

## PERFORMANCE SPECIFICATION

SEMICONDUCTOR DEVICE, DIODE, SILICON, DUAL SCHOTTKY CENTER TAP  
POWER RECTIFIER, SURFACE MOUNTED,  
TYPES 1N6840U3 AND 1N6841U3, JAN, JANTX, JANTXV, JANS

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

## 1. SCOPE

1.1 Scope. This specification covers the performance requirements for silicon, dual Schottky power rectifier in a surface mount package. Four levels of product assurance are provided for each device type as specified in MIL-PRF-19500.

1.2 Physical dimensions. See figure 1 (U3, similar to SMD.5).

1.3 Maximum ratings.

| Type   | $V_{RWM}$ | $I_o$ (1)<br>$T_C = +100\text{ }^\circ\text{C}$ | $I_{FSM}$<br>$T_C = +25\text{ }^\circ\text{C}$<br>$t_p = 8.3\text{ ms}$ | $C_J$<br>at 5 V | $T_{STG}$ and $T_J$ |
|--------|-----------|---|---|-----------------|---------------------|
|        | <u>V</u>  | <u>A dc</u>                                     | <u>A (pk)</u>   | <u>pF</u>       | <u>°C</u>           |
| 1N6840 | 35        | 10  | 200   | 400             | -65 to +150         |
| 1N6841 | 45        | 10  | 200   | 400             | -65 to +150         |

- (1) Derate linearly at 200 mA/°C from  $T_J = T_C = +100^\circ\text{C}$  to +150°C.
- (2) Each individual diode.
- (3) Total package limited to 20 A.

1.4 Primary electrical characteristics.  $R_{\theta JC} = 2.8^\circ\text{C/W}$  maximum on each leg.

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

## 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

##### DEPARTMENT OF DEFENSE

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

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Defense Automated Printing Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, 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, 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 requirements for acquiring the product described herein shall consist of this document and MIL-PRF-19500.

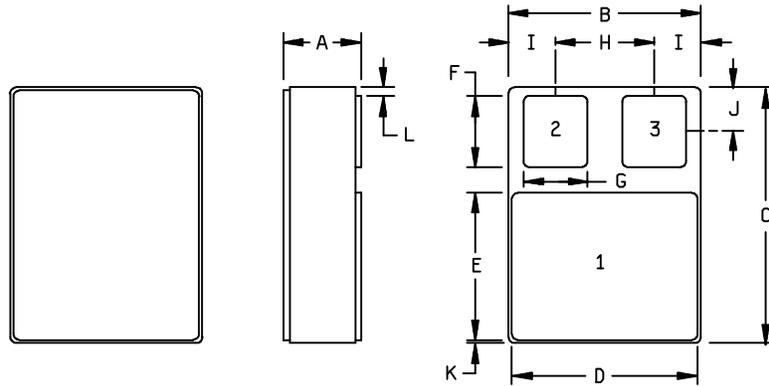
3.2 Qualification. Devices furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturer's list (QML) before contract award (see 4.X and 6.X).

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 figure 1 herein. The US government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound units, the inch-pound units shall take precedence.

3.4.1 Polarity. Polarity and terminal configuration shall be in accordance with figure 1 herein.

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



| Symbol | Dimensions |       |             |       |
|--------|------------|-------|-------------|-------|
|        | Inches     |       | Millimeters |       |
|        | Min        | Max   | Min         | Max   |
| A      | 0.111      | 0.122 | 2.82        | 3.10  |
| B      | 0.291      | 0.301 | 7.39        | 7.65  |
| C      | 0.395      | 0.405 | 10.03       | 10.29 |
| D      | 0.281      | 0.291 | 7.14        | 7.39  |
| E      | 0.220      | 0.230 | 5.59        | 5.84  |
| F      | 0.115      | 0.125 | 2.92        | 3.18  |
| G      | 0.090      | 0.100 | 2.29        | 2.54  |
| H      | 0.125      | 0.135 | 3.68        | 3.94  |
| I      | 0.073 TYP. | -     | 1.85 TYP.   | -     |
| J      | 0.083 TYP. | -     | 2.11 TYP.   | -     |
| K      | 0.005 TYP. | -     | 0.13 TYP.   | -     |
| L      | 0.015 TYP. | -     | 0.38 TYP.   | -     |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Terminal 1 is common cathode.
4. Terminal 2 is anode 1.
5. Terminal 3 is anode 2.

