MILITARY SPECIFICATION

SEMICONDUCTOR DEVICE, TRANSISTOR, NPN, SILICON, SWITCHING TYPES 2N914 AND TX2N914

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 detail requirements for NPN, silicon, switching transistors.

1.2 Physical dimensions. See figure 1 (TO-18).

1.3 Maximum ratings.

P_T 1/ T_A = 25°C	P_T 2/ T_C = 25°C	V_{CBO}	V_{EBO}	V_{CEO}	V_{CER} R_{BE} = 10Ω	T_{stg}
W	W	Vdc	Vdc	Vdc	Vdc	°C
0.36	1.2	40	5.0	15	20	-65 to +200

1/ Derate linearly 2.1 mW/°C for $T_A > 25°C$.
2/ Derate linearly 6.8 mW/°C for $T_C > 25°C$.

1.4 Primary electrical characteristics.

Limits	h_{FE} V_{CE} = 1.0 Vdc I_C = 10 mAdc	$\|h_{fe}\|$ V_{CE} = 10 Vdc I_C = 20 mAdc f = 100 MHz	V_{BE}(sat) I_C = 10 mAdc I_B = 1.0 mAdc	V_{CE}(sat) I_C = 10 mAdc I_B = 1.0 mAdc	t_{on} I_C = 200 mAdc I_{B_1} = 35 mAdc I_{B_2} = -25 mAdc	t_{off} I_C = 200 mAdc I_{B_1} = 35 mAdc I_{B_2} = -25 mAdc
			Vdc	Vdc	ns	ns
Min	30	3	0.70	---	---	---
Max	120	12	0.80	0.3	40	40

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein.

SPECIFICATION

MILITARY

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

STANDARDS

MILITARY

MIL-STD-202 - Test Methods for Electronic and Electrical Component Parts.
MIL-STD-750 - Test Methods for Semiconductor Devices.

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 General. Requirements shall be in accordance with MIL-S-19500, and as specified herein.

3.2 Abbreviations, symbols, and definitions. The abbreviations, symbols, and definitions used herein are defined in MIL-S-19500.

3.3 Design, construction, and physical dimensions. Transistors shall be of the design, construction, and physical dimensions shown on figure 1.

* 3.3.1 Lead material and finish. Lead material shall be Kovar or alloy 52. Lead finish shall be gold-plated. (Leads may be tin-coated if specified in the contract or order, and this requirement shall not be construed as adversely affecting the qualified-product status of the device, or applicable JAN marking, see 6.2).

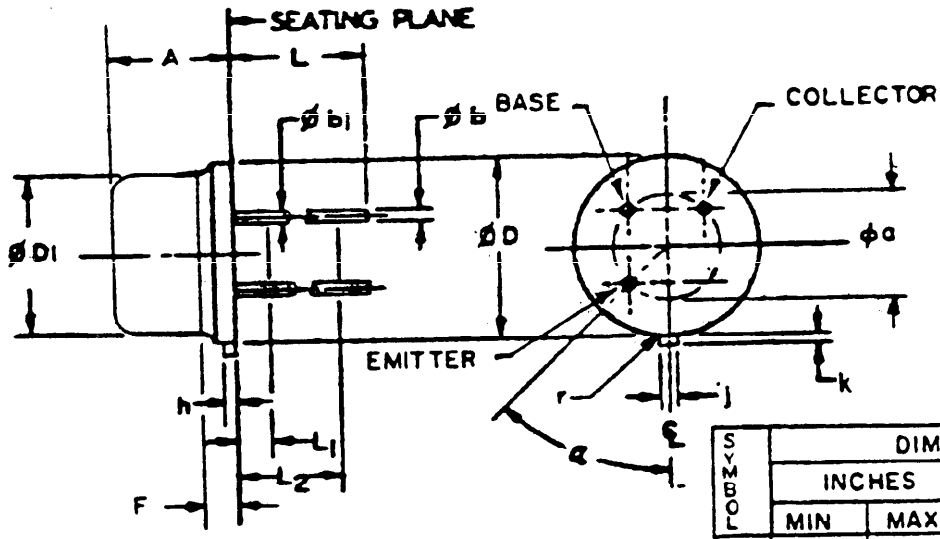
* 3.3.1.1 Selectivity of lead material. Where choice of lead material (see 3.3.1 above) is desired, it shall be specified in the contract or order (see 6.2).

