol	Dimension			
	Inches		Millimeters	
	Min	Max	Min	Max
A	.019	.025	0.48	0.64
B	.008	.012	0.20	0.30
C	.007	.011	0.18	0.28

Design Data

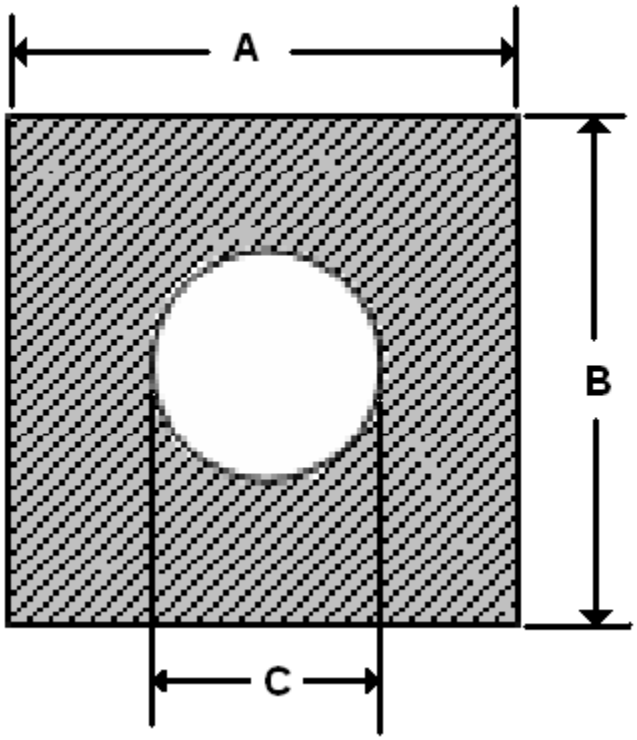
Metallization:
Top: Cathode Au
Back: Anode Au

Au thickness: Top: 10,000Å minimum
Au thickness: Back: 4,000Å minimum

Chip thickness: 9 mils ±2 mils (0.229mm ±0.051mm)

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

FIGURE 4. JANC (A-version) die dimensions for 1N4938.



Symbol	Dimension			
	Inches		Millimeters	
	Min	Max	Min	Max
A	.016	.018	0.41	0.46
B	.016	.018	0.41	0.46
C	.007	.009	0.18	0.23

Design Data

Metallization:
Top: Anode Al
Back: Cathode Au

Al thickness: Top: 25,000Å minimum
Au thickness: Back: 4,000Å minimum

Chip thickness: 9 mils ±1 mil (0.23mm ±0.025mm)

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

FIGURE 5. JANC (B-version) die dimensions for 1N4938.

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 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 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 http://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 manufacturers 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. Interface and physical dimensions shall be as specified in MIL-PRF-19500, and on figures 1 (DO-35), 2 (DO-7), 3 (DO-213AA), 4 and 5 (die).

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 acquisition document (see 6.2).

3.4.2 Diode construction. All devices shall be metallurgically bonded, double plug construction in accordance with the requirements of MIL-PRF-19500. All glass diodes shall be designed with sufficient thermal compensation in the axial direction to optimize tensile and compressive stresses. Dimensional analysis is required of all materials used to achieve axial thermal compensation. Dimensional tolerances and corresponding coefficient of thermal expansion (CTE) shall be documented on the DSCC Design and Construction Form 36D and shall be approved by the qualifying activity to maintain qualification. Dimensional tolerances shall be sufficiently tight enough to prevent excessive stresses due to the inherent CTE mismatch. The UR version shall be structurally identical to the axial leaded versions except for end-cap lead attachment.

3.5 Marking. Marking shall be in accordance with MIL-PRF-19500. Manufacturer's identification and date code shall be marked on the devices. Initial container package marking shall be in accordance with MIL-PRF-19500. The polarity shall be indicated with a contrasting color band to denote the cathode end. The prefixes JAN, JANTX, and JANTXV can be abbreviated as J, JX, and JV, respectively. The part number may be reduced to J4938, JX4938, or JV4938. No color coding shall be permitted for part numbering.

