| REVISIONS | | | |
|---|---|---|---|
| LTR | DESCRIPTION | DATE (YR-MO-DA) | APPROVED |
| A | Add device type 02. Editorial changes throughout. Change drawing CAGE to 67268. | 1990 MAR 07 | W. Heckman |

**CURRENT CAGE CODE 67268**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REV | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET | | | | | | | | | | | | | | | | | | | | | | | | |
| REV | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET | | | | | | | | | | | | | | | | | | | | | | | | |
| REV STATUS OF SHEETS | REV | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | | | | | |
| | SHEET | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | | |

PMIC N/A

**STANDARDIZED MILITARY DRAWING**

THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

AMSC N/A

PREPARED BY: Christopher A. Rauch

CHECKED BY: Tim H. Noh

APPROVED BY: William K. Heckman

DRAWING APPROVAL DATE: 9 February 1987

REVISION LEVEL: A

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

MICROCIRCUITS, DIGITAL, BIPOLAR, OCTAL, 3-STATE, BIDIRECTIONAL, BUS TRANSCEIVER, MONOLITHIC SILICON

| SIZE | CAGE CODE | 5962-86723 |
|---|---|---|
| A | 14933 | |

SHEET 1 OF

DESC FORM 193-1
SEP 87

* U.S. GOVERNMENT PRINTING OFFICE: 1987 — 748-129/60912

5962-E1365

1. SCOPE

1.1 Scope. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".

1.2 Part number. The complete part number shall be as shown in the following example:

| 5962-86723 | 01 | R | X |
|---|---|---|---|
| Drawing number | Device type (1.2.1) | Case outline (1.2.2) | Lead finish per MIL-M-38510 |

1.2.1 Device types. The device type shall identify the circuit function as follows:

| Device type | Generic number | Circuit function |
|---|---|---|
| 01 | 2947 | Octal, 3-state, bidirectional, bus transceivers noninverting |
| 02 | 2946 | Octal, 3-state, bidirectional, bus transceivers inverting |

1.2.2 Case outlines. The case outlines shall be as designated in appendix C of MIL-M-38510, and as follows:

| Outline letter | Case outline |
|---|---|
| R | D-8 (20-lead, 1.060" x .310" x .200"), dual-in-line package |
| 2 | C-2 (20-terminal, .358" x .358" x .100"), square chip carrier package |

1.3 Absolute maximum ratings.

| | |
|---|---|
| Supply voltage range | -0.5 V dc to +7.0 V dc |
| Input voltage range | -1.5 V dc to +5.5 V dc |
| Storage temperature range | -65°C to +150°C |
| Maximum power dissipation ($P_D$) 1/ | 775 mW |
| Lead temperature (soldering, 10 seconds) | +300°C |
| Thermal resistance, junction-to-case ($\theta_{JC}$) | See MIL-M-38510, appendix C |
| Junction temperature ($T_J$) | +175°C |

1.4 Recommended operating conditions.

| | |
|---|---|
| Supply voltage range ($V_{CC}$) | +4.5 V dc to +5.5 V dc |
| Minimum high level input voltage ($V_{IH}$) | 2.0 V |
| Maximum low level input voltage ($V_{IL}$) | 0.7 V |
| Ambient operating temperature range ($T_A$) | -55°C to +125°C |

1/ Must withstand the added $P_D$ due to short circuit test; e.g., $I_{OS}$.

2. APPLICABLE DOCUMENTS

2.1 Government specification, standard, and bulletin. Unless otherwise specified, the following specification, standard, and bulletin of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

MILITARY

MIL-M-38510 - Microcircuits, General Specification for.

STANDARD

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.

BULLETIN

MILITARY

MIL-BUL-103 - List of Standardized Military Drawing (SMD's).

(Copies of the specification, standard, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 Terminal connections. The terminal connections shall be as specified on figure 1.

3.2.2 Truth table. The truth table shall be as specified on figure 2.

3.2.3 Logic diagrams. The logic diagrams shall be as specified on figure 3.

3.2.4 Case outlines. The case outlines shall be in accordance with 1.2.2 herein.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and apply over the full case operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

3.5 Marking. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the part number listed in 1.2 herein. In addition, the manufacturer's part number may also be marked as listed in MIL-BUL-103 (see 6.6 herein).

TABLE I. Electrical performance characteristics.