* 3.4 Performance characteristics. Performance characteristics shall be as specified in tables I, II, and III, and as follows:

3.4.1 Process-conditioning, testing, and screening for "TX" types. Process-conditioning, testing, and screening for the "TX" types shall be as specified in 4.5.

3.5 Marking. The following marking specified in MIL-S-19500 may be omitted from the body of the transistor at the option of the manufacturer:

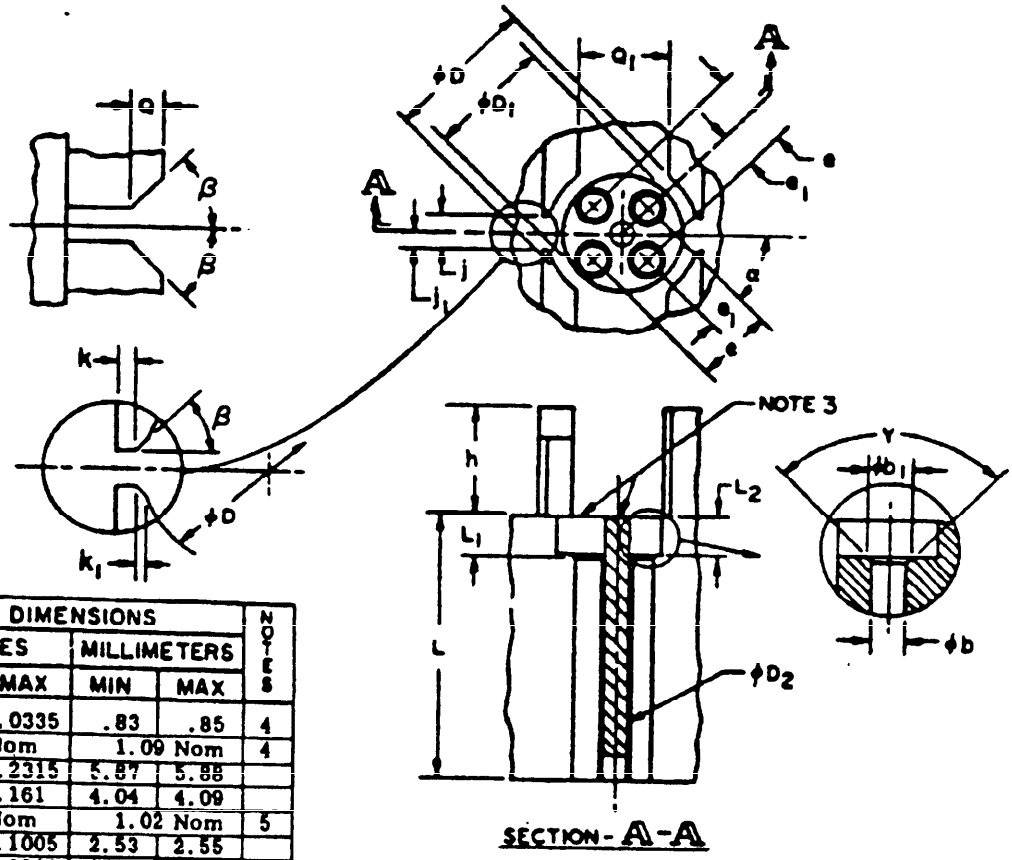
(a) Country of origin.
(b) Manufacturer's identification.



