

The documentation and process conversion measures necessary to comply with this revision shall be completed by 20 March 2014.

INCH-POUND

MIL-PRF-19500/771A  
 20 December 2013  
 SUPERSEDING  
 MIL-PRF-19500/771  
 27 July 2012

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, DIODE, SILICON, SCHOTTKY, DUAL, CENTER TAP,  
 TYPE 1N7059CCT3, AND SINGLE TYPE 1N7060U3, JAN, JANTX, JANTXV, AND JANS

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 silicon, schottky power rectifier diodes. 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) and [figure 2](#) (TO-257AA).

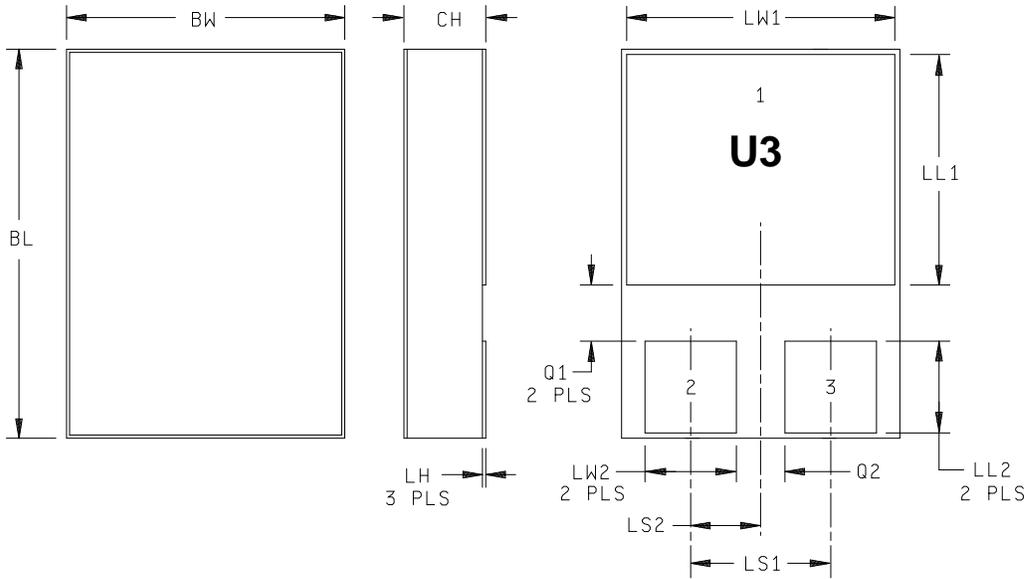
1.3 Maximum ratings. Unless otherwise specified, maximum ratings ( $T_A = +25^\circ\text{C}$ ).

Column 1	Column 2	Column 3	Column 4	Column 5		Column 6
Types (1)	$V_{RWM}$	$I_O$ (1)(2)	$I_{FSM}$ (3) $t_p = 8.3 \text{ ms}$ , $T_C = +25^\circ\text{C}$	$R_{\theta JC}$ (2)	$R_{\theta JC}$ (3)	$T_{STG}$ and $T_J$
	V dc	A dc	A (pk)	$^\circ\text{C/W}$	$^\circ\text{C/W}$	$^\circ\text{C}$
1N7059CCT3	60	16	125	1.0	2.0	-65 to +150
1N7060U3	60	30	120	2.0	2.0	

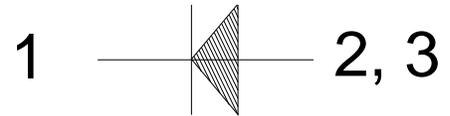
- (1) See temperature-current derating curves in [figures 3](#) and [4](#).
- (2) For each package
- (3) For each leg, see [figures 5](#) and [6](#).

1.4 Primary electrical characteristics.  $R_{\theta JC} = 1.0^\circ\text{C/W}$  maximum entire package for 1N7059CCT3,  $R_{\theta JC} = 2.0^\circ\text{C/W}$  maximum entire package for 1N7060U3.

Comments, suggestions, or questions on this document should be addressed to DLA Land and Maritime, ATTN: VAC, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to [Semiconductor@dla.mil](mailto:Semiconductor@dla.mil). Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil/>.



