

The documentation and process conversion measures necessary to comply with this revision shall be completed by 10 November 1998.

INCH-POUND

MIL-PRF-19500/495C  
 10 August 1998  
 SUPERSEDING  
 MIL-PRF-19500/495B  
 6 March 1998

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, UNITIZED, DUAL-TRANSISTOR, NPN,  
 SILICON, TYPES 2N5793, 2N5794 AND 2N5794U, JAN, JANTX, AND JANTXV

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 requirements for two electrically isolated, unmatched, NPN, silicon, transistors as one dual unit. Three 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 T0-99) and 2 (surface mount).

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

$P_T$ 1/ $T_A = +25^\circ\text{C}$		$I_C$	$V_{CBO}$	$V_{CEO}$	$V_{EBO}$	$T_{OP}$ and $T_{STG}$
One section	Total device					
<u>W</u>	<u>W</u>	<u>mA dc</u>	<u>V dc</u>	<u>V dc</u>	<u>V dc</u>	<u>°C</u>
0.5	0.6	600	75	40	6.0	-65 to +200

1/ For  $T_A \geq 25^\circ\text{C}$ , derate linearly 2.86 mW/°C one section, 3.43 mW/°C total.

	$C_{obo}$	$ h_{fe} $	Switching	
	$V_{CB} = 10 \text{ V dc}$ $I_E = 0$ $100 \text{ kHz} \leq f \leq 1 \text{ MHz}$	$V_{CE} = 20 \text{ V dc}$ $I_C = 20 \text{ mA dc}$ $f = 100 \text{ MHz}$	$t_{on}$	$t_{off}$
	<u>pF</u>		<u>ns</u>	<u>ns</u>
Minimum		2.0		
Maximum	8.0	10.0	45	310

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 St., Columbus, OH 43216-5000, by using the addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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

	$h_{FE1}$		$h_{FE4}$ <sup>1/</sup>		$V_{CE(sat)1}$ <sup>1/</sup>	$V_{CE(sat)2}$ <sup>1/</sup>	$V_{BE(sat)1}$ <sup>1/</sup>	
Limits	$V_{CE} = 10\text{ V dc}$ $I_C = 100\ \mu\text{A dc}$		$V_{CE} = 10\text{ V dc}$ $I_C = 150\text{ mA dc}$		$I_C = 150\text{ mA dc}$ $I_B = 15\text{ mA dc}$	$I_C = 300\text{ mA dc}$ $I_B = 30\text{ mA dc}$	$I_C = 150\text{ mA dc}$ $I_B = 15\text{ mA dc}$	
	Min	Max	Min	Max	Max	Max	Min	Max
					<u>V dc</u>	<u>V dc</u>	<u>V dc</u>	<u>V dc</u>
2N5793	20		40	120	0.3	0.9	0.6	1.2
2N5794	35		100	300	0.3	0.9	0.6	1.2
2N5794U	35		100	300	0.3	0.9	0.6	1.2

<sup>1/</sup> Pulsed (see 4.5.1).