SYMBOL	DIMENSIONS				NOTES
	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	.170	.210	4.32	5.33	
Øa	.100 TP		2.54 TP		5
Øb	.016	.021	.41	.53	6, 7
$Øb_1$	.016	.019	.41	.48	6, 7
ØD	.209	.230	5.31	5.84	
$ØD_1$	.178	.195	4.52	4.95	
F	---	.040	---	1.02	4
h	---	.020	---	.51	
j	.036	.046	.91	1.17	2
k	.028	.048	.71	1.22	2, 3
L	.500	.750	12.70	19.05	6, 7
L_1	---	.050	---	1.27	6, 7
L_2	.250	---	6.35	---	6, 7
r	---	.010	---	.25	9
α	45° TP		45 TP		5

NOTES:
1. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
2. Beyond r (radius) maximum, j shall be held for a minimum length of .011(.28 mm).
3. k measured from maximum ØD.
4. Body contour optional within zone defined by ØD, $ØD_1$ and F.
5. Leads at gage plane .054 + .001-.000(1.37+.03-.00 mm) below seating plane shall be within .007(.18 mm) radius of True Position (TP) at maximum material condition (MMC) relative to tab at MMC. The device may be measured by direct methods or by the gage and gaging procedure shown in Figure 2.
6. $Øb_1$ applies between L_1 and L_2. Øb applies between L_2 and L minimum. Diameter is uncontrolled in L_1 and beyond L minimum.
7. All three leads.
8. The collector shall be electrically connected to the case.
9. r (radius) applies to both inside corners of tab.

FIGURE 1. Physical dimensions of transistor types 2N914 and TX2N914 (TO-18).



SYMBOL	DIMENSIONS				NOTES
	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
ϕb	.0325	.0335	.83	.85	4
ϕb1	.043 Nom		1.09 Nom		4
ϕD	.2310	.2315	5.87	5.88	
ϕD1	.159	.161	4.04	4.09	
ϕD2	.040 Nom		1.02 Nom		5
e	.0995	.1005	2.53	2.55	
e1	.0495	.0505	1.26	1.28	
h	.145	.155	3.68	3.94	
j	.0470	.0475	1.19	1.21	
j1	.0235	.0245	.60	.62	
k	.009	.011	.23	.28	
k1	.005 Nom		.13 Nom		
L	.372	.378	9.45	9.60	
L1	.054	.055	1.37	1.40	
L2	.043 Nom		1.09 Nom		
Q	.040 Nom		1.02 Nom		
Q1	.123	.127	3.12	3.23	
α	44.90°	45.10°			
β	45° Nom				
Y	90° Nom				

NOTES:
1. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
2. The following gaging procedure shall be used: The device being measured shall be inserted until its seating plane is .125(3.18 mm) + .010(.25 mm) from the seating surface of the gage. A force of 8 ± .5 oz. shall then be applied parallel and symmetrical to the device's cylindrical axis. When examined visually after the force application (the force need not be removed) the seating plane of the device shall be seated against the gage.
   The use of a pin straightener prior to insertion in the gage is permissible.
   A spacer may be used to obtain the .125(3.18 mm) distance from the gage seat prior to force application.
3. These surfaces to be parallel and in same plane within ±.001(.03 mm).
4. Four holes.
5. Pressed in.

FIGURE 2. Gage for lead and tab location for transistor types 2N914 and TX2N914.