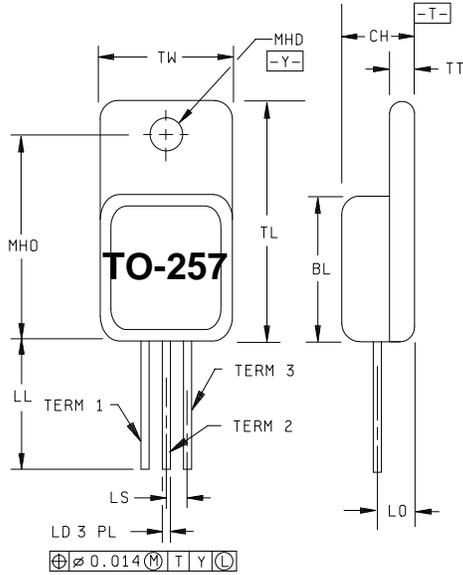
Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.395	.405	10.04	10.28
BW	.291	.301	7.40	7.64
CH	.108	.121	2.76	3.06
LH	.010	.020	0.25	0.51
LL1	.220	.230	5.59	5.84
LL2	.115	.125	2.93	3.17
LS1	.150 BSC		3.81 BSC	
LS2	.075 BSC		1.91 BSC	
LW1	.281	.291	7.14	7.39
LW2	.090	.100	2.29	2.54
Q1	.030		0.762	
Q2	.030		0.762	



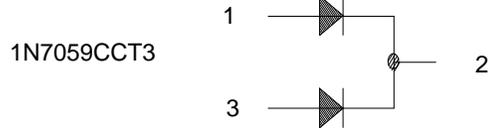
NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to  $\Phi$ x symbology.

FIGURE 1. Dimensions and configuration 1N7060U3.



Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.410	.430	10.41	10.92
CH	.190	.200	4.83	5.08
LD	.025	.040	0.64	1.02
LL	.500	.750	12.70	19.05
LO	.120 BSC		3.05 BSC	
LS	.100 BSC		2.54 BSC	
MHD	.140	.150	3.56	3.81
MHO	.527	.537	13.39	13.64
TL	.645	.665	16.38	16.89
TT	.035	.045	0.89	1.14
TW	.410	.420	10.41	10.67



1N7059CCT3  
 TERM 1 = ANODE  
 TERM 2 = CATHODE  
 TERM 3 = ANODE

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to  $\Phi$  x symbology.

FIGURE 2. Dimensions and configuration 1N7059CCT3 (TO-257AA).

## 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://quicksearch.dla.mil> or <https://assist.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, 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 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 manufacturer's list (QML) 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. The interface and physical dimensions shall be as specified in [MIL-PRF-19500](#), and on [figure 1](#) (U3) and [figure 2](#) (TO-257AA) herein. Methods used for electrical isolation of the terminal feedthroughs for the TO-257AA shall employ materials that contain a minimum of 90 percent Al<sub>2</sub>O<sub>3</sub> (ceramic).

3.4.1 Polarity. Polarity and terminal configuration shall be in accordance with [figure 1](#) and [figure 2](#) herein.

3.4.2 Lead material, finish, and formation. Lead material shall be Kovar or Alloy 52; a copper core or plated core is permitted. Lead finish shall be solderable in accordance with [MIL-PRF-19500](#), [MIL-STD-750](#), and herein. Where a choice of lead formation, material, or finish is desired, it shall be specified in the acquisition document (see [6.2](#)). When lead formation is performed, as a minimum, the vendor shall perform 100 percent hermetic seal in accordance with screen 14 of table E-IV of [MIL-PRF-19500](#) and 100 percent dc testing in accordance with [table I](#), subgroup 2 herein.

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

3.6 Electrical test requirements. The electrical test requirements shall be as specified in tables I and II herein.

3.7 Marking. Marking shall be in accordance with MIL-PRF-19500 and 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 and tables I and II herein).

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500 and as specified herein.

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 (JANS, JANTXV and JANTX levels). Screening shall be in accordance with table E-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 E-IV of MIL-PRF-19500)	Measurement	
	JANS level	JANTX and JANTXV levels
3b	Condition A, one pulse, $t_p = 8.3$ ms, $I_O = 0$ , $V_{RWM} = 0$ . $I_{FSM}$ = see 1.3 herein.	Condition A, one pulse, $t_p = 8.3$ ms, $I_O = 0$ , $V_{RWM} = 0$ . $I_{FSM}$ = see 1.3 herein.
(1) 3c	Thermal impedance (see 4.3.2).	Thermal impedance (see 4.3.2).
3d	Avalanche energy test (see 4.3.3).	Avalanche energy test (see 4.3.3).
9, 10	Not applicable.	Not applicable.
11	$V_{F1}$ and $I_{R1}$ .	$V_{F1}$ and $I_{R1}$ .
12	See 4.3.1, 240 hours, minimum.	See 4.3.1, 48 hours minimum.
13	Subgroups 2 and 3, of table I herein, $V_{F1}$ and $I_{R1}$ , excluding thermal impedance; $\Delta V_{F1} = \pm 50$ mV (pk); $\Delta V_{F2} = \pm 50$ mV (pk); $\Delta I_{R1} = \pm 100$ percent from the initial value or $\pm 300$ $\mu$ A, whichever is greater.	Subgroup 2, of table I herein excluding thermal impedance; $V_{F1}$ and $I_{R1}$ ; $\Delta V_{F1} = \pm 50$ mV (pk); $\Delta V_{F2} = \pm 50$ mV (pk); $\Delta I_{R1} = \pm 100$ percent from the initial value or $\pm 300$ $\mu$ A, whichever is greater.
14	Required.	Required.
15	Required.	Not applicable.
16	Required.	Not applicable.

