

The documentation and process conversion measures necessary to comply with this revision shall be completed by 13 June 2007.

INCH-POUND

MIL-PRF-19500/466C
 13 March 2007
 SUPERSEDING
 MIL-PRF-19500/466B
 19 July 1999

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, TRANSISTOR, PNP, SILICON, POWER,
 TYPES 2N5683 AND 2N5684, JAN, JANTX, AND JANTXV

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 PNP, silicon, power transistors. Three levels of product assurance are provided for each device type as specified in MIL-PRF19500.

1.2 Physical dimensions. See figure 1 (similar to TO-3).

* 1.3 Maximum ratings. Unless otherwise specified, $T_C = +25^\circ\text{C}$.

Types	P_T (1)		$R_{\theta JC}$	V_{CEO}	V_{EBO}	I_B	I_C	T_J and T_{STG}	V_{CBO}
	$T_C = +25^\circ\text{C}$	$T_C = +100^\circ\text{C}$							
	<u>W</u>	<u>W</u>	<u>$^\circ\text{C/W}$</u>	<u>V dc</u>	<u>V dc</u>	<u>A dc</u>	<u>A dc</u>	<u>$^\circ\text{C}$</u>	<u>V dc</u>
2N5683	300	171	.584	60	5	15	50	-65 to +200	60
2N5684	300	171	.584	80	5	15	50	-65 to +200	80

(1) Between $T_C = +25^\circ\text{C}$ and $T_C = +200^\circ\text{C}$, linear derating factor (average) = 1.715 W/ $^\circ\text{C}$.

* Comments, suggestions, or questions on this document should be addressed to Defense Supply Center, Columbus, ATTN: DSCC-VAC, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to Semiconductor@dsc.dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil/>.

* 1.4 Primary electrical characteristics.

Types	h_{FE2} (1)		h_{FE3} (1)		C_{obo}		h_{fe}		$V_{BE(sat)}$ (1)	
	$V_{CE} = 2 \text{ V dc}$ $I_C = 25 \text{ A dc}$		$V_{CE} = 5 \text{ V dc}$ $I_C = 50 \text{ A dc}$		$V_{CB} = 10 \text{ V dc}$ $I_E = 0$ $0.1 \text{ MHz} \leq f \leq 1 \text{ MHz}$		$V_{CE} = 5 \text{ V dc}$ $I_C = 10 \text{ A dc}$ $f = 1 \text{ kHz}$		$I_C = 25 \text{ A dc}$ $I_B = 2.5 \text{ A dc}$	
	Min	Max	Min	Max	Min <u>pF</u>	Max <u>pF</u>	Min	Max	Min <u>V dc</u>	Max <u>V dc</u>
2N5683	15	60	5			2,000		15		2.0
2N5684	15	60	5			2,000		15		2.0

Types	$V_{CE(sat)1}$		$V_{CE(sat)2}$		Switching			
	$I_C = 25 \text{ A dc}$ $I_B = 2.5 \text{ A dc}$ (1)		$I_C = 50 \text{ A dc}$ $I_B = 10 \text{ A dc}$ (1)		t_{on}		t_{off}	
	Min	Max	Min	Max	(see table I and figures 2 and 3 herein)			
	Min	Max	Min	Max	Min <u>μs</u>	Max <u>μs</u>	Min <u>μs</u>	Max <u>μs</u>
2N5683		1.0		5.0		1.5		3.0
2N5684		1.0		5.0		1.5		3.0

(1) Pulsed (see 4.5.1).

2. APPLICABLE DOCUMENTS

* 2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 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, 4, or 5 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.

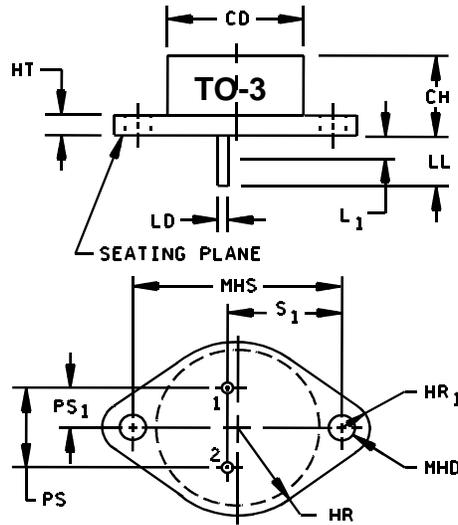
* DEPARTMENT OF DEFENSE STANDARDS

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

* (Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, 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.