SCHEMATIC

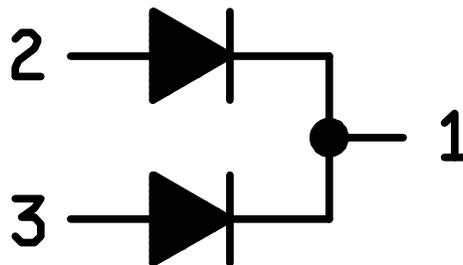


FIGURE 1. Physical dimensions and configuration (U3, similar to SMD.5).

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

3.7 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table I, group A 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.

4.3 Screening (JANTX, JANTXV and JANS levels only). Screening shall be in accordance with 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 table IV of MIL-PRF-19500) | Measurement   |  |
|--|---|--|
|  | JANS level  | JANTX and JANTXV levels  |
| 3c (1)                                 | Method 3101 (see 4.3.2).  | Method 3101 (see 4.3.2).   |
| 9 and 10                               | Not applicable  | Not applicable   |
| 11                                     | $V_{F2}$ and $I_{R1}$   | $V_{F2}$ and $I_{R1}$  |
| 12                                     | Condition A. See 4.3.1, t = 240 hours.  | Condition A. See 4.3.1, t = 48 hours.  |
| 13                                     | Subgroups 2 and 3 of table I herein; $\Delta V_{F2} = \pm 50$ mV, $\Delta I_{R1} = 100$ percent of initial value or 25 $\mu$ A, whichever is greater. | Subgroup 2 of table I herein; $\Delta V_{F2} = \pm 50$ mV, $\Delta I_{R1} = 100$ percent of initial value or 25 $\mu$ A, whichever is greater. |

(1) Shall be performed anytime after screen 3.

4.3.1 Power burn-in conditions. Burn-in conditions are as follows: MIL-STD-750 method 1038, test condition A.  $T_C = + 125^\circ\text{C}$ ;  $V_R = 80$  percent of rated  $V_{RWM}$  dc.

4.3.2 Thermal impedance ( $Z_{\theta JX}$  measurements) The  $Z_{\theta JX}$  measurements shall be performed in accordance with MIL-STD-750, method 3101. The maximum limit and conditions for  $Z_{\theta JX}$  in screening (appendix E, table IV of MIL-PRF-19500) shall be derived by each vendor by means of process control of actual measurements which characterizes the die attach process. When three lot date codes have exhibited control, the data from these three lots will be used to establish a fixed screening limit (not exceed the group A limit). Once a fixed limit has been established, monitor all future sealing lots using a sample from each lot to be plotted on the applicable SPC chart.

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, limits and thermal response curve shall be supplied to the qualifying activity on the qualification lot prior to qualification approval.

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, and table I herein. Electrical measurements (end points) shall be as specified in table I subgroup 2 herein. The following test conditions shall be used for  $Z_{\theta JX}$  , group A inspection:

- a.  $I_M$  measurement current                      10 mA.
- b.  $I_H$  forward heating current                    10-20 A.
- c.  $t_M$  heating time                                    10 ms.
- d.  $t_{MD}$  measurement delay time                100  $\mu\text{s}$  maximum.

The maximum limit for  $Z_{\theta JX}$  under these test conditions are  $Z_{\theta JX} ( \text{max} ) = 2.7 \text{ }^\circ\text{C/W}$  per side.

4.4.2 Group B inspection. Group B inspection shall be conducted in accordance with the conditions specified for subgroup testing in table VIa (JANS) and table VIb (JAN, JANTX and JANTXV) of MIL-PRF-19500, and as follows. Electrical measurements (end points) shall be in accordance with Table I subgroup 2 herein. Delta requirements shall be in accordance with Table III herein.