(1) Thermal impedance shall be performed any time after screen 3.

4.3.1 Power burn-in conditions. Burn-in conditions are as follows: Method 1038 of MIL-STD-750, test condition A.  $T_J = +100^\circ\text{C}$ ;  $V_R = 48$  V dc.

4.3.2 Thermal impedance. The thermal impedance measurements shall be performed in accordance with method 3101 or 4081 of MIL-STD-750 using the guidelines in that method for determining  $I_M$ ,  $I_H$ ,  $t_H$ , and  $t_{MD}$ . Measurement delay time ( $t_{MD}$ ) = 70  $\mu$ s max. See table III, subgroup 4, and figures 5 and 6.

4.3.3 Avalanche energy test. The avalanche energy test is to be performed in accordance with method 4064 of MIL-STD-750 using the circuit as shown on [figure 7](#) or equivalent. The Schottky rectifier under test must be capable of absorbing the reverse energy, as follows:  $I_{AS} = 1A$ ,  $V_{br} = 60 V$  minimum,  $L = 100 \mu H$ .

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 E-V of [MIL-PRF-19500](#), and [table I](#) herein. Electrical measurements (end points) and delta requirements shall be in accordance with the applicable steps of [table II](#) herein.

4.4.2 Group B inspection. Group B inspection shall be conducted in accordance with the conditions specified for subgroup testing in tables E-VIA (JANS) and 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, forward voltage test ( $V_{F1}$ ) and reverse leakage test ( $I_{R1}$ ) herein. Delta measurements shall be in accordance with [table II](#) herein.

4.4.2.1 Group B inspection, table E-VIA (JANS) of [MIL-PRF-19500](#).

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B4	1037	$\Delta T_C = +85^\circ C$ , $I_F = 2 A$ minimum for 2,000 cycles.
* B5	1038	Condition A, $V_R = 48 V$ dc, $T_J = +100^\circ C$ , $t = 340$ hours minimum; heat sinking allowed.

As an alternative method a five (5) dice sample from each individual wafer from the wafer lot shall be qualified for 1,000 hours minimum then each conformance inspection lot requires 340 hours minimum when selected from qualified wafers. This option must be approved by the qualifying activity based on data from at least 3 wafer lots. Any change to the die design, or a conformance inspection failure of the alternate method, requires the 3 wafer lot qualification prior to using this alternative method.

4.4.2.2 Group B inspection, table E-VIB (JAN, JANTX, and JANTXV) of [MIL-PRF-19500](#).

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
B3	1037	$\Delta T_C = +85^\circ C$ , $I_F = 2 A$ minimum for 2,000 cycles.

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4.4.3 Group C inspection. Group C inspection shall be conducted in accordance with the conditions specified for subgroup testing in table E-VII of MIL-PRF-19500. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2, forward voltage test ( $V_{F1}$ ) and reverse leakage test ( $I_{R1}$ ) herein. Delta measurements shall be in accordance with table II herein.

<u>Subgroup</u>	<u>Method</u>	<u>Condition</u>
C2	2036	Condition A, weight = 10 lbs, t = 15 seconds. Not applicable to U3 package.
C5	4081	Limit for thermal resistance for 1N7059CCT3 is 2.0°C/W for each diode. Limit for thermal resistance for 1N7060U3 is 2.0°C/W for each diode.
C6	1037	$\Delta T_C = +85^\circ\text{C}$ , $I_F = 2$ A minimum for 6,000 cycles.
* C6	1038	Condition A, $V_R = 48$ V dc, $T_J = +100^\circ\text{C}$ , t = 1,000 hours minimum (for TX, TXV only); heat sinking allowed.  As an alternative method a five (5) dice sample from each individual wafer from the wafer lot shall be qualified for 1,000 hours minimum then each conformance inspection lot requires 340 hours minimum when selected from qualified wafers. This option must be approved by the qualifying activity based on data from at least 3 wafer lots. Any change to the die design, or a conformance inspection failure of the alternate method, requires the 3 wafer lot qualification prior to using this alternative method.

4.4.4 Group E inspection. Group E inspection shall be conducted in accordance with the tests and conditions specified for subgroup testing in table E-IX of MIL-PRF-19500, and table III herein.