TABLE I. Group A inspection

Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
Subgroup 1			10	5				
Visual and mechanical examination	2071				---	---	---	---
Subgroup 2			5	2				
Breakdown voltage, collector to base	3001	Bias cond. D; I_C = 1 μAdc			BV_{CBO}	40	---	Vdc
Breakdown voltage, collector to emitter	3011	Bias cond. B; I_C = 30 mAdc; R_{BE} = 10 ohms; pulsed (see 4.4.1)			BV_{CER}	20	---	Vdc
Breakdown voltage, collector to emitter	3011	Bias cond. D; I_C = 30 mAdc pulsed (see 4.4.1)			BV_{CEO}	15	---	Vdc
Breakdown voltage, emitter to base	3026	Bias cond. D; I_E = 10 μAdc			BV_{EBO}	5	---	Vdc
Collector to base cutoff current	3036	Bias cond. D; V_{CB} = 20 Vdc			I_{CBO}	---	25	nAdc
Emitter to base cutoff current	3061	Bias cond. D; V_{EB} = 4 Vdc			I_{EBO}	---	80	nAdc
Subgroup 3			5	3				
Collector to emitter voltage (saturated)	3071	I_C = 10 mAdc; I_B = 1 mAdc; pulsed (see 4.4.1)			$V_{CE}(sat)$	---	0.3	Vdc
Collector to emitter voltage (saturated)	3071	I_C = 200 mAdc; I_B = 20 mAdc; pulsed (see 4.4.1)			$V_{CE}(sat)$	---	0.7	Vdc
Base to emitter voltage (saturated)	3066	Test cond. A; I_C = 10 mAdc; I_B = 1 mAdc			$V_{BE}(sat)$	0.70	0.80	Vdc
Base to emitter voltage (saturated)	3066	Test cond. A; I_C = 200 mAdc; I_B = 20 mAdc; pulsed (see 4.4.1)			$V_{BE}(sat)$	---	1.4	Vdc
Forward-current transfer ratio	3076	V_{CE} = 1 Vdc; I_C = 10 mAdc; pulsed (see 4.4.1)			h_{FE}	30	120	---
Forward-current transfer ratio	3076	V_{CE} = 1 Vdc; I_C = 200 mAdc; pulsed (see 4.4.1)			h_{FE}	15	---	---
Forward-current transfer ratio	3076	V_{CE} = 5 Vdc; I_C = 500 mAdc; pulsed (see 4.4.1)			h_{FE}	10	---	---
Subgroup 4			10	5				
Magnitude of small-signal short-circuit forward-current transfer ratio	3306	V_{CE} = 10 Vdc; I_C = 20 mAdc; f = 100 MHz			$\lvert h_{fe} \rvert$	3	12	---
Open circuit output capacitance	3236	V_{CB} = 10 Vdc; I_E = 0; 100 kHz ≤ f ≤ 1 MHz			C_{obo}	---	6	pF
Input capacitance (output open-circuited)	3240	V_{EB} = 0.5 Vdc; I_C = 0; 100 kHz ≤ f ≤ 1 MHz			C_{ibo}	---	9	pF

TABLE I. Group A inspection - Continued

Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
Subgroup 5			10	5				
Storage time	---	$I_C = I_{B_1} = -I_{B_2} = 20$ mAdc (see figure 3)			t_s	---	20	ns
Turn-on time	---	$I_C = 200$ mAdc; $I_{B_1} = 35$ mAdc; $I_{B_2} = -25$ mAdc (see figure 4)			t_{on}	---	40	ns
Turn-off time	---	$I_C = 200$ mAdc; $I_{B_1} = 35$ mAdc; $I_{B_2} = -25$ mAdc (see figure 4)			t_{off}	---	40	ns
Subgroup 6			10	5				
High-temperature operation:								
Collector to base cutoff current	3036	Bias cond. D; $V_{CB} = 20$ Vdc; $T_A = +150°C$			I_{CBO}	---	15	μAdc
Collector to emitter voltage (saturated)	3071	$I_C = 10$ mAdc; $I_B = 1$ mAdc; $T_A = +125°C$			$V_{CE}(sat)$	---	0.25	Vdc
Collector to emitter cutoff current	3041	Bias cond. A; $V_{CE} = 20$ Vdc; $V_{BE} = 0.25$ Vdc; $T_A = +125°C$			I_{CEX}	---	10	μAdc
*Low-temperature operation:		$T_A = -65°C$						
Forward-current transfer ratio	3076	$V_{CE} = 1$ Vdc; $I_C = 10$ mAdc; pulsed (see 4.4.1)			h_{FE}	12	---	---
Base to emitter voltage (saturated)	3066	Test cond. A; $I_C = 10$ mAdc; $I_B = 1$ mAdc			$V_{BE}(sat)$	---	0.96	Vdc