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

| <u>Subgroup</u> | <u>Method</u> | <u>Condition</u>   |
|-----------------|---------------|--|
| B3              | 4066          | $I_{FSM} = 200 \text{ A}$ ; 1 surge of 8.3 ms superimposed on $I_O$ . Condition A, $T_A = 25^\circ\text{C}$ ; $V_R = 0$ ; $I_O = 10 \text{ A}$ continuous half-wave. |
| B4              | 1037          | Each diode: $I_F$ or $I_O = 2 \text{ A}$ (minimum) $\Delta T_J = 85^\circ\text{C}$ , $+ 15^\circ\text{C}$ , $- 5^\circ\text{C}$ for 2,000 cycles minimum.            |
| B5              | 1038          | Condition B, $T_{JMAX} = +150^\circ\text{C}$ , $T_A = 100^\circ\text{C}$ , 240 hrs.  |
| B6              | 3101          | Limit for thermal resistance is $2.80^\circ\text{C/W}$ per side.   |

4.4.2.2 Group B inspection, table VIb (JANTX and JANTXV) of MIL-PRF-19500.

| <u>Subgroup</u> | <u>Method</u> | <u>Condition</u>   |
|-----------------|---------------|--|
| B2              | 4066          | $I_{FSM} = 200 \text{ A}$ ; 1 surge of 8.3 ms superimposed on $I_O$ . Condition A, $T_A = 25^\circ\text{C}$ ; $V_R = 0$ ; $I_O = 10\text{A}$ continuous half-wave. |
| B3              | 1037          | Each diode: $I_F$ or $I_O = 2 \text{ A}$ ( minimum ) $\Delta T_J = 85^\circ\text{C}$ , $+15^\circ\text{C}$ , $-5^\circ\text{C}$ for 2,000 cycles minimum.          |
| B5              |               | Not applicable.  |

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

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

| <u>Subgroup</u> | <u>Method</u> | <u>Condition</u>  |
|-----------------|---------------|---|
| C3              | 2006          | Conditions are as follows: $X_1$ , $Y_1$ , $Z_1$ and $Z_2$ axis.  |
| C5              | 3101          | $R_{\theta JC} = 2.80^\circ\text{C/W}$ maximum, per side.   |
| C6              | 1037          | Each diode: $I_F$ or $I_O = 2 \text{ A}$ ( minimum ) $\Delta T_J = 85^\circ\text{C}$ , $+15^\circ\text{C}$ , $-5^\circ\text{C}$ for 6,000 cycles minimum. |

4.4.4 Group E inspection. Group E inspection shall be performed for qualification or requalification only. The tests specified in table II herein must be performed to maintain qualification.

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.

4.5.2 Thermal resistance. Thermal resistance shall be measured as follows in accordance with method 3101.

- a.  $I_M$ ..... 10 mA.
- b.  $I_H$ ..... 5 - 10 A.
- c.  $t_{MD}$ ..... 100  $\mu\text{s}$  maximum.
- d.  $R_{\theta JC}$ .....  $2.80^\circ\text{C/W}$  (maximum per side).

TABLE I. Group A inspection.