## 2. APPLICABLE DOCUMENTS

### 2.1 Government documents.

2.1.1 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

##### MILITARY

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

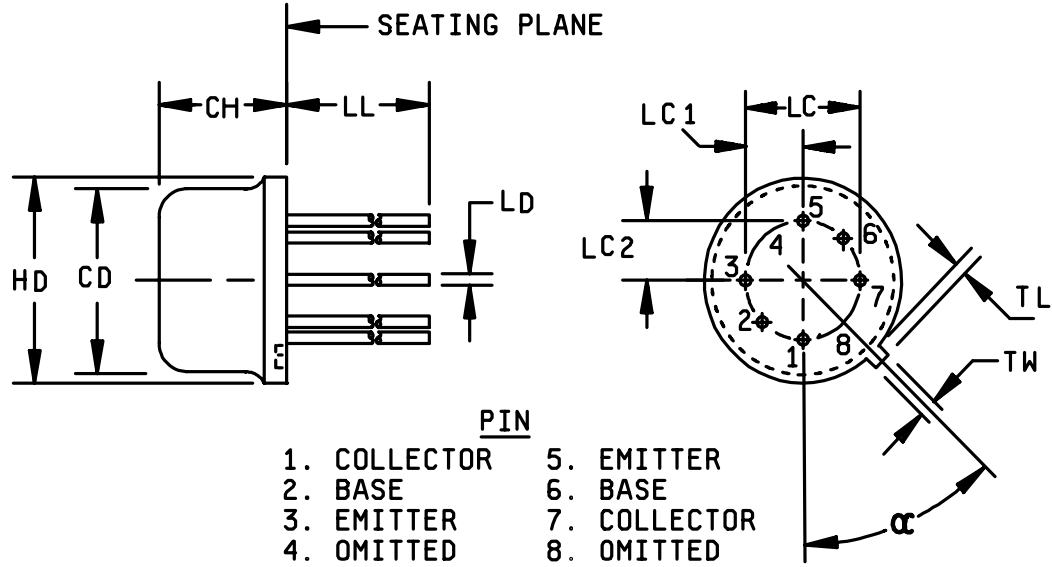
#### STANDARDS

##### MILITARY

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

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

2.2 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 shall take precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

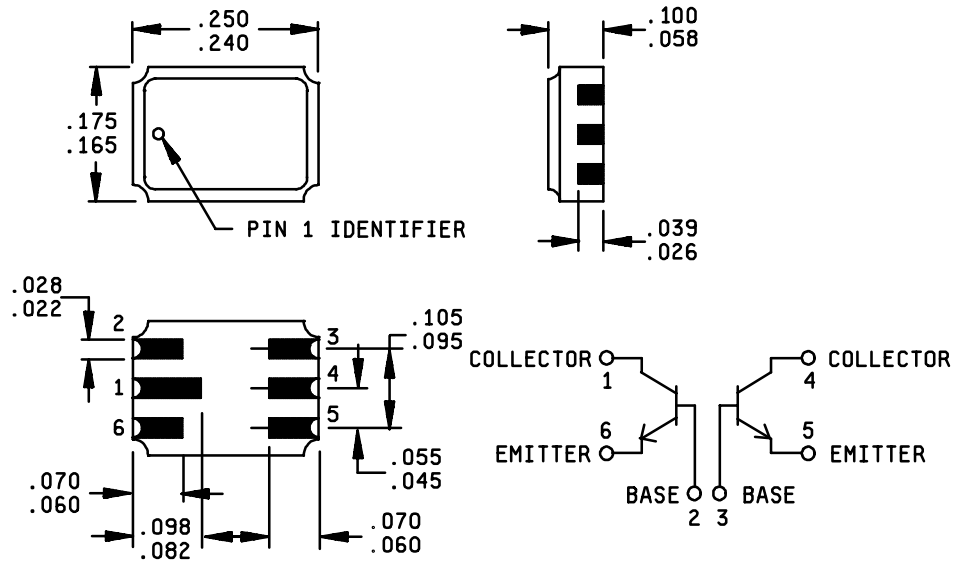


Dimensions					
Symbol	Inches		Millimeters		Note
	Min	Max	Min	Max	
CD	.305	.335	7.75	8.51	
CH	.150	.185	3.81	4.70	
HD	.335	.370	8.51	9.40	
LD	.016	.021	0.41	0.53	
LL	.500		12.70		
LC	.200 BSC		5.08 BSC		2
LC1	.100 BSC		2.54 BSC		
LC2	.100 BSC		2.54 BSC		
TL	.029	.045	0.74	1.14	1
TW	.028	.034	0.71	0.86	
$\alpha$	45° TP		45° TP		4

NOTES:

1. Measured from maximum diameter of the product.
2. Leads having maximum diameter .019 inch (.483 mm) measured in gaging plan .054 inch (1.37 mm) + .001 inch (.025 mm) - .000 inch (.000 mm) below the seating plane of the product shall be within .007 inch (.178 mm) of their true position relative to a maximum width tab.
3. The product may be measured by direct methods or by gauge.
4. Tab centerline.