3.5.1 UR devices. For 'UR' version devices only, all marking, except polarity may be omitted from the body, but shall be retained on the initial container. Polarity marking of 'UR' devices shall consist as a minimum, a band or three contrasting dots around the periphery of the cathode.

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 as specified in table I herein.

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).

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500 and as specified herein.

4.2.1 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 require 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.

4.3 Screening (JANTXV, JANTX, and JAN levels). Screening shall be in accordance with table E-IV of MIL-PRF-19500 and as specified herein. Specified electrical measurements shall be made in accordance with table I herein. Devices that exceed the limits of table I herein shall not be acceptable.

Screening (see table E-IV of MIL-PRF-19500)	JANTXV and JANTX level
(1) 3c	Thermal impedance (see 4.3.3)
9	Not required
10	Method 1038 of MIL–STD–750, condition A
(2) 11	I_{R1} and V_{F1}
12	See 4.3.2
(3) (4) 13	Subgroup 2 of table I herein; ΔI_{R1} = 100 percent of initial value or 50 nA dc, whichever is greater; $\Delta V_{F1} \leq$ 25mVdc.

(1) 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.
(2) Test within 24 hours after removal from test.
(3) When thermal impedance is performed prior to screen 13, it is not required to be repeated in screen 13.
(4) PDA ≤ 5 percent.

4.3.1 Screening (JANHC and JANKC). Screening of JANHC and JANKC die shall be in accordance with appendix G of MIL-PRF-19500. Burn-in duration for the JANHC follows JANTX requirements; the JANKC level follows JANS requirements.

4.3.1.1 JAN testing. JAN level product will have temperature cycling and thermal impedance testing performed in accordance with MIL-PRF-19500 JANTX level screening level requirements.

4.3.2 Power burn-in conditions. Power burn-in conditions are as follows (see 4.5.1): Method 1038 of MIL–STD–750, condition B. V_R = rated V_{RWM}; f = 50 - 60 Hz; I_O(min) or $I_{F(min)} = I_{O(PCB)}$. The maximum current density of small die shall be submitted to the qualifying activity for approval. With approval of the qualifying activity and preparing activity, alternate burn-in criteria (hours, bias conditions, mounting conditions) may be used for JANTX and JANTXV quality levels. A justification demonstrating equivalence is required. In addition, the manufacturing site's burn-in data and performance history will be essential criteria for burn-in modification approval.

4.3.3 Thermal impedance. The thermal impedance measurements shall be performed in accordance with method 3101 or 4081 of MIL–STD–750 using the guidelines in that method for determining I_M, I_H, t_H, t_{SW} (V_C and V_H where appropriate). Measurement delay time (t_{MD}) = 70 μs max. See table II, group E, subgroup 4 herein.

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 table E-V of MIL-PRF-19500, table I herein, and as specified herein. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 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-VIb (JAN, JANTX, and JANTXV) of MIL-PRF-19500 and 4.4.2.1 herein. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2.

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

	Subgroup	Method	Conditions
	B2	1056	0°C to +100°C, 10 cycles.
	B2	1051	-55°C to +175°C, 45 cycles, including screening.
*	B2	2005	I_F = 100 mA, axial tensile stress = 10 lbs, 6 lbs tension test on hard glass construction T_A = +150°C; (not applicable to UR package).
	B3	1026	V(pk) = rated V_{RWM}; f = 50 - 60 Hz; I_O = 100 mA dc minimum; adjust T_A or I_O to obtain a minimum T_J of +150°C (see 4.5.1).
	B4	2101	Decap analysis; scribe and break only.
	B6	1032	T_A = +175°C.

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, and as follows. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 herein.

* 4.4.3.1 Group C inspection, table E-VII of MIL-PRF-19500.