MIL-PRF-19500/466C



Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD		.875		22.22	3
CH	.250	.328	6.35	8.33	
HR	.495	.525	12.57	13.34	
HR ₁	.131	.188	3.33	4.78	6
HT	.060	.135	1.52	3.43	
LD	.057	.063	1.45	1.60	4, 5, 9
LL	.312	.500	7.92	12.70	4, 5, 9
L ₁		.050		1.27	5, 9
MHD	.151	.161	3.84	4.09	7
MHS	1.177	1.197	29.90	30.40	
PS	.420	.440	10.67	11.18	
PS ₁	.205	.225	5.21	5.72	5
S ₁	.655	.675	16.64	17.15	

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Body contour is optional within zone defined by CD.
4. These dimensions shall be measured at points .050 inch (1.27 mm) to .055 inch (1.40 mm) below seating plane. When gauge is not used, measurement shall be made at seating plane.
5. Both terminals.
6. At both ends.
7. Two holes.
8. Terminal 1 is the emitter, terminal 2 is base. The collector shall be electrically connected to the case.
9. LD applies between L₁ and LL. Lead diameter shall not exceed twice LD within L₁.
10. In accordance with ASME Y14.5M, diameters are equivalent to ϕ x symbology.
11. The seating plane of the header shall be flat within .001 inch (0.03 mm) concave to .004 inch (0.10 mm) convex inside a .930 inch (23.62 mm) diameter circle on the center of the header and flat within .001 inch (0.03 mm) concave to 0.006 inch (0.15 mm) convex overall.

* FIGURE 1. Physical dimensions, TO-3.

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 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 figure 1.

3.4.1 Lead finish. Lead finish shall be solderable in accordance with MIL-PRF-19500, MIL-STD-750. Where a choice of lead finish is desired, it shall be specified in the acquisition document (see 6.2).

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

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.

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 and tables I and II).

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500.

* 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 request the performance of table III tests, the tests specified in table III 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 (JANTX and JANTXV levels). Screening shall be in accordance with table IV of MIL-PRF19500, 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
(1) 3c	Thermal impedance (see 4.3.2)
11	I_{CEX1} and h_{FE2}
12	See 4.3.1
13	Subgroup 2 of table I herein; $\Delta I_{CEX1} = \pm 100$ percent of initial value or 1.0 μA dc, whichever is greater. $\Delta h_{FE} = \pm 25$ percent of initial value

(1) Shall be performed anytime after temperature cycling, screen 3a; and does not need to be repeated in screening requirements.

4.3.1 Power burn-in conditions. Power burn-in conditions are as follows: Adjust P_T to achieve $T_J = +187.5^\circ C \pm 12.5^\circ C$, $V_{CB} \geq 10$ V dc.

* 4.3.2 Thermal impedance. The thermal impedance measurements shall be performed in accordance with method 3131 of MIL-STD-750 using the guidelines in that method for determining I_M , I_H , t_H , t_{SW} , (and V_H where appropriate). Measurement delay time (t_{MD}) = 70 μs max. See table III, 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 MIL-PRF-19500, and table I 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 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 herein. Delta measurements shall be in accordance with table II herein.

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

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B3	1037	For solder die attach, $V_{CB} \geq 10$ V dc, 2,000 cycles. No heat sink shall be permitted.
B3	1026	For eutectic die attach adjust P_T to achieve $+175^\circ C$ minimum. $V_{CB} \geq 10$ V dc, $T_A \leq +35^\circ C$

* 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 measurements shall be in accordance with table II herein.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
C2	2036	Tension: Test condition A weight = 10 pounds, t = 15 seconds.
* C5	3131	See 4.3.2, $R_{eJC} = 0.584$.
C6	1026	For eutectic die attach adjust P_T to achieve $+175^\circ\text{C}$ minimum. $V_{CB} \geq 10 \text{ V dc}$, $T_A \leq +35^\circ\text{C}$.
C6	1037	For solder die attach, $V_{CB} \geq 10 \text{ V dc}$, 6,000 cycles. No heat sink shall be permitted. $T_A \leq +35^\circ\text{C}$.