| Test | Symbol | Conditions $-55°C < T_A < +125°C$ unless otherwise specified | | Device type | Group A subgroups | Limits | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Min | Max | |
| High level output voltage, $A_0$ - $A_7$ | $V_{OH1}$ | $V_{CC}$ = 4.5 V | $I_{OH}$ = -0.4 mA | All | 1, 2, 3 | 3.35 | | V |
| | | $T/\overline{R}$ = 0.8 V<br>CD = 0.7 V | $I_{OH}$ = -3.0 mA | | | 2.7 | | |
| High level output voltage, $B_0$ - $B_7$ | $V_{OH2}$ | $V_{CC}$ = 4.5 V | $I_{OH}$ = -0.4 mA | | | 3.35 | | |
| | | $T/\overline{R}$ = 2.0 V<br>CD = 0.7 V | $I_{OH}$ = -5.0 mA | | | 2.7 | | |
| | | | $I_{OH}$ = -10 mA | | | 2.4 | | |
| Low level output voltage, $A_0$ - $A_7$ | $V_{OL1}$ | $V_{CC}$ = 4.5 V<br>$T/\overline{R}$ = 0.8 V<br>CD = 0.7 V<br>$I_{OL}$ = 12 mA | | | | | 0.4 | |
| Low level output voltage, $B_0$ - $B_7$ | $V_{OL2}$ | $V_{CC}$ = 4.5 V | $I_{OL}$ = 20 mA | | | | 0.4 | |
| | | $T/\overline{R}$ = 2.0 V<br>CD = 0.7 V | $I_{OL}$ = 48 mA | | | | 0.5 | |
| Input clamp voltage, voltage, $A_0$ - $A_7$ and $B_0$ - $B_7$ | $V_{IC1}$ | $V_{CC}$ = 4.5 V<br>CD = 2.0 V<br>$I_{IN}$ = -12 mA | | | | | -1.5 | |
| Input clamp voltage, CD, $T/\overline{R}$ | $V_{IC2}$ | $V_{CC}$ = 4.5 V<br>$I_{IN}$ = -12 mA | | | | | -1.5 | |
| High level input current, $A_0$ - $A_7$ | $I_{IH1}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = 2.0 V<br>CD = 0.7 V<br>$V_{IN}$ = 2.7 V | | | | | 80 | µA |
| High level input current, $B_0$ - $B_7$ | $I_{IH2}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = CD = 0.7 V<br>$V_{IN}$ = 2.7 V | | | | | 80 | |

See footnotes at end of table.



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TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C < T_A < +125°C$ unless otherwise specified | | Device type | Group A subgroups | Limits Min | Limits Max | Unit |
|---|---|---|---|---|---|---|---|---|
| High level input current, CD, $T/\overline{R}$ | $I_{IH3}$ | $V_{CC}$ = 5.5 V<br>$V_{IN}$ = 2.7 V | | All | 1, 2, 3 | | 20 | µA |
| High level input current, $A_0$ - $A_7$ $B_0$ - $B_7$ | $I_{IH4}$ | $V_{CC}$ = 5.5 V<br>CD = 2.0 V<br>$V_{IN}$ = 5.5 V | | | | | 1 | mA |
| High level input current, $T/\overline{R}$, CD | $I_{IH5}$ | $V_{CC}$ = 5.5 V<br>$V_{IN}$ = 5.5 V | | | | | 1 | |
| Low level input current, $A_0$ - $A_7$ | $I_{IL1}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = 2.0 V<br>CD = 0.7 V<br>$V_{IN}$ = 0.4 V | | | | | -200 | µA |
| Low level input current, $B_0$ - $B_7$ | $I_{IL2}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = 0.7 V<br>CD = 0.7 V<br>$V_{IN}$ = 0.4 V | | | | | -200 | |
| Low level input current, CD, $T/\overline{R}$ | $I_{IL3}$ | $V_{CC}$ = 5.5 V<br>$V_{IN}$ = 0.4 V | | | | | -250 | |
| Short circuit output current, $A_0$ - $A_7$ | $I_{OS1}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = 0.8 V<br>CD = 0.7 V<br>$V_{OUT}$ = 0.0 V 1/ | | | | -10 | -75 | mA |
| Short circuit output current, $B_0$ - $B_7$ | $I_{OS2}$ | $V_{CC}$ = 5.5 V<br>$T/\overline{R}$ = 2.0 V<br>CD = 0.7 V<br>$V_{OUT}$ = 0.0 V 1/ | | | | -25 | -150 | |
| Functional tests | | See 4.3.1c | | | 7, 8 | | | |
| Off state output current high | $I_{OZH}$ | $V_{CC}$ = 5.5 V<br>CD = 2.0 V<br>$V_{OUT}$ = 4.0 V | $A_0$ - $A_7$ | | 1, 2, 3 | | 80 | µA |
| | | | $B_0$ - $B_7$ | | | | 200 | |

See footnotes at end of table.