FIGURE 1. Physical dimensions (2N5793 and 2N5794).



Inches	mm	Inches	mm
.022	0.56	.080	2.03
.026	0.66	.082	2.08
.028	0.71	.095	2.41
.039	0.99	.098	2.49
.045	1.14	.100	2.54
.055	1.40	.105	2.67
.058	1.47	.165	4.19
.060	1.52	.175	4.44
.066	1.68	.240	6.10
.070	1.78	.250	6.35

FIGURE 2. Physical Dimensions (2N5794U).

3. REQUIREMENTS

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

3.2 Abbreviations, symbols, and definitions. Abbreviations, symbols, and definitions used herein shall be as specified in MIL-PRF-19500.

3.3 Interface requirements and physical dimensions. The Interface requirements and physical dimensions shall be as specified in MIL-PRF-19500, MIL-HDBK-6100, and herein.

3.3.1 Lead finish. Lead finish shall be solderable as defined in MIL-PRF-19500, MIL-STD-750, and herein.

3.4 Marking. Marking shall be in accordance with MIL-PRF-19500. At the option of the manufacturer, the marking of the country of origin may be omitted from the body of the device, but shall be retained on the initial container.

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

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

3.7 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 6.4 ).

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 and JANTXV levels only). Screening shall be in accordance with MIL-PRF-19500 (table IV), 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
	JANTX and JANTXV levels
3c	Thermal impedance (see 4.3.2)
9	not applicable
10	48 hours minimum
11	$I_{CBO2}$ and $h_{FE4}$
12	Burn-in (see 4.3.1) 80 hours minimum
13	Subgroup 2 of table I herein; $\Delta I_{CBO2} = 100$ percent of initial value or 5 nA dc; whichever is greater. $\Delta h_{FE4} = \pm 15$ percent of initial value.

4.3.1 Burn-in conditions. Burn-in conditions are as follows:  $T_A$  = Room ambient as defined in the general requirements of MIL-STD-750, paragraph 4.5;

$V_{CB} = 10 - 30$  V dc;  $P_T = 300$  mW each section (600 mW total device).

4.3.2 Thermal impedance ( $Z_{\theta JX}$  measurements). The  $Z_{\theta JX}$  measurements shall be performed in accordance with MIL-STD-750, Method 3131.

- a.  $I_M$  measurement current ----- 5 mA.
- b.  $I_H$  forward heating current ----- 200 mA (min).
- c.  $t_H$  heating time ----- 25 - 30 ms.
- d.  $t_{md}$  measurement delay time ----- 60  $\mu$ s max.
- e.  $V_{CE}$  collector-emitter voltage ----- 10 V dc minimum

The maximum limit for  $Z_{\theta JX}$  under these test conditions are  $Z_{\theta JX} (max) = 72^\circ\text{C/W}$ .

4.4 Conformance inspection. Conformance inspection shall be in accordance with MIL-PRF-19500, and as specified herein. If alternate screening is being performed per MIL-PRF-19500, a sample of screened devices shall be submitted to and pass the requirements of group A1 and A2 inspection only (table VIb, group B, subgroup 1 is not required to be performed again if group B has already been satisfied per 4.4.2).