| Inspection <u>1/ 2/</u>                     | MIL-STD-750 |  | Symbol          | Limit |      | Unit             |
|---|-------------|--|-----------------|-------|------|------------------|
|   | Method      | Conditions   |                 | Min   | Max  |                  |
| <u>Subgroup 1</u>                           |             |  |                 |       |      |                  |
| Visual and mechanical inspection            | 2071        |  |                 |       |      |                  |
| <u>Subgroup 2</u>                           |             |  |                 |       |      |                  |
| Thermal impedance <u>3/</u>                 | 3101        | See 4.4.1  | $Z_{\theta JX}$ |       | 2.70 | °C/W             |
| Forward voltage                             | 4011        | $I_{FM} = 3 \text{ A (dc) pulsed (see 4.5.1).}$                                      | $V_{F1}$        |       | 0.62 | V dc             |
|   |             | $I_{FM} = 10 \text{ A (dc) pulsed (see 4.5.1).}$                                     | $V_{F2}$        |       | 0.75 | V dc             |
|   |             | $I_{FM} = 20 \text{ A (dc) pulsed (see 4.5.1).}$                                     | $V_{F3}$        |       | 0.88 | V dc             |
| Reverse current leakage<br>1N6840<br>1N6841 | 4016        | DC method, ( see 4.5.1.)<br>$V_R = 35 \text{ V dc}$<br>$V_R = 45 \text{ V dc}$       | $I_{R1}$        |       | 100  | $\mu\text{A dc}$ |
| <u>Subgroup 3</u>                           |             |  |                 |       |      |                  |
| High temperature operation:                 |             | $T_A = +100^\circ\text{C}$   |                 |       |      |                  |
| Reverse current leakage<br>1N6840<br>1N6841 | 4016        | DC method, pulsed (see 4.5.1).<br>$V_R = 35 \text{ V dc}$<br>$V_R = 45 \text{ V dc}$ | $I_{R2}$        |       | 15   | mA dc            |
| Forward voltage                             | 4011        | $I_F = 10 \text{ A pulsed (see 4.5.1)}$  | $V_{F4}$        |       | 0.63 | V dc             |
|   |             | $I_F = 20 \text{ A pulsed (see 4.5.1)}$  | $V_{F5}$        |       | 0.70 |                  |
| Forward voltage                             | 4011        | $T_A = -55^\circ\text{C}$<br>Pulsed (see 4.5.1), $I_F = 10 \text{ A (dc).}$          | $V_{F6}$        |       | 0.85 | V dc             |

See footnotes at end of table.

TABLE I. Group A inspection - Continued.

| Inspection <u>1/</u> <u>2/</u>  | MIL-STD-750 |   | Symbol   | Limit |     | Unit          |
|---|-------------|---|----------|-------|-----|---------------|
|   | Method      | Conditions  |          | Min   | Max |               |
| <u>Subgroup 4</u><br>Junction capacitance   | 4001        | $V_R = 5 \text{ V dc}$ ; $f = 1 \text{ MHz}$ ,<br>$V_{SIG} = 50 \text{ mV (p-p)}$ (max) | $C_J$    |       | 400 | pF            |
| <u>Subgroup 5</u><br>Insulation resistance<br>(Dielectric<br>withstanding<br>voltage) | 1016        | $V_R = 600 \text{ V dc}$ ; from lid to bottom<br>case. All terminals shorted.           | $D_{WV}$ |       | 10  | $\mu\text{A}$ |
| <u>Subgroup 6 and 7</u><br>Not applicable   |             |   |          |       |     |               |

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

2/ All measurements are for each side.

3/ If 4.4.1 test conditions are performed in 100 percent screening, this test need not be performed in group A.

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

| Inspection                           | MIL-STD-750 |  | Qualification Inspection |
|--------------------------------------|-------------|--|--------------------------|
|                                      | Method      | Conditions   |                          |
| <u>Subgroup 1</u>                    |             |  | 38 devices, c = 0        |
| Thermal shock (temperature cycling)  | 1051        | 500 cycles. Condition G  |                          |
| Hermetic seal                        | 1071        |  |                          |
| Electrical measurements              |             | See table I, subgroup 2.   |                          |
| <u>Subgroup 2</u>                    |             |  | 38 devices, c = 0        |
| Burn-in (steady-state blocking life) | 1038        | t = 1,000 hours, T <sub>J</sub> = + 125°C; V <sub>R</sub> = 80% of rated V <sub>RWM</sub>  |                          |
| Electrical measurements              |             | See table I, subgroup 2.   |                          |
| <u>Subgroup 3</u>                    |             |  |                          |
| Not applicable                       |             |  |                          |
| <u>Subgroup 4</u>                    |             |  | 5 devices, c = 0         |
| Thermal resistance                   | 3101        | See 4.5.2, R <sub>θJC</sub> = 2.80°C/W   |                          |
| <u>Subgroup 5</u>                    |             |  | 5 devices, c = 0         |
| Surge                                | 4066        | Condition A, T <sub>A</sub> = +25°C I <sub>FSM</sub> = 200 A, 1 surge of 8.3 ms superimposed on I <sub>O</sub> . V <sub>R</sub> = 0; I <sub>O</sub> = 10 A pk half sine wave, continuous |                          |
| Electrical measurements              |             | See table I, subgroup 2.   |                          |