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TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C < T_A < +125°C$ unless otherwise specified | | | Device type | Group A subgroups | Limits Min | Limits Max | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Off state output current low, $A_0$ - $A_7$, $B_0$ - $B_7$ | $I_{OZL}$ | $V_{CC}$ = 5.5 V<br>$\overline{CD}$ = 2.0 V<br>$V_{OUT}$ = 0.4 V | | | All | 1, 2, 3 | | -200 | µA |
| Supply current | $I_{CC}$ | $V_{CC}$ = 5.5 V | $\overline{CD}$ = 2.0 V<br>$T/\overline{R}$ = 0.4 V | $V_{IN}$ = 0.4 V | 01 | | | 100 | mA |
| | | | | $V_{IN}$ = 2.0 V | 02 | | | 100 | |
| | | | $\overline{CD}$ = 0.4 V<br>$T/\overline{R}$ = 2.0 V | $V_{IN}$ = 0.4 V | 01 | | | 140 | |
| | | | | $V_{IN}$ = 2.0 V | 02 | | | 150 | |
| Propagation delay time, input B port to output A port | $t_{PHL1}$ | $\overline{CD}$ = $T/\overline{R}$ = 0.4 V<br>$R_1$ = 1 kΩ<br>$R_2$ = 5 kΩ<br>$C_1$ = 30 pF<br>(See figure 4) | | | 01 | 9 2/ | | 18 | ns |
| | | | | | 02 | | | 12 | |
| | | | | | 01 | 9, 10, 11 3/ | | 24 | |
| | | | | | 02 | | | 19 | |
| | $t_{PLH1}$ | | | | 01 | 9 2/ | | 18 | |
| | | | | | 02 | | | 16 | |
| | | | | | 01 | 9, 10, 11 3/ | | 24 | |
| | | | | | 02 | | | 23 | |
| Disable time, $\overline{CD}$ to A port | $t_{PLZ1}$ | $T/\overline{R}$ = 0.4 V<br>$R_5$ = 1 kΩ<br>$C_4$ = 15 pF<br>(See figure 6) | | $B_0$ to $B_7$ = 0.4 V<br>$S_3$ = 1 | All | 9 2/ | | 15 | |
| | | | | | | 9, 10, 11 3/ | | 21 | |
| | $t_{PHZ1}$ | | | $B_0$ to $B_7$ = 2.4 V<br>$S_3$ = 0 | | 9 2/ | | 15 | |
| | | | | | | 9, 10, 11 3/ | | 21 | |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified | | Device type | Group A subgroups | Limits Min | Limits Max | Unit |
|---|---|---|---|---|---|---|---|---|
| Enable time, CD to A port | $t_{PZL1}$ | $C_4$ = 30 pF<br>$\overline{T/R}$ = 0.4 V<br>(See figure 6)<br>4/ | $B_0$ to $B_7$ = 0.4 V<br>$S_3$ = 1<br>$R_5$ = 1 kΩ | All | 9 2/ | | 25 | ns |
| | | | | | 9, 10, 11 3/ | | 33 | |
| | $t_{PZH1}$ | | $B_0$ to $B_7$ = 2.4 V<br>$S_3$ = 0<br>$R_5$ = 5 kΩ | | 9 2/ | | 25 | |
| | | | | | 9, 10, 11 3/ | | 33 | |
| Propagation delay time, input A port to output B port | $t_{PHL2}$ | CD = 0.4 V<br>$\overline{T/R}$ = 2.4 V<br>(See figure 4)<br>4/ | $R_1$ = 100Ω<br>$R_2$ = 1 kΩ<br>$C_1$ = 300 pF | 01 | 9 2/ | | 23 | |
| | | | | 02 | | | 18 | |
| | | | | 01 | 9, 10, 11 3/ | | 34 | |
| | | | | 02 | | | 29 | |
| | | | $R_1$ = 667Ω<br>$R_2$ = 5 kΩ<br>$C_1$ = 45 pF | 01 | 9 2/ | | 18 | |
| | | | | 02 | | | 12 | |
| | | | | 01 | 9, 10, 11 3/ | | 25 | |
| | | | | 02 | | | 19 | |
| | $t_{PLH2}$ | | $R_1$ = 100Ω<br>$R_2$ = 1 kΩ<br>$C_1$ = 300 pF | 01 | 9 2/ | | 23 | |
| | | | | 02 | | | 20 | |
| | | | | 01 | 9, 10, 11 3/ | | 34 | |
| | | | | 02 | | | 30 | |
| | | | $R_1$ = 667Ω<br>$R_2$ = 5 kΩ<br>$C_1$ = 45 pF | 01 | 9 2/ | | 18 | |
| | | | | 02 | | | 14 | |
| | | | | 01 | 9, 10, 11 3/ | | 25 | |
| | | | | 02 | | | 22 | |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified | | Device type | Group A subgroups | Limits | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Min | Max | |
| Disable time, CD to B port | $t_{PLZ2}$ | $T/\overline{R}$ = 2.4 V<br>$R_5$ = 1 kΩ<br>$C_4$ = 15 pF<br>(See figure 6)<br>4/ | $A_0$ to $A_7$ = 0.4 V<br>$S_3$ = 1 | All | 9 2/ | | 18 | ns |
| | | | | | 9, 10, 11 3/ | | 26 | |
| | $t_{PHZ2}$ | | $A_0$ to $A_7$ = 2.4 V<br>$S_3$ = 0 | | 9 2/ | | 15 | |
| | | | | | 9, 10, 11 3/ | | 21 | |
| Enable time, CD to B port | $t_{PZL2}$ | $A_0$ to $A_7$ = 0.4 V<br>$T/\overline{R}$ = 2.4 V<br>$S_3$ = 1<br>(See figure 6)<br>4/ | $R_5$ = 100Ω<br>$C_4$ = 300 pF | | 9 2/ | | 35 | |
| | | | | | 9, 10, 11 3/ | | 43 | |
| | | | $R_5$ = 667Ω<br>$C_4$ = 45 pF | | 9 2/ | | 22 | |
| | | | | | 9, 10, 11 3/ | | 30 | |
| | $t_{PZH2}$ | $A_0$ to $A_7$ = 2.4 V<br>$T/\overline{R}$ = 2.4 V<br>$S_3$ = 0<br>(See figure 6)<br>4/ | $R_5$ = 1 kΩ<br>$C_4$ = 300 pF | | 9 2/ | | 35 | |
| | | | | | 9, 10, 11 3/ | | 43 | |
| | | | $R_5$ = 5 kΩ<br>$C_4$ = 45 pF | | 9 2/ | | 22 | |
| | | | | | 9, 10, 11 3/ | | 30 | |

See footnotes at end of table.