4.4.1 Group A inspection. Group A inspection shall be conducted in accordance with 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 as follows. Electrical measurements (end-points) and delta requirements shall be after each step below and shall be in accordance with group A, subgroup 2 and 4.5.2 herein. <sup>1/</sup>

Step	Method	Condition
1	1039	Steady-state life: Test condition B, 340 hours, $V_{CB} = 10 - 30$ V dc, $T_J = 150^\circ\text{C}$ min. No heat sink or forced-air cooling on the devices shall be permitted. $n = 45$ devices, $c = 0$
2	1039	The steady state life test of step 1 shall be extended to 1,000 hrs for each die design. Samples shall be selected from a wafer lot every twelve months of wafer production. Group B step 2 shall not be required more than once for any single wafer lot. $n = 45$ , $c = 0$ .
3	1032	High-Temperature life (non-operating), $t = 340$ hours, $T_A = +200^\circ\text{C}$ . $n = 22$ , $c = 0$

<sup>1/</sup> Separate samples may be used for each step. In the event of a group B failure, the manufacturer may pull a new sample at double size from either the failed assembly lot or from another assembly lot from the same wafer lot. If the new "assembly lot" option is exercised, the failed assembly lot shall be scrapped.

4.4.2.1 Group B sample selection. Samples selected from group B inspection shall meet all of the following requirements:

- a. For JAN, JANTX, and JANTXV samples shall be selected randomly from a minimum of three wafers (or from each wafer in the lot) from each wafer lot. See MIL-PRF-19500.
- b. Must be chosen from an inspection lot that has been submitted to and passed group A, subgroup 2, conformance inspection. When the final lead finish is solder or any plating prone to oxidation at high temperature, the samples for life test (group B for JAN, JANTX, and JANTXV) may be pulled prior to the application of final lead finish.

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 (JAN, JANTX, and JANTXV) for group C testing. Electrical measurements (end points) and delta requirements shall be in accordance with group A, subgroup 2 and 4.5.2 herein.

Subgroup	Method	Condition
C2	2036	Test condition E; not applicable for U suffix devices.
C6		Not Applicable

4.4.3.1 Group C sample selection. Samples for subgroups in group C shall be chosen at random from any inspection lot containing the intended package type and lead finish procured to the same specification which is submitted to and passes group A tests for conformance inspection. Testing of a subgroup using a single device type enclosed in the intended package type shall be considered as complying with the requirements for that subgroup.

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

4.5 Method 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 Delta Requirements. Delta requirements shall be as specified below:

Step	Inspection	MIL-STD-750		Symbol	Limit	Unit
		Method	Conditions			
1	Collector-base cutoff current	3036	Bias condition D, $V_{CB} = 50$ V dc	$\Delta I_{CB02}$ <sup>1/</sup>	100% of initial value or 8 nA dc, whichever is greater.	
2	Forward current transfer ratio	3076	$V_{CE} = 10$ V dc; $I_C = 150$ mA dc; pulsed see 4.5.1	$\Delta h_{FE4}$ <sup>1/</sup>	±25% change from initial reading.	

<sup>1/</sup> Devices which exceed the group A limits for this test shall not be accepted.

MIL-PRF-19500/495C

TABLE I. Group A inspection

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u> <u>2/</u>						
Visual and mechanical <u>3/</u> examination	2071	n = 45 devices, c = 0				
Solderability <u>3/</u>	2026	n = 15 leads, c = 0				
Resistance to solvents <u>3/</u> , <u>4/</u>	1022	n = 15 devices, c = 0				
Temperature Cycling <u>3/</u>	1051	Test condition C, 25 cycles. n = 22 devices, c = 0				
Hermetic Seal Fine leak Gross leak	1071	n = 22 devices, c = 0				
Electrical measurements		Group A, subgroup 2				
Bond strength <u>3/</u>	2037	Precondition T <sub>A</sub> = +250°C at t = 24 hrs or T <sub>A</sub> = 300°C at t = 2 hrs n = 11 wires, c = 0				
<u>Subgroup 2</u>						
Collector to base cutoff current	3036	Bias condition D, V <sub>CB</sub> = 75 V dc	I <sub>CBO1</sub>		10	μA dc
Breakdown voltage, collector to emitter	3011	Bias condition D; I <sub>C</sub> = 10 mA dc; pulsed (see 4.5.1)	V <sub>(BR)CEO</sub>	40		V dc
Emitter to base cutoff current	3061	V <sub>EB</sub> = 6 V dc	I <sub>EBO1</sub>		10	μA dc
Collector to base cutoff Current	3036	Bias condition D; V <sub>CB</sub> = 50 V dc	I <sub>CBO2</sub>		10	nA dc
Emitter to base cutoff current	3061	Bias condition D; V <sub>EB</sub> = 4 V dc	I <sub>EBO2</sub>		10	nA dc
Forward-current transfer ratio	3076	V <sub>CE</sub> = 10 V dc; I <sub>C</sub> = 0.1 mA dc	h <sub>FE1</sub>			
2N5793 2N5794, 2N5794U				20 35		
Forward-current transfer ratio	3076	V <sub>CE</sub> = 10 V dc; I <sub>C</sub> = 1.0 mA dc	h <sub>FE2</sub>			
2N5793 2N5794, 2N5794U				25 50		
Forward-current transfer ratio	3076	V <sub>CE</sub> = 10 V dc; I <sub>C</sub> = 10 mA dc pulsed (see 4.5.1)	h <sub>FE3</sub>			
2N5793 2N5794, 2N5794U				35 75		