	Subgroup	Method	Conditions
	C2	1056	0°C to + 100°C, 10 cycles.
	C2	1051	-55°C to + 175°C, 45 cycles including screening.
*	C2	2036	Tension - test condition A; weight = 10 pounds, 6 lbs tension test on hard glass construction t = 15 s; lead fatigue = condition E (not applicable to 'UR' suffix types).
	C5	4081	L = .375 inch (9.53 mm), $R_{\theta JL}$ = 250°C/W maximum; $R_{\theta JEC}$ = 100°C/W; (see 4.3.3), 22 devices, c = 0.
	C6	1026	1,000 hours minimum, V(pk) = rated V_{RWM}; f = 50 - 60 Hz; I_O = 100 mA dc minimum; adjust T_A or I_O to obtain a minimum T_J of +150°C (see 4.5.1).

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

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

4.5.1 Free air power burn-in and life tests. The use of a current limiting or ballast resistor is permitted provided that each device under test still sees the full P_t (minimum) and that the minimum applied voltage, where applicable, is maintained throughout the burn-in period. Method 3100 of MIL–STD–750 shall be used to measure T_J.

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

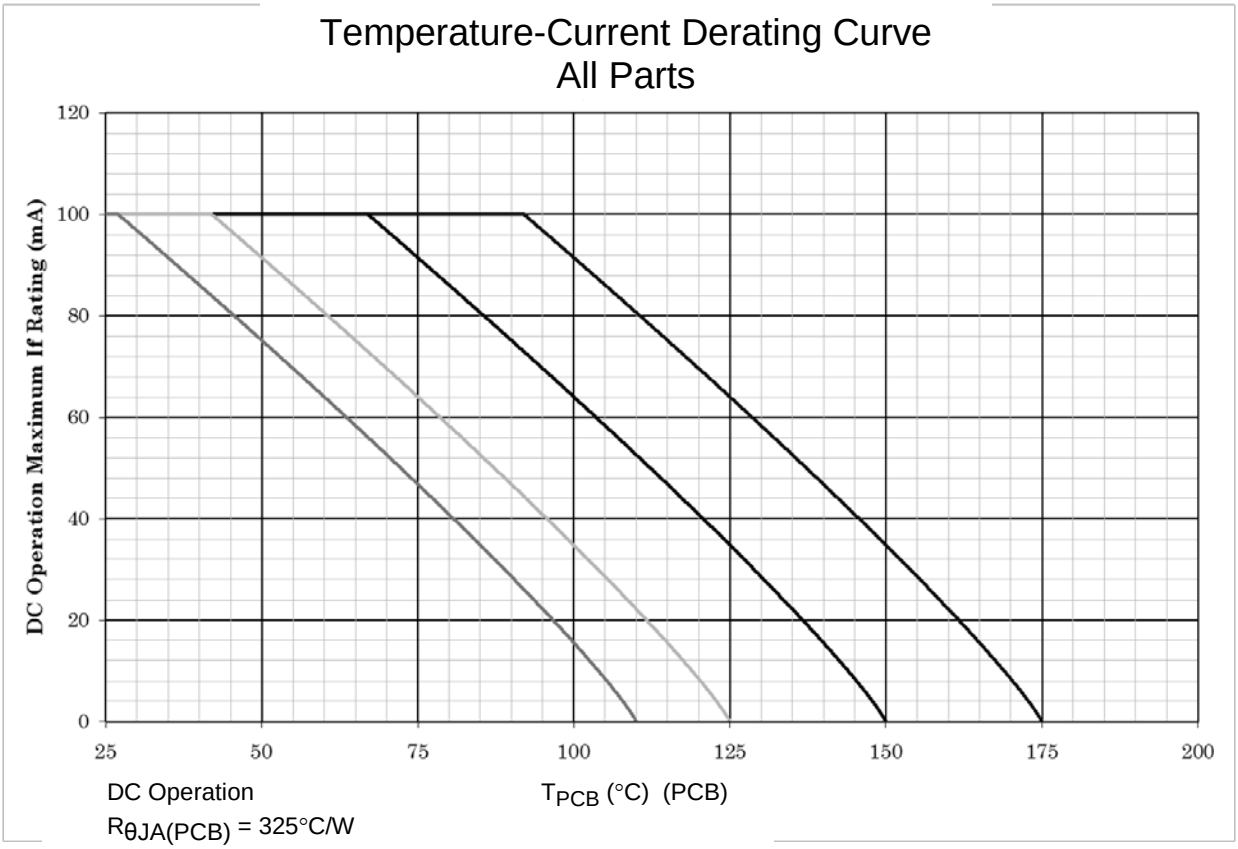
* TABLE I. Group A inspection.