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TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C < T_A < +125°C$ unless otherwise specified | Device type | Group A subgroups | Limits Min | Limits Max | Unit |
|---|---|---|---|---|---|---|---|
| Propagation delay time, from transmit mode to receive, T/$\overline{R}$ to A port | $t_{TRL}$ | A port; $S_2$ = 1; $C_2$ = 30 pF; CD = 0.4 V, $R_3$ = 1 kΩ (See figure 5) 4/ | 01 | 9 2/ | | 38 | ns |
| | | | 02 | | | 33 | |
| | | | 01 | 9, 10, 11 3/ | | 48 | |
| | | | 02 | | | 43 | |
| | | B port; $S_1$ = 0; $R_4$ = 100Ω; $C_3$ = 5 pF (See figure 5) 4/ | 01 | 9 2/ | | 38 | |
| | | | 02 | | | 33 | |
| | | | 01 | 9, 10, 11 3/ | | 48 | |
| | | | 02 | | | 43 | |
| | $t_{TRH}$ | A port; $S_2$ = 0; $C_2$ = 30 pF; CD = 0.4 V, $R_3$ = 5 kΩ (See figure 5) 4/ | 01 | 9 2/ | | 38 | |
| | | | 02 | | | 33 | |
| | | | 01 | 9, 10, 11 3/ | | 48 | |
| | | | 02 | | | 43 | |
| | | B port; $S_1$ = 1; $R_4$ = 100Ω; $C_3$ = 5 pF (See figure 5) 4/ | 01 | 9 2/ | | 38 | |
| | | | 02 | | | 33 | |
| | | | 01 | 9, 10, 11 3/ | | 48 | |
| | | | 02 | | | 43 | |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified | Device type | Group A subgroups | Limits Min | Limits Max | Unit |
|---|---|---|---|---|---|---|---|
| Propagation delay time, from transmit mode to receive, T/$\overline{R}$ to B port | $t_{RTL}$ | A port; $S_2$ = 0; $C_2$ = 5 pF; CD = 0.4 V, $R_3$ = 300Ω; (See figure 5) 4/ | 01 | 9 2/ | | 40 | ns |
| | | | 02 | | | 35 | |
| | | | 01 | 9, 10, 11 3/ | | 51 | |
| | | | 02 | | | 47 | |
| | | B port; $S_1$ = 1; $R_4$ = 100Ω; $C_3$ = 300 pF (See figure 5) 4/ | 01 | 9 2/ | | 40 | |
| | | | 02 | | | 35 | |
| | | | 01 | 9, 10, 11 3/ | | 51 | |
| | | | 02 | | | 47 | |
| | $t_{RTH}$ | A port; $S_2$ = 1; $C_2$ = 5 pF; CD = 0.4 V, $R_3$ = 300Ω; (See figure 5) 4/ | 01 | 9 2/ | | 40 | |
| | | | 02 | | | 35 | |
| | | | 01 | 9, 10, 11 3/ | | 51 | |
| | | | 02 | | | 47 | |
| | | B port; $S_1$ = 0; $R_4$ = 1 kΩ; $C_3$ = 300 pF; (See figure 5) 4/ | 01 | 9 2/ | | 40 | |
| | | | 02 | | | 35 | |
| | | | 01 | 9, 10, 11 3/ | | 51 | |
| | | | 02 | | | 47 | |

1/ Not more than one output should be shorted at a time and the duration of the short circuit condition should not exceed one second.

2/ $V_{CC}$ = 5.0 V.

3/ $V_{CC}$ = 4.5 V to 5.5 V.

4/ All ac loads are correlated from load of 50 pF during test.