TABLE II. Group B inspection

Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
Subgroup 1			20	20				
Physical dimensions	2066	See figure 1			---	---	---	---
* Subgroup 2			15	15				
Solderability	2026				---	---	---	---
Thermal shock (temperature cycling)	1051	Test cond. C, 10 cycles; time at temperature extremes = 15 minutes (minimum)			---	---	---	---
Thermal shock (glass strain)	1056	Test cond. A			---	---	---	---
Hermetic seal	1071	Test cond. G or H for fine leaks; test cond. A, C, D, or F for gross leaks			---	---	1×10^{-7}	atm cc/s
Moisture resistance	1021				---	---	---	---

TABLE II. Group B inspection - Continued

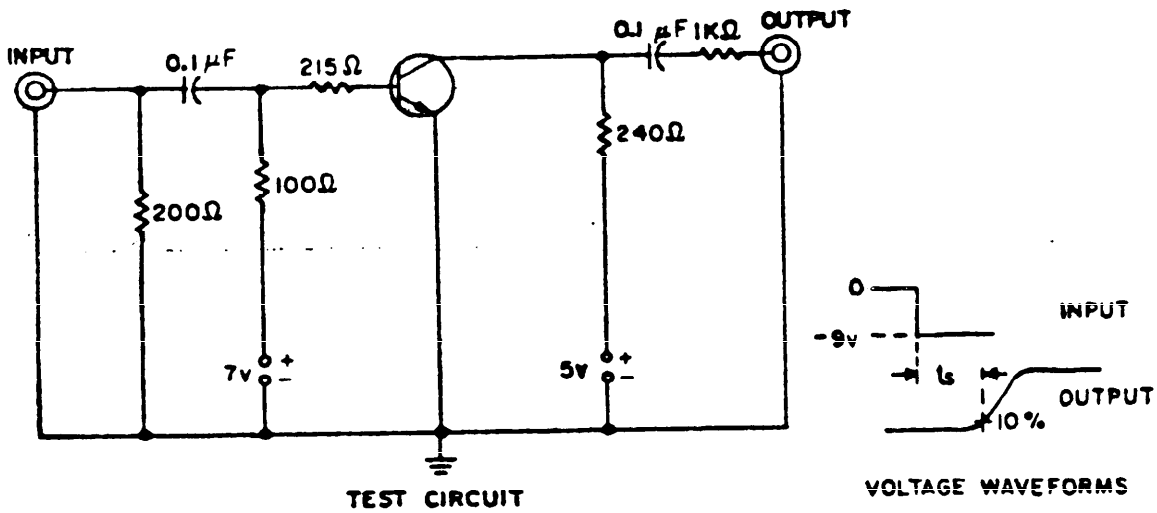
Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
End points:								
Collector to base cutoff current	3036	Bias cond. D; V_{CB} = 20 Vdc			I_{CBO}	---	25	nAdc
Forward-current transfer ratio	3076	V_{CE} = 1 Vdc; I_C = 10 mAdc; pulsed (see 4.4.1)			h_{FE}	30	120	---
* Subgroup 3			15	15				
Shock	2016	Nonoperating; 1,500 G; 0.5 ms; 5 blows in each orientation: X_1, Y_1, Y_2, and Z_1			---	---	---	---
Vibration, variable frequency	2056				---	---	---	---
Constant acceleration	2006	20,000 G in each orientation: X_1, Y_1, Y_2, and Z_1			---	---	---	---
End points: (Same as subgroup 2)								
Subgroup 4			20	20				
Terminal strength (lead fatigue)	2036	Test cond. E			---	---	---	---
End points:								
* Hermetic seal	1071	Test cond. G or H for fine leaks; test cond. A, C, D, or F for gross leaks			---	---	$1x10^{-7}$	atm cc/s
* Subgroup 5			15	15				
Salt atmosphere (corrosion)	1041	Electrical rejects may be used			---	---	---	---
* Subgroup 6			7	A=5				
High-temperature life (nonoperating) (TX type only)	1031	T_{stg} = +200°C			---	---	---	---
High-temperature life (nonoperating) (non-TX type only)	1032	T_{stg} = +200°C (see 4.3.4)			---	---	---	---
End points:								
Collector to base cutoff current	3036	Bias cond. D; V_{CB} = 20 Vdc			I_{CBO}	---	50	nAdc
Forward-current transfer ratio	3076	V_{CE} = 1 Vdc; I_C = 10 mAdc; pulsed (see 4.4.1)			Δh_{FE}	---	±25	% change in initial recorded value