	Inspection 1/	MIL–STD–750		Symbol	Limit		Unit
		Method	Conditions		Min	Max	
	Subgroup 1						
	Visual and mechanical examination	2071					
	Subgroup 2						
	Thermal impedance 2/	3101	See 4.3.3	$Z_{\theta JX}$			°C/W
*	Forward voltage	4011	Condition B, I_F = 100 mA dc	V_{F1}		1.0	V dc
	Breakdown voltage	4021	I_R = 100 μA dc	V_{BR}	200		V dc
	Reverse current	4016	DC method, V_R = 175 V dc	I_{R1}		100	nA dc
	Subgroup 3						
	High temperature operation:		T_A = +150°C				
	Reverse current	4016	DC method, V_R = 175 V dc	I_{R2}		100	μA dc
	Low temperature operation:		T_A = -55°C				
*	Forward voltage	4011	Condition B, I_F = 100 mA dc	V_{F2}		1.2	V dc
	Subgroup 4						
	Junction capacitance	4001	V_R = 0 V dc, f = 1 MHz, V_{sig} = 50 mV_{p-p} maximum	C_1		5.0	pF
	Reverse recovery time	4031	Condition B, I_F = 30 mA dc, I_R = 30 mA dc, $I_{R(REC)}$ = 3.0 mA dc	t_{rr}		50	ns
	Scope display evaluation	4023	Method 4023 of MIL–STD–750, figures 4023-3, -7, -9, -10 only				
	Subgroup 5						
	Not applicable						
	Subgroup 6						
*	Surge current	4066	Condition A, I_F = 0 mA dc; ten surges at 1 for each minute; t_p = 1 μs; I_{FSM} = 2.0 A (pk)				
	Electrical measurements		Table I, subgroup 2				

1/ For sampling plan, see MIL-PRF-19500.
2/ Not applicable to JANC.

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

Inspection	MIL–STD–750		Qualification inspection
	Method	Conditions	
Subgroup 1			n = 45, c = 0
Thermal shock (glass strain)	1056	100 cycles 0°C to 100°C	
Temperature cycling	1051	500 cycles, -65°C to +175°C	
Hermetic seal	1071	Gross leak only	
Electrical measurement		See table I, subgroup 2	
Subgroup 2			
Intermittent operating life	1037	10,000 cycles	
Electrical measurements		See table I, subgroup 2	
Subgroup 4			
Thermal impedance curves		See MIL-PRF-19500	
Subgroup 5			
Not applicable			
Subgroup 6			n = 3
ESD	1020		
Subgroup 8			n = 45
Resistance to glass cracking	1057	Test condition B. Test until failure occurs or to a maximum of 25 cycles, whichever comes first.	
Subgroup 9			n = 22, c = 0
Monitored mission temperature cycling	1055		
Electrical measurements		See table I, subgroup 2	