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

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.

* TABLE I. Group A inspection.

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u>						
Visual and mechanical examination	2071					
<u>Subgroup 2</u>						
Thermal impedance <u>2/</u>	3131	See 4.3.2	$Z_{\theta JX}$			$^{\circ}\text{C/W}$
Collector to emitter breakdown voltage	3011	Bias condition D; $I_C = 200 \text{ mA dc}$, pulsed (see 4.5.1)	$V_{(BR)CEO}$	60 80		V dc V dc
Collector to emitter cutoff current	3041	Bias condition D, $V_{CE} = 30 \text{ V dc}$ $V_{CE} = 40 \text{ V dc}$	I_{CEO}		5.0	$\mu\text{A dc}$
Emitter to base cutoff current	3061	Bias condition D, $V_{EB} = 5 \text{ V dc}$, $I_C = 0$	I_{EBO}		5.0	$\mu\text{A dc}$
Collector to emitter cutoff current	3041	Bias condition A, $V_{BE} = 1.5 \text{ V dc}$, $V_{CE} = 60 \text{ V dc}$ $V_{CE} = 80 \text{ V dc}$	I_{CEX1}		5.0	$\mu\text{A dc}$
Collector to base cutoff current	3036	Bias condition D, $V_{CE} = 60 \text{ V dc}$ $V_{CE} = 80 \text{ V dc}$	I_{CBO}		5.0	$\mu\text{A dc}$
Base to emitter saturated voltage	3066	Test condition A, $I_C = 25 \text{ A dc}$, $I_B = 2.5 \text{ A dc}$, pulsed (see 4.5.1)	$V_{BE(sat)}$		2.0	V dc
Base to emitter saturated voltage	3066	Test condition B, $V_{CE} = 2 \text{ V dc}$, $I_C = 25 \text{ A dc}$, pulsed (see 4.5.1)	V_{BE}		2.0	V dc
Collector to emitter saturated voltage	3071	$I_C = 25 \text{ A dc}$, $I_B = 2.5 \text{ A dc}$, pulsed (see 4.5.1)	$V_{CE(sat)1}$		1.0	V dc
Collector to emitter saturated voltage	3071	$I_C = 50 \text{ A dc}$, $I_B = 10 \text{ A dc}$, pulsed (see 4.5.1)	$V_{CE(sat)2}$		5.0 5.0	V dc V dc
2N5683 2N5684						

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 2</u> - Continued						
Forward-current transfer ratio	3076	$V_{CE} = 2 \text{ V dc}$, $I_C = 5 \text{ A dc}$, pulsed (see 4.5.1)	h_{FE1}	30		
Forward-current transfer ratio	3076	$V_{CE} = 2 \text{ V dc}$, $I_C = 25 \text{ A dc}$, pulsed (see 4.5.1)	h_{FE2}	15	60	
Forward - current transfer ratio	3076	$V_{CE} = 5 \text{ V dc}$, $I_C = 50 \text{ A dc}$, pulsed (see 4.5.1)	h_{FE3}	5		
<u>Subgroup 3</u>						
High-temperature operation		$T_A = +150^\circ\text{C}$				
Collector - emitter cutoff current 2N5683 2N5684	3041	Bias condition A, $V_{BE} = 1.5 \text{ V dc}$ $V_{CE} = 60 \text{ V dc}$ $V_{CE} = 80 \text{ V dc}$	I_{CEX2}		50	$\mu\text{A dc}$
Low-temperature operation		$T_A = -55^\circ\text{C}$				
Forward - current transfer ratio	3076	$V_{CE} = 2.0 \text{ V dc}$, $I_C = 25 \text{ A dc}$, pulsed (see 4.5.1)	h_{FE4}	7		
<u>Subgroup 4</u>						
Pulse response:	3251	Test condition A except test circuit and pulse requirements per figures 2 and 3 herein.				
Turn - on time		$V_{CC} = 30 \text{ V dc}$, $I_C = 25 \text{ A dc}$, $I_{B1} = 2.5 \text{ A dc}$	t_{on}		1.5	μs
Turn - off time		$V_{CC} = 30 \text{ V dc}$, $I_C = 25 \text{ A dc}$, $I_{B1} = I_{B2} = 2.5 \text{ A dc}$	t_{off}		3.0	μs
Storage time		$V_{CC} = 30 \text{ V dc}$, $I_C = 25 \text{ A dc}$, $I_{B1} = I_{B2} = 2.5 \text{ A dc}$	t_s		2.0	μs