TABLE II. Group B inspection - Continued

Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
* Subgroup 7			7	λ=5				
Steady-state operation life (TX type only)	1026	T_A = +25°C; V_{CB} = 12 Vdc; P_T = 360 mW			---	---	---	---
Steady-state operation life (non-TX type only)	1027	T_A = +25°C; V_{CB} = 12 Vdc; P_T = 360 mW (see 4.3.4)			---	---	---	---
End points: (Same as subgroup 6)								

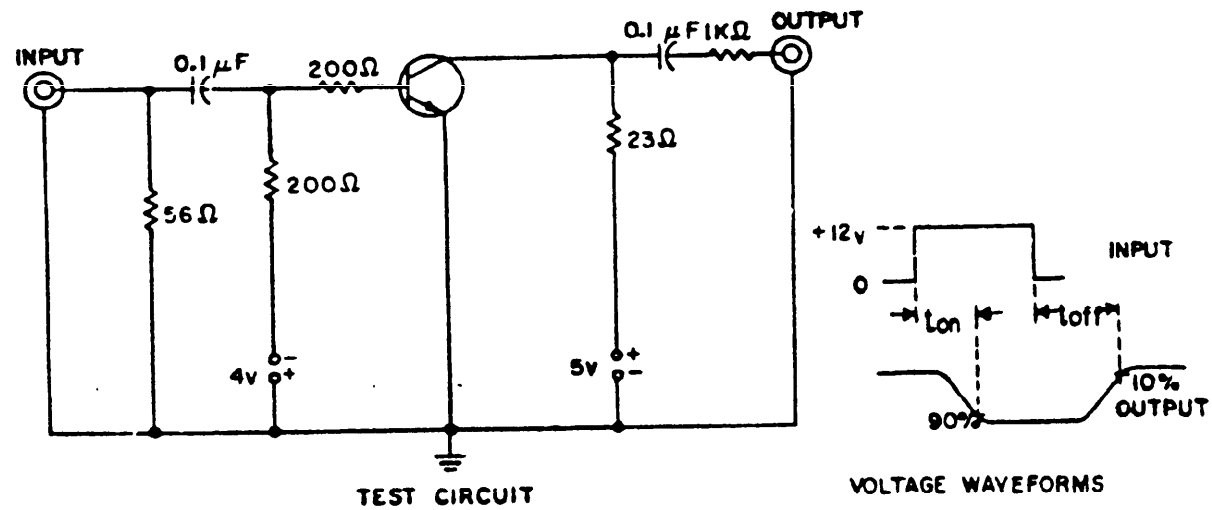
TABLE III. Group C inspection

Examination or test	MIL-STD-750		LTPD		Symbol	Limits		Unit
	Method	Details	Non TX	TX		Min	Max	
* Subgroup 1			15	15				
Resistance to solvents	---	Method 215 of MIL-STD-202 (see 4.4.2)			---	---	---	---
* Subgroup 2			15	15				
Thermal shock (temperature cycling)	1051	Test cond. C-1; time at temperature extremes = 15 minutes (minimum)			---	---	---	---
End points: (Same as subgroup 2 of group B inspection)								
* Subgroup 3			λ=10	---				
High-temperature life (nonoperating) (non-TX type only)	1031	T_{stg} = +200°C (see 4.3.4)			---	---	---	---
End points: (Same as subgroup 6 of group B inspection)								
* Subgroup 4			λ=10	---				
Steady-state operation life (non-TX type only)	1026	T_A = +25°C; V_{CB} = 12 Vdc; P_T = 360 mW (see 4.3.4)			---	---	---	---
End points: (Same as subgroup 6 of group B inspection)								



NOTES:
1. The input waveform is supplied by a pulse generator with the following characteristics: Z_{out} = 50 Ω, $t_r \leq$ 1 ns, PW $\geq$ 300 ns, duty cycle $\leq$ 2%.
2. Output waveforms are monitored on an oscilloscope with the following characteristics: $t_r \leq$ 1 ns, Z_{in} = 50Ω .