4.5 Methods of inspection. Methods of inspection shall be as specified in the appropriate tables as follows.

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

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TABLE I. Group A inspection.

Inspection <u>1/ 2/</u>	MIL-STD-750		Symbol	Limits		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u>						
Visual and mechanical examination	2071					
<u>Subgroup 2</u>						
Thermal impedance <u>3/</u>	3101	See 4.3.2	Z <sub>θJX</sub>			°C/W
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 8 A (pk) I <sub>F</sub> = 30 A (pk)	V <sub>F1</sub>		.58 .92	V V
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 16 A (pk) I <sub>F</sub> = 60 A (pk)	V <sub>F2</sub>		.77 1.32	V V
Reverse current 1N7059CCT3 1N7060U3	4016	DC method V <sub>R</sub> = 60 V V <sub>R</sub> = 60 V	I <sub>R1</sub>		.68 .6	mA mA
<u>Subgroup 3</u>						
High temperature operation:		T <sub>C</sub> = +125 °C				
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 8 A (pk) I <sub>F</sub> = 30 A (pk)	V <sub>F3</sub>		.55 .88	V V
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 16 A (pk) I <sub>F</sub> = 60 A (pk)	V <sub>F4</sub>		.79 1.24	V V
Reverse current 1N7059CCT3 1N7060U3	4016	DC method V <sub>R</sub> = 60 V V <sub>R</sub> = 60 V	I <sub>R2</sub>		150 100	mA mA
Low temperature operation:		T <sub>C</sub> = -55°C				
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 8 A (pk) I <sub>F</sub> = 30 A (pk)	V <sub>F5</sub>		.63 .83	V V
Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed test (see 4.5.1) I <sub>F</sub> = 16 A (pk) I <sub>F</sub> = 60 A (pk)	V <sub>F6</sub>		.79 1.18	V V

See footnotes at end of table.

TABLE I. Group A inspection – Continued.

Inspection 1/ 2/	MIL-STD-750		Symbol	Limits		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 4</u>						
Junction capacitance	4001	$V_R = 5 \text{ V dc}$ , $f = 1 \text{ MHz}$ , $V_{SIG} = 50 \text{ mV (p-p)}$	$C_J$		700	pF
<u>Subgroup 5</u>						
Not applicable						
<u>Subgroup 6</u>						
Surge	4066	See column 4 of 1.3. Ten surges for each diode. 60 seconds between surges. (see 4.5.1)				
Electrical measurements		See table I, subgroup 2 herein.				
<u>Subgroup 7</u>						
Dielectric withstanding voltage	1081	$V_R = 500 \text{ V dc}$ ; All leads shorted; V measure from leads to case;	DWV		10	$\mu\text{A}$
Scope display evaluation	4023	Stable only				
Electrical measurements		See table I, subgroup 2 herein.				

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

2/ Each individual diode.

3/ This test required for the following end-point measurements only:

Group B, subgroups 3 and 4 (JANS).

Group B, subgroups 2 and 3 (JAN, JANTX, JANTXV).

Group C, subgroups 2, and 6.

Group E, subgroup 1.

TABLE II. Groups B, C, and E delta requirements. 1/ 2/ 3/ 4/ 5/ 6/

Step	Inspection	MIL-STD-750		Symbol	Limits		Unit
		Method	Conditions		Min	Max	
1.	Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed (see 4.5.1) I <sub>F</sub> = 8 A (pk) I <sub>F</sub> = 30 A (pk)	$\Delta V_{F1}$	±50 mV dc from initial reading.		
2.	Forward voltage 1N7059CCT3 1N7060U3	4011	Pulsed (see 4.5.1) I <sub>F</sub> = 16 A (pk) I <sub>F</sub> = 60 A (pk)	$\Delta V_{F2}$	±50 mV dc from initial reading.		
3.	Reverse current	4016	V <sub>r</sub> = 60V	$\Delta I_{R1}$	±100 percent from initial reading or ±300uA whichever is greater.		
4.	Thermal impedance	3101	See 4.3.2	Z <sub>θJX</sub>			°C/W

1/ Each individual diode.

2/ The electrical measurements for appendix E, table E-VIA (JANS) of MIL-PRF-19500 are as follows:

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

3/ The electrical measurements for appendix E, table E-VIB (JANTX and JANTXV) of MIL-PRF-19500 are as follows:

- a. Subgroup 2, see table II herein, steps 1, 2, 3, and 4.
- b. Subgroup 3, see table II herein, steps 1, 2, 3, and 4.
- c. Subgroup 6, see table II herein, steps 1, 2, and 3.