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</u> - Continued						
Magnitude of common emitter small-signal short-circuit forward-current transfer ratio	3306	$V_{CE} = 10 \text{ V dc}$, $I_C = 5 \text{ A dc}$, $f = 1 \text{ MHz}$	$ h_{fe} $	2.0	20	
Small - signal short circuit forward-current transfer ratio	3206	$V_{CE} = 5 \text{ V dc}$, $I_C = 10 \text{ A dc}$, $f = 1.0 \text{ kHz}$	h_{fe}	15		
Output capacitance (open circuit)	3236	$V_{CB} = 10 \text{ V dc}$, $I_E = 0$, $0.1 \text{ MHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		2,000	pF
<u>Subgroup 5</u>						
Safe operating area (dc operation)	3051	$T_C = +25^\circ\text{C}$ $t = 1 \text{ s}$, 1 cycle, (see figures 4 and 5)				
<u>Test 1</u> (Both device types)		$V_{CE} = 6 \text{ V dc}$, $I_C = 50 \text{ A dc}$				
<u>Test 2</u> (Both device types)		$V_{CE} = 30 \text{ V dc}$, $I_C = 10 \text{ A dc}$				
<u>Test 3</u> 2N5683		$V_{CE} = 50 \text{ V dc}$, $I_C = 560 \text{ mA dc}$				
2N5684		$V_{CE} = 60 \text{ V dc}$, $I_C = 640 \text{ mA dc}$				
Safe operating area (switching)	3053	Load condition C, (unclamped inductive load) see figure 6, $T_C = +25^\circ\text{C}$ duty cycle ≤ 10 percent, $R_S = 0.1 \Omega$, $t_r = t_f \leq 500 \text{ ns}$				
<u>Test 1</u>		$t_p = 5 \text{ ms}$, (vary to obtain I_C), $R_{BB1} = 10 \Omega$, $V_{BB1} = 20 \text{ V dc}$, $R_{BB2} = \infty$, $V_{BB2} = 0$, $V_{CC} = 50 \text{ V dc}$, $I_C = 20 \text{ A dc}$, $L = 1 \text{ mH}$ <u>3/</u>				

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 5</u> - Continued						
<u>Test 2</u>		$t_p = 5 \text{ ms}$, (vary to obtain I_C), $R_{BB1} = 100 \Omega$, $V_{BB1} = 10 \text{ V dc}$, $R_{BB2} = \infty$, $V_{BB2} = 0$, $V_{CC} = 50 \text{ V dc}$, $I_C = 1.5 \text{ A dc}$, $L = 80 \text{ mH}$ <u>4/</u>				
Safe operating area (switching)		Clamped inductive load, $T_A = +25^\circ\text{C}$, $V_{CC} = 50 \text{ V dc}$, (see figure 7 and 8)				
2N5683		Clamp voltage = 60 V dc				
2N5684		Clamped voltage = 80 V dc				
Electrical measurements		See table I, subgroup 2 herein				
<u>Subgroups 6 and 7</u>						
Not applicable						

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

2/ This test required for the following end-point measurements only:
Group B, subgroups 2 and 3 (JAN, JANTX, and JANTXV).
Group C, subgroup 2 and 6.
Group E, subgroup 1.