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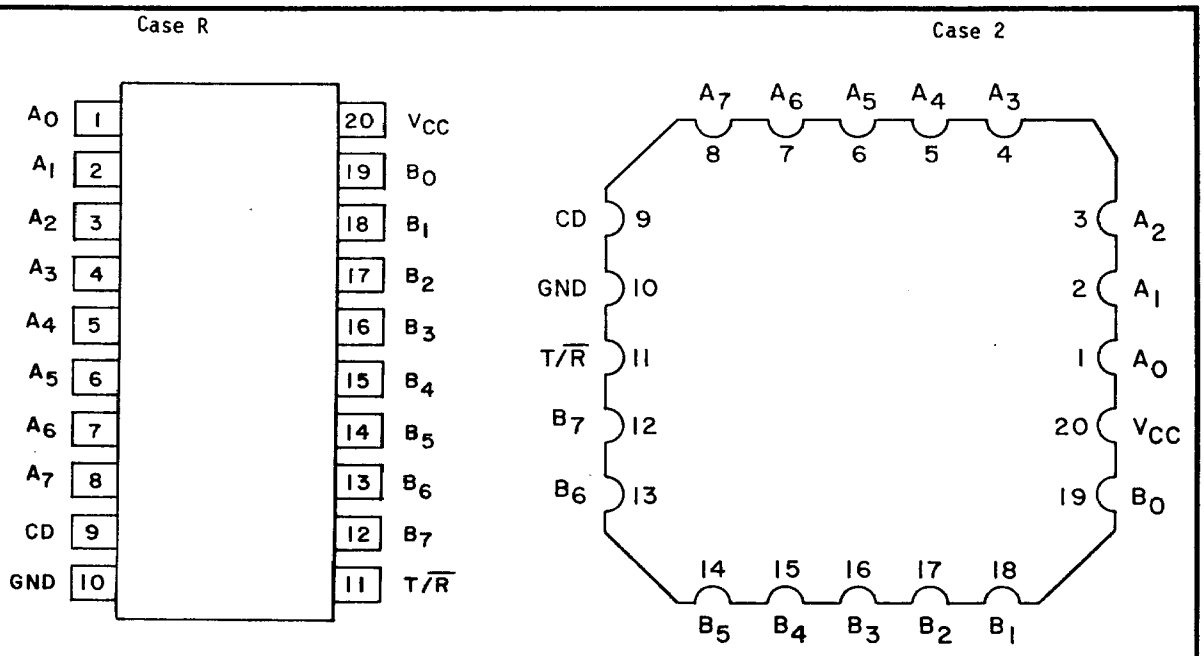
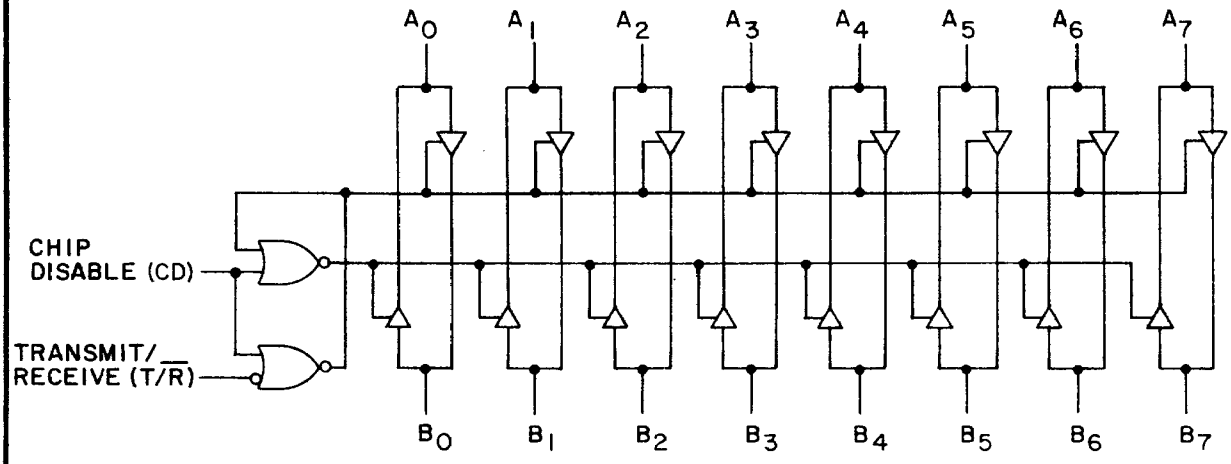



FIGURE 1. Terminal connections (top view).

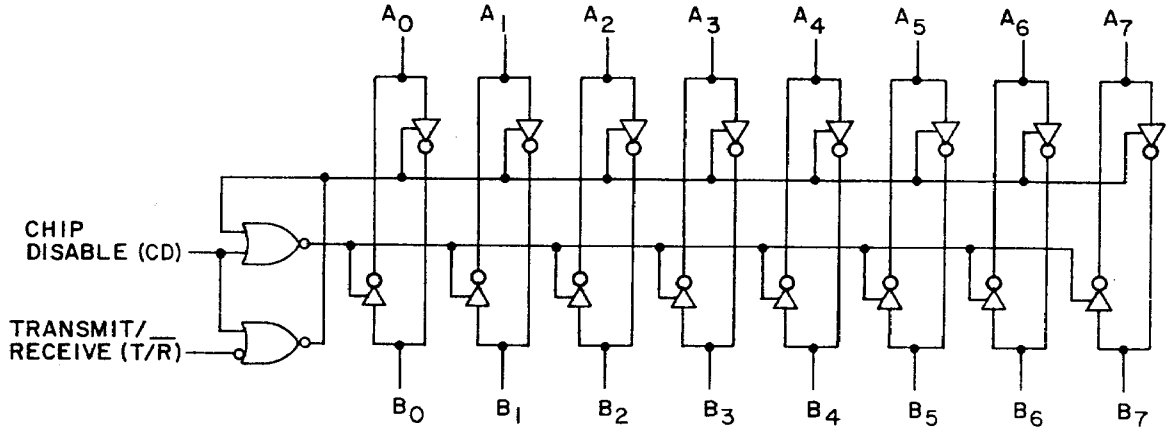
| Inputs | Conditions | | |
|---|---|---|---|
| Chip disable | L | L | H |
| Transmit/$\overline{\text{receive}}$ | L | H | X |
| A Port | Out | In | Z |
| B Port | In | Out | Z |

H = high level
L = low level
Z = high impedance state
X = irrelevant

FIGURE 2. Truth table.