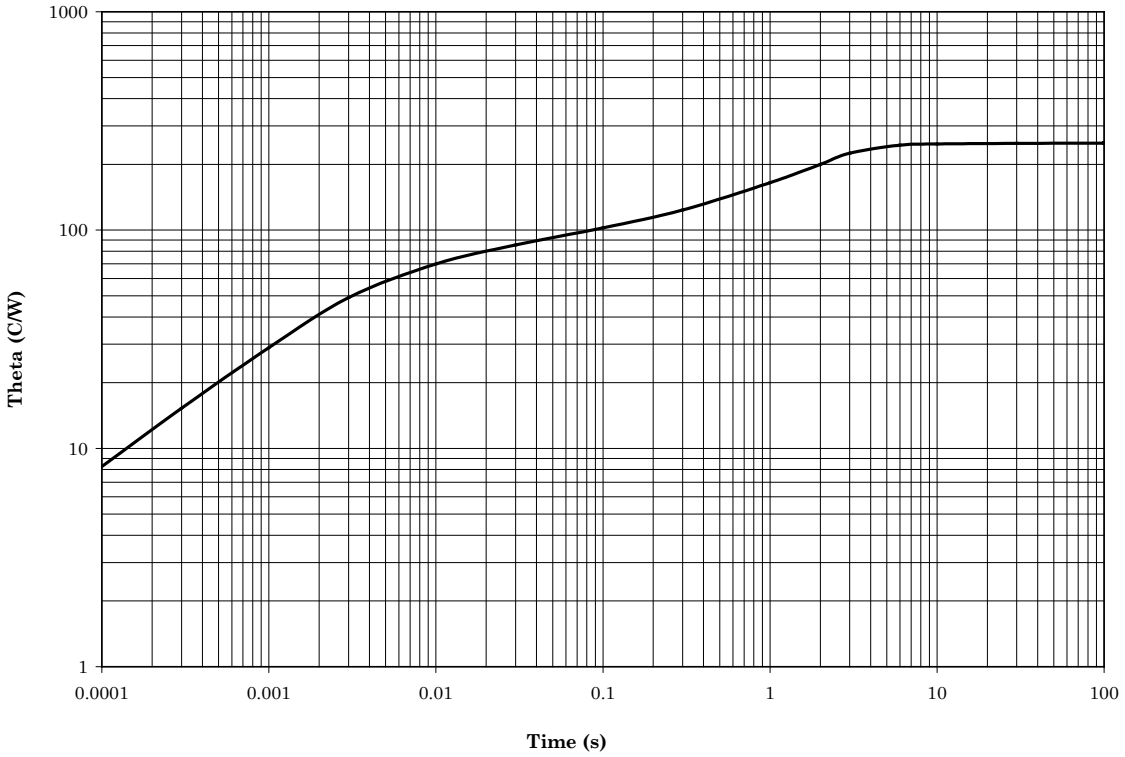


NOTES:

1. This is the true inverse of the worst case thermal resistance value. All devices are capable of operating at ≤ T_J specified on this curve. Any parallel line to this curve will intersect the appropriate power for the desired maximum T_J allowed.
2. Derate design curve constrained by the maximum junction temperature (T_J ≤ 175°C) and current rating specified (see 1.3).
3. Derate design curve chosen at T_J ≤ 150°C, where the maximum temperature of electrical test is performed.
4. Derate design curves chosen at T_J ≤ 125°C, and 110°C to show current rating where most users want to limit T_J in their application.