3/ $L = 1 \text{ mH}$ Sanford Miller CK-50, 50A, .002 Ω , or equivalent.

4/ $L = 80 \text{ mH}$ (2 each Signal Transformer CH-6, 6A) 0.4 Ω , or equivalent.

* TABLE II. Groups B, C, and E delta measurements. 1/ 2/ 3/

Step	Inspection	MIL-STD-750		Symbol	Limits		Unit
		Method	Conditions		Min	Max	
1.	Forward-current transfer ratio	3076	$V_{CE} = 2 \text{ V dc}$; $I_C = 25 \text{ A dc}$; pulsed (see 4.5.1)	Δh_{FE2}	$\pm 25\%$		

1/ The delta measurements for table VIb (JAN, JANTX, and JANTXV) of MIL-PRF-19500 are subgroups 3 and 6, see table II herein, step 1.

2/ The delta measurement for table VII of MIL-PRF-19500 is subgroup 6, see table II herein, step 1.

3/ The delta measurements for table IX of MIL-PRF-19500 are subgroups 1 and 2, see table IV herein, step 1.

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* TABLE III. Group E inspection (all quality levels) for qualification and re-qualification only.

Inspection	MIL-STD-750		Sample Plan
	Method	Conditions	
<u>Subgroup 1</u>			45 devices c = 0
Temperature cycling	1051	500 cycles minimum	
Hermetic seal Fine leak Gross leak	1071		
Electrical measurements		See table I, subgroup 2 and table II herein.	
<u>Subgroup 2</u>			45 devices c = 0
Blocking life	1048	Test temperature = +125°C; V _{CB} = 80 percent of rated; T = 1,000 hours.	
Electrical measurements		See table I, subgroup 2 and table II herein.	
<u>Subgroup 4</u>			Sample size N/A
Thermal impedance curves		See MIL-PRF-19500.	
<u>Subgroup 6</u>			3 devices
ESD	1020	Testing is not required for class 3 listing. Testing is required for a nonsensitive listing to prove capability.	
<u>Subgroup 8</u>			45 devices c = 0
Reverse stability	1033	Condition B.	

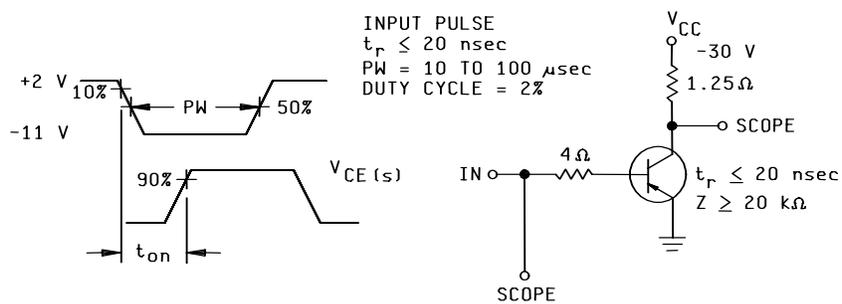


FIGURE 2. Turn-on (t_{on}) time test circuit.

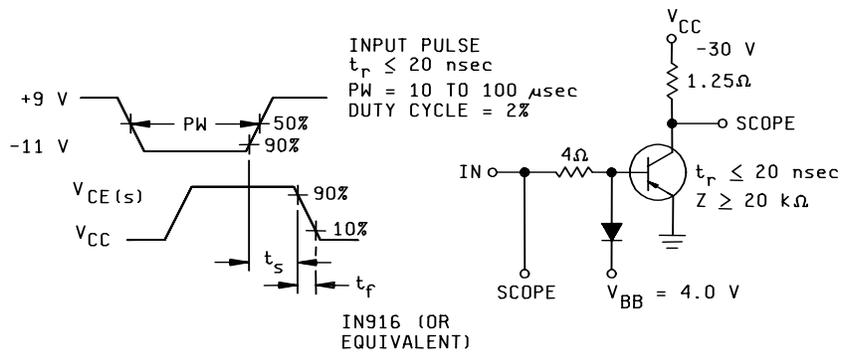


FIGURE 3. Turn-off (t_{off}) time test circuit.