FIGURE 3. Charge storage time (t_s) test circuit.



NOTES:
1. The input waveform is supplied by a pulse generator with the following characteristics: Z_{out} = 50 Ω, $t_r \leq$ 1 ns, $t_f \leq$ 5 ns, PW $\geq$ 300 ns, duty cycle $\leq$ 2%.
2. Output waveforms are monitored on an oscilloscope with the following characteristics: $t_r \leq$ 1 ns, Z_{in} = 50 Ω.

FIGURE 4. t_{on} and t_{off} test circuit.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-S-19500, and as specified herein.

* 4.2 Qualification inspection. Qualification inspection shall consist of the examinations and tests specified in tables I, II, and III.

* 4.3 Quality conformance inspection. Quality conformance inspection shall consist of groups A, B, and C inspections. When specified in the contract or order, one copy of the quality conformance inspection data, pertinent to the device inspection lot shall be supplied with each shipment by the device manufacturer (see 6.2).

4.3.1 Group A inspection. Group A inspection shall consist of the examinations and tests specified in table I.

4.3.2 Group B inspection. Group B inspection shall consist of the examinations and tests specified in table II.

* 4.3.3 Group C inspection. Group C inspection shall consist of the examinations and tests specified in table III. This inspection shall be conducted on the initial lot and thereafter every 6 months during production.

* 4.3.4 Group B and group C life-test samples. Samples that have been subjected to group B, 340-hours life-test, may be continued on test to 1,000 hours in order to satisfy group C life-test requirements. These samples shall be predesignated and shall remain subjected to the group C, 1,000-hour acceptance evaluation after they have passed the group B, 340-hour acceptance criteria. The cumulative total of failures found during 340-hour test and during the subsequent interval up to 1,000 hours shall be computed for 1,000-hour acceptance criteria, see 4.3.3.

* 4.4 Methods of examination and test. Methods of examination and test shall be as specified in tables I, II, and III, and as follows:

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

* 4.4.2 Resistance to solvents. Transistors shall be subjected to tests in accordance with method 215 of MIL-STD-202. The following details shall apply:

(a) All areas of the transistor body where marking has been applied shall be brushed.
(b) After subjection to the tests there shall be no evidence of mechanical damage to the device and markings shall have remained legible.

4.5 Process-conditioning, testing, and screening for "TX" types. The procedure for process-conditioning, testing, and screening for "TX" types shall be in accordance with MIL-S-19500 and 4.5.1 through 4.5.9.1.

* 4.5.1 Quality assurance (lot verification). Quality assurance shall be in accordance with MIL-S-19500 except lot records shall be kept for 1 year, minimum.

4.5.2 High-temperature storage. All devices shall be stored for at least 48 hours at a minimum temperature (T_A) of 200°C.

4.5.3 Thermal shock (temperature cycling). All devices shall be subjected to thermal shock (temperature cycling) in accordance with MIL-STD-750, method 1051, test condition C, except that 10 cycles shall be continuously performed and the time at the temperature extremes shall be 15 minutes, minimum.

4.5.4 Acceleration. All devices shall be subjected to acceleration test in accordance with MIL-STD-750, method 2006, with the following exceptions: The test shall be performed one time in the Y_1 orientation only at a peak level of 20,000 G minimum. The 1-minute hold-time requirement shall not apply.

* 4.5.5 Hermetic seal tests. All devices shall be subjected to hermetic seal tests (fine-leak ollowed by gross-leak) with test conditions as specified in 4.5.5.1 and 4.5.5.2. Failed devices from either test shall be removed from the lot.

* 4.5.5.1 Hermetic seal (fine-leak) test. All devices shall be fine-leak tested in accordance with MIL-STD-750, method 1071, test condition G or H. The leak-rate rejection criterion shall be 1×10^{-7} cubic centimeters of helium per second when measured at a differential pressure of one atmosphere.