4/ The electrical measurements for appendix E, table E-VII of MIL-PRF-19500 are as follows:

- a. Subgroup 2, see table II herein, steps 1, 2, 3, and 4 for all levels.
- b. Subgroup 3, see table II herein, steps 1, 2, and 3 for all levels.
- c. Subgroup 6, see table II herein, steps 1, 2, 3, and 4 for all levels.

5/ The electrical measurements for table E-IX of MIL-PRF-19500 are as follows:

- a. Subgroup 1, see table II herein, steps 1, 2, 3, and 4.
- b. Subgroup 2, see table II herein, steps 1, 2, and 3.

6/ Devices which exceed the table I, limits for this test shall not be accepted.

TABLE III. Group E inspection (all quality levels) – for qualification and requalification only.

Inspection	MIL-STD-750		Qualification
	Method	Conditions	
<u>Subgroup 1</u> Temperature cycling (air to air) Electrical measurements	1051	Test condition G, 500 cycles, -55°C to +150°C. See <a href="#">table I</a> subgroup 2.	n = 45, c = 0
<u>Subgroup 2</u> Life test Electrical measurements	1048	t = 1,000 hours, T <sub>J</sub> = +100°C, V <sub>R</sub> = 80 percent rated voltage (see <a href="#">1.3</a> , column 2 herein). See <a href="#">table I</a> subgroup 2.	n = 45, c = 0
<u>Subgroup 4</u> Thermal impedance curves		See <a href="#">MIL-PRF-19500</a> .	
<u>Subgroup 10</u> <sup>1/</sup> Surge 1N7059CCT3 1N7060U3 Electrical measurements	4066	Condition A, T <sub>A</sub> = +25°C I <sub>FSM</sub> = 125 A, ten surges of 8.3 ms V <sub>R</sub> = 0; I <sub>O</sub> = 10 A pk half sine wave, continuous. Condition A, T <sub>A</sub> = +25°C I <sub>FSM</sub> = 120 A, ten surges of 8.3 ms V <sub>R</sub> = 0; I <sub>O</sub> = 10 A pk half sine wave, continuous. See <a href="#">table I</a> subgroup 2 (V <sub>F</sub> and I <sub>R</sub> only).	n = 5, c = 0

<sup>1/</sup> Each individual diode.