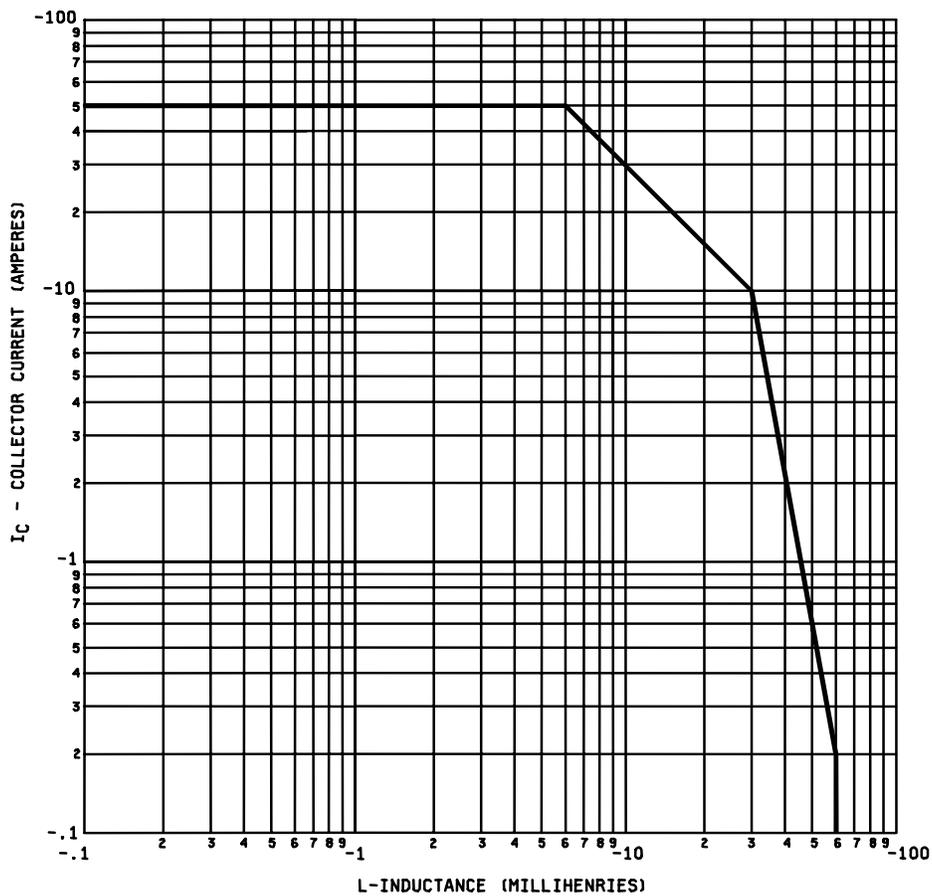


FIGURE 4. Maximum safe operating area graph (continuous dc) for 2N5683.