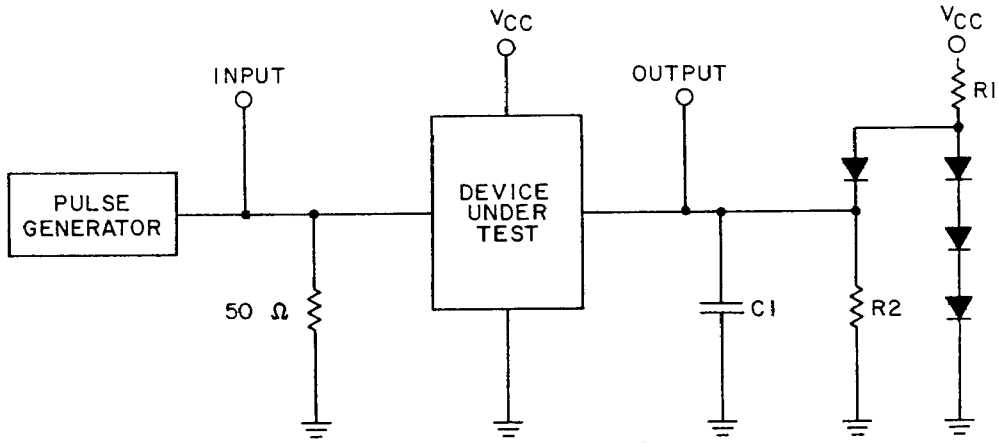

Device 01 (noninverting)




Device 02 (inverting)

FIGURE 3. Logic diagrams.

Test circuit




NOTE: C l includes test fixture capacitance

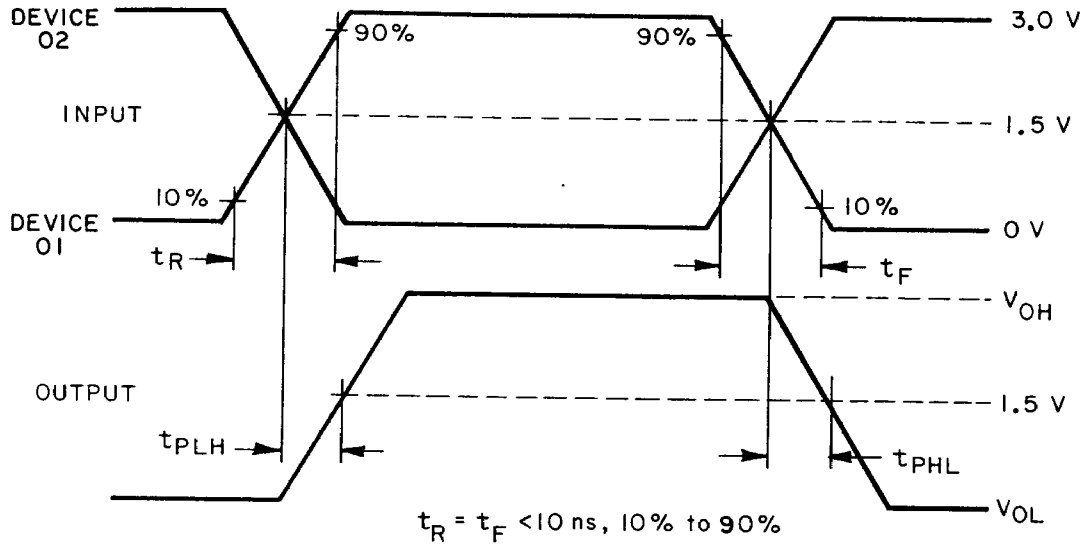



FIGURE 4. Switching waveforms, from A/B port to B/A port.

| STANDARDIZED MILITARY DRAWING<br>DEFENSE ELECTRONICS SUPPLY CENTER<br>DAYTON, OHIO 45444 | SIZE<br>A | | 5962-86723 |
|---|---|---|---|
| | | REVISION LEVEL<br>A | SHEET<br>13 |