* 4.5.5.2 Hermetic seal (gross-leak) test. All devices shall be tested for gross-leaks in accordance with MIL-STD-750, method 1071, test conditions A, C, D, or F.

* 4.5.6 Reverse bias. All devices shall be subjected to reverse bias with the following test sequence and end point measurements:

(a) The collector to base junction shall be reverse biased at V_{CB} = 15 Vdc, I_E = 0, for 48 hours minimum at T_A = +150°C.
(b) At the end of the high-temperature test time, the case temperature shall be lowered until T_C = +30° ±5°C is attained. This case temperature shall be maintained prior to removal of reverse bias voltage.
(c) No other voltages or temperatures shall be applied to the device before taking the end-point measurement.
(d) Within 24 hours following bias removal, measure I_{CBO} as specified in table IV. The manufacturer, at his option, may use a 72-hour maximum criteria if it is demonstrated (at 72 hours) for three consecutive lots to the qualifying activity that readings of 99 percent of all devices remain stable within ±10 percent of the 24-hour reading.

4.5.7 Preburn-in tests. The parameters I_{CBO} and h_{FE} of table IV shall be measured and the data recorded for all devices in the lot. All devices shall be handled or identified such that the delta end points can be determined after the burn-in test. All devices which fail to meet these requirements shall be removed from the lot and the quantity removed shall be noted on the lot history.

4.5.8 Burn-in test. All devices shall be operated for 168 hours minimum under the following conditions:

T_A = +25° ±3°C V_{CB} = 12 Vdc P_T = 360 mW

*(No heat sink or forced-air directly on the devices shall be permitted.)

TABLE IV. Burn-in test measurements

Test	MIL-STD-750		Symbol	Limits		Unit
	Method	Details		Min	Max	
Collector to base cutoff current	3036	Bias cond. D; V_{CB} = 20 Vdc	I_{CBO}	---	25	nAdc
Forward-current transfer ratio	3076	V_{CE} = 1.0 Vdc; I_C = 10 mAdc; pulsed (see 4.4.1)	h_{FE}	30	120	---

4.5.9 Postburn-in tests. The parameters I_{CBO} and h_{FE} of table IV shall be retested after burn-in and the data recorded for all devices in the lot. The parameters measured shall not have changed during the burn-in test from the initial value by more than the specified amount as follows:

ΔI_{CBO} = ±100 percent or 10 nanoamperes, whichever is greater.
Δh_{FE} = ±15 percent.

4.5.9.1 Burn-in test failures (screening). All devices that exceed the delta (Δ) limits of 4.5.9 or the limits of table IV after burn-in, shall be removed from the inspection lot and the quantity removed shall be noted on the lot history. If the quantity removed after burn-in should exceed 10 percent of the number of devices subjected to the burn-in test, the entire inspection lot shall be unacceptable for the "TX" types.

5. PREPARATION FOR DELIVERY

5.1 Preparation for delivery. Preparation for delivery shall be in accordance with MIL-S-19500.

6. NOTES

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

* 6.2 Ordering data.

(a) Lead finish if other than gold-plated (see 3.3.1).
(b) Selectivity of lead material (see 3.3.1.1).
(c) Inspection data (see 4.3).

* 6.3 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modification, corrections, deletions) 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 last previous issue.

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

Review activities:
Army - MI
Air Force - 11, 80
DSA - ES

User activities:
Army - AV, SM
Navy - AS, OS, CG, MC, SH
Air Force - 13, 15, 19

Preparing activity:
Air Force - 17

Agent:
DSA - ES

(Project 5961-0371)

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge *(DO NOT STAPLE)*, and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification 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.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE AIR FORCE

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 73236 WASHINGTON D. C.

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE AIR FORCE

TSFV/TNR-3
Griffis AFB, NY 13441

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*: _____

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

DD FORM 82 MAR 1426 PREVIOUS EDITION IS OBSOLETE.

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)