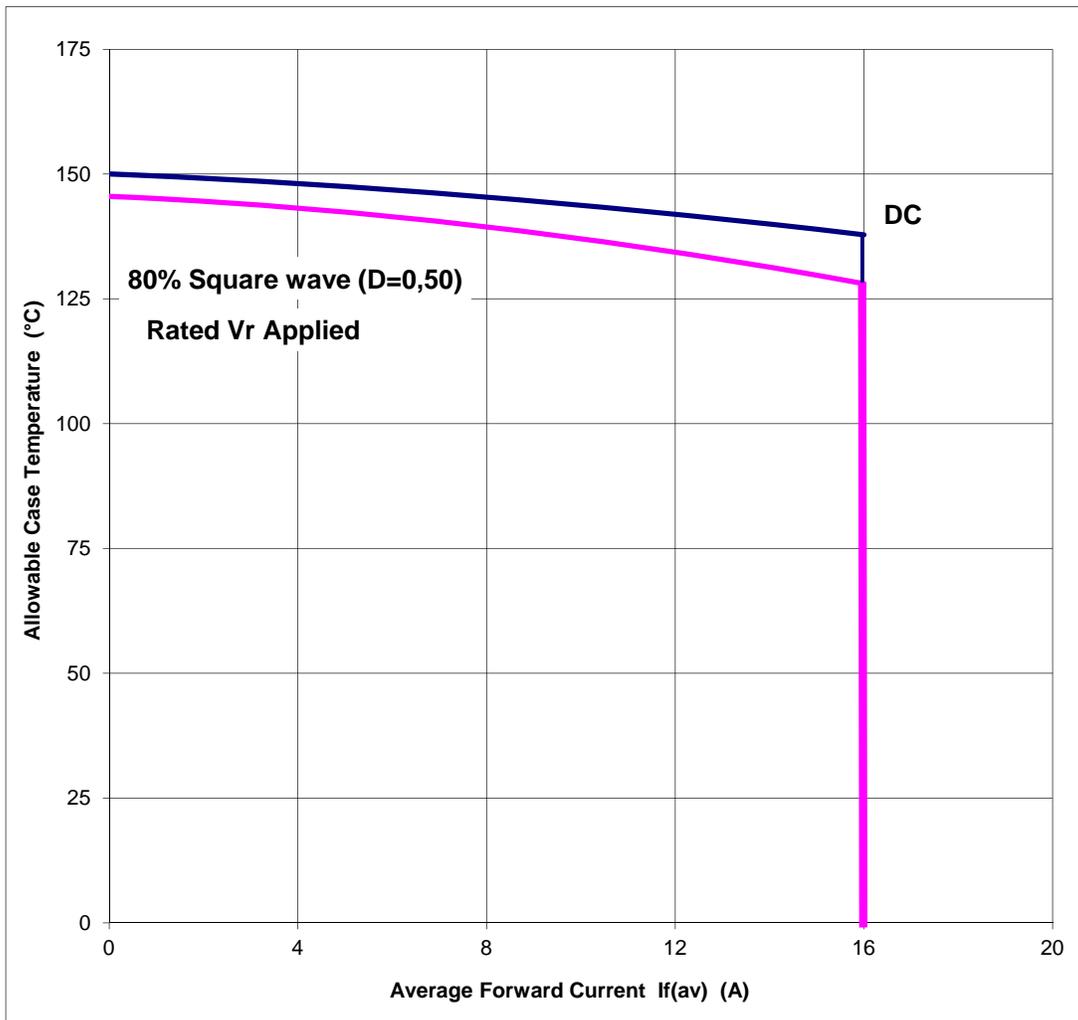


FIGURE 3. Temperature-current derating curve 1N7059CCT3 (entire package).

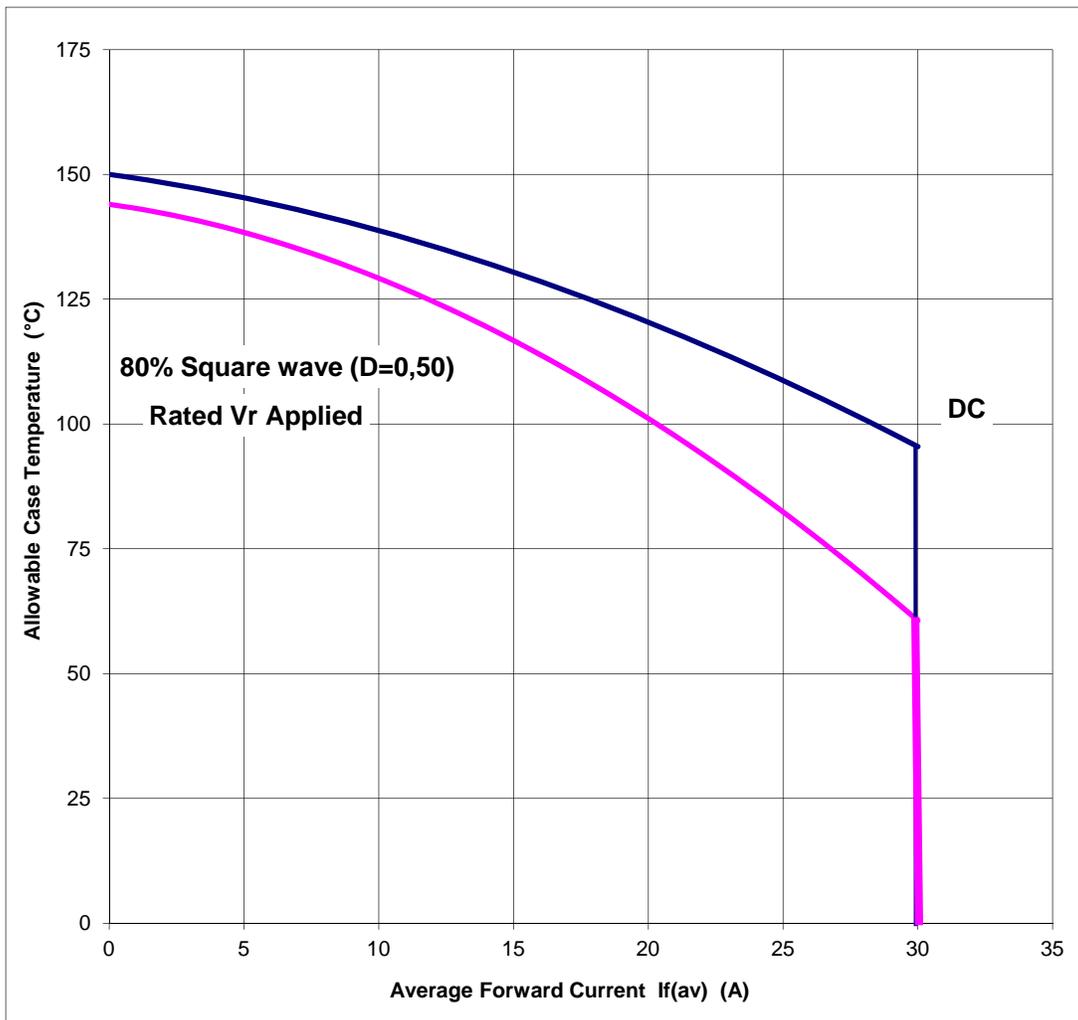
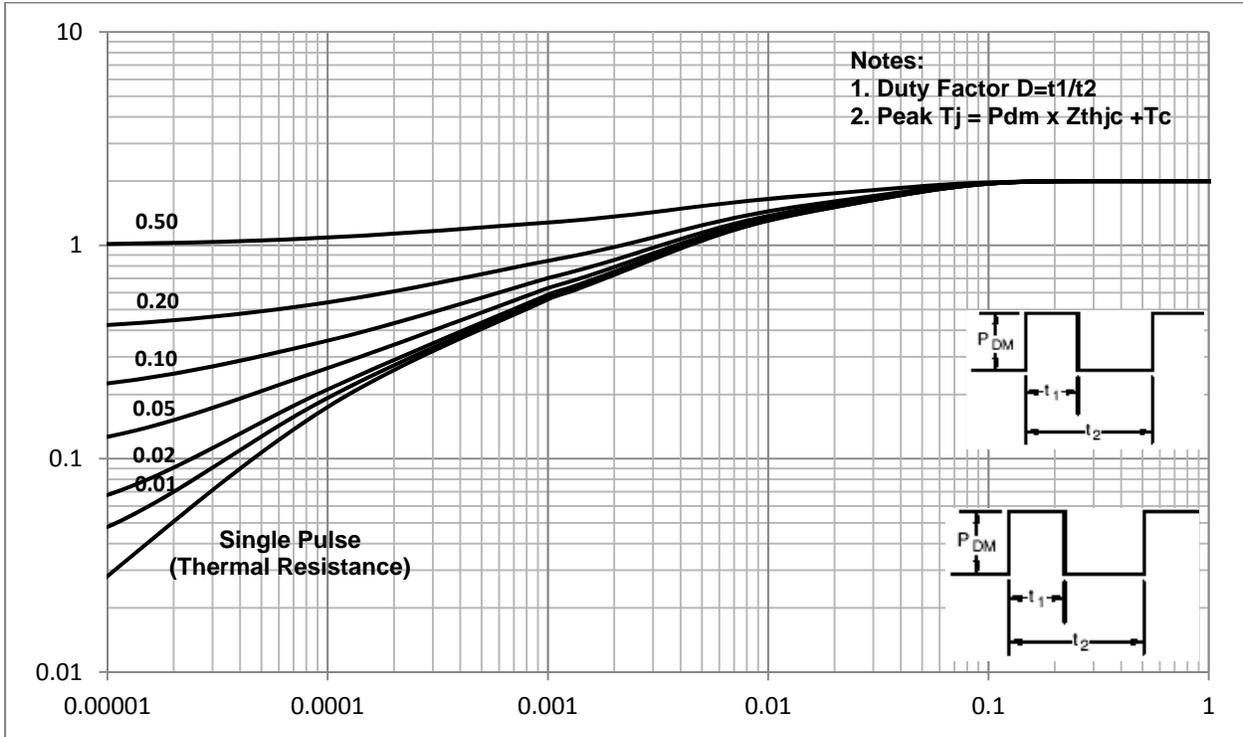