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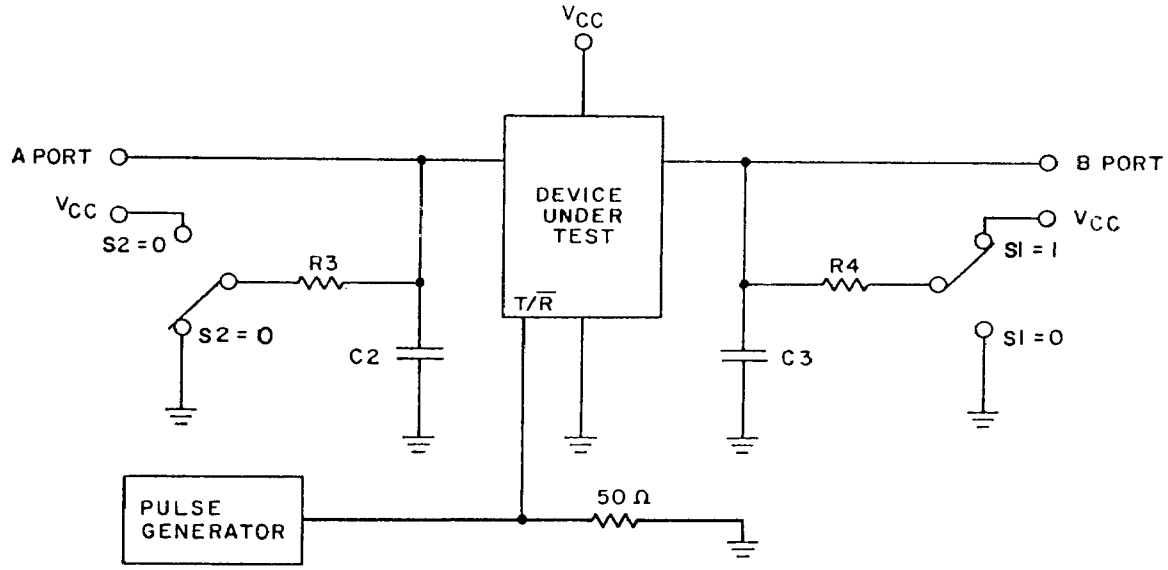
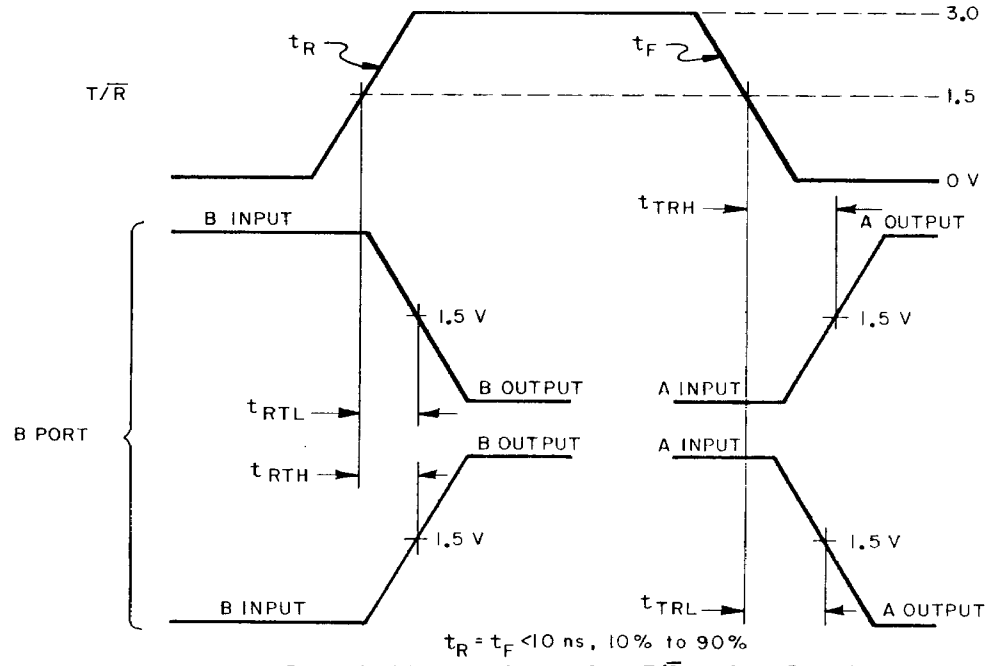
Test circuit




NOTE: C2 and C3 include text fixture capacitance




$t_R = t_F$ <10 ns, 10% to 90%

FIGURE 5. Switching waveforms, from T/$\overline{R}$ to A or B port.

| STANDARDIZED MILITARY DRAWING<br>DEFENSE ELECTRONICS SUPPLY CENTER<br>DAYTON, OHIO 45444 | SIZE<br>A | | 5962-86723 |
|---|---|---|---|
| | | REVISION LEVEL<br>A | SHEET<br>14 |