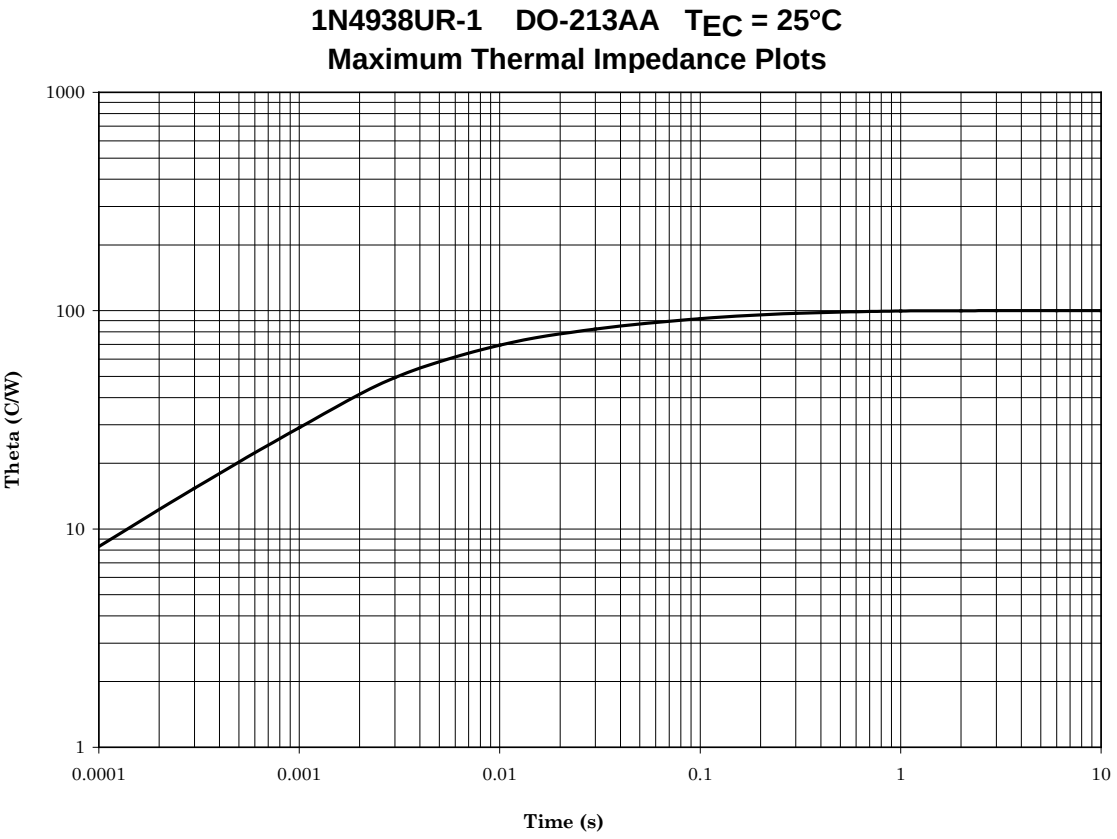
FIGURE 6. Temperature-current derating graph (all devices).

1N4938-1, 1N4938 DO-35 Axial T_L = 25°C
Maximum Thermal Impedance Plots



$R_{\theta JL}$ = 250°C/W
NOTE: $Z_{\theta JX}$ = 70°C/W maximum at t_H = 10ms.

FIGURE 7. Thermal impedance (axial leads).



$R_{\theta JEC}$ = 100°C/W

NOTE: $Z_{\theta JX}$ = 70°C/W maximum at t_H = 10ms.

FIGURE 8. Thermal impedance (MELF surface mount).

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:

a. Title, number, and date of this specification.

b. Packaging requirements (see 5.1).

c. Lead finish (see 3.4.1).

* d. The complete Part or Identifying Number (PIN), see title and section 1.

e. Destructive physical analysis when requested.

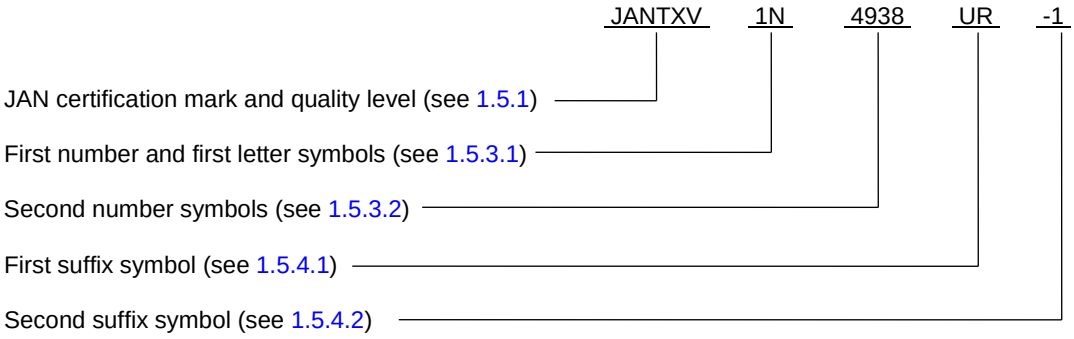
* 6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List (QML 19500) whether or not such products have actually been so listed by that date. The attention 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, 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://assist.dla.mil.