FIGURE 4. Temperature-current derating curve 1N7060U3 (entire package).



\* FIGURE 5. Thermal impedance 1N7059CCT3 (for each leg).

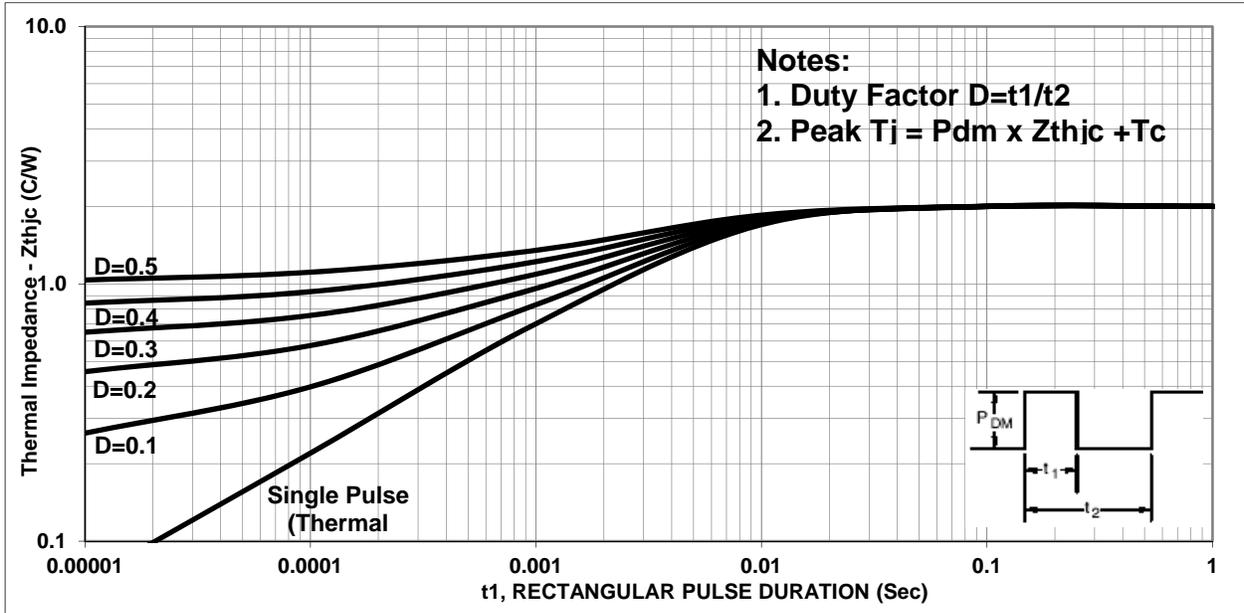
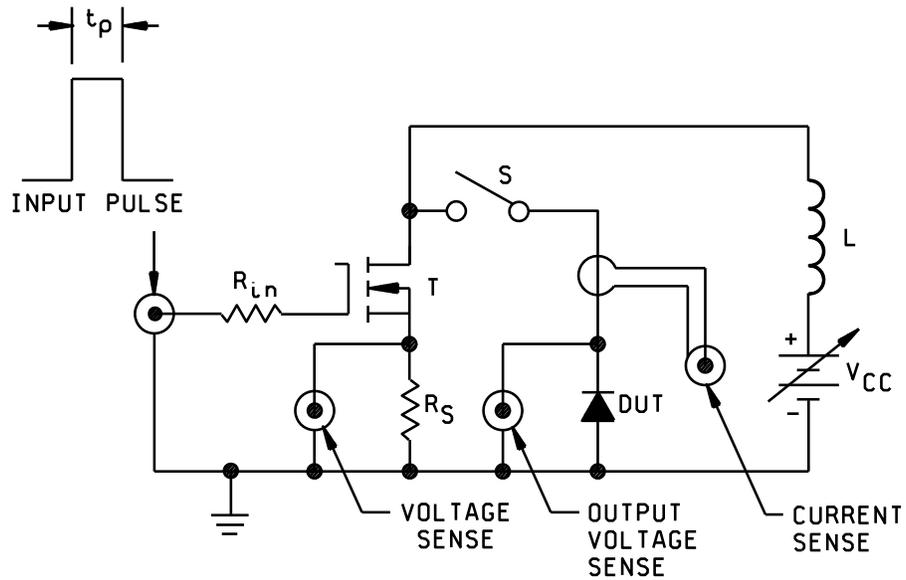


FIGURE 6. Thermal impedance 1N7060U3 (for each leg).



Input pulse  $R_{in} = 50$  ohms, 1 watt  
 $V_G = 10$  Volts,  $R_S = 0.1$  ohms, 1 watt  
 $Z_G = 50$  ohms  
 $L = 100\mu\text{H}$   
 $P.W. \approx 30 \mu\text{s}$   
 Duty cycle  $\leq 1$  percent,  $T = \text{IRF250/2N6766}$  or equivalent

**PROCEDURES:**

1. With S open, adjust pulse width to test current of 1 amp through  $R_S$ .
2. Close S, verify test current with current sense.
3. Read peak output voltage (see 4.3.3).

FIGURE 7. Avalanche energy test circuit.

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 DLA Land and Maritime, ATTN: VQE, P.O. Box 3990, Columbus, OH 43218-3990 or e-mail [vqe.chief@dla.mil](mailto:vqe.chief@dla.mil). An online listing of products qualified to this specification may be found in the Qualified Products Database (QPD) at <https://assist.dla.mil>.

6.4 Cross reference substitution list. A PIN for PIN replacement table follows, and these devices are directly interchangeable.

Non-preferred PIN	Preferred PIN
16SCYQ060C 30SLJQ060	JANS, JANTXV, JANTX1N7059CCT3 JANS, JANTXV, JANTX1N7060U3

6.5 Changes from previous issue. The margins of this specification are marked with asterisks to indicate where changes 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 - CR  
Navy - EC  
Air Force - 85  
NASA - NA  
DLA - CC

Preparing activity:

DLA - CC

(Project 5961-2013-127)

Review activity:

Army – AV, MI  
Navy - AS  
Air Force – 99

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 <https://assist.dla.mil/>.