

The documentation and process conversion measures necessary to comply with this amendment shall be completed by 8 July 2002.

INCH-POUND

MIL-PRF-19500/477D
AMENDMENT 1
8 April 2002

PERFORMANCE SPECIFICATION

SEMICONDUCTOR DEVICE, DIODE, SILICON, FAST RECOVERY, POWER RECTIFIER,
TYPES 1N5802, 1N5804, 1N5806, 1N5807, 1N5809, AND 1N5811,
1N5802US, 1N5804US, 1N5806US, 1N5807US, 1N5809US, AND 1N5811US
JAN, JANTX, JANTXV, JANJ, JANS, JANHC, AND JANKC

This amendment forms a part of MIL-PRF-19500/477D, dated 18 October 2001, and is approved for use by all Departments and Agencies of the Department of Defense.

The attached insertable replacement pages listed below are replacements for stipulated pages. When the new pages have been entered in the document, insert the amendment as the cover sheet to the specification.

<u>Replacement page</u>	<u>Pages Replaced</u>
24	24
25	reprinted without change

PAGE 15

4.4, delete and substitute:

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

4.4.2.1, delete and substitute:

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

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B4	1037	$I_O = I_{O2}$ rated minimum (see 1.3.2); $V_R =$ rated V_{RWM} (see 1.3.2 and 4.5.5); 2,000 cycles.
B5	1027	$I_O = I_{O2}$ rated minimum (see 1.3.2); apply $V_R =$ rated V_{RWM} (see 1.3.2 and 4.5.5) adjust T_A and / or I_O to achieve T_J minimum; $f = 50-60$ Hz; $n = 45$ $c = 0$. Option 1: $T_A = + 50^\circ\text{C}$ max. ; $T_J = 225^\circ\text{C}$ minimum; $t = 216$ hours. or Option 2: $T_A = + 35^\circ\text{C}$ max. ; $T_J = 200^\circ\text{C}$ minimum; $t = 1,000$ hours.
B6	3101 or 4081	$R_{\theta JL}$ and $R_{\theta JEC}$ (maximum) (see 1.3.2 and 4.5.1 herein).

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4.4.2.2; delete and substitute:

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

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B3	1027	$I_O = I_{O2}$ rated minimum (see 1.3.2); $T_A = +35^\circ\text{C}$ max. adjust T_A and I_O to achieve the required T_J apply $V_R =$ rated V_{RWM} (see 1.3.2), $f = 50\text{-}60$ Hz (see 4.3.1.1).”

4.4.3.1, C2, conditions column; add “t = 15 s.”

4.4.3.1, subgroup C6; delete and substitute:

“C6	1027	$I_O = I_{O2}$ rated minimum (see 1.3.2); $T_A = +35^\circ\text{C}$ max. adjust T_A and I_O to achieve the required T_J apply $V_R =$ rated V_{RWM} (see 1.3.2), $f = 50\text{-}60$ Hz (see 4.3.1.1).”
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4.5.6, delete.

PAGE 21

TABLE I, subgroup 6; delete and substitute:

<u>Subgroup 6</u>						
Surge	4066	$I_{FSM} =$ rated (see 1.3.2); 10 surges of 8.3 ms each at 1 minute intervals superimposed on $I_O = I_{O2}$ rated (see 1.3.2); $V_{RWM} =$ rated (see 1.3.2); $T_A = +25^\circ\text{C}$.				
Electrical measurements		See table I, group A, subgroup 2, except $Z_{\theta JX}$ need not to be performed.				

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TABLE II, subgroups 5 and 6; delete and substitute:

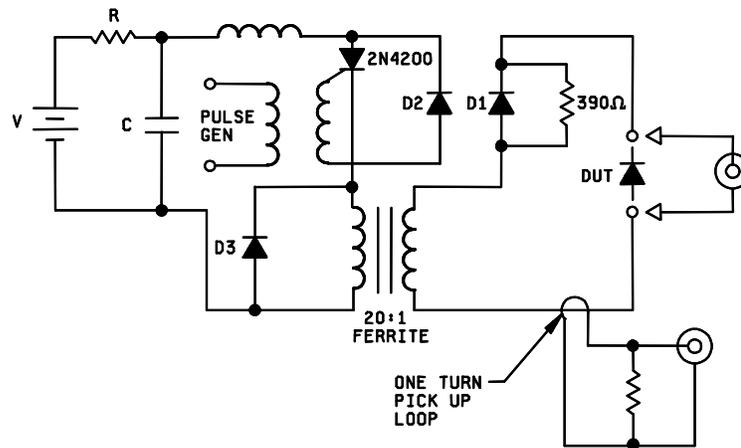
<u>Subgroup 5</u>			
Not applicable			
<u>Subgroup 6</u>			22 devices c = 0
Surge	4066	I_{FSM} = rated (see 1.3.2); 10 surges of 8.3 ms each at 1 minute intervals superimposed on $I_O = I_{O2}$ rated (see 1.3.2); V_{RWM} = rated (see 1.3.2); $T_A = + 25^\circ\text{C}$.	
Electrical measurement		See table I, group A, subgroup 2, except $Z_{\theta JX}$ need not to be performed.	
<u>Subgroup 7</u>			22 devices c = 0
Peak reverse power		See 4.5.4 and figure 12 herein. P_{RM} = shall be characterized by the supplier and this data shall be available to the government. Test shall be performed on each subplot.	
Electrical measurement		See table I, group A, subgroup 2 and delta limits see Table III, except $Z_{\theta JX}$ need not to be performed.	

Custodians:
Army - CR
Navy - EC
Air Force - 11
NASA - NA
DLA - CC

Preparing activity:
DLA - CC
(Project 5961-2599)

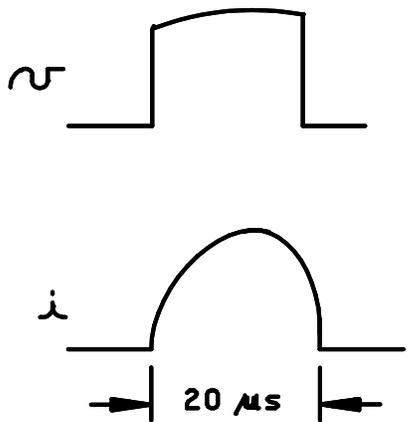
Review activities:
Army - AR, AV, MI, SM
Navy - AS, MC
Air Force - 19, 99

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NOTES:

- L = 13T H22 on 1" diameter form (air core).
- C ~ 1 to 10 μ fd to give 20 μ s pulse width.
- V - Adjustable to 200 volts for power desired in DUT.
- D1 - 3 kV; 600 Ma (1N3647 or equivalent).
- D2, D3 - 600 V; 3A (1N5552 or equivalent).
- * Values not stated are determined at the time of test.



TYPICAL WAVE FORMS

FIGURE 12. Peak reverse power measurement circuit and waveform.

Supersedes page 24 of MIL-PRF-19500/477D
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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 personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. 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.)

6.1 Intended use. 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 2.2.1).
- c. The lead finish as specified (see 3.4.2).
- d. Type designation and quality assurance level.
- e. Packaging requirements (see 5.1).
- f. For die acquisition, the JANHC or JANKC letter version shall be specified (see figures 3, 4, 5, 6, 7, 8, 9 and 10).

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 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 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.

Reprinted without change.