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SEP 87

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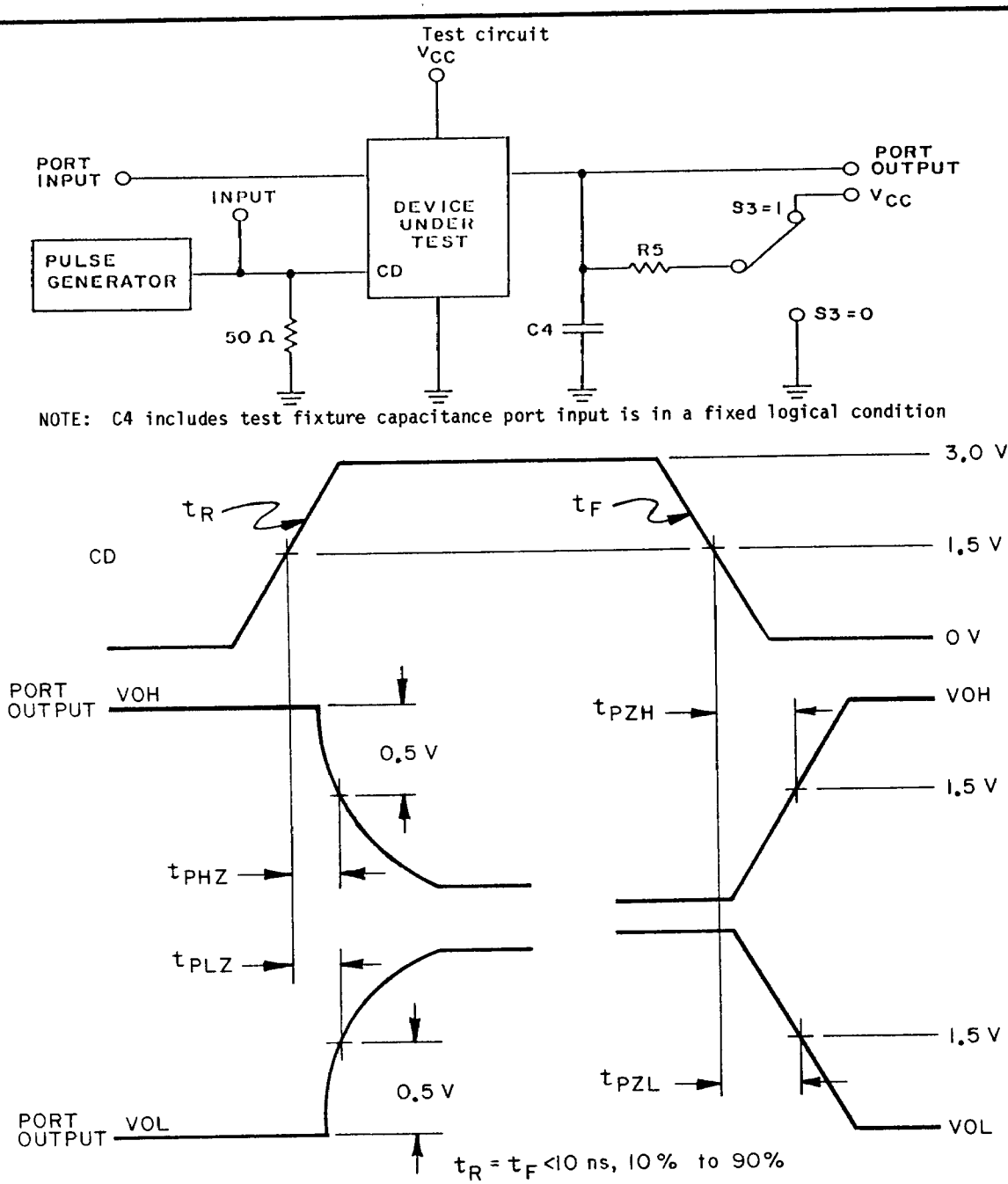


FIGURE 6. Switching waveforms, from CD to A or B port.

| STANDARDIZED MILITARY DRAWING<br>DEFENSE ELECTRONICS SUPPLY CENTER<br>DAYTON, OHIO 45444 | SIZE<br>A | | 5962-86723 |
|---|---|---|---|
| | | REVISION LEVEL<br>A | SHEET<br>15 |



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3.6 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-ECC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change. Notification of change to DESC-ECC shall be required in accordance with MIL-STD-883 (see 3.1 herein).

3.9 Verification and review. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with section 4 of MIL-M-38510 to the extent specified in MIL-STD-883 (see 3.1 herein).

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A, B, C, or D using the circuit submitted with the certificate of compliance (see 3.6 herein).

(2) $T_A$ = +125°C, minimum.

b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 Quality conformance inspection. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

4.3.1 Group A inspection.

a. Tests shall be as specified in table II herein.

b. Subgroups 4, 5, and 6 in table I, method 5005 of MIL-STD-883 shall be omitted.

c. Subgroups 7 and 8 shall include verification of the truth table.

4.3.2 Groups C and D inspections.

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test conditions, method 1005 of MIL-STD-883.

(1) Test condition A, B, C, or D using the circuit submitted with the certificate of compliance (see 3.6 herein).

(2) $T_A$ = +125°C, minimum.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

TABLE II. Electrical test requirements.

| MIL-STD-883 test requirements | Subgroups (per method 5005, table I) |
|---|---|
| Interim electrical parameters (method 5004) | --- |
| Final electrical test parameters (method 5004) | 1*,2,3,7,8,9 |
| Group A test requirements (method 5005) | 1,2,3,7,8, 9,10**,11** |
| Groups C and D end-point electrical parameters (method 5005) | 1,2,3 |

*PDA applies to subgroup 1.
**Subgroups 10 and 11, if not tested, shall be guaranteed to the limits specified in table I.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application. When a military specification exists and the product covered by this drawing has been qualified for listing on QPL-38510, the device specified herein will be inactivated and will not be used for new design. The QPL-38510 product shall be the preferred item for all applications.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-481 using DD Form 1693, Engineering Change Proposal (Short Form).

6.4 Record of users. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-ECC, telephone (513) 296-8525.

6.5 Comments. Comments on this drawing should be directed to DESC-ECC, Dayton, Ohio 45444, or telephone (513) 296-8525.

6.6 Approved source of supply. An approved source of supply is listed in MIL-BUL-103. Additional sources will be added to MIL-BUL-103 as they become available. The vendor listed in MIL-BUL-103 has agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-ECC. The approved source listed below is for information purposes only and is current only to the date of the last action of this document.

| Military drawing part number | Vendor CAGE number | Vendor similar part number 1/ |
|---|---|---|
| 5962-8672301RX | 34335 | AM2947/BRA |
| 5962-86723012X | | AM2947/B2A |
| 5962-8672302RX | | AM2946/BRA |
| 5962-86723022X | | AM2946/B2A |

1/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

| Vendor CAGE number | Vendor name and address |
|---|---|
| 34335 | Advanced Micro Devices, Incorporated<br>901 Thompson Place<br>P.O. Box 3453<br>Sunnyvale, CA 94088 |