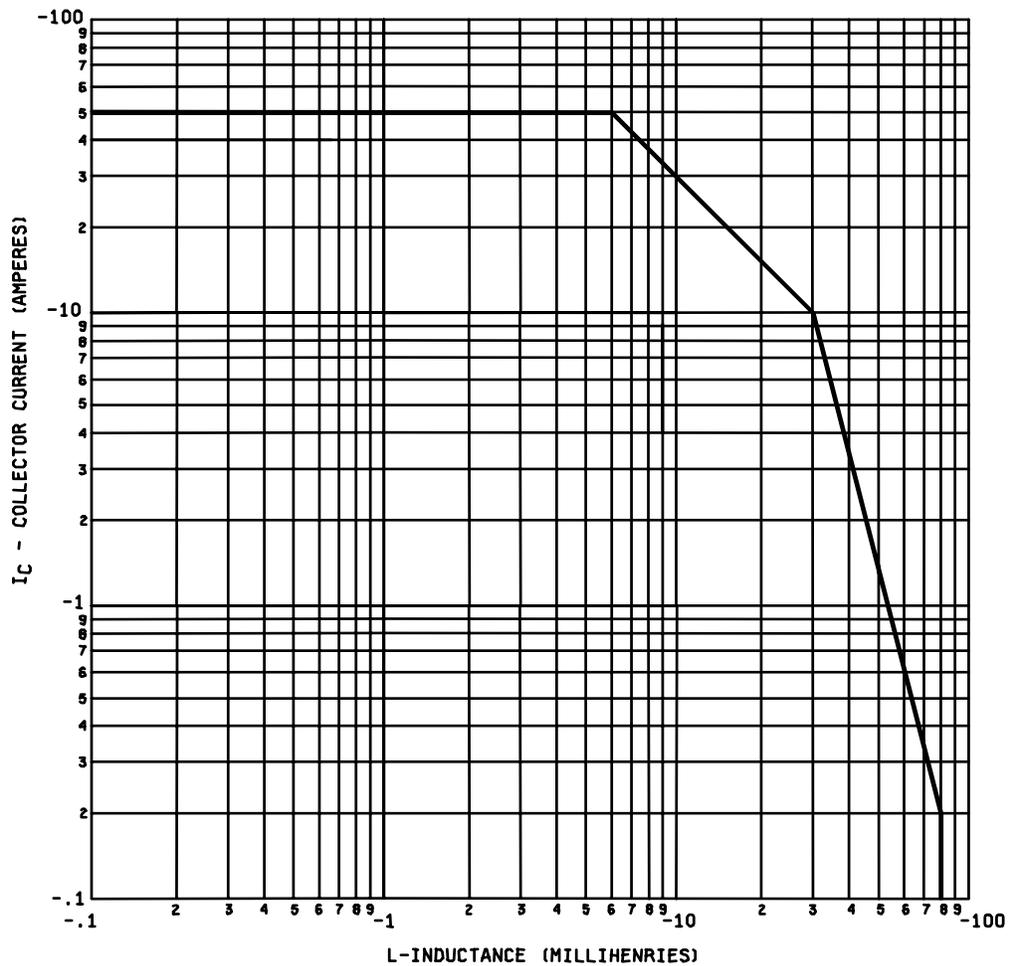


FIGURE 5. Maximum safe operating area graph (continuous dc) for 2N5684.