6.4 Substitution information. Device types 1N3070, 1N3070-1, 1N3070UR-1, and 1N4938 are inactive for new design as of the date of this specification. The 1N4938-1 devices are a direct substitute and preferred for the 1N3070-1 and non dash-one devices. The following table shows the direct substitutability.

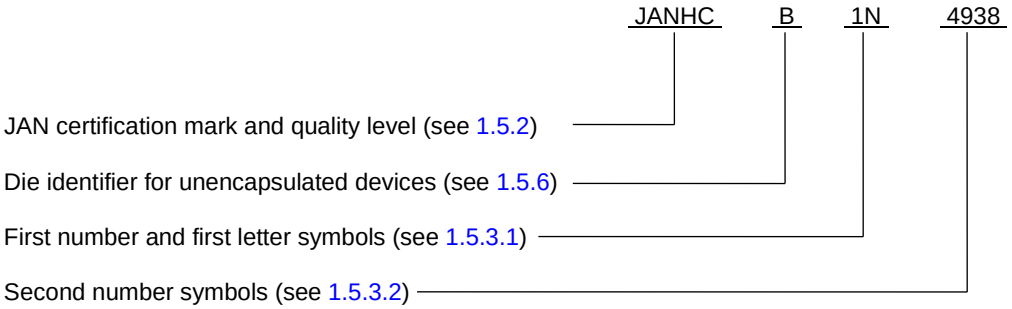
Superseded part number	Superseding part number
1N3070	1N4938-1
1N3070-1	1N4938-1
1N4938	1N4938-1
1N3070UR-1	1N4938UR-1

* 6.5 PIN construction example.

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



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



* 6.6 List of PINs. The following is a list of possible PINs available on this specification sheet.

PINs for types1N3070		PINs for types1N4938	
JAN1N3070	(1)	JAN1N4938	(1)
JAN1N3070-1	(1)	JAN1N49381-1	
JAN1N3070UR-1	(1)	JAN1N4938UR-1	
JANTX1N3070	(1)	JANTX1N4938	(1)
JANTX1N3070-1	(1)	JANTX1N4938-1	
JANTX1N3070UR-1	(1)	JANTX1N4938UR-1	
JANTXV1N3070	(1)	JANTXV1N4938	(1)
JANTXV1N3070-1	(1)	JANTXV1N4938-1	
JANTXV1N3070UR-1	(1)	JANTXV1N4938UR-1	

*(1) Device types 1N3070, 1N3070-1, 1N3070UR-1, and 1N4938 are inactive for new design

* 6.7 List of PINs for unencapsulated devices. The following is a list of possible PINs available on this specification sheet. The qualified die suppliers with the applicable letter version (e.g., JANHCA1N4938, JANHCB1N4938) will be identified on the QML.

Die ordering information	
PIN	Manufacturer
	43611
1N4938	JANHCA1N4938, JANKCA1N4938 JANHCB1N4938, JANKCB1N4938

* 6.7 Changes from previous issue. The margins of this specification are marked with asterisks 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 previous issue.

Custodians:
Army - CR
Navy - EC
Air Force - 85
NASA - NA
DLA - CC

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

Preparing activity:
DLA - CC

(Project 5961-2014-104)

* 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.