See footnotes at end of table.



TABLE I. Group A inspection

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 2</u> - Continued						
Forward-current transfer ratio 2N5793 2N5794, 2N5794U	3076	$V_{CE} = 10 \text{ V dc}; I_C = 150 \text{ mA dc};$ pulsed (see 4.5.1)	$h_{FE4}$	40 100	120 300	
Forward-current transfer ratio 2N5793 2N5794, 2N5794U	3076	$V_{CE} = 10 \text{ V dc}; I_C = 300 \text{ mA dc};$ pulsed (see 4.5.1)	$h_{FE5}$	25 40		
Forward-current transfer ratio 2N5793 2N5794, 2N5794U	3076	$V_{CE} = 1.0 \text{ V dc}; I_C = 150 \text{ mA dc};$ pulsed (see 4.5.1)	$h_{FE6}$	20 50		
Collector-emitter saturation voltage	3071	$I_C = 150 \text{ mA dc}; I_B = 15 \text{ mA dc}$ pulsed (see 4.5.1)	$V_{CE(sat)1}$		0.3	V dc
Collector-emitter saturation voltage	3071	$I_C = 300 \text{ mA dc}; I_B = 30 \text{ mA dc};$ pulsed (see 4.5.1)	$V_{CE(sat)2}$		0.9	V dc
Base-emitter saturation voltage	3066	Test condition A; $I_C = 150 \text{ mA dc};$ $I_B = 15 \text{ mA dc};$ pulsed (see 4.5.1)	$V_{BE(sat)1}$	0.6	1.2	V dc
Base-emitter saturation voltage	3066	Test condition A; $I_C = 300 \text{ mA dc};$ $I_B = 30 \text{ mA dc};$ pulsed (see 4.5.1)	$V_{BE(sat)2}$		1.8	V dc
<u>Subgroup 3</u>						
High temperature operation		$T_A = +150^\circ\text{C}$				
Collector to base cutoff current	3036	Bias condition D; $V_{CB} = 50 \text{ V dc}$	$I_{CBO3}$		10	$\mu\text{A dc}$
Low temperature operation		$T_A = -55^\circ\text{C}$				
Forward-current transfer ratio 2N5793 2N5794, 2N5794U	3076	$V_{CE} = 10 \text{ V dc}; I_C = 150 \text{ mA dc}$	$h_{FE7}$	16 40		
<u>Subgroup 4</u>						
Magnitude of small-signal short-circuit forward current transfer ratio	3306	$V_{CE} = 20 \text{ V dc}; I_C = 20 \text{ mA dc};$ $f = 100 \text{ MHz}$	$ h_{fe} $	2	10	
Open circuit Output capacitance	3236	$V_{CB} = 10 \text{ V dc}; I_E = 0;$ $100 \text{ kHz} \leq f \leq 1 \text{ MHz}$	$C_{obo}$		8	pF

See footnotes at end of table.