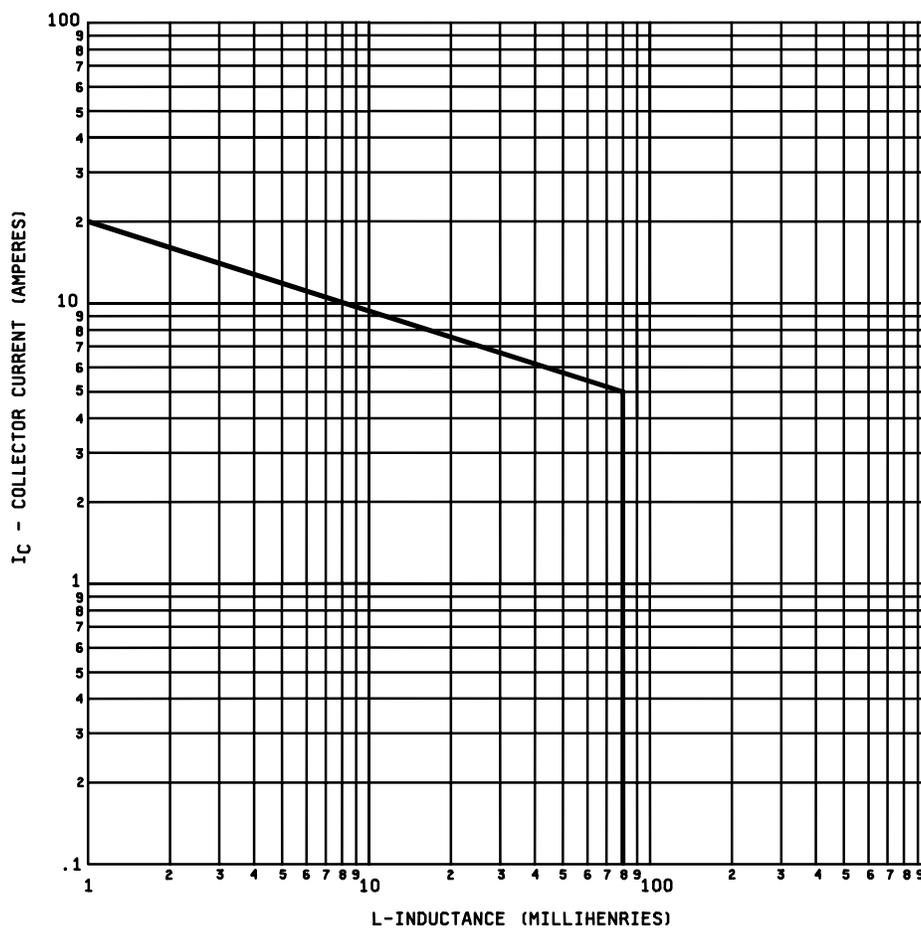
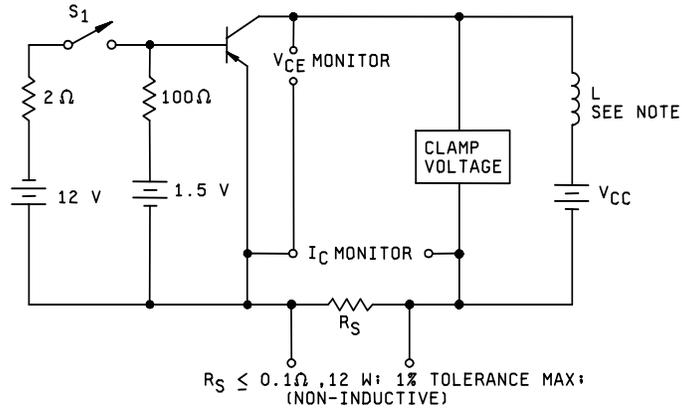


FIGURE 6. Safe operating area for switching between saturation and cutoff (unclamped inductive load).



*L = 2.0 mH (2 each 1 mH
Sanford Miller CK-50, 50A)
R = .002 Ω

Procedure:

1. With switch S1 closed, set the specified test conditions.
2. Open S1. Device fails if clamp voltage is not reached.
3. Perform specified endpoint tests.

FIGURE 7. Clamped inductive sweep test circuit.

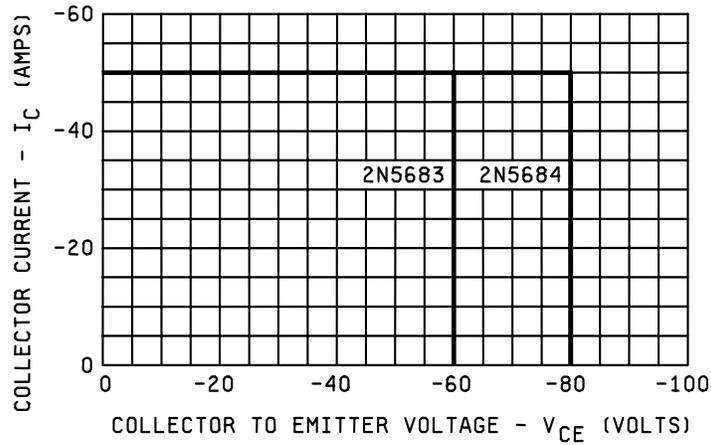


FIGURE 8. Safe operating area for switching between saturation and cutoff (clamped inductive load).

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. Product assurance level and type designator.

* 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 Defense Supply Center, Columbus, ATTN: DSCC/VQE, P.O. Box 3990, Columbus, OH 43218-3990 or e-mail vqe.chief@dla.mil.

Custodians:

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

Preparing activity:
DLA - CC

(Project 5961-2006-023)

Review activities:

Army - AR, MI, SM
Navy - AS, MC
Air Force - 19

* 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 <http://assist.daps.dla.mil/>.