TABLE III. Groups B and C, delta measurement. 1/ 2/ 3/

| Step | Inspection              | MIL-STD-750 |                                      | Symbol          | Limits |  | Unit |
|------|-------------------------|-------------|--------------------------------------|-----------------|--------|--|------|
|      |                         | Method      | Conditions                           |                 | Min    | Max  |      |
| 1.   | Forward voltage         | 4011        | $I_F = 10$ A (pk) pulsed (see 4.5.1) | $\Delta V_{F2}$ |        | $\pm 50$   | mV   |
| 2.   | Reverse current leakage | 4016        | DC method<br>$V_R = V_{RWM}$         | $\Delta I_{R1}$ |        | 25 $\mu$ A or 100 percent of initial reading, which ever is greater. |      |

1/ The electrical measurements for table VIa (JANS) of MIL-PRF-19500 are as follows:

- a. Subgroup 3, see table III herein, steps 1 and 2.
- b. Subgroup 4, see table III herein, steps 1 and 2.
- c. Subgroup 5, see table III herein, steps 1 and 2.

2/ The electrical measurements for table VIb (JAN, JANTX and JANTXV) of MIL-PRF-19500 are as follows:

- a. Subgroup 2, see table III herein, steps 1 and 2.
- b. Subgroup 3, see table III herein, steps 1 and 2.
- c. Subgroup 6, see table III herein, steps 1 and 2.

3/ The electrical measurements for table VII of MIL-PRF-19500 are as follows:

- a. Subgroups 2 and 3, see table III herein, steps 1 and 2 for all levels.
- b. Subgroup 6, see table III herein, steps 1 and 2 for all levels.

## 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 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.

## 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. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2).
- c. Packaging requirements (see 5.1).
- d. Type designation and quality assurance level.

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) 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 Defense Supply Center, Columbus, ATTN: DSCC-VQE, P.O. Box 3990, Columbus, OH 43216-5000.

Custodians:  
Navy - EC  
NASA - NA  
DLA - CC

Preparing activity:  
DLA - CC  
  
(Project 5961-2261)

**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.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

|                              |                    |                  |
|------------------------------|--------------------|------------------|
| <b>I RECOMMEND A CHANGE:</b> | 1. DOCUMENT NUMBER | 2. DOCUMENT DATE |
|                              | MIL-PRF-19500/678  | 000701           |

3. **DOCUMENT TITLE**  
 SEMICONDUCTOR DEVICE, DIODE, SILICON, DUAL SCHOTTKY CENTER TAP POWER RECTIFIER, SURFACE MOUNTED TYPES 1N6840U3 AND 1N6841U3 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)  | 7. DATE SUBMITTED |
|                                       | COMMERCIAL<br>DSN<br>FAX<br>EMAIL |                   |

8. PREPARING ACTIVITY

|                                    |  |
|------------------------------------|--|
| a. Point of Contact<br>Alan Barone | b. TELEPHONE<br>Commercial      DSN      FAX      EMAIL<br>614-692-0510    850-0510    614-692-6939    alan_barone@dsccl.dla.mil |
|------------------------------------|--|

|   |   |
|---|---|
| c. ADDRESS<br>Defense Supply Center Columbus, ATTN:<br>DSCC-VAC, 3990 East Broad Street, Columbus,<br>OH 43216-5000 | IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:<br>Defense Standardization Program Office (DLSC-LM)<br>8725 John J. Kingman, Suite 2533, Fort Belvoir, VA 22060-6221<br>Telephone (703) 767-6888    DSN 427-6888 |
|---|---|