TABLE I. Group A inspection - continued

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 4 - Continued</u>						
Input capacitance (output open- circuited)	3240	$V_{EB} = 0.5 \text{ V dc}; I_C = 0;$ $100 \text{ kHz} \leq f \leq 1 \text{ MHz}$	$C_{ibo}$		33	pF
Pulse response	3251	Test condition A, (see figure 3)				
Saturated turn-on time		$V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc};$ $I_{B1} = 15 \text{ mA dc}, V_{BE(OFF)} = 0.5 \text{ V dc}$	$t_{on}$		45	ns
Saturated turn-off time		$V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc};$ $I_{B1} = I_{B2} = 15 \text{ mA dc}$	$t_{off}$		310	ns
<u>Subgroups 5 and 6</u>						
Not required						
<u>Subgroup 7</u>						
Decap internal visual (design verification)	2075	$n = 1 \text{ device}, c = 0$				

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

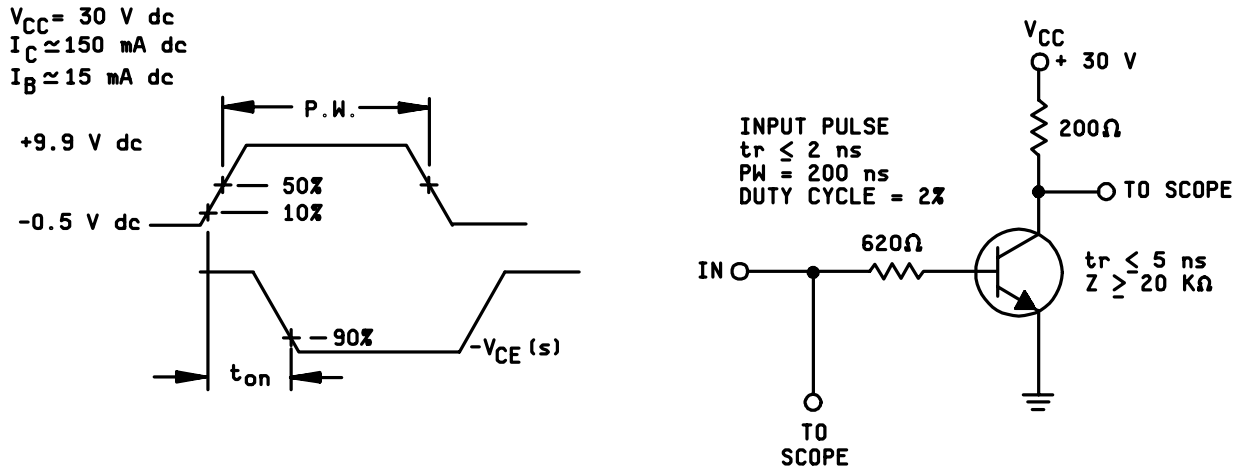
2/ For resubmission of failed subgroup A1, double the sample size of the failed test or sequence of tests. A failure in group A, subgroup 1 shall not require retest of the entire subgroup. Only the failed test shall be rerun upon submission.

3/ Separate samples may be used.

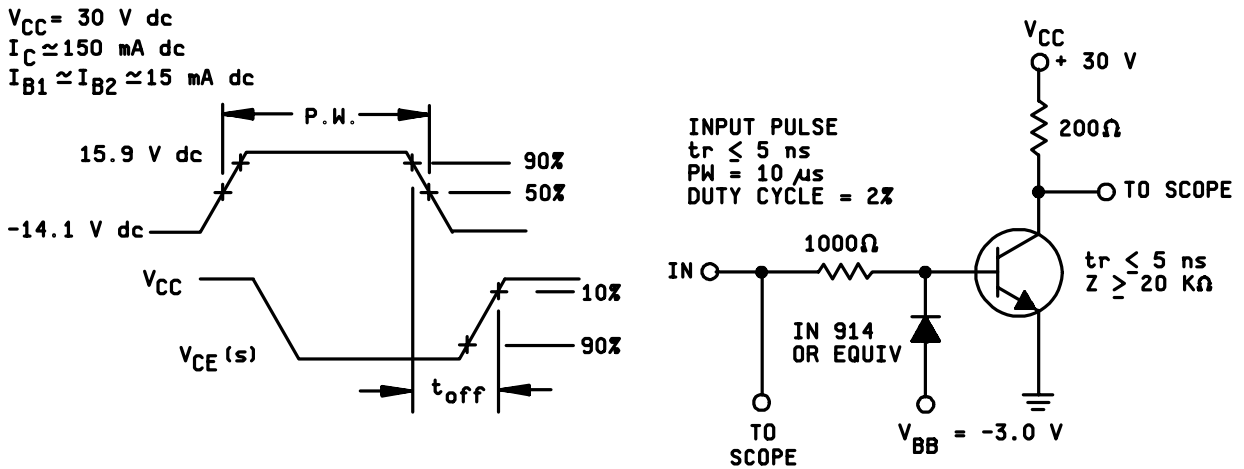
4/ Not required for laser marked devices.

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

Inspection	MIL-STD-750		Qualification
	Method	Conditions	
<u>Subgroup 1</u>			12 devices c = 0
Temperature cycling (air to air)	1051	Test condition C, 500 cycles	
Hermetic seal	1071		
Fine leak Gross leak			
Electrical measurements		See group A, subgroup 2 and 4.5.2 herein.	
<u>Subgroup 2</u>			45 devices c = 0
Intermittent life	1037	Intermittent operation life: $V_{CB} = 10$ V dc , 6,000 cycles, $\Delta T_J \geq +100^\circ\text{C}$ ; forced air cooling allowed on cooling cycle only.	
Electrical measurements		See group A, subgroup 2 and 4.5.2 herein.	
<u>Subgroup 3</u>			
Not applicable			
<u>Subgroup 4</u>			
Not applicable			
<u>Subgroup 5</u>			
Not applicable			



TURN-ON ( $t_{on}$ ) TIME TEST CIRCUIT



TURN-OFF ( $t_{off}$ ) TIME TEST CIRCUIT

FIGURE 3. Switching time test circuits.

## 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 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. Acquisition documents should specify the following:

- a. Issue of DODISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.2.1).
- b. Lead finish (see 3.3.1).
- c. Type designation and product assurance level.
- d. Packaging requirements (see 5.1).

6.3 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.

6.4 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-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 Defense Supply Center Columbus, DSCC-VQE, Columbus, OH 43216.

## CONCLUDING MATERIAL

Custodians:  
Air Force - 17

Review activities  
Air Force - 13, 19, 85

Preparing activity:  
DLA - CC

(Project 5961-2048-06)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL		
<b>INSTRUCTIONS</b>		
<p>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.</p> <p>2. The submitter of this form must complete blocks 4, 5, 6, and 7.</p> <p>3. The preparing activity must provide a reply within 30 days from receipt of the form.</p> <p>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.</p>		
<b>I RECOMMEND A CHANGE:</b>	<b>1. DOCUMENT NUMBER</b> MIL-PRF-19500/495C	<b>2. DOCUMENT DATE</b> 10 August 1998
<b>3. DOCUMENT TITLE</b> SEMICONDUCTOR DEVICE, UNITIZED, DUAL-TRANSISTOR, NPN, SILICON, TYPES 2N5793, 2N5794 AND 2N5794U, JAN, JANTX, AND JANTXV		
<b>4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)</b>		
<b>5. REASON FOR RECOMMENDATION</b>		
<b>6. SUBMITTER</b>		
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
<b>8. PREPARING ACTIVITY</b>		
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 Defense Supply Center Columbus ATTN: DSCC-VAT Columbus, OH 43216-5000	<b>IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:</b> Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340    DSN